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# University of Southampton

Faculty of Environmental and Life Sciences

Psychology

**There's No I in Team But There is a Me: The Influence of Narcissism on Team Processes and Organisational Outcomes**

by

**Reece Bush-Evans**

PhD Thesis for the degree of Psychology

May 2020

# University of Southampton

## Abstract

Faculty of Environmental and Life Sciences

Psychology

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There's No I in Team But There is a Me: The Influence of Narcissism on Team Processes and Organisational Outcomes

by

Reece Bush-Evans

As more and more organisations turn toward tasks focused around team-based structures to survive, a likely threat to team and organisational success lies with narcissistic team members. Narcissism is characterised by a grandiose sense of self-worth, and a dominant and manipulative interpersonal orientation. Although narcissism has been linked with organisational-relevant maladaptive behaviours, research has yet to reveal what, if any, influence narcissism has on teamwork behaviours (i.e., communication, management, intrapersonal, interpersonal skills) and processes (i.e., team cohesion, team conflict) that are associated with team and organisational outcomes (i.e., team performance). Moreover, an investigation of the breakdown of narcissism into its relatively bright (or adaptive) and dark (or maladaptive) sides and their subsequent association with these processes and outcomes is also lacking. Across three studies, I presented evidence that individuals high on traits associated with the dark side of narcissism (i.e., maladaptive narcissism, narcissistic rivalry, vulnerable narcissism) engaged in more harmful team-related behaviours, and were associated with poorer team processes (i.e., high levels of team conflict, low levels of team cohesion) and outcomes than individuals high on traits associated with the bright side of narcissism (i.e., adaptive narcissism, narcissistic admiration).

In Study 1, participants were sampled from a variety of organisational backgrounds, which offered insight into narcissistic behaviours in corporate settings. However, these insights were limited by self-reported data and were nevertheless restricted to the individual-level of analysis. To replicate and expand upon these findings, Study 2 addressed narcissism in a novel team setting (i.e., a commercial escape room) and explored effects at the individual, relational, and team-levels of analysis. Round-robin analyses were used to explore effects at the relational-level of analysis, and aggregated scores of narcissism and team-related processes were used to explore effects at the team-level of analysis. Similar to the individual-level findings, team-level dark narcissism was associated with poorer team processes (i.e., high levels of team-level conflict, low levels of team-level cohesion) and poorer team performance than team-level bright narcissism. These findings

were coupled with round-robin analyses, which captured the unique interindividual differences in team member ratings of narcissistic individuals. Albeit original, the findings were limited by a small sample size and a small number of teams. To replicate and expand upon these findings, Study 3 examined narcissism in a larger sample with more teams, and explored the longitudinal influence of narcissism within the team setting. Most results from the previous studies were replicated, and some novel findings emerged. For example, contrary to the literature, narcissists were rated *more* favourably by their team members over time. Likewise, both bright and dark sides of narcissism were positively associated with team performance. Self-enhancement theory and research on narcissistic performance in team settings were called upon for explanation. Taken together, the results of this PhD thesis are instructive and heed a warning for organisations: Narcissism is an important personality trait to understand and monitor in the workplace. Implications and avenues for future research are provided.

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# Research Thesis: Declaration of Authorship

Print name: Reece Bush-Evans

Title of thesis: There's No I in Team But There is a Me: The Influence of Narcissism on Team Processes and Organisational Outcomes

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature: R. Evans Date: 21/05/2020

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▪

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*They say that a garden of love is grown in a grandmother's heart.*
*For you Granma, I hope that a forest of narcissus has bloomed.*

# Chapter 1 There's No I in Team But There Is a Me: The Influence of Narcissism on Team Processes and Organisational Outcomes

Cross-temporal research indicates that levels of narcissism have been rising in both Eastern and Western cultures since the 1980s (Cai et al., 2012; Lee et al., 2014; Twenge & Campbell, 2009; Twenge & Foster, 2010; Twenge et al., 2008; Vater et al., 2018). The likelihood therefore that the most recent generation of workers will be more narcissistic than the last may have potentially detrimental implications for organisations worldwide. Research has documented that subclinical (or "normal") narcissism is associated with a range of intra- and interpersonal behaviours that are dysfunctional in both team and organisational contexts. For example, narcissism is correlated positively with counterproductive work behaviours (e.g., theft, interpersonal aggression, group sabotage; Judge et al., 2006; Penney & Spector, 2002) and negatively with organisational citizenship behaviours (e.g., helping out co-workers, complying with organisational rules, displaying a sense of responsibility to an organisation; Blair et al., 2008). Although such findings offer an interesting portrait of narcissism within the workplace, research has yet fully to examine the influence that narcissists have on team processes and organisational outcomes. Does narcissism predict engagement in a range of team-related behaviours that are damaging to the outcomes of the teams and organisations of which they are part of? If so, how? Furthermore, do different traits/subtypes of narcissism have different influences on these processes and outcomes? Given the widespread reliance of work teams by the modern organisation (Eisenberg et al., 2019; Stouten & Liden, 2020), the need to address these questions is becoming increasingly relevant.

## 1.1 Teams

Due to rising global competition, consolidation, and innovation pressures, organisations nowadays are witnessing a shift away from tasks focused on individuals to tasks organised around team-based structures (Guver & Motschnig, 2017; Mathieu et al., 2014; McEwan et al., 2017; Ott et al., 2008; Sanyal & Hisam, 2018; Stouten & Liden, 2020). One likely reason for this is that modern organisational pressures drive a need for diverse skills and expertise. Teams imbue these characteristics. As such, the proliferation of teams in organisations has captured the attention of researchers and has led to a rapidly growing number of empirical studies and literature reviews. Nevertheless, the answers to many fundamental questions remain elusive.

To begin, I note that whilst some researchers make a distinction between work teams and work groups (Katzenbach & Smith, 1993; Mathieu et al., 2018), this thesis makes no such distinction and uses the terms interchangeably. Work teams and groups come in a variety of types

and sizes; however, several features offer a footing for a basic definition. Work teams and groups comprise two or more individuals, who (a) are formed to fulfil a task, (b) share one or more common goals, (c) interact socially, (d) exhibit task interdependencies (i.e., work goals, outcomes), and (e) are embedded in an interdependent context that is contingent upon exchanges with other units in the broader entity (Devine et al., 1999; Hackman, 1987; Kozlowski & Bell, 2001; Kozlowski et al., 1996; Salas et al., 1992).

Teams are often expected to adapt to changing business needs by assuming a wide variety of forms (e.g., production teams, service teams, management teams, virtual teams). Indeed, in line with the global attempt to keep workforces safe from Covid-19 without disrupting business, the transition and demand for remote and virtual teams has risen exponentially (Gore & Camp, 2020; Koshle et al., 2020). Teams have a developmental lifecycle: They form, mature, and evolve over time (Morgan et al., 1993; Seow & Bainbridge, 2018). This lifecycle is documented in work by Tuckman (1965) and Tuckman and Jensen (1977), which hypothesises that teams progress through five stages of development: "Forming", "Storming", "Norming", "Performing", and "Adjourning". In the first stage of this model, the group becomes oriented to the task at hand, team members establish relationships with leaders, and boundaries for interpersonal and task behaviours are set. The second stage represents a time of intergroup conflict, in which members start to push against the boundaries established, challenge each other for authority, and resist taking on tasks. During the third stage, the group develops cohesion as members start to resolve their differences, respect other's opinions, and develop a strong commitment to team goals. In the fourth stage, the group accomplishes team goals without friction, and establishes problem-solving skills that are instrumental in enhancing team outcomes. Finally, in the fifth stage, the task or project is complete and the team often disbands.

One of the biggest methodological and conceptual challenges when researching teams is dealing with the multiple levels – individual, team, and organisation – that are relevant to understanding teams. Individuals, teams and organisations are bound together in an interactive multilevel system: Individuals are nested within teams, and teams in turn are nested within organisations. As such, team-level processes are generated by and emerge from individual interactions. Indeed, as the famous proverb by Hellen Keller goes, "*Alone we can do so little, together we can do so much*" (Lash, 1980). Team members interact in ways that are shaped by virtue of their attributes, interactions, and responses (Bell, 2007; Kozlowski & Bell, 2001). For example, team dynamics (e.g., communication and information exchange between team members), team constellation (e.g., abilities and attributes of individual team members), team composition (e.g., characteristics and attributes between individuals in a team), and team structure (e.g., team size, hierarchy) influence numerous team processes and organisational outcomes, such as decision-making (Stasser, 1999), team performance (De Dreu et al., 2008; Nieva et al., 1985; Stewart & Barrick, 2000), and organisational success (Belschak et al., 2015; Zaccaro et al., 2001).

In modern uncertain and austere times, it is perhaps unsurprising that organisations are keen to retain high quality employees and maximise productivity through team-based structures. Teams pool diverse perspectives, expertise, and thinking styles that increase the potential for solving important multi-faceted problems (Bunderson & Sutcliffe, 2003; McEwan, 2020; Wuchty et al., 2007). They provide a source of back-up and assistance for overworked or underskilled team members (Salas et al., 2005), and shape creativity and knowledge generation processes (Hoegl & Parboteeach, 2007). Individuals collaborating as a team often achieve more than individuals working alone (Marks et al., 2001; Sawyer, 2007). When a team operates like a community, all of its citizens can benefit from positive team functioning (i.e., dynamic flow of ideas, reciprocal support, and effective decision-making) and reap the synergistic rewards (i.e., increased team effectiveness, improved innovation and creativity, organisational success) that teams have to offer.

Teams in which members communicate effectively, use-problem-relevant information, and work together to achieve high quality decisions are the most successful (Grietemeyer et al., 2006). Successful teams are often associated with increased productivity, social harmony, member satisfaction, and team performance (Bakar, 2017; Katzenbach & Smith, 1993; Kozlowski et al., 1996). Individuals from successful teams often report a culture of close listening and open communication, equal participation, joint decision-making, well-defined goals, and clarity of vision (Sawyer, 2007; West et al., 1998). For successful teams, members feel motivated by teamwork (Blinder & Morgan, 2005), and engage in a work environment (e.g., open communication and feedback, commitment to team success and shared goals, appropriate team composition, effective interpersonal skills, commitment to team processes and accountability) that is conducive to bringing out the best in each person and the team as a whole (Johnson & Johnson, 1999; Kerr & Tindale, 2004).

Although there are clear advantages for relying on teams within organisations (e.g., better work quality, enhanced productivity and employee satisfaction, improved innovation, maximised effectiveness of an organisation; Sundstrom et al., 1990; Wellins et al., 1993), the prospect of team failure can have far-reaching consequences on interpersonal relationships and organisational outcomes (e.g., free-riding behaviour, missed deadlines, lost revenue, faulty products, low productivity; Alderfer, 1977; Bresman, 2010; King, 2007; Hall & Buzwell, 2012; Lechner et al., 2010). These difficulties usually arise due to poor listening skills, lack of co-worker empathy, criticism, intense desire to compete with others, excessive independence, and team member personality (Cronin & Weingart, 2007; Gardner et al., 2012; Maccoby, 2004).

As a result of the pivotal role that teams occupy within organisations, considerable attention has been given in the literature to understanding antecedents of team success and improving team performance. However, despite this, there has been relatively little research focused on the intra- and interpersonal behaviours of team members, and the influence that these behaviours may have on team-related processes and organisational outcomes. This PhD thesis, integrating social, personality, and organisational psychology, posits that team member personality, coupled with

team-related behaviours, directly influences team processes, and ultimately organisational outcomes (i.e., team performance).

## 1.2 Team-Related Behaviours and Processes

Due to the rising demand for successful teams, organisations are relying more and more on their employees' ability to collaborate with their co-workers. Successful teams handle disagreements in a respectful and constructive way; appreciate the ideas, skills and perceptions of their team members; and harness an organisational culture that is beneficial for both the team and the organisation (Kozlowski et al., 1996; Mathieu et al., 2008). Dysfunctional teams, however, are linked to impaired team relationships; negative team-related processes (i.e., high levels of team conflict, low levels of team cohesion); and reduced levels of team and organisational performance (Mullen & Copper, 1994; Park et al., 2017; Podsakoff et al., 2000).

These findings offer support for the assertion that each team members' abilities, values, skills, and personality have an influence on their level of motivation for teamwork, willingness to contribute to team tasks, acceptance of team norms, and use of methods of interaction with other team members (Leggat, 2007). As such, it is important for researchers to identify characteristics that underlie a successful team and its individual members. This PhD thesis examines the roles of such characteristics as teamwork competencies, team cohesion, team conflict, and team performance.

### 1.2.1 Teamwork Competencies

The literature on teamwork competencies is in its infancy, and as such, is marred by attempts to define this construct (Baker et al., 2005; Salas et al., 2009). Nevertheless, researchers typically agree that teamwork competencies are underlying attributes and skills that contribute to individual performance (Klemp, 1980; Spencer & Spencer, 1993) and success in an organisation (Bartram et al., 2002). They are a set of behaviours that are instrumental in the delivery of desired results or outcomes, and, as such, are considered multidimensional (i.e., more than one skill/characteristic/attribute is usually utilised to complete a task; Hackman, 1987).

A notable point in the literature is that teamwork competencies play a crucial role in the functioning and effectiveness of groups and work teams (Cannon-Bowers & Bowers, 2011; Chen et al., 2004; Peeters et al., 2006). Perhaps, unsurprisingly then, organisations often rely on certain teamwork competencies as prerequisites for employment. For example, organisations often seek to focus their recruitment process around individuals who have the ability to resolve complex team issues; individuals who are supportive of team decisions; individuals who are able to easily build rapport and communicate effectively when giving and receiving feedback; and, individuals who work well with people both inside and outside of the organisation. Organisations view teamwork

competencies as a source of competitive advantage (Rousseau et al., 2006) and as a repertoire of skills and behaviours that are required to perform tasks effectively (Weaver et al., 2010).

Following a review of the literature, 'good' (or successful) team members are often described in trait terms: They are cooperative, dependable, and flexible (Driskell et al., 2006). Indeed, research indicates that values such as achievement, fairness, and prosociality contribute to the characteristics of a 'good' team member (Driskell et al., 2006). Characteristics of 'good' team members are often synonymous with those of desirable teamwork competencies. For example, individuals who can collaborate with others are often the ones who achieve team goals and objectives. Such goals and objectives are beneficial to team and organisational outcomes, and, as a result, form a type of teamwork competency that is attractive to organisations.

Several desirable teamwork competencies have been discussed in the literature. Stevens and Campion (1994, 1999) identified two teamwork competencies that are considered prerequisites for organisational success: self-management (e.g., goal setting, performance management, planning and task coordination) and interpersonal (e.g., conflict resolution, collaborative problem solving) competencies. Similarly, Cannon-Bowers et al. (1995) reported eight teamwork competencies central to task and team success: shared understanding of the situation, decision making, leadership, adaptability, coordination, performance monitoring and feedback, interpersonal relationships, and communication. Considering their association with performance in diverse teamwork settings, several teamwork competencies (i.e., transferable competencies) are of particular interest to organisations. This PhD thesis examines four teamwork competences: communication, management, intrapersonal, and interpersonal competencies.

According to Marks et al. (2001), communication and interpersonal skills are considered as primary vehicles through which teams can accomplish a task. As the logic goes, successful teams communicate more and better than dysfunctional teams (Kanki et al., 1989). Without communication and the skills needed to work with others, teams cannot collectively process information (Hinz et al., 1997), ask for information from members who possess the necessary expertise (Wegner et al., 1991), or collaborate to diagnose and solve task-relevant problems (Moreland & Levine, 1992). As a result, team success and organisational success are often negatively affected (Ellis et al., 2005). Management and intrapersonal skills are also considered teamwork competencies that contribute to overall team performance and organisational success (Cisek et al., 2010). They serve as a competitive advantage for organisations (Lado et al., 1992), as they encourage team members to share the workload (Salas et al., 2005), identify more complex and innovative solutions to organisational problems (Sundstrom et al., 2000), and manage situations that require collaboration (Stevens & Campion, 1994).

Teams formed with individuals who possess strong teamwork competencies exhibit certain behaviours, including the use of *win-win* as opposed to *win-lose* goal orientations (Aguado et al., 2014; Hargadon & Bechky, 2006). As such, teamwork competencies ultimately serve to enhance individual, team, and organisational processes and outcomes (Adkins & Russell, 1997; Schein,

1985; Torrelles et al., 2015). In view of this, their presence (or lack thereof) within a team should also be associated with teamwork processes and outcomes, such as team cohesion, team conflict, and team performance.

### 1.2.2 Team Cohesion

Team cohesion is one of the oldest and most widely studied concepts in the team literature (Carron & Brawley, 2000; Casey-Campbell & Martens, 2009; Chiocchio & Essiembre, 2009; Evans & Dion, 1991; Lott & Lott, 1965; Mullen & Copper, 1994; von Treuer et al., 2018), yet its definition and operationalisation remains murky. Some researchers have argued that cohesion is a unitary construct, comprised of the total field of force acting upon an individual to remain within a team (Festinger, 1950; Seashore, 1954). That is, cohesion is a process that reflects a team's inclination to work together and remain united to reach a common outcome (Carron et al., 1998; Kozlowski & Ilgen, 2006). Other researchers have argued that cohesion is a multidimensional construct formed of social cohesion, task cohesion, and sometimes group pride (Beal et al., 2003; Benson et al., 2016; Chang & Bordia, 2001). To complicate matters further, some researchers also define cohesion at the individual-level (Lott & Lott, 1965; Pepitone & Kleiner, 1957; Shaw, 1976), whereas others conceptualise it at the team-level (Goodman et al., 1987; Hackman, 1987; Prewett, 2006).

Due to the multitude of proposed definitions, the cohesion literature is often mixed, and prone to contradictions in operationalising and experimentally manipulating team cohesion (Carron & Brawley, 2000; Picazo et al., 2015). As such, there exists a plethora of scales that seek to measure these numerous definitions of team cohesion. Since different scales have different factor loadings (e.g., loadings confer to how the author may conceptualise cohesion), the literature is often plagued with inconsistencies. In fact, to date, there is still not an accepted scale for measuring team cohesion (Deckers et al., 2018; Mudrack, 1989; Prewett, 2006; Salas et al., 2015). Understanding team cohesion is important, as it is considered a key determinant of team performance, organisational success, and intergroup relationships (Chiocchio & Essiembre, 2009; Ferguson et al., 2019; Tulin et al., 2018).

Recent definitions of team cohesion support the view that cohesion is best understood as a multidimensional construct involving the extent to which members of a team interact socially, perceive the team to be socially attractive, and commit to a team task or outcome (Benson et al., 2016; Sanchez & Yurrebaso, 2009). A useful differentiation concerns the distinction between the social dimension and task dimension of cohesion (Salas et al., 2015). Social cohesion relates to the team members' attraction to the team (Evans & Jarvis, 1980), whereas task cohesion relates to a team's shared commitment to a team task (Carron et al., 1998). Accordingly, social cohesion is linked to fewer interpersonal issues within a team (i.e., communication, coordination, trust, and liking issues), whereas task cohesion is linked to a greater individual and team-level effort on team goals, and in turn team performance (Mudrack, 1989).

Aligned with this view is the distinction between the individual and group aspects of team cohesion. Carron et al. (1998) contend that the individual aspect of cohesion refers to the individual's personal motivations to remain within a group, whereas the group aspect of cohesion reflects the individual's perceptions about what the group as a whole believes about its closeness. Although most researchers generally agree that cohesion is a team-level variable (Gully et al., 1995), research on the predictive aspects of cohesion typically focuses on the individual as a source of analysis. For example, according to the social network literature, team cohesion depends heavily upon the extent to which an individual's attitude and behaviour is homogenous with their team (Haynie, 2001; Reagans & McEvily, 2003). Team members who share similar views and behaviours feel more connected to one another, share team-related information more openly, and experience less conflict and team separation (White & Harary, 2001). Despite the lack of consensus among researchers regarding the definition, dimensionality, and structural characteristics of team cohesion, the literature nevertheless agrees upon two central arguments: (a) team cohesion is a fundamental feature of teams, and (b) team cohesion can positively influence a number of team processes and outcomes.

The relation between team cohesion and positive team processes and outcomes has been reported in studies examining team viability (Barrick et al.,1998), workplace stress (Keller, 2001), team satisfaction (Adams & Bon, 2000), psychological well-being (Chen & Tang, 2009), group safety strategies (Brynes et al., 2019), and team performance (Beal et al., 2003; Braun et al., 2020; Mullen & Copper, 1994). Specifically, research has shown that people in cohesive teams report greater levels of enthusiasm (Schriescheim, 1980), empathy and trust (Roark & Sharah, 1989), personal satisfaction (Adams & Bon, 2000; Ahronson & Cameron, 2007; Curtis & Miller, 1986), positive psychological states (Chen & Tang, 2009), and sense of team belonging (Friedkin, 2004), than members of non-cohesive teams. Cohesive teams outperform non-cohesive teams on measures of individual contribution (Carron et al., 2002), role delegation agreement (Lott & Lott, 1965), positive member attitudes (Greer et al., 2012), resistance to team disturbance (Carron et al., 1988), reduced anxiety levels (Julian et al., 1966), and on a number of performance measures (Carless & De Paola, 2000; Evans & Dion, 1991; Mullen & Copper, 1994; Rosh et al., 2012). Cohesion can be highly effective in getting teams to set challenging tasks and remain committed to them (Barrick et al., 1998; Gully et al., 1995). Presumably, when cohesion is high, the team is strong and is motivated to perform well (Carron et al., 2004).

Although cohesive teams engage in increased performance across a wide variety of settings and team types (Braun et al., 2020; Carron et al., 2002; Green, 1989; Katzenbach & Smith, 1993; Mullen & Copper, 1994), several issues remain to be resolved with respect to the relevance of cohesion on team processes and outcomes. *First*, the relative influence of social and task cohesion may depend upon the type of outcome being measured. For example, several meta-analyses have shown that task cohesion is more strongly linked to greater individual and team performance than social cohesion (Carless & De Paola, 2000; Kozlowski & Bell, 2003; Mullen & Copper, 1994),

whereas social cohesion is more strongly linked to higher team viability and greater team morale than task cohesion (Barrick et al., 1998). *Second*, the type of task may act as a moderator of these effects. For example, although cohesive teams often perform well on interdependent tasks because members coordinate effectively, coordination is less important on independent tasks. Similarly, too much cohesion may be detrimental in certain tasks (e.g., additive ones), as it may impair decision-making (Mullen et al., 1994), increase pressure for conformity (Janis, 1972), or lead to a greater focus on social development rather than the task itself (Lott & Lott, 1965). *Third*, the size of the team may also influence these effects. Smaller teams are typically more cohesive than larger teams (Mullen & Copper, 1994). One reason for this may be that individuals are more 'visible' in smaller teams, and this leads to more chances to interact, form close ties, and increase cohesion. Research on identification and differentiation of selves as crucial moderators of team outcomes (Baumeister et al., 2016; Belzung et al., 2016) offer support for this reasoning.

*Finally*, although the findings of extensive research support the view that cohesion positively influences team processes and outcomes, such as team performance (Beal et al., 2003; Evans & Dion, 1991), some studies have provided evidence that high performance can also enhance team cohesion (Braun et al., 2020; Green, 1989; Mullen & Copper, 1994). As most studies are cross-sectional and only include one measure of cohesion in an organisational setting (Langfred, 2000; Podsakoff et al., 1997), the cohesion-performance relationship remains ambiguous in the literature. Whereas it is theoretically and empirically probable that cohesion enhances performance, it is equally likely that team cohesion is an outcome that occurs as a result of high performance. For these reasons, future investigation on team cohesion and its relation with other team processes and outcomes is warranted.

### 1.2.3 Team Conflict

Over the past century, a large literature has emerged on antecedents and consequences of conflict at the individual, team, and organisational levels. Broadly defined as an incompatibility between two or more opinions, principles, or interests (Jehn & Mannix, 2001; Littlejohn & Domenici, 2001), the effects of team conflict have been assessed on a wide range of outcomes, including team cohesiveness (Liu et al., 2009), group creativity (Badke-Schaub et al., 2010; Rong et al., 2019), behavioural reactions to bullying (Ayoko & Callan, 2010; Tjosvold, 1998), social capital (Chang, 2020), and team performance (Bradley et al., 2013; Porter & Lilly, 1996; Rezvani et al., 2019). Conflict is a common occurrence in teams (Jaffee, 2008; Roche et al., 2014), and is generally considered detrimental to team processes and organisational outcomes (De Dreu et al., 2004; Jehn, 1995, 1997; Jehn et al., 2008; Xaver & Santos, 2020). As such, it is important to investigate team conflict and obtain a deeper understanding of its influence within the team and organisational context.

Team conflict encompasses interpersonal processes (Marks et al., 2001), in which one (or more) individual(s) perceive(s) that their interests are being contested or negatively affected by

others in their team (De Dreu & Gelfand, 2008; Wall & Callister, 1995). It involves disagreement or argument over ends or means (Guetzkow & Gyr, 1954; Korsgaard et al., 2008), and occurs when teams fail to manage individual differences constructively (Littlejohn & Domenici, 2001). Team members who are mismatched, maladjusted, or unfocused may experience high levels of conflict, which can negatively affect communication and satisfaction among team members (De Dreu et al., 1999; van Woerkom & Sanders, 2010), and, in turn, team processes and organisational outcomes (De Dreu & Weingart, 2003; Wall & Nolan, 1986).

Team members contribute to the team through interpersonal and task inputs (Cosier & Rose, 1977). Team conflict, therefore, is often concerned with relationship and task issues (Jehn, 1997; Kabanoff, 1991). These issues are conceptualised in Jehn's (1995) work on intragroup conflict as relationship conflict and task conflict. Relationship conflict involves interpersonal incompatibilities between team members, and typically comprises personality clashes, anger, animosity, distrust, and other negative emotions (Jehn & Mannix, 2001; Pelled, 1996). Task conflict, on the other hand, involves perceived differences in opinions about the task, and typically comprises disagreements about procedures, distribution of resources, and task goals (Janssen et al., 1999; Jehn, 1995). Both types of conflict are considered as 'go-to' variables of interest for researchers, and as such, feature prominently in the conflict literature. Nevertheless, other types of conflict have also been identified: process and temporal conflict. Process conflict involves perceived incompatibilities in roles and procedures by which a team task should be accomplished, whereas temporal conflict involves disputes regarding the duration of a task or the length of time the team should spend on a specific goal (Jehn & Bendersky, 2003; Mohammed & Nadkarni, 2011; Standifer et al., 2015).

Organisations cannot afford to allow team members to cause unnecessary conflict, as this may destabilise and disrupt team processes (Furnham, 2008; Simons & Peterson, 2000), and also negatively affect organisational performance. Conflict often prevents a team from developing a sense of loyalty and cohesiveness, from reaching effective decisions, and from completing tasks on time (Gersick, 1989; Stasser & Birchmeier, 2003). An explanation for this is that conflict produces tension and antagonism amongst those involved, and can ultimately distract team members from performing the task at hand. Perhaps unsurprisingly, relationship and task conflict have been found to have a large number of negative effects on proximal and distal team processes and outcomes. For example, relationship conflict has been found to negatively affect proximal team processes, such as trust (Jehn et al., 2008; Rispens et al., 2007) and member commitment (Raver & Gelfand, 2005), as individuals are likely to perceive disagreements as ego threats (Bushman & Baumeister, 1998), and as such, feel more hostility and apathy towards others (De Dreu & van Knippenberg, 2005; Mooney et al., 2007). Similarly, relationship conflict negatively affects distal team outcomes, such as team performance (Brief & Weiss, 2002; De Dreu & Weingart, 2003; Wei et al., 2020) and group creativity (Farh et al., 2010), as individuals spend more time responding to non-task related issues (i.e., trying to iron out any disputes or perceived ego threats) than they do on the task itself (De Dreu, 2006).

Task conflict negatively influences proximal team processes such as team member satisfaction (Hinds & Mortensen, 2005), and distal team outcomes such as team creativity and performance (De Dreu, 2006). These findings may be explained, in part, by self-verification theory (Swann & Read, 1981), which posits that individuals desire to be known and understood by others according to their own self-views. Inasmuch that conflict may lead an individual to ruminate and experience stress, individuals may also become dissatisfied (and subsequently less motivated) when they interpret opposition by others as a negative assessment of their own competencies (Yang & Mossholder, 2004). As a result, team processes and outcomes are affected. These findings also support the information-processing perspective (Carnevale & Probst, 1998), which suggests that individuals have to obtain, process, and act upon the information from others before they are able to implement decisions (Parayitam & Dooley, 2009). In this regard, as task conflict increases, cognitive processes (i.e., the ability to focus on a task, to process the information of others) are reduced which may lead to black-and-white thinking, and ultimately, impairments in group outcomes, such as decision-making and creativity (De Dreu & West, 2001).

A paradox that emerges in the literature is that conflict between team members may not always be harmful for team outcomes (Amason, 1996; Tjosvold, 2008; Van de Vliert & De Dreu, 1994). Indeed, a certain level of conflict may be desirable in some team interactions, as it can remove barriers between team members (Deutsch, 1973; Labianca et al., 1998), facilitate innovativeness, and prevent premature consensus on group decisions (Pelled et al., 1999). Whereas relationship conflict has nearly always been viewed negatively and as disadvantageous to team processes and outcomes (Buchholtz et al., 2005), task conflict has been viewed by some to be beneficial under certain circumstances. For example, task conflict may benefit some teams (i.e., teams working on non-routine tasks) by helping to overcome confirmatory biases in group decision making (Schulz-Hardt et al., 2006), enable individual members to voice their own perspectives (Simons & Peterson, 2000), and gain an increased understanding of the task at hand (Amason et al., 1995). However, many research findings remain fragmented and inconsistent, and replicability of results is often difficult to ascertain (Lovelace et al., 2001). Nevertheless, given that teams contribute to success in the modern organisation, understanding the influence of team conflict on team-related behaviours and outcomes is paramount.

### 1.2.4 Team Performance

There is also a large literature on team performance (Carenzo et al., 2020; Cohen & Bailey, 1997; Kent & McGrath, 1969; Salas et al., 2007; Yue & Dang, 2017). Typically addressed as a process-oriented construct that includes inputs (resources), processes (collective effort), and outputs (specific performance indicators), team performance refers to the extent to which a team meets or exceeds outcome standards given by supervisors or an organisation (Antoni & Hertel, 2009; Guzzo & Shea, 1992; Klimoski & Mohammed, 1994). As resources and performance indicators often vary from team to team, most researchers view team performance as the overall

outcome of a team's actions, irrespective of how the team may have completed the job (Glickman et al., 1987; Hackman et al., 1976).

Team performance depends upon individual performance: The better the team members are, the better – on average – team performance will be (Schulz-Hardt & Broadbeck, 2012). This implies that what makes individual members better (or worse) will also make the team better (or worse). For a team to accomplish a task, its members have to make individual contributions, and these contributions need to be coordinated (Nijstad et al., 2002). As such, team performance is enhanced when there is a culture of close-listening and open communication, a degree of communal knowledge, a focus on clear goals, and a feeling of fairness and equality among members (Sawyer, 2007). The more interdependent the team members are, the more they will feel like a cohesive team (Guzzo & Dickson, 1996), and so the more they will likely experience increases in both individual and team performance outcomes (Green, 1989; Mullen & Copper, 1994; Shelma et al., 2020).

Performance has been conceptualised as having two distinct components: task and contextual performance (Borman & Motowidlo, 1997). Task performance is a work-criterion and is related to job-specific behaviours (e.g., responsibilities, skills, abilities, knowledge) that are required for a successful task completion (Conway, 1999; Devonish & Greenidge, 2010). Examples of task performance include closing a sale as a salesperson, arresting a criminal as a police officer, or developing a cure to a disease for a healthcare scientist. Contextual performance relates to voluntary job behaviours (e.g., helping co-workers, altruism) that may have a positive effect on the psychological and social aspects of the team by adding to overall team and organisational functioning (Borman & Motowidlo, 1997). Examples of contextual performance include informing one's boss about an upcoming situation that he or she should be aware of to ensure an effective response, representing the organisation favourably to outsiders, or taking on extra responsibility to assist others. Although both dimensions of performance are considered central to the team and organisational setting, the majority of the literature is concerned with task performance and its antecedents as well as its consequences.

Team performance is enhanced when the team is high in cohesion (Braun et al., 2020; Gully et al., 1995), low in conflict (Saavedra et al., 1993; Wei et al., 2020), and when team members have strong self-efficacy on a given task (Gully et al., 2002). Recognising that modern organisations have shifted focus of work performance from the individual to the team (Guver & Motschnig, 2017; McEwan et al., 2017; Sanyal & Hisam, 2018; Stouten & Liden, 2020), researchers need to address how individual team members influence team processes and outcomes, such as team performance (i.e., personality composition, teamwork behaviours).

## 1.3 Personality and Teams

The last three decades have witnessed a renewed interest in research focused on personality and teams. In short, this research has found a link between personality (at both the individual level and aggregate team level) and team processes as well as outcomes (Barry & Stewart, 1997; Bell, 2007; Bradley et al., 2013; Boudreau & Anis, 2020; Filipiak & Lubianka, 2020; Jackson, 1992; Moreland & Levine, 1992; Prewitt et al., 2009). Consistent with this research are findings that intragroup processes such as team cohesion, team conflict, and team performance are influenced by a team's personality composition (e.g., the similarity or differences of team members' personality traits) and constellation (e.g., the abilities and attributes of individual team members) dynamics (Anderson & Kilduff, 2009; Borek, 2011; Prewett et al., 2016; van Vianen & De Dreu, 2010).

Most research linking personality to intragroup processes has been conducted within the framework of the Big Five personality traits (agreeableness, extraversion, conscientiousness, emotional stability, and openness; Boudreau & Anis, 2020; McCrae & Costa, 1987). The results from multiple meta-analyses are instructive, as they indicate that conscientiousness, extraversion, and agreeableness are positive predictors of team processes and team performance (Barrick et al., 1998; Barry & Stewart, 1997; Neuman et al., 1999; Neuman & Wright, 1999). For example, individuals high on conscientiousness pursue the completion of a team task in a determined and committed manner (Barrick & Mount, 1991), engage in problem-solving behaviours (Stewart et al., 2005), and identify when they need help from other team members (Halfhill et al., 2005). Likewise, individuals high on agreeableness often behave cooperatively in team contexts (Barrick et al., 1998), demonstrate prosocial behaviours by mediating differences among team members (Jackson et al., 1992), and work together with others to avoid team conflicts (Graziano et al., 1996). In addition, individuals high on openness enact more successful resolutions to team conflict than other members (Antonioni, 1998), and demonstrate more positive attitudes toward minority team members (Flynn, 2005).

Moreover, personality is a key factor in understanding work behaviour and team functioning (Cavazotte et al., 2012; Driskell et al., 1987; Xu et al., 2019). Personality traits are linked to counterproductive work behaviours (e.g., theft, interpersonal aggression, group sabotage; Judge et al., 2006; Penney & Spector, 2002), organisational citizenship behaviours (e.g., helping out co-workers, complying with organisational rules, displaying a sense of responsibility to an organisation; Blair et al., 2008), and work behaviours, such as employee turnover and team satisfaction (Li et al., 2014). Similarly, an individual's need for affiliation (vs. autonomy) and dominance (vs. deference) is related to preference for teamwork (i.e., seeking alliances or self-reliance in the pursuit of goals) and their behaviours within specific group hierarchies (i.e., leadership, followership, egalitarianism; Yang, 2010).

Although personality emerges as a relatively robust predictor for many team processes, the empirical findings remain inconsistent, and conclusions regarding team and organisational

outcomes are often difficult to draw. One reason for this is that research findings are often moderated by contextual and methodological factors. Team and organisational outcomes are multidimensional. As such, specific and lower-level personality facets may have differing, even contradictory, effects on different outcomes. For example, take the facets of emotional stability that are most relevant to team interactions – adjustment and self-esteem. Although both facets positively relate to team performance, individuals low on adjustment are unlikely to excel in interpersonal team settings given their proneness to being distressed and hostile, whereas individuals high on self-esteem are likely to prefer teamwork over and above working alone (Vancouver & Ilgen, 1989). Different facets, then, are likely to be associated with different behaviours and outcomes. In line with this reasoning, a high level of extraversion is linked with improved performance in tasks that require social interaction at the individual level (Barrick et al., 2002), but with impaired performance in quick decision-making tasks at the team level (Barry & Stewart, 1997).

Arguably, the rapid increase of teams in the modern workforce is also paired with a clear message to organisations: It is important to understand and appreciate personality traits and their influence on team processes and outcomes (Boudreau & Anis, 2020; Moynihan & Peterson, 2001; Oswald & Hough, 2010; Sundstrom et al., 1990). Due to the influence that team members have on team processes and outcomes (Gatewood et al., 2011), organisations should seek to identify personality traits that may be problematic in team and organisational settings. One such trait is narcissism.

## 1.4 Narcissism

Narcissism, which has been widely studied at the clinical level as a personality disorder (NPD; Pincus & Lukowitsky, 2010), has also been conceptualised at the subclinical level as a normal style of personality characterised by a grandiose sense of self, a lack of empathy, and a dominant and manipulative interpersonal orientation (Hansen-Brown, 2018; Pierro et al., 2019). Subclinical narcissism (hereafter referred to as “narcissism”) is typically operationalised with the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) along seven components: Authority, Entitlement, Exhibitionism, Exploitativeness, Self-Sufficiency, Superiority, and Vanity.

Empirical research suggests that narcissism is on the rise in both Eastern and Western cultures (Cai et al., 2012; Lee et al., 2014; Twenge & Campbell, 2009; Twenge et al., 2008; Vater et al., 2018). Although such findings have been criticised on methodological and conceptual grounds (Hamamura et al., 2020; Roberts et al., 2010; Trzesniewski et al., 2008; Wetzel et al., 2017), a possible (and plausible) rise should nevertheless be a cause for concern. One reason for this concern is that narcissists’ self-regard is rooted in agency: They crave status, power, and control rather than communal relationships (Brown & Ziegler-Hill, 2004; Campbell et al., 2007; Campbell & Foster, 2007; Grapsas et al., 2019). Narcissists differentially perceive themselves as

superior to their counterparts on agentic traits, such as creativity, intelligence, and power (Campbell et al., 2002; Raskin, 1980), and feel more entitled to desirable outcomes than others. They are overconfident in their abilities (Campbell et al., 2004; Carlson et al., 2011; Paulhus et al., 2003; Robins & Beer, 2001), aim to present themselves to others in a positive light (Den Hartog et al., 2020), and possess an exaggerated sense of self-importance (Campbell et al., 2007; Carroll, 1987; Grijalva & Zhang, 2016). Perhaps unsurprisingly then, narcissists' preoccupation with the self and strong sense of entitlement is often at the expense of others.

Narcissists exploit and manipulate others for personal gain (Buffardi & Campbell, 2008; Campbell, 1999), and demonstrate low remorse and empathy towards others (Burgmer et al., 2019; Hepper et al., 2014; Leunissen et al., 2017; Watson et al., 1984; Watson & Morris, 1991). Their chronic preoccupation with the self, coupled with a lack of empathy for others, can often lead to negative consequences for those around them. Indeed, narcissists' low empathy predicts unresponsive-caregiving towards their children (Hart et al., 2017) and constitutes a risk factor for antisocial and criminal behaviour (Hepper, Hart et al., 2014). Narcissists struggle to modulate their hurtful behaviour, and often fail to consider the effect that they have on others (Morf et al., 2011). They attempt to boost their self-worth by self-aggrandisement and the disparagement of others (Bryne & Worthy, 2013), and often use condescension, character assassination, and dominance to exert their perceived social status (Colvin et al., 1995; Grapsas et al., 2019; Horton & Sedikides, 2009). As a result, narcissism is often linked to a wide range of intra- and interpersonal implications (Bianchi, 2018; Dufner et al., 2019; Giambatista & Hoover, 2018). Of importance to this thesis is the influence of narcissism in team and organisational contexts.

### 1.4.1 Narcissism in Team Contexts

Arguably, narcissists' intra- and interpersonal shortcomings should be linked to a range of behaviours that are considered detrimental in team contexts. However, there has been relatively little research on this topic, with most existing research focused on examining the emergence of narcissistic leaders within teams (Grijalva et al., 2015; Nevicka et al., 2018; Schoel et al., 2015). This empirical gap is surprising given the emphasis in the literature on managing human resources in teams (Bradley et al., 2013; Mathieu et al., 2014; Salas et al., 2004; Salas et al., 2007) and studying personality effects in teams (Bell, 2007; Giambatista & Hoover, 2018; O'Neill & Allen, 2011). Nevertheless, it is possible to draw inferences from the literature to shed light on this topic.

Within the team context, narcissists crave attention for their own contributions on tasks (John & Robbins, 1994), fail to listen attentively to others (Farwell & Wohlwend-Lloyd, 1998), act more domineering during interpersonal interactions (Morf & Rhodewalt, 1993), and rate their peer's personality more negatively if they succeed instead of them on a task (South et al., 2003). Such self-aggrandising and self-indulgent behaviours are often at the expense of the team. For example, narcissists selfishly reap economic gains in negotiation tasks even at the cost of suffering an interpersonal loss (Park et al., 2013), and attribute successful team performance to their own

contributions on a task rather than the collective effort of the team (Stucke, 2003). They greedily allocate more resources to themselves in commons-dilemmas tasks (Campbell et al., 2005), blame others for their own failures (Campbell et al., 2000), and derogate or dehumanise those who outperform them (Locke, 2009; Rhodewalt & Morf, 2005).

For narcissists, relationships with others follow a *zero-sum* principle: Only one of us can be greater, so your loss is my gain, and my gain is your loss (Brummelman et al., 2016). Indeed, due to their desire to win in interdependent settings (Thomaes et al., 2008), narcissists reject group goals (Arthur et al., 2011), devalue team members (Barry et al., 2006; Lubit, 2002), and withhold task-relevant information from members of their team (Lakey et al., 2007). Narcissists neglect the feelings of their team members (Vonk et al., 2013) and lash out aggressively or exhibit antagonistic behaviours (i.e., increased hostility) when they don't feel valued by others or get their own way (Bushman & Baumeister, 1998; Gardner & Pierce, 2011; Kernis & Sun, 1994; Ronningstam, 2005; Thomaes et al., 2011). Similarly, narcissism has been shown to predict moral disengagement and antisocial behaviour in team contact sports (Jones et al., 2017). As communication is a primary vehicle through which teams can accomplish goals (Marks et al., 2001), these behaviours are likely to produce deficits in both team processes and outcomes.

Interestingly, narcissism may not always have a harmful influence on team processes and outcomes. For example, Goncalo et al. (2010; Study 3) found that having more narcissists in a team can sometimes be beneficial in the generation of creative outcomes. Since narcissists chronically crave attention and recognition for their valued qualities (John & Robins, 1994), they are more likely to compete with others in their team to achieve this. Subsequently, competition between narcissistic team members may contribute to better team work, and, in turn, uncover new perspectives, generate fresh ideas, and contribute to a more efficient exchange of ideas by reducing production blocking (De Dreu et al., 2008; Diehl & Stroebe, 1987). Albeit intriguing, this study nevertheless identified a curvilinear effect of narcissism on team creativity, with diminishing returns being associated with too many narcissists in a team. That is, as more narcissists join the table, competition can escalate to the point of obstructing the team's ability to generate new ideas, reach closure, or complete tasks on time (Jehn & Mannix, 2001). Taken together, these findings paint an intriguing portrait of narcissism in the team context.

Upon close inspection of the literature, a paradox emerges: Narcissists possess a pantheon of negative characteristics that affect their interpersonal domain (e.g., egocentrism, exploitativeness, lack of empathy), yet are often elected or perceived positively by others (albeit upon first impressions) as team leaders (Judge et al., 2006; Nevicka et al., 2011; Williams et al., 2020). As narcissists possess many attributes that are associated with being a prototypical leader (e.g., extraversion, confidence, charisma; Kellett et al., 2006; Paunonen et al., 2006), it is not surprising to see their rise to power. The problem with this rise to power, however, is that it is often short lived or coupled with abuse of power, which can adversely impact those around them (Nevicka et al., 2018).

One likely explanation for this is that narcissists possess a relentless need to self-enhance (Raskin et al., 1991). Narcissists engage in a chronic quest for adulation and superiority (Morf & Rhodewalt, 2001), and continually scan for situations where they are able to self-enhance. In line with trait activation theory (Tett & Burnett, 2003), adopting a leadership role within an interdependent context may activate dominance and leadership qualities in narcissistic individuals, which may lead them to exploit the team for self-enhancement purposes (e.g., use the team as a social stage to show off their superiority, garner scores of followers). Indeed, narcissistic leaders are exceedingly critical of others and expect perfection (Stoeber et al., 2015), dominate group discussions via blocking the ideas of others (Rosenthal & Piltinsky, 2006), shift attention towards themselves during group discussions (Smith & Forti, 1998), and lead teams to pursue unrealistic projects and risky investments (Padilla et al., 2007). These types of behaviours should be a cause for concern, given that they are likely to impede team processes and negatively affect organisational outcomes.

### 1.4.2 Narcissism in Organisational Contexts

Despite the wealth of research investigating narcissism, attention to this construct is relatively limited in the organisational literature. Furthermore, most research is theoretical, with little empirical work (except in the narcissistic leadership literature) revealing what, if any, role narcissism plays in organisations. Accordingly, this PhD thesis relies on existing organisational research, when possible, but also draws upon the voluminous social-personality literature focused on narcissism.

At the leadership and CEO level, narcissists engage in risky strategies and investments (Wales et al., 2013; Zhu & Chen, 2014), behave in unethical ways (Blair et al., 2008), exploit others for their own gains (Khoo & Burch, 2008), fail to take into consideration the potential impact of their decisions (She et al., 2019), and engage in undue legal risks (Buyl et al., 2019). They are less sensitive to the negative impact that their behaviour may have on their organisation (O'Reilly et al., 2018), and, on occasion, wreak havoc on the organisation and that which is around it (Kernberg, 1998; Stein, 2013). This impact on and journey through organisational life for narcissistic leaders has been conceptualised in Sedikides and Campbell's (2017) Energy Clash Model. In this three-stage process model, narcissistic leaders often enter organisations as a force to be reckoned with and cause instability (or *perturbation*). They strip down old structures and smash through barriers, culminating in dissatisfaction (or *conflict*) and a bitter taste among others due to their social performance, financial risks, and ethical decisions. Finally, they experience narcissistic energy clashes with organisational energy, which eventually stabilises the organisation (or *resolution*), either through the exit or acceptance of the leader by the organisation.

In a similar vein, there are associations between narcissism and organisational-relevant maladaptive behaviours. However, the implications of these behaviours is nevertheless understudied in the literature. For example, narcissism has been linked to behaviours that are

inconsistent with organisational goals (Blickle et al., 2006; Campbell, Hoffman et al., 2011), disruption of team creativity and motivation (Gonalco et al., 2010), workplace aggression (Penney & Spector, 2002), and the devaluing of other work colleagues (Lubit, 2002). Additionally, narcissism is linked to infidelity, sexual coercion, and uncommitted sexual relationships (Bushman et al., 2003; Foster et al., 2006), which may also lead to an overly sexualised workplace and other destructive consequences for organisations.

Within the relationship literature, narcissism has been associated with low levels of agreeableness and commitment (Campbell et al., 2007), low levels of forgiveness (Exline et al., 2004) and high levels of aggression towards individuals and groups (Bushman & Baumeister, 1998; Gaertner et al., 2008). Such behaviours may nevertheless have detrimental implications for narcissists in the organisational context. Indeed, narcissism is associated positively with counterproductive work behaviours (CWB's; Judge et al., 2006; Penney & Spector, 2002) and negatively with organisational citizenship behaviours (OCB's; Blair et al., 2008; Judge et al., 2006). CWB's include behaviours that are harmful to organisations (e.g., theft, interpersonal aggression, sabotage, overbilling for hours worked, spreading rumours), whereas OCB's include behaviours that facilitate organisational functioning (e.g., helping co-workers, voluntarily staying late at work, displaying a sense of responsibility and commitment to an organisation, complying with organisational rules). Future research seeking to reduce the harmful effects of narcissists' CWB's and enhance their OCB's could be beneficial for organisations.

Taken together, the results from these studies are instructive, because they indicate the type of impact that narcissists may have on organisations. Arguably, narcissists' behaviours may impede successful team processes, contribute to diminished team morale, conduce to more failures in overall team and organisational goals, and ultimately lead to deficits in organisational outcomes (e.g., stock prices, lawsuits, accounting data, production deadlines, quality assurance, production output). If this is the case, then examination of how different traits/subtypes of narcissism predict engagement in a range of team-related behaviours, and the impact of these on team processes (i.e., team cohesion, team conflict) and organisational outcomes (i.e., team performance) are necessary.

## 1.5 Narcissism Measures and Subtypes

The last four decades have seen a dramatic rise in the number of measures of narcissism. Some of them conceptualise narcissism as a single dimension, whereas others capture narcissism as a multidimensional construct. Similarly, some of them endeavour to capture variant forms or expressions of the trait, whereas others are only interested in specific populations (e.g., children, adolescents) or developmental roots of narcissism. Although this increase in psychometric measures is at first glance good news, caution nevertheless must be taken to avoid choosing measures that do not satisfy the needs of the analysis, or that add further contradictions in operationalising and experimentally manipulating this trait. Following recommendations from

Foster et al. (2018) and Manley et al. (2018), I incorporate more than one measure of narcissism to understand better the influence of narcissism within the team and organisational context, and to assess how these measures differ from one another.

### 1.5.1 Grandiose and Vulnerable Narcissism

A substantial body of literature supports the partition of subclinical narcissism into two subtypes: grandiose and vulnerable (Back et al., 2013; Besser & Zeigler-Hill, 2011; Jauk & Kaufman, 2018; Krizan & Herlache, 2018; Papageorgiou et al., 2019; Poless et al., 2018; Wink, 1991; Zajenkowski et al., 2018). However, a lack of theoretical convergence still exists (Freis, 2018; Krizan & Herlache, 2018). Grandiose narcissism (the most commonly studied subtype and referred hereafter as 'narcissism') is characterised by interpersonal dominance, self-importance, preoccupations with receiving admiration from others, inflated self-esteem, and entitlement (Campbell & Foster, 2007; Jauk & Kaufman, 2018; Malesza & Kaczmarek, 2018; Rose, 2002). Vulnerable narcissism, on the other hand, is associated with hypersensitivity, defensiveness, feelings of inferiority, heightened emotional reactivity (i.e., shame, depression), and low self-worth (Cain et al., 2008; Hendin & Cheek, 1997; Miller et al., 2011; Vize et al. 2018; Wink, 1991). Individuals with high grandiose narcissism are approach oriented and sensitive to rewards (Foster & Trimm, 2008), view themselves as "better-than-average" (Campbell et al., 2002), report high self-esteem (Bosson et al., 2008), and express an upbeat and optimistic disposition (Sedikides et al., 2004). By comparison, individuals high in vulnerable narcissism are avoidance oriented and sensitive to threats (Pincus et al., 2009), view themselves as inferior to others (Freis, 2016; Freis et al., 2015), report low self-esteem (Rose, 2002), and experience negative affect and anxiety (Dickinson & Pincus, 2003; Tracy et al., 2011).

Grandiose and vulnerable narcissism comprise distinct nomological networks and are weakly associated or even uncorrelated in the general population (Jauk & Kaufman, 2018). Subsequently, these traits result in very different personality phenotypes: Individuals scoring high on vulnerable narcissism are avoidant, introverted, and nervous (Miller et al., 2014), whereas individuals scoring high on grandiose narcissism are charming, extraverted, and confident (Back et al., 2010; Dufner et al., 2013). Despite their differences, both grandiose and vulnerable narcissism nevertheless share a few traits. Both subtypes are characterised by strong mood variability (Bogart et al., 2004), and a common dark core that consists of callousness, entitlement, self-centeredness, disagreeableness, as well as self-absorption (Dickinson & Pincus, 2003; Zajenkowski et al., 2018). This common dark core is echoed in Miller et al. (2016) trifurcated model of narcissism, and Krizan and Herlache's (2018) narcissism spectrum model, which proposes that both subtypes share the characteristic of interpersonal antagonism.

Whereas grandiose narcissism is typically measured with the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) and more recently with the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013), vulnerable narcissism is often measured using

the Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997) and the Pathological Narcissism Inventory (PNI; Pincus et al., 2009). The PNI also assesses grandiose narcissism, but the validity of its factor structure is often questioned, and, as a result, this measure has not been widely used in personality studies as the NPI (Miller et al., 2014; Miller et al., 2016). Recent conceptualisations of grandiose narcissism (in particular, examination of its factor structure) highlight the value of distinguishing relatively "adaptive" (e.g., authority, self-sufficiency) and "bright" (narcissistic admiration) sides of narcissism versus relatively "maladaptive" (e.g., exploitativeness, entitlement, exhibitionism) and "dark" (narcissistic rivalry) sides (Back et al., 2013; Leckelt et al., 2015, 2019).

### 1.5.2 Adaptive and Maladaptive Narcissism

The NPI is the most widely used measure of narcissism in the literature (Ackerman et al., 2012; Briganti & Linkowski, 2019). However, concerns regarding its factor structure and the conceptualisation of narcissistic personality attributes remain the subject of ongoing discussion and disagreement (Foster et al., 2018; Hamamura et al., 2020; Manley et al., 2018; Rosenthal & Hooley, 2010). Several researchers have attempted to identify the dimensional structure of the NPI, which has led to the emergence of numerous structural solutions and factor dimensions. For example, Raskin and Terry (1988) identified a 7-factor solution: Entitlement, Exploitativeness, Exhibitionism, Authority, Self-Sufficiency, Superiority, and Vanity. Emmons (1984, 1987) identified a four-dimension solution: Leadership/Authority, Self-Absorption/Self-Admiration, Exploitativeness/Entitlement, and Superiority/Arrogance. Finally, Ackerman et al. (2011), identified and replicated a three-factor solution: Entitlement/Exploitativeness, Leadership/Authority, and Grandiose Exhibitionism.

Psychometric investigations of the NPI and its various factor structures have produced insights regarding ways in which researchers are able to draw appropriate conclusions from the literature. For example, narcissism can be adaptive or maladaptive (Barry et al., 2007; Hepper et al., 2014; Sedikides & Campbell, 2017). As echoed by the two-factor structure identified by Corry et al. (2008; Leadership/Authority and Exhibitionism/Entitlement), the NPI and its subscales are often seemingly parsed into adaptive and maladaptive components. In this PhD thesis, I follow recommendations from Barry and Malkin (2010) by deriving adaptive components of narcissism (referred hereafter as "adaptive narcissism") from the Authority and Self-Sufficiency scales of the NPI, and maladaptive components of narcissism (referred hereafter as "maladaptive narcissism") from the Exploitativeness, Entitlement, and Exhibitionism scales.

Adaptive and maladaptive refer to the components' associations with either relatively positive or socially toxic personality variables. As such, both serve intra- and interpersonal functions for the narcissist (Williams et al., 2020). The adaptive components are characterised by acceptable self-aggrandisement, successful self-exhibition, and high self-confidence (Kernberg, 1975; Watson &

Biderman, 1993). As such, adaptive narcissism positively correlates with measures indicative of psychological adjustment (Rose, 2002) and fewer burnout symptoms at work (von Känel et al., 2017), and inversely correlates with anxiety (Watson & Biderman, 1993), dispositional loneliness, and dispositional depression (Sedikides et al., 2004). By comparison, the maladaptive components are characterised by actual-ideal discrepancies, aggression, low empathy, and high neuroticism (Bushman & Baumeister, 1998; Cai & Luo, 2018; Hepper et al., 2014). As such, maladaptive narcissism entails socially harmful consequences and positively correlates with antisocial characteristics, such as delinquency and criminality (Hepper, Hart et al., 2014). Maladaptive narcissism, not adaptive narcissism, predicts problem behaviours (Cai & Luo, 2018). Together, these two types of narcissism have implications for understanding the relevance of narcissism in team and organisational contexts.

Given that adaptive and maladaptive narcissism differ in how they correlate with other personality traits, problem behaviours, and inter- or intrapersonal characteristics, it is theoretically plausible that they will also differ in their influence on team processes and outcomes. For example, adaptive and maladaptive narcissism might differentially predict specific team processes and outcomes over time, with (a) adaptive narcissism predicting positive perceptions of team members (e.g., effective leadership, improved communication and team cohesion, better performance) than maladaptive narcissism, and (b) maladaptive narcissism predicting negative perceptions of narcissistic team members (e.g., impaired team competencies, high levels of team conflict, low levels of team cohesion, impaired performance). Similarly, maladaptive narcissism may be more interpersonally problematic than adaptive narcissism, such that it negatively predicts team outcomes (e.g., team cohesion, team performance) and organisational success.

This distinction between adaptive and maladaptive components offers a more nuanced understanding of grandiose narcissism and grandiose narcissists. In particular, this distinction indicates that individuals high on grandiose narcissism will be high on both adaptive and maladaptive facets (attractive but toxic); individuals with moderate narcissism will be high on either facet (or moderate in both facets); and individuals low on narcissism should be low on both facets. As such, distinguishing between adaptive and maladaptive narcissism in research may help to understand better the complexity of grandiose narcissism as well as other relevant findings (Barry & Malkin, 2010; Williams et al., 2020).

### 1.5.3 Narcissistic Admiration and Rivalry

Of interest to many researchers are the paradoxical dynamics and outcomes that plague the narcissism literature: Narcissists are often described as charming but arrogant, self-assured but fragile, and assertive but aggressive. They are perceived in a positive light by others early on, yet cause conflict and negative evaluations in the long run (Back, Schmukle et al., 2010; Campbell & Campbell, 2009; Paulhus, 1998). One recently introduced framework capable of conceptually and empirically disentangling this paradox is the Narcissistic Admiration and Rivalry Concept (NARC;

Back et al., 2013) with its corresponding inventory, the Narcissistic Admiration and Rivalry Questionnaire (NARQ).

The NARC is based on the idea that a narcissists' overarching goal is to maintain a grandiose self, and that this can be achieved by two distinct but related dimensions: narcissistic admiration and narcissistic rivalry. Both dimensions include intra- as well as interpersonal processes and have unique social consequences. Admiration (or the agentic aspects of narcissism) is theoretically related to indicators of adjustment (i.e., self-assuredness, problem-focused reactions to transgressions, social potency), whereas rivalry (or the antagonistic aspects of narcissism) is related to indicators of maladjustment (i.e., entitlement, hostile reactions, social conflict). Both dimensions can have distinct, even diverging intra- and interpersonal correlates in both survey and laboratory contexts (Back, 2018; Back et al., 2013; Chesure et al., 2020; Küfner et al., 2013; Leckelt et al., 2015; Manley et al., 2020).

Narcissistic Admiration consists of three intertwined domains: striving for uniqueness (affective-motivational), grandiose fantasies (cognitive), and charm (behavioural). Theoretically, the behavioural pattern of narcissistic admiration is driven by a hope for greatness and success, and initiates a self-regulatory strategy of self-enhancement. As a result, narcissists should experience desirable social consequences, such as admiration and praise, being chosen as a leader, social status, and success. The awareness of these social consequences, should, in turn, reinforce a grandiose self and strengthen both the strivings for uniqueness and the engagement of charming behaviours.

For narcissists, the continuity and vitality of their self-worth is contingent upon self-enhancement outcomes. As such, narcissists' desire for admiration and assertive self-enhancement may yield mixed results for team processes and organisational outcomes. On the one hand, narcissists' desire for recognition and success may lead them to exploit the team and its resources, resulting in conflict with other team members and impaired team-level performance. On the other hand, narcissists' display of agentic behaviours (e.g., dominance, charm, self-assuredness) and need for admiration may lead others to perceive them in a positive light (albeit in early acquaintance situations or during the beginning of a task), resulting in improved team processes and outcomes. These assumptions are supported by research indicating that narcissists exploit team resources for their own self-interests (Campbell et al., 2005; Park et al., 2013), and give off a positive impression during the early stages of acquaintance (Back et al., 2013; Paulhus, 1998). However, the relationship between narcissistic admiration and team-related processes and outcomes remains elusive.

Narcissistic Rivalry consists of three intertwined domains: striving for supremacy, active devaluation of others, and aggressiveness. Theoretically, the behavioural pattern of narcissistic rivalry is driven by fear of failure, and initiates a self-regulatory strategy of antagonistic self-protection. As a consequence, narcissists should experience negative social consequences, such as perceived aggressiveness and unpopularity, relationship transgressions, criticism, rejection, and a

lack of trust from others. Awareness of these social consequences, should, in turn, result in motivation to reinstate and defend one's perceived superior status, thus boosting aggressive behaviours.

For narcissists, reinstating and defending one's superior status is paramount. Narcissism is associated with many intra- and interpersonal defence strategies, which are activated when they experience a threat to their ego or positive self-image (Hepper et al., 2010). For example, narcissists derogate evaluators (Vaillancourt, 2013), selectively filter out information that threatens their ego (Bryne & Worthy, 2013), and attribute blame to others on team tasks (Campbell et al., 2000). In addition, narcissism is associated with lack of overall empathy (Burgmer et al., 2019; Watson et al., 1984; Watson & Morris, 1991), and separately with perspective tasking and empathic concern (which are components of empathy; Hepper et al., 2014). As higher levels of empathy and empathic concern are positively associated with team member respect (Firth et al. 1985), prosocial organisational behaviours (Uymaz, 2014), and enhanced team connectedness (Pavlovic & Kranke, 2012), a narcissists' proclivity for rivalry and antagonistic self-protection may cascade into obvious impairments in team and organisational settings. However, the relation between narcissistic rivalry and team-related processes and outcomes remains unknown.

### 1.5.4 Bright Side, Dark Side, or Both?

A question that is frequently raised in the literature is whether narcissism can be conceptualised as comprising a bright side (or good side), a dark side (or destructive side), or both (Campbell et al., 2011; Dowgwillo et al., 2016; Fatfouta, 2019; Harms et al., 2011; Sedikides & Campbell, 2017; Uygur & Öğretmenoğlu, 2018). This question is often approached by those who view the components of narcissism associated with entitlement and self-centredness as dark or unhealthy, and those linked to high self-esteem and charisma as bright or healthy (Paunonen et al., 2006). The problem with this approach, however, is that it does not address the circumstances in which the same personality configuration can contain both a bright and dark side (Hogan & Kaiser, 2005). For example, narcissism often predicts outcomes that are functional for themselves but dysfunctional for others (Cai & Luo, 2008; Campbell et al., 2005). Similarly, in team settings, individuals high on narcissism are initially seen as popular, likeable, and charismatic (Paulhus, 1998), but, over time, they are evaluated less favourably (Back et al., 2010; Campbell & Campbell, 2009).

Following recommendations by Sedikides and Campbell (2017), I adopt the proposition that narcissism comprises both a bright side and a dark side. That is, narcissism is associated with outcomes for the self and others that can be both positive and negative. In line with this approach, I view adaptive narcissism and narcissistic admiration as components of the bright side of narcissism (hereafter referred to as "bright narcissists"), and maladaptive narcissism, narcissistic rivalry, and vulnerable narcissism as components of the dark side of narcissism (hereafter referred to as "dark narcissists").

## 1.6 The Present Research

As this review demonstrates, narcissism is associated with a range of intra- and interpersonal shortcomings, and is linked to several maladaptive behaviours within team and organisational settings (Campbell et al., 2005, 2011; Giambatista & Hoover, 2018; Judge et al., 2006; Morf & Rhodewalt, 1993; Morf et al., 2011; Penney & Spector, 2002). Although a literature exists on leadership, CWB's, and narcissistic CEO's, it does not reveal what, if any, influence narcissism has on team-related processes and outcomes. Do narcissists exhibit behaviours that are damaging to their teams? Can these behaviours be distinguished in terms of bright and dark sides of narcissism? How do different traits/subtypes of narcissism predict engagement in a range of team-related behaviours? What is the impact of this on team processes (i.e., team cohesion, team conflict) and organisational outcomes (i.e., team performance)?

Based on the organisational psychology literature – which demonstrates that narcissism is positively associated with CWB's (Judge et al., 2006; Penney & Spector, 2002) and negatively with OCB's (Blair et al., 2008; Judge et al., 2006) – research has led to a warning that narcissists possess dysfunctional behavioural tendencies that may destabilise team dynamics and ultimately impair organisational success (Furnham, 2008). Duchon and Drake (2009) argue that an increase in the number of narcissists within an organisation may result in a distorted organisational culture that promotes excessive self-enhancement and unethical behaviour. A likely consequence of these behaviours, however, is self-destruction, as team relationships will likely suffer due to narcissists' heightened sensitivity to criticism, intense desire for competition, and impairment of listening skills (Macooby, 2004). If interactions among team members become difficult then organisations may fail to achieve their desired goals (King, 2007; Savas, 2019).

In a similar vein, empirical research continues to suggest that narcissists may lead to various costs within the workplace. For example, vulnerable narcissism has been linked with destructive behaviours in organisations such as territorial infringements (Fennimore, 2020), and grandiose narcissism has been linked with the tendency to lie, cheat, and steal within organisations (O'Reilly & Doerr, 2020). Research suggests that the presence of influential narcissistic team members who derogate others may result in impairments in overall team morale, team cohesion, and team performance (Lubit, 2002). As narcissists often fail to learn from their mistakes and pass blame onto others (Hogan & Hogan, 2001; Kets de Vries, 2004), they are also likely to deter talented team members from remaining within the team. Also, due to their chronic need for power and attention (Emmons, 1987; D'Souza et al., 2019), they may put more effort into achieving their self-enhancement needs than on long-term organisational goals and commitments, and desire the spotlight in their team, contributing to impairments in team processes and outcomes.

It is a goal of this PhD thesis to gain a clearer understanding of the relation between narcissism with team-related processes and outcomes. In line with previous findings, I expect that personality will influence team-related behaviours and outcomes (Barry & Stewart, 1997; Bell,

2007; Bradley et al., 2013; Filipiak & Lubianka, 2020). In particular, I hypothesise that narcissism will be associated with dysfunctional team behaviours (i.e., impaired teamwork competencies), which will predict low levels of team cohesion and team performance, and high levels of team conflict. Moreover, I hypothesise that these relations will differ according to the different traits/subtypes of narcissism measured. That is, the dark side of narcissism will predict more negative processes and outcomes than the bright side of narcissism. Literature on the opposing and unique effects of the bright and dark sides of narcissism on social outcomes offers convincing theoretical and empirical support for this hypothesis (Back, 2018; Leckelt et al., 2018; Rogoza et al., 2018).

This is the first investigation to address narcissistic behaviours within the team context by incorporating a comprehensive analysis of narcissism measures. As such, the investigation aims to increase theoretical understanding of the nature of narcissism and examine its influence on a number of team-related processes and outcomes within the team and organisational context.

# Chapter 2 Study 1

A team is the sum of its parts, and, as such, one's personality can be viewed as the glue that holds the team together or the sledgehammer that breaks it apart. One personality trait that warrants investigation is narcissism. Research suggests that narcissism is associated with a range of intra- and interpersonal behaviours that are considered harmful in team and organisational contexts (Arthur et al., 2011; Campbell et al., 2005; Fennimore, 2019; Gaertner et al., 2008; Lakey et al., 2007; O'Reilly & Doerr, 2020; Park et al., 2013; Penny & Spector, 2002). Yet, a nuanced understanding of precisely how narcissism relates to team processes and organisational outcomes is lacking. Given the integral role that teams play within organisations (Hirschfeld & Nernerth, 2008; McEwan et al., 2017; Sanyal & Hisam, 2018; Stouten & Liden, 2020), the issue warrants investigation.

## 2.1 The Present Study

This study examined how different traits/subtypes of narcissism predict engagement in a range of team-related behaviours (i.e., teamwork competencies), and the influence that this has on team processes (i.e., team cohesion, team conflict) and organisational outcomes (i.e., team performance). In accord with previous work, I hypothesised that personality would influence team-related behaviours, processes, and outcomes (Barry & Stewart, 1997; Bell, 2007; Bradley et al., 2013; Pan & Zhang, 2018). In particular, I hypothesised that individuals high on traits associated with the dark side of narcissism would engage in more negative behaviours, which, in turn, would predict poorer team and organisational outcomes (e.g., impaired teamwork behaviours, increased team conflict, reduced team cohesion, poorer team performance) than individuals high on traits associated with the bright side of narcissism. Prior research on the opposing and unique effects of the dark and bright sides of narcissism on social outcomes is consistent with this proposition (Back, 2018; Back et al., 2013; Dufner et al., 2013; Leckelt et al., 2015).

This study is the first to examine narcissistic behaviours within the team context whilst addressing their influence on a range of team processes (i.e., team cohesion, team conflict) and outcomes (i.e., team performance). Moreover, this study is the first to incorporate a comprehensive analysis of narcissism measures (i.e., grandiose narcissism and its breakdown into adaptive and maladaptive components, narcissistic admiration and narcissistic rivalry, and vulnerable narcissism) within the team and organisational literatures. This study purports to add to the understanding of narcissism and the underlying mechanisms that may account for narcissists' behaviour within the team and organisational context.

## 2.2 Method

### 2.2.1 Participants

The initial sample comprised 490 participants who were recruited online (via social media or a crowdsourcing website). Preliminary screening led to the exclusion of data from 96 participants due to incorrect responses on filler questions ($n$ = 60); failure to complete at least half of the responses ($n$ = 2); completion of the study more than once ($n$ = 20); failure to meet the study criteria of being at least 18 years of age ($n$ = 1); and completion of the study in an unrealistic time (<10 minutes; $n$ = 13). Of the 394 retained participants (261 women, 130 men, 3 unknown), most were in their 30s ($M$ = 35.09, $SD$ = 12.49, range 18-74) and were either White American (36.0%) or British (25.9%).

Demographic data revealed that most participants lived in the USA (45.2%), had completed higher education (39.6% "bachelor's degree", 18.5% "master's degree", 13.2% "college"), and were currently employed (50.5% "full-time", 22.8% "part-time") across a variety of organisational fields (27.2% "health and social care", 9.4% "education", 8.1% "retail", 7.6% "business"). Most participants worked in teams with 2-10 members (64.2%), held management positions (18.0% "middle management", 14.0% "junior management"), and were fairly-to-exceptionally satisfied with their work team (70.3%) and job role (71.3%). Organisation and job role tenure varied among participants with most employed for either 1-2 (20.8%) or 8-plus years (22.8%) in a role lasting for either 2 (19.3%) or 6-plus years (22.6%).

### 2.2.2 Procedure and Measures

Participants were recruited online in two ways. First, the study was advertised on social media and research-related websites (e.g., Facebook, Twitter, Linkedin, Callforparticipants) with an incentive to win one of four £30 Amazon vouchers. Second, the study was advertised on CrowdFlower, a data mining and crowdsourcing website, with remuneration of $1.50 for completed responses. Both recruitment methods provided participants with a link to an online survey tool hosting the study, the research requirements (i.e., personal experience of working in a team in an organisational setting; aged over 18 years), and a consent form (all study documents can be accessed via the Open Science Framework: http://tiny.cc/oe2liz). Participants were informed that the purpose of the study was to understand how individual team members' personalities, in addition to the general dynamics of their organisational team, influences team processes. After reviewing the study information, participants acknowledged their understanding and willingness to participate by signing the consent form.

Participants were asked to select whether they were currently working in (or had previously worked in) an organisational team. Subsequent interactions requested participants to either think about their current team or recall (for those who were not in a current organisational team but had

been previously) experiences of working in their previous team when answering all questions. Participants were asked to answer all questions accurately and honestly. Demographic data and information about participants' experience working in an organisational team (e.g., *"*How satisfied are you with your current job?") was collected. Participants were then presented with a number of personality and teamwork measures, which took on average 25 minutes to complete. At the end of the study, participants were debriefed, thanked, and then either entered into a prize draw or remunerated.

All measures (unless otherwise stated) used an 8-point response scale (1 = *strongly disagree* to 8 = *strongly agree*). Three instructional manipulation checks (e.g., "Please respond to this statement with a 4*"*) were randomly included to detect participants who did not follow standardised instructions (Oppenheimer et al., 2009).

### 2.2.3 Personality Measures

#### 2.2.3.1 Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988).

This reliable measurement of subclinical narcissism comprises 40 forced-choice items. Participants indicated which of two statements (A or B) best matched their own feelings and beliefs. One statement referred to the narcissistic response (receiving a score of 1; e.g., "I am an extraordinary person"), and the other to the non-narcissistic response (receiving a score of 0; e.g., "I am much like everybody else"). Narcissistic responses were summed (theoretical range: 0 to 40; current sample: 1 to 39), with higher scores indicating higher levels of grandiose narcissism ($M$ = 12.84, $SD$ = 7.79, $\alpha$ = .89).

Following Barry and Malkin (2010), mean scores for adaptive and maladaptive narcissism were also computed. Items derived from the authority and self-sufficiency scales of the NPI comprise the components of adaptive narcissism ($M$ = .43, $SD$ = .24, α =.78), whereas items from the exploitativeness, entitlement, and exhibitionism scales comprise maladaptive narcissism ($M$ = .24, $SD$ = .19, $\alpha$ = .79). In line with previous research (Barry et al., 2007; Hepper et al., 2014), adaptive narcissism and maladaptive narcissism were correlated positively, $r(389) = .62$, $p < .001$.

#### 2.2.3.2 Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013).

This 18-item questionnaire is a widely applied measure of two distinct dimensions that underscore grandiose narcissism: narcissistic admiration (or the agentic aspects of narcissism) and narcissistic rivalry (or the antagonistic aspects of narcissism). Participants rated their agreement to statements such as "I am great", "I show others how special I am", and "I want my rivals to fail". Scores for each dimension were summed and averaged, with higher scores indicating higher levels of narcissistic admiration ($M$ = 4.05, $SD$ = 1.38, α = .88) and narcissistic rivalry ($M$ = 2.80, $SD$ = 1.34, α = .88).

#### 2.2.3.3 Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997).

This 10-item scale is a widely used measure of vulnerable narcissism with good construct and criterion related validity. Participants rated their agreement to statements such as "My feelings are easily hurt by ridicule or the slighting remarks of others" and "I dislike being with a group unless I know that I am appreciated by at least one of those present". Scores were summed ($M$ = 4.16, $SD$ = 1.15, $\alpha$ = .80), with higher scores indicating higher levels of vulnerable narcissism.

#### 2.2.3.4 Balanced Inventory of Desired Responding – Short Form (BIDR-16; Hart et al., 2015).

The BIDR-16 is a reliable and valid measure of socially desirable responding in self-report studies. Given that narcissism co-varies with a variety of self-presentation tactics including impression management (DeWall et al., 2011; Hart et al., 2017), the 8-item impression management (BIDR-IM: Bias toward pleasing others) subscale from the BIDR-16 was used. Participants rated their agreement to propositional statements such as "I sometimes tell lies if I have to" and "I don't gossip about other people's business". The BIDR-IM was used as a covariate in our analysis ($M$ = 5.16, $SD$ = 1.29, $\alpha$ = .78). Four items were reverse scored.

### 2.2.4 Teamwork Measures

#### 2.2.4.1 Enhanced Teamwork Competencies (ETC; Cisek et al., 2010).

This 69-item questionnaire is a valid and reliable measure of self-evaluated teamwork competencies. Although unpublished and only previously validated with an undergraduate student sample, the ETC is structurally sound in terms of internal consistency and test-retest reliability. The current study offers additional psychometric validation of the ETC by verifying the factor structure of the ETC with a series of confirmatory factor analyses (CFA) on a more generalisable sample. The ETC comprises four main teamwork competencies: communication ($\alpha$ = .81), management ($\alpha$ = .84), intrapersonal ($\alpha$ = .82), and interpersonal ($\alpha$ = .93) competencies. Each competency consists of several subscales with three items per subscale.

The communication competency consists of four subscales (active listening: encouraging others to talk, active listening: mind wandering; active listening: summarising and paraphrasing, clarity of communication), the management competency consists of four subscales (leadership, motivating others, dealing with conflict, stability in difficult situations), the intrapersonal competency consists of five subscales (adaptability, coping with stress, conscientiousness, creativity, emotional intelligence), and the interpersonal competency consists of 10 subscales (sharing information, perspective-taking, back-up behaviour, team connectedness, readiness to work in a team, positive outlook, integrity, patience with others, trust, empathy). Participants responded to a series of statements about attitudes, thoughts, feelings, and patterns of behaviour

when working in teams, such as "I encourage other team members to talk by asking questions" and "I motivate other team members to do their best". Mean scores for each competency were computed, with higher scores indicating greater possession of that teamwork competency: communication ($M$ = 5.35, $SD$ = 1.04), management ($M$ = 5.40, $SD$ = 1.08), intrapersonal ($M$ = 5.29, $SD$ = 1.24), interpersonal ($M$ = 5.50, $SD$ = 1.07). Thirty six items were reverse scored.

#### 2.2.4.2 Group Cohesion Evaluation Questionnaire (GCEQ; Glass & Benshoff, 2002).

This 9-item questionnaire is a reliable and valid measure of assessing how well an individual feels that their organisational team is cohesive and able to work together on different tasks. Four items were modified for the purposes of the current study (i.e., items in the past tense such as "We helped each other on the challenges" were changed to present tense: "We help each other out when times get tough"). Scores were summed and averaged, with higher scores indicating higher levels of team cohesion ($M$ = 6.11, $SD$ = 1.49, $\alpha$ = .96).

#### 2.2.4.3 Intragroup Conflict Scale (ICS; Jehn, 1992).

This 9-item questionnaire is a reliable and valid measure of intragroup conflict. Participants responded to statements that relate to the amount of task or work-based conflict they experience with others in the workplace (e.g., "How much anger was there among members of the group?"). All items were modified for the purposes of the current study (i.e., items in the past tense such as "How many differences of opinion were there within the group?" were changed to present tense: "How many differences of opinion are there within your team?"). Scores were summed and averaged, with higher scores indicating higher levels of team conflict ($M$ = 3.78, $SD$ = 1.61, $\alpha$ = .96).

#### 2.2.4.4 Team Performance

This 9-item measure of subjective team performance was created for the purpose of this study as a measure of organisational output. Participants rated their agreement to statements such as "My team often struggles to meet deadlines" and "My team is productive at completing tasks most of the time". Scores were summed and averaged, with higher scores indicating greater levels of subjective team performance ($M$ = 6.42, $SD$ = 1.14, $\alpha$ = .92). Three items were reverse scored.

## 2.3 Results

### 2.3.1 Preliminary Data Analysis – Confirmatory Factor Analyses

First, a series of confirmatory factor analyses (CFA's) were performed to investigate the goodness of fit of the theoretically conceptualised factor structure of the ETC (Cisek et al., 2010). In so doing, this research aimed to offer additional psychometric validation of the ETC and its four

established competencies: communication, management, intrapersonal, and interpersonal. All analyses were conducted using Maximum Likelihood estimation in IBM SPSS AMOS 24.0.

Following the procedure of Cisek et al. (2010), for each overarching competency, the fit of two models was compared (see Figure 1). In Model A, the competencies were separate but covarying, representing separate but correlated competencies. In Model B, the competencies loaded onto a single higher-order factor (HOF), representing closely related competencies that together formed a more general skill (e.g., management). The two models were compared to ascertain the most appropriate way of conceptualising each group of competencies (Kline, 2005). Where both fit adequately, the HOF model was preferred for parsimony. Modification Indices were used to improve model fit where appropriate (i.e., correlating error terms that are theoretically sensible; Jöreskog & Long, 1993).

To evaluate model fit, a range of incremental and absolute fit indices was examined, including the $\chi^2$ statistic, relative/normed chi-square ($\chi^2$ /df), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardised root mean square residual (SRMR). The following criteria were indicative of acceptable model fit: $\chi^2$ /df < 5.0, CFI > .08, RMSEA <.08, SRMR < .08 (Diamantopoulos & Siguaw, 2000; Hu & Bentler, 1999; Kline, 2005; Marsh et al., 1996, 2004; Steiger, 2007). It is recommended to consider a variety of fit indices so that the weaknesses of a particular index are counteracted by the strength of another (Ahmad, 2005; Marsh et al., 1996). One widely-used strategy to cope with missing values in structural analyses is mean imputation: substituting each missing value with the mean value for that item (Tabachnick & Fidell, 2001). This strategy is acceptable if there are fewer than 5% missing values on a given item (Kline, 2005). In the present sample, no item had more than .8% missing values, so mean imputation was appropriate. Table 1 shows the fit indices for each model.

#### 2.3.1.1 CFA Models – Communication Competency

Model A fit was good, meeting all fit criteria $\chi^2$ (48) = 87.35, $\chi^2$ /df = 1.82, CFI = .976, RMSEA = .046 (90% CI = .030, .061, *p* = .66), SRMR = .0351. All items loaded onto their latent factors greater than .60, *p*s < .001. R-squared per items ranged from .37 to .66.

Model B fit was good, meeting three of four fit criteria $\chi^2$ (50) = 145.08, $\chi^2$ /df = 2.90, CFI = .943, RMSEA = .070 (90% CI = .057, .083, *p* <.001), SRMR = .0819. All latent factors loaded onto the HOF greater than .33, *p*s < .001. R-squared per factors ranged from .11 to .99.

As both models fit adequately, Model B was preferred for parsimony. In both models, items covaried and loaded onto their latent factors as predicted (Figure 2).

#### 2.3.1.2 CFA Models – Management Competency

Model A fit was good, meeting all fit criteria $\chi^2$ (48) = 91.87 $\chi^2$ /df = 1.91, CFI = .972, RMSEA = .048 (90% CI = .033, .063, *p* = .56), SRMR = .0433. All items loaded onto their latent factors greater than .33, *p*s < .001. R-squared per items ranged from .11 to .77.

Model B fit was good, meeting all fit criteria $\chi^2$ (50) = 106.46 $\chi^2$ /df = 2.13, CFI = .963, RMSEA = .054 (90% CI = .039, .068, *p* = .32). All latent factors loaded onto the HOF greater than .76, *p*s < .001. R-squared per factors ranged from .58 to .82.

As both models fit well, Model B was preferred for parsimony. In both models, items covaried and loaded onto their latent factors as predicted (Figure 3).

#### 2.3.1.3 CFA Models – Intrapersonal Competency

Model A fit was adequate to poor, $\chi^2$ (80) = 269.23 $\chi^2$ /df = 3.37, CFI = .870, RMSEA = .078 (90% CI = .067, .088, *p* < .001), SRMR = .0726. Although all items loaded onto their latent factors greater than .51 (*p*s < .001), Creativity and Emotional Intelligence correlated weakly to non-significantly with other competencies (as found in the original CFA performed by Cisek et al., 2010). Model A was re-run without Creativity and Emotional Intelligence. Thus, six items were dropped from the ETC, leaving 63 items in total.

Model A.1 fit was good, meeting all fit criteria $\chi^2$ (24) = 64.81 $\chi^2$ /df = 2.70, CFI = .957, RMSEA = .066 (90% CI = .047, .085, *p* = .08), SRMR = .0456. All items loaded onto their latent factors greater than .57, *p*s < .001. R-squared per items ranged from .33 to .65.

Model B fit was good, meeting all fit criteria $\chi^2$ (24) = 64.81 $\chi^2$ /df = 2.70, CFI = .957, RMSEA = .066 (90% CI = .047, .085, *p* = .08), SRMR = .0456. All latent factors loaded onto the HOF greater than .70, *p*s < .001. R-squared per factors ranged from .49 to .77.

Model B fit did not differ from Model A.1. However, for the purpose of using total competency group scores in the current analysis, Model B was preferred (Figure 4).

#### 2.3.1.4 CFA Models – Interpersonal Competency

Model A fit was good, meeting all fit criteria $\chi^2$ (360) = 925.39 $\chi^2$ /df = 2.57, CFI = .889, RMSEA = .063 (90% CI = .058, .068, *p* < .001), SRMR = .0676. All items loaded onto their latent factors greater than .43, *p*s < .001. R-squared per items ranged from .30 to .71.

Model B did not fit quite as well, meeting only some fit criteria $\chi^2$ (395) = 1266.06 $\chi^2$ /df = 3.21, CFI = .830, RMSEA = .075 (90% CI = .070, .080, *p* < .001), SRMR = .0805. All latent factors loaded onto the HOF greater than .65 (*p*s < .001). R-squared per factors ranged from .42 to .90. Based on this promising pattern, Modification Indices (MIs) were inspected for the model. Four MIs were high (>20) and theoretically sensible, and so covariances were added to the following items: Item 42 ("I am very sensitive to other team members' need for assistance") and Item 69 ("Whenever I see another team member having a hard time, I feel compassion for them") with the common influence of being sensitive to others; Item 64 ("I always deal with tense situations in a team with diplomacy") and Item 65 ("I am very patient when difficult situations arise at work") with the common influence of stability in difficult situations; Item 38 ("If I'm sure I'm right about something, I don't waste much time listening to other team members' opinions") and Item 60 ("I try to make sure that I always get my own way in team disputes") with the common

influence of always being correct; and the disturbance between Connectedness and Integrity, with the common influence of the tendency to see team members as friends or not.

The resulting model (Model B.1) fit significantly better, $\chi^2$ (391) = 1089.52 $\chi^2$ /df = 2.79, CFI = .863, RMSEA = .067 (90% CI = .063, .072, $p < .001$), SRMR = .0754. Model B.1 was preferred (Figure 5). Therefore, it was possible to compute overall scores for all four competencies in the ETC.

### 2.3.2 Preliminary Data Analysis - Normality

Using IBM SPSS 25.0, several preliminary analyses were carried out to check the suitability of the data (e.g., normality) and comparisons between the two participant samples (i.e., advertisement, CrowdFlower). An independent samples t-test revealed significant differences between participant samples on the NPI, $t(383.01) = 2.95$, $p < .01$, $d = .29$, and narcissistic rivalry, $t(372.16) = 6.65$, $p < .001$, $d = .67$, indicating a violation of homogeneity within populations. A second independent samples t-test with Hedges' *g* also revealed significant differences between male and female participants on the NPI, $t(228.03) = 5.53$, $p < .001$, $g = .62$, and narcissistic rivalry, $t(217.35) = 6.03$, $p < .001$, $g = .69$. Hedges' *g* provides a measure of effect size weighted according to the relative size of each sample, and is useful in datasets containing different sample sizes (Lakens, 2013). Hedges' *g* was computed using an online effect size calculator (https://www.socscistatistics.com/Default.aspx). In line with previous research (Grijalva et al., 2015), males scored higher on the NPI ($M = 15.51$, $SD = 8.11$) than females ($M = 10.87$, $SD = 7.11$). Accordingly, participant sample and gender were treated as control variables in the remaining analyses.

Next, data plots were created to check for outliers and normal distributions for all measures. Upon inspection, three outliers (e.g., a *z*-score of $\pm$ 3.29) were identified: one in the NPI, one in maladaptive narcissism, and the other in the GCEQ. Following recommendations of Tabachnick and Fidell (2001), these outliers were reduced to one unit above/below the next highest/lowest score in the dataset. After transforming these outliers, data normality was explored with skewness and kurtosis, revealing normal distributions throughout. Skewness and kurtosis were explored by adopting cut-off values of -2 and +2 (George & Mallery, 2010). Next, reliability estimates and internal consistencies for all measures were examined using Cronbach's alpha (Cronbach, 1951). Six subscales of the ETC had a satisfactory alpha level of between .60 and .70, whereas all other measures were deemed good to excellent. Means, standard deviations, and reliability coefficients are reported in Table 2.

### 2.3.3 Main Analysis

Zero-order correlations were computed to examine the relation among narcissism measures with teamwork competencies, team processes, and organisational outcomes (Table 3). For

exploratory purposes, correlations between narcissism measures and the ETC subscales were also computed (Table 4).

#### 2.3.3.1 Narcissism

The NPI correlated negatively with interpersonal competency (i.e., sharing information, perspective-taking, positive outlook, integrity, patience with others, trust, empathy), indicating that narcissists are likely to exhibit lower levels of self-reported interpersonal skills when interacting with their work team. There were no significant correlations between the NPI and the intrapersonal and communication competencies (except a positive correlation with the active listening: summarising subscale). In line with previous findings that narcissists are likely to demonstrate leadership tendencies (Nevicka et al., 2013; Ong et al., 2016), a significant positive correlation was found between the NPI and management competency (i.e., leadership, dealing with conflict, stability in difficult situations).

As hypothesised, the NPI also correlated positively with perceived team conflict and correlated negatively with subjective team performance, indicating that individuals high on narcissism reported high levels of conflict and low levels of performance within their work teams. There was no significant correlation between the NPI and perceived team cohesion.

#### 2.3.3.2 Adaptive Narcissism

Adaptive narcissism correlated negatively with interpersonal competency (i.e., sharing information, perspective-taking, positive outlook, integrity, empathy), indicating that an increase in scores on adaptive narcissism is associated with lower levels of self-reported interpersonal skills when interacting with a work team. Adaptive narcissism was positively correlated with the communication (i.e., active listening: encourage others to talk, active listening: summarising), management (i.e., leadership, motivating others, dealing with conflict, stability in difficult situations), and intrapersonal (i.e., adaptability, coping with stress) competencies.

Adaptive narcissism correlated positively with perceived team conflict, indicating that individuals high on adaptive narcissism reported high levels of conflict within their work teams. There were no significant correlations between adaptive narcissism and subjective team performance or perceived team cohesion.

#### 2.3.3.3 Maladaptive Narcissism

Maladaptive narcissism correlated negatively with interpersonal competency (i.e., sharing information, perspective-taking, back-up behaviour, readiness for teamwork, positive outlook, integrity, patience with others, trust, empathy), indicating that an increase in scores on maladaptive narcissism is associated with lower levels of self-reported interpersonal skills when interacting with a work team. Maladaptive narcissism also negatively correlated with two subscales of the

communication competency (i.e., active listening: mind wanders, clarity of communication) and the conscientiousness subscale of intrapersonal competency.

Maladaptive narcissism was positively correlated with perceived team conflict and negatively correlated with subjective team performance, indicating that individuals high on maladaptive narcissism reported high levels of conflict and low levels of performance within their work teams. There was no significant correlation between maladaptive narcissism and perceived team cohesion.

#### 2.3.3.4 Narcissistic Admiration

Narcissistic admiration correlated negatively with interpersonal competency (i.e., sharing information, perspective-taking, back-up behaviour, positive outlook, integrity, patience with others, empathy), indicating that an increase in scores on narcissistic admiration is associated with lower levels of self-reported interpersonal skills when interacting with a work team. Narcissistic admiration was positively correlated with management competency (i.e., leadership, dealing with conflict, stability in difficult situations).

Narcissistic admiration was positively correlated with perceived team cohesion and perceived team conflict, indicating that individuals high on narcissistic admiration reported high levels of cohesion and conflict within their work teams. There was no significant correlation between narcissistic admiration and subjective team performance.

#### 2.3.3.5 Narcissistic Rivalry

Narcissistic rivalry correlated negatively with all four competencies and their subscales (except for the leadership subscale in management competency), indicating that an increase in scores on narcissistic rivalry is associated with lower levels of self-reported communication, management, interpersonal, and intrapersonal skills when interacting with a work team. As expected, narcissistic rivalry was negatively correlated with perceived team cohesion, subjective team performance, and positively correlated with perceived team conflict. These findings indicate that individuals high on narcissistic rivalry reported high levels of conflict and low levels of cohesion and performance within their work teams.

#### 2.3.3.6 Vulnerable Narcissism

Vulnerable narcissism correlated negatively with all four competencies and their subscales, indicating that an increase in scores on vulnerable narcissism is associated with lower levels of self-reported communication, management, interpersonal, and intrapersonal skills when interacting with a work team. As expected, vulnerable narcissism was negatively correlated with perceived team cohesion and subjective team performance, and positively correlated with perceived team conflict. These findings indicate that individuals high on vulnerable narcissism reported high levels of conflict and low levels of cohesion and performance within their work teams.

#### 2.3.3.7 Team Processes and Outcomes

In line with previous findings that teamwork competencies contribute to successful teams (Bartram et al., 2002; Meglino et al., 1989), all ETC competencies were positively correlated with team cohesion and team performance, and negatively correlated with team conflict. As expected, team performance was positively correlated with perceived team cohesion and negatively correlated with team conflict. As levels of perceived team cohesion and conflict increase, self-reported levels of team performance increase and decrease, respectively.

### 2.3.4 How Does Narcissism Predict Team Processes and Team Performance?

Several multiple mediation models (using PROCESS V3.3 Model 4; Hayes, 2018) were run to examine whether different aspects/traits of narcissism predict engagement in a range of team-related behaviours, and the impact that this has on team processes and organisational outcomes (see Figure 6 for conceptual models). First, the regression-based paths between narcissism on team processes and team performance via teamwork competencies were examined. Teamwork competencies were conceptualised as multiple mediators in this model due to their reported influence on team processes (Moreland & Levine, 1992) and team performance (Cisek et al., 2010; Torrelles et al., 2015). Second, the regression-based paths between narcissism on team performance via team processes were examined. Team cohesion and team conflict were conceptualised as multiple mediators in this model due to their reported influence on team performance (Braun et al., 2020; Wei et al., 2020).

PROCESS analysis allows for the estimation of total and specific indirect effects for multiple mediators, and the examination of pairwise contrasts between specific indirect effects (see Figure 6 for conceptual models). Confidence intervals that do not contain zero provide evidence for an indirect effect. The absence of a significant total effect does not preclude the presence of an indirect effect (Hayes, 2013). Sample, gender, impression management, and the other form of narcissism (i.e., adaptive narcissism when exploring maladaptive narcissism; narcissistic admiration when exploring narcissistic rivalry) were controlled for in all models[i]. Path models of the relations are shown in Figures 7-12, with corresponding parameters (including total and direct effects) reported in Tables 5-10. For brevity, significant indirect effects are presented in the *summary diagrams* in section 2.3.18, and only significant mediations are noted below.

### 2.3.5 Narcissism

Narcissism indirectly influenced perceived team cohesion through its effects on management, intrapersonal, and interpersonal competencies (Table 5, Model A). Scoring high on narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion. High scores on narcissism were also associated with high

levels of self-reported intrapersonal skills and low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion (38% of the variance explained).

Narcissism indirectly influenced perceived team conflict through its effects on communication and interpersonal competencies (Model B). Scoring high on narcissism was associated with high levels of self-reported communication skills and low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict (30% of the variance explained).

Narcissism also indirectly influenced subjective team performance through its effect on management and interpersonal competencies (Model C), and through its effect on team conflict (Model D). Scoring high on narcissism was associated with high levels of self-reported management skills and low levels of self-reported interpersonal skills, which predicted high and low levels of subjective team performance, respectively (37% of the variance explained). Scoring high on narcissism was also associated with high levels of perceived team conflict, which predicted low levels of subjective team performance (44% of the variance explained).

### 2.3.6 Adaptive Narcissism

Adaptive narcissism indirectly influenced perceived team cohesion through its effect on management and intrapersonal competencies (Table 6, Model A). Scoring high on adaptive narcissism was associated with high levels of self-reported management and intrapersonal skills, which predicted high and low levels of perceived team cohesion, respectively (38% of the variance explained).

Adaptive narcissism indirectly influenced perceived team conflict through its effect on communication competency (Model B). Scoring high on adaptive narcissism was associated with high levels of self-reported communication skills, which predicted high levels of perceived team conflict (28% of the variance explained).

Adaptive narcissism also indirectly influenced subjective team performance through its effect on management competency (Model C). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of subjective team performance (37% of the variance explained).

### 2.3.7 Maladaptive Narcissism

Maladaptive narcissism indirectly influenced perceived team cohesion through its effect on intrapersonal and interpersonal competencies (Table 7, Model A). Scoring high on maladaptive narcissism was associated with low levels of self-reported intrapersonal and interpersonal skills, which predicted high and low levels of perceived team cohesion, respectively (38% of the variance explained).

Maladaptive narcissism indirectly influenced perceived team conflict through its effect on interpersonal competency (Model B). Scoring high on maladaptive narcissism was associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict (28% of the variance explained).

Maladaptive narcissism also indirectly influenced subjective team performance through its effects on interpersonal competency (Model C). Scoring high on maladaptive narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of subjective team performance (37% of the variance explained).

### 2.3.8 Narcissistic Admiration

Narcissistic admiration indirectly influenced team cohesion through its effects on management and intrapersonal competencies (Table 8, Model A). Scoring high on narcissistic admiration was associated with high levels of self-reported management and intrapersonal skills, which predicted high and low levels of perceived team cohesion, respectively (40% of the variance explained).

Narcissistic admiration indirectly influenced team conflict through its effect on communication competency (Model B). Scoring high on narcissistic admiration was associated with high levels of self-reported communication skills, which predicted high levels of perceived team conflict (27% of the variance explained).

Narcissistic admiration also indirectly influenced subjective team performance through its effect on perceived team cohesion (Model D). Scoring high on narcissistic admiration was associated with high levels of perceived team cohesion, which predicted high levels of subjective team performance (48% of the variance explained).

### 2.3.9 Narcissistic Rivalry

Narcissistic rivalry indirectly influenced perceived team cohesion through its effects on management, interpersonal, and intrapersonal competencies (Table 9, Model A). Scoring high on narcissistic rivalry was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion. Scoring high on narcissistic rivalry was also associated with low levels of self-reported intrapersonal skills, which predicted high levels of perceived team cohesion (40% of the variance explained).

Narcissistic rivalry indirectly influenced perceived team conflict through its effects on communication and interpersonal competencies (Model B). Scoring high on narcissistic rivalry was associated with low levels of self-reported communication and interpersonal skills, which predicted low and high levels of perceived team conflict, respectively (27% of the variance explained).

Narcissistic rivalry also indirectly influenced subjective team performance through its effect on interpersonal competency (Model C), and through its effects on perceived team cohesion and

perceived team conflict (Model D). Scoring high on narcissistic rivalry was associated with low levels of self-reported interpersonal skills, which predicted low levels of subjective team performance (37% of the variance explained). Scoring high on narcissistic rivalry was also associated with low levels of perceived team cohesion and high levels of perceived team conflict, which predicted low levels of subjective team performance (48% of the variance explained).

### 2.3.10 Vulnerable Narcissism

Vulnerable narcissism indirectly influenced perceived team cohesion through its effects on management, intrapersonal, and interpersonal competencies (Table 10, Model A). Scoring high on vulnerable narcissism was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion. Scoring high on vulnerable narcissism was also associated with low levels of self-reported intrapersonal skills, which predicted high levels of perceived team cohesion (37% of the variance explained).

Vulnerable narcissism indirectly influenced perceived team conflict through its effects on communication and interpersonal competencies (Model B). Scoring high on vulnerable narcissism was associated with low levels of self-reported communication and interpersonal skills, which predicted low and high levels of perceived team conflict, respectively (29% of the variance explained).

Vulnerable narcissism also indirectly influenced subjective team performance through its effect on interpersonal competency (Model C), and through its effect on perceived team cohesion (Model D). Scoring high on vulnerable narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of subjective team performance (39% of the variance explained). Scoring high on vulnerable narcissism was also associated with low levels of perceived team cohesion, which predicted low levels of subjective team performance (44% of the variance explained).

### 2.3.11 How Does the Behaviour of Narcissists Predict Team Processes, and in turn, Team Performance?

Several sequential multiple mediation models (using PROCESS V3.3 Model 80; Hayes, 2018) were run to examine the influence of different aspects/traits of narcissism on team performance (see Figure 13 for conceptual model). This allowed for an investigation of the sequential path between narcissism and team performance by estimating the direct and indirect effects of X on Y through two sequential multiple mediators: self-reported teamwork competencies ($M_1$) and team processes (perceived team conflict, perceived team cohesion; $M_2$). The models used the same covariates and bootstrapping analyses as those above[ii]. Path models of the relations are shown in Figures 14-19, with corresponding parameters (including total and direct effects) reported

in Tables 11-16. For brevity, all significant indirect effects are presented in the *summary diagrams* in section 2.3.18, and only significant mediations are noted below.

### 2.3.12 Narcissism

Narcissism indirectly influenced subjective team performance through its effects of management, intrapersonal, and interpersonal skills on perceived team cohesion (Table 11, Model A). Scoring high on narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance. Scoring high on narcissism was associated with high levels of self-reported intrapersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance. Scoring high on narcissism was also associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance (50% of the variance explained).

Narcissism also indirectly influenced subjective team performance through its effects of communication and interpersonal skills on perceived team conflict (Model B). Scoring high on narcissism was associated with high levels of self-reported communication skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance. Scoring high on narcissism was also associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, low levels of subjective team performance (46% of the variance explained).

### 2.3.13 Adaptive Narcissism

Adaptive narcissism indirectly influenced subjective team performance through its effects of management and intrapersonal skills on perceived team cohesion (Table 12, Model A). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance. Scoring high on adaptive narcissism was also associated with high levels of self-reported intrapersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance (50% of the variance explained).

Adaptive narcissism also indirectly influenced subjective team performance through its effects of communication skills on perceived team conflict (Model B). Scoring high on adaptive narcissism was associated with high levels of self-reported communication skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (46% of the variance explained).

### 2.3.14 Maladaptive Narcissism

Maladaptive narcissism indirectly influenced subjective team performance through its effects of interpersonal and intrapersonal skills on perceived team cohesion (Table 13, Model A). Scoring high on maladaptive narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance. Scoring high on maladaptive narcissism was also associated with low levels of self-reported intrapersonal skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance (50% of the variance explained).

Maladaptive narcissism also indirectly influenced subjective team performance through its effects of interpersonal skills on perceived team conflict (Model B). Scoring high on maladaptive narcissism was associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (47% of the variance explained).

### 2.3.15 Narcissistic Admiration

Narcissistic admiration indirectly influenced subjective team performance through its effects of management and intrapersonal skills on perceived team cohesion (Table 14, Model A). Scoring high on narcissistic admiration was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance. Scoring high on narcissistic admiration was also associated with high levels of self-reported intrapersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance (51% of the variance explained).

Narcissistic admiration also indirectly influenced subjective team performance through its effect of communication skills on perceived team cohesion (Model B). Scoring high on narcissistic admiration was associated with high levels of self-reported communication skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (46% of the variance explained)..

### 2.3.16 Narcissistic Rivalry

Narcissistic rivalry indirectly influenced subjective team performance through its effects of management, intrapersonal, and interpersonal skills on perceived team cohesion (Table 15, Model A). Scoring high on narcissistic rivalry was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance. Scoring high on narcissistic rivalry was also associated with low levels of self-reported intrapersonal skills, which predicted high levels of

perceived team cohesion, and in turn, predicted high levels of subjective team performance (51% of the variance explained).

Narcissistic rivalry also indirectly influenced subjective team performance through its effects of communication and interpersonal skills on perceived team conflict (Model B). Scoring high on narcissistic rivalry was associated with low levels of self-reported communication skills, which predicted low levels of perceived team conflict, and in turn, predicted high levels of subjective team performance. Scoring high on narcissistic rivalry was also associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (46% of the variance explained).

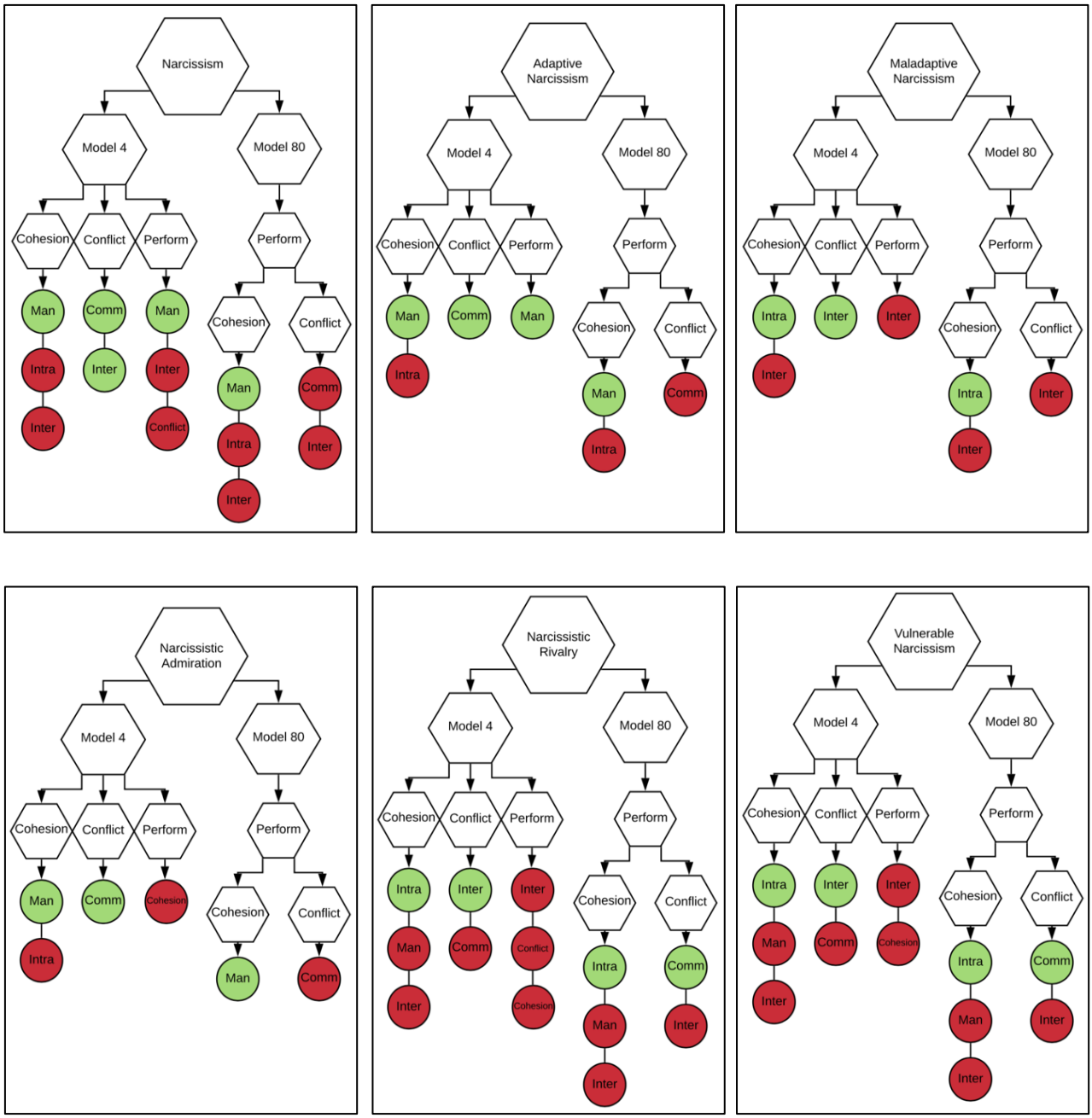
### 2.3.17 Vulnerable Narcissism

Vulnerable narcissism indirectly influenced subjective team performance through its effects of management, intrapersonal, and interpersonal skills on team cohesion (Table 16, Model A). Scoring high on vulnerable narcissism was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance. Scoring high on vulnerable narcissism was also associated with low levels of self-reported intrapersonal skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance (51% of the variance explained).

Vulnerable narcissism also indirectly influenced subjective team performance through its effects of communication and interpersonal skills on perceived team conflict (Model B). Scoring high on vulnerable narcissism was associated with low levels of self-reported communication skills, which predicted low levels of perceived team conflict, and in turn, predicted high levels of subjective team performance. Scoring high on vulnerable narcissism was also associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (46% of the variance explained).

### 2.3.18 Summary Diagrams

The below diagrams illustrate the significant indirect paths noted in the multiple mediation models (Model 4) and sequential multiple mediation models (Model 80). The top hexagon represents the IV, followed by a hexagon representing the PROCESS mediation model used. This is followed by small hexagons representing the DV. Each circle represents a significant indirect effect on the corresponding DV. Green circles represent a positive indirect effect, whereas red circles represent a negative indirect effect.




## 2.4 Discussion

This study examined how different traits/subtypes of narcissism predict engagement in a range of team-related behaviours, and the impact that this has on team processes and organisational outcomes. I proposed that personality would influence team-related behaviours, processes, and outcomes. Specifically, I hypothesised that individuals high on traits associated with the dark side of narcissism would engage in more negative behaviours, and, in turn, be associated with poorer

team and organisational outcomes than individuals high on traits associated with the bright side of narcissism. The results are generally consistent with the hypotheses.

The dark side of narcissism was negatively correlated with team cohesion and team performance, and positively correlated with team conflict. Presumably, dark narcissists do not always see eye to eye with other team members, and this may lead to impairments in team processes, and ultimately team performance. Low reported scores for the communication and intrapersonal competencies may offer a likely explanation for this association. The dark side of narcissism was negatively related with the acceptance of new ideas and challenges, the likelihood of remaining focused and calm while under pressure, the ability to express opinions and share information clearly, a readiness to work hard, and the encouragement of other team members to communicate effectively. Previous research has shown that the manner in which team members communicate and interact with one another is paramount to the understanding of the antecedents and consequences of team processes, and ultimately, why certain teams struggle to sustain high performance in the long term (Behfar et al., 2008; Hackman & Morris, 1975; Marks et al., 2001). Teams which use more collaborative and open communication (i.e., sharing each other person's point of view, clear communication styles, remaining focused when interacting with others) demonstrate fewer occasions of contentious communication when expressing disagreements, and in turn, experience less occasions (or negative effects) of team conflict (Lovelace et al., 2001). Since dark narcissists appear to lack (or decide not to exhibit) such communication and intrapersonal skills when interacting with their team, this explanation is theoretically plausible.

Paradoxically, in the sequential multiple mediations, low levels of communication and intrapersonal skills led to better perceived outcomes for dark narcissists than predicted. For example, low levels of communication skills led to low levels of perceived team conflict, which predicted high levels of perceived team performance. Similarly, low levels of intrapersonal skills led to high levels of perceived team cohesion, which predicted high levels of perceived team performance. Although these findings are contrary to the explanation above, they do, however, provide scope for further research. Do dark narcissists selectively turn on and off certain skills in order to get ahead? Are dark narcissists capable of exhibiting high levels of communication and intrapersonal skills? Are low levels of communication and intrapersonal skills always beneficial for dark narcissists? Are these findings supported by the data collected by other team members? Moreover, are the retrospective self-reports of dark narcissists prone to selective bias? Given that dark narcissists feel more entitled to desirable outcomes than others and demonstrate a proclivity for exploiting and manipulating situations to get ahead (Back et al., 2013), the case remains open.

In the multiple mediations, the dark side of narcissism significantly predicted low levels of team cohesion and high levels of team conflict. This may be due to their low reported scores on the interpersonal teamwork competency. The dark side of narcissism was negatively related with an openness to share knowledge and expertise, better perspective-taking ability, a feeling of team connectedness, a readiness for teamwork, greater integrity, being more patient with others, having

trust in team members, being good-natured in team settings, and having greater empathy for team members. Prior work has shown that integrity, trust, and knowledge sharing behaviours are linked to team cohesion and team performance (Garrison et al., 2010; van Woerkom & Sanders, 2010), and that empathy and perspective-taking are positively associated with team member respect (Firth et al., 1985) and enhanced team connectedness (Pavlovich & Krahnke, 2012). As such, this explanation is theoretically plausible. Correspondingly, in the serial multiple mediations, low levels of interpersonal skills led to low cohesion and high conflict, which predicted low levels of perceived team performance. For dark narcissists, getting ahead does seem more important than getting along (Hogan, 1983).

As hypothesised, the bright side of narcissism was positively associated with team cohesion, possibly due to their high reported scores on the management competency. Adaptive narcissism was positively related with stability in difficult situations, motivation of other team members, effective conflict resolutions, and an overall sense of leadership. Similarly, narcissistic admiration was positively related with leadership and effective conflict resolutions. Previous research showing that cohesive teams involve successful leadership (i.e., effective delegation of tasks to coordinate efforts, tailored expectations, constructive criticism) and increased motivation to contribute towards collective goals (Beal et al., 2003; Nijstad & De Dreu, 2012) align with this finding.

As in prior research, high scores on the management competency also predicted greater levels of perceived team performance (Lee et al., 2010). In the sequential multiple mediations, high levels of management skills led to high levels of team cohesion, which predicted high levels of perceived team performance. On the basis that narcissists are often considered to imbue leadership qualities (de Vries & Miller, 1985; Maccoby, 2004; Ong et al., 2016; Williams et al., 2020), and that cohesion and transformational leadership both positively influence team performance (Dionne et al., 2004), these findings are in the hypothesised direction.

Intriguingly, both adaptive narcissism and narcissistic admiration significantly predicted greater levels of team conflict. Albeit unexpected, this finding may be explained, in part, by their levels of communication skills. Individuals high on bright narcissism typically reported higher levels of active listening, feedback reception, non-verbal communication, and ability to communicate in a comprehensive way. Although communication skills should be traditionally associated with positive team processes and outcomes, research indicates that bright narcissism is complex and seemingly paradoxical in structure, and as such, often yields mixed results and consequences. For example, on the one hand, a bright narcissists' desire for recognition, assertive self-enhancement, and success may lead them to exploit the team and its resources, resulting in conflict with other team members and impaired team-level performance. On the other hand, their display of agentic behaviours (e.g., dominance, charm, self-assuredness) and need for admiration may lead others to perceive them in a positive light (albeit in early acquaintance situations), resulting in improved team processes and outcomes.

In the sequential multiple mediations, high levels of communication skills predicted greater levels of team conflict, which subsequently predicted low levels of perceived team performance. This association was expected as team conflict is often negatively related to team performance (De Dreu & Weingart, 2003). Yet, combined with other findings, the association raises questions about the communication skills exhibited by bright narcissists. Do bright narcissists have a distorted view of communication skills? Are the communication skills being used more negative than positive? Are high levels of communication skills always negative for bright narcissists? Further investigation (i.e., obtaining perceptions of others, observing interpersonal interactions) is needed.

Overall, these findings paint an interesting portrait of the bright and dark sides of narcissism. Although dark narcissists typically scored low on all teamwork competencies, the opposite was generally observed for bright narcissists, who scored high on these measures. Likewise, although dark narcissism was negatively correlated with team cohesion, a positive correlation was found with bright narcissism. Moreover, although dark narcissism was negatively correlated with team performance, no significant relationship was found with bright narcissism.

Interestingly, communication skills had diverging outcomes on team conflict and team performance for both sides of narcissism. For dark narcissists, low levels of communication skills were associated with low levels of team conflict and high levels of perceived team performance. Contrariwise, for bright narcissists, high levels of communication skills were associated with high levels of team conflict and low levels of perceived team performance. One explanation for these findings is that dark narcissists may be buffered from the negative aspects typically associated with poor communication skills in team settings (i.e., low morale, missed performance goals, damaged relationships; Scullen et al., 2003; Troth et al., 2012). Another likely proposition is that dark narcissists fail to communicate with other team members on purpose, and as a result, perceive less conflict and more successful outcomes than expected. That is, they may differentially perceive themselves as superior to their team members, and therefore, actively engage in strategies to succeed without the help of others. Given that narcissists crave power and control rather than communal relationships (Brown & Ziegler-Hill, 2004; Campbell et al., 2007; D'Souza et al., 2019), and employ a variety of intra- and interpersonal strategies (i.e., selectively filtering out information, attributing blame to others, devaluing other members of the team; Campbell et al., 2002; Lubit, 2002; Lunbek, 2014) to get ahead, this explanation is plausible. Overall, these findings indicate the importance of distinguishing between bright and dark sides of narcissism in research, and, as such, offer a nuanced understanding of narcissism within the team and organisational context.

### 2.4.1 Implications

The findings have implications for research on team and organisational contexts. The results were consistent with prior work showing that personality is relevant to team processes and organisational outcomes (Barry & Stewart, 1997; Bell, 2007; Boudreau & Anis, 2020; Bradley et al., 2013; Filipiak & Lubianka, 2020). Individuals high on traits associated with the dark side of

narcissism were generally prone to more negative behaviours, processes, and outcomes than individuals high on traits associated with the bright side of narcissism. Both sides of narcissism were associated with high levels of team conflict. However, the bright side of narcissism (specifically, narcissistic admiration) was associated with high levels of team cohesion. As team member satisfaction and performance is positively related with team cohesion (Carron & Brawley, 2000), but negatively related with team conflict (De Dreu & Weingart, 2003), these findings are a cause for concern.

The findings also have implications for organisational practice. First, they highlight narcissism as a relevant trait to understand and monitor within the workplace. Second, they inform ways to increase team-related behaviours among narcissistic members, which would likely enhance their satisfaction, contribution, and productivity in the organisational setting. For example, low levels of interpersonal skills were associated with high levels of team conflict, and low levels of team cohesion and team performance. If interpersonal skills do underlie narcissists' dysfunctional team behaviours, then organisations would likely benefit from ensuring that team relationships are smooth, in order to discourage narcissists from causing conflict in the first place. One way to do this could be through tailoring interventions to decrease (or fulfil in some other way) narcissistic behaviours in the team and organisational setting (e.g., training narcissistic employees to become more prosocial). Research demonstrating the ability to improve narcissists' perspective-taking abilities following explicit manipulations (Hepper et al., 2014), and reducing state narcissism (Giacomin & Jordan, 2013), offers support for this proposition.

### 2.4.2 Limitations and Future Research

This study is the first to address narcissistic behaviours within the team and organisational context whilst tracking their influence on a range of team processes (i.e., team cohesion, team conflict) and organisational outcomes (i.e., team performance). Following recommendations from Foster et al. (2018) and Manley et al. (2018), this work incorporates a comprehensive analysis of narcissism measures to explore the influence of narcissism within the team and organisational context. As such, it adds further theoretical understanding of the construct of narcissism and highlights the underlying mechanisms that may account for narcissists' behaviour within teams. Nevertheless, the study had limitations.

First, as the ETC scale has only been previously validated on engineering students, its use on a diverse sample may count as a methodological limitation. However, the scale was a first in the literature on teamwork competencies. It was possible to investigate the goodness of fit of the theoretically conceptualised factor structure of the ETC and offer additional psychometric validation for its internal consistency and structure. Another was the way in which participants answered questions relating to their experiences in a team. Participants were only requested to complete questions based on the team to which they belonged currently or had belonged

previously. Although these findings complement previous work, this type of instruction lacks the control of monitoring participants or assigning them to work in a specific team.

The use of a subjective measure of team performance is also a limitation. Participants rated their work teams on several statements, without these responses being verified by an objective or external party. As such, potential issues of validity and reliability of responses arise. It is therefore difficult to come to a firm conclusion about the relevance of narcissism on team outcomes when only relying on information from one team member. Future research should consider an *objective* measure when assessing team performance, and the use of alternative study designs (i.e., round-robin) to explore the contribution of all team members. Other limitations include the traditional problems associated with self-report measures (e.g., misinterpretation, response bias, lack of independent verification) and the reliance on an online sample (Gosling et al., 2004; Paulhus, 1991), although several researchers have also argued in favour of online samples (Crampton & Wagner, 1994; Spector, 1992).

Following recommendations from McEwan (2020), it is important to reiterate that the results from this study provide insight into narcissists' *individual perceptions* of themselves and their work teams, as opposed to team members' shared perceptions, for example, on these variables. As such, future research should consider exploring the link between narcissism and team-related processes and outcomes at the individual, relational, and team levels of analysis for a clearer picture. For example, whereas a curvilinear effect of narcissism and team creativity has been identified in the literature (i.e., having more narcissists in a team is better for generating creative outcomes, but having too many narcissists provides diminishing returns; Goncalo et al., 2010), the influence of the number of narcissists in a team on team cohesion, team conflict, and team performance is yet to be addressed. Does having more narcissists in a team lead to more conflict? Is it possible for narcissists to work well with others to enhance team cohesion? Is performance always affected by the interactions that narcissists have with their team members?

Future research might also consider longitudinal designs that explore the emergence and development of team-related processes and outcomes over a period of weeks or months. For example, although research has documented the temporal dynamic of the relations between narcissism and team member ratings (i.e., narcissists are liked initially at zero-acquaintance, but are disliked over time; Leckelt et al., 2015; Paulhus, 1998), research exploring the temporal influence of narcissism on team processes such as team cohesion and team conflict is yet to be addressed. Are narcissists likely to encourage team cohesion during zero-acquaintance as a way to fulfil their desire to be liked by others? Do narcissists exhibit behaviours that slowly erode this perceived team cohesion over time? Do certain traits/subtypes of narcissism have different influences on team processes over time? Answering questions such as these will help to improve understanding of the influence of narcissism within team and organisational contexts, and provide additional scope for future research.

## 2.5 Concluding Remarks

This is the first empirical examination of a collection of narcissism measures within the team and organisational context, whilst investigating their influence on a range of team processes (i.e., team cohesion, team conflict) and organisational outcomes (i.e., team performance). The findings complement prior research and also add to the literature: Narcissism is related to dysfunctional team behaviours and poor team processes and organisational outcomes.

# Chapter 3 Study 2

Teams require individuals to work together as an interconnected system in which members have shared accountability, cohesiveness, respect for one another, and collective agreement on goals (Cummings, 2008; Littlejohn & Domenici, 2001; Sawyer, 2007). A well-focused team effort and consensus on team decision-making is associated with lower levels of conflict and more effective team outcomes (Bakar, 2017; Braun et al., 2020; Campion et al., 1993; Ensley et al., 2002; Grietemeyer et al., 2006; Hackman, 1987; Wei et al., 2020). One personality trait that might hinder such team processes and outcomes is narcissism.

Narcissism is associated with a range of intra- and interpersonal shortcomings that might be harmful in team settings. For example, narcissists have a chronic preoccupation with the self and care more about getting ahead than about getting along (Hogan & Kaiser, 2005; Miller & Maples, 2011; Paulhus, 2001; Ruz et al., 2001). They often exploit and manipulate others for personal gain (Buffardi & Campbell, 2008; Campbell, 1999), and use condescension and dominance to exert their perceived social status (Colvin et al., 1995; Horton & Sedikides, 2009). In the team context, narcissists employ strategies that yield beneficial outcomes for themselves at the expense of the team (Campbell et al., 2005; Lunbeck, 2014; Park et al., 2013), and attribute successful team performance to their own contributions rather than the collective effort of the team (Stucke, 2003). These types of behaviours should be a cause for concern as they are likely to impede team processes and negatively affect team outcomes.

## 3.1 The Present Study

The results of Study 1 suggest that personality plays a fundamental role on the influence of team-related behaviour, processes, and outcomes. Specifically, narcissism was identified as an important personality trait to understand and monitor within the team and organisational context. Dark narcissists exhibited more negative behaviours, which were associated with poorer team processes and outcomes (i.e., impaired teamwork behaviours, increased team conflict, reduced team cohesion, poorer team performance) than bright narcissists. The present study aims to replicate and expand upon these findings by addressing some of the noted limitations (i.e., reliance on self-report data, lack of an objective measure of performance) and introducing a novel study design that investigates narcissism at the individual, relational, and team levels of analysis.

### 3.1.1 Individual, Relational, and Team-Level Narcissism

Many of the phenomena studied by social science are interpersonal, and so observations do not just refer to a single individual but rather to multiple individuals entrenched within a social

context. For example, Claire's answer when she is asked how much she likes Reece does not simply reflect something about Claire. Human perceptions and behaviours in interpersonal situations are two-sided: Individuals are not only *perceivers* but also at the same time *targets* being perceived by others (Back & Kenny, 2010; Ryan, 2012). Disentangling these components of interpersonal perceptions (e.g., liking) and behaviours (e.g., frowning) is complex and yet crucial in the understanding of human behaviour.

Although Study 1 offered an insight into the behaviour and self-perceptions of narcissists within teams, it was nevertheless limited by its focus on narcissism at the individual-level. That is, not all contributions of team members were recorded, and, as such, findings were restricted in their scope of generalisability within the team context (McEwan, 2020). One way to address this limitation and to offer a nuanced understanding of the complexities of narcissistic relationships within teams is by using the Social Relations Model (SRM: Back & Kenny, 2010; Kenny, 1988, 1994; Kenny et al., 2006; Kenny & La Voie, 1985).

The SRM is built on the notion that interpersonal phenomena are componential (Kenny, West et al., 2006). That is, perceptions and behaviours consist of three major components: a general tendency of the perceiver/actor (*perceiver/actor effect*), a general tendency of the target/partner (*target/partner effect*), and a unique relational perception/action that is independent of these two effects (*relationship effect*). For example, Claire's liking of Reece can be decomposed into Claire's general tendency to like others (*perceiver effect*), Reece's general tendency to be liked by others (*target effect*), and Claire uniquely liking Reece (*relationship effect*). The SRM aims to model these complexities by estimating variances in teams due to interaction effects from individuals and dyads within the team (Cook & Dreyer, 1984; Kenny, 1988). Several SRM data structures have been proposed (see Kenny, 1990), but the most commonly used one is the round-robin design.

#### 3.1.1.1 Round-Robin Designs

In round-robin designs, every member of the team interacts with or rates every other one. That is, every individual serves as (a) a perceiver who rates all other team members and (b) a target who is rated by all other team members. This design gives rise to *dyadic* data (e.g., Claire's rating of Reece may also be related to Reece's rating of Claire) and enables questions to be asked such as: How much do individuals differ in how they generally see others? How much do individuals differ in how others generally perceive them? And, how much do individuals differ with respect to their unique perceptions toward specific others?

Round-robin analyses can also include other external variables (e.g., personality variables, self-perceptions) that are not subject to the same variance decomposition. For example, one might correlate individual narcissism scores with the perceiver effect for liking (Are narcissists likers?), target effect for liking (Are narcissists liked more?), or relationship effect for liking (Is Claire's

specific liking of Reece explained by their similar levels of narcissism?). A further benefit of round-robin analyses is that they can also include self-ratings that provide an estimate of *assumed similarity* (i.e., the correlation between self-ratings and the perceiver effect: If Claire sees herself as likeable she may expect others to be likeable as well) and *self-other agreement* (i.e., the correlation between self-ratings and the target effect: Claire's self-perception as likeable might converge with her team members' ratings of Claire's likeability).

The round-robin design has received a great deal of attention within the literature and is often considered a well-suited paradigm for the investigation of interpersonal phenomena in teams (Back & Kenny, 2010; Kenny et al., 2006). Despite its statistical complexity, its use within research has been particularly fruitful. For example, social relations analyses have been used to assess student performance in teams (Horn et al., 1998), investigate teamwork perceptions in organisations (LeDoux et al., 2012), examine the relationship between interpersonal attraction and personality traits (Küfner et al., 2013), and study the complex interdependencies in families (Branje et al., 2007). Social relations analyses have also been used in the narcissism literature to investigate peer-rated leadership (Ong et al., 2016) and awareness of social status and popularity over time (Carlson & Desjardins, 2015).

The present study incorporates the SRM with a round-robin design to investigate narcissism in a novel team environment: an escape room. In so doing, it offers a detailed examination of the complexities and idiosyncrasies within team relations, and provides an empirical account of the influence of narcissism on team-related processes and team performance.

### 3.1.2 Escape Rooms

An escape room is "*a live-action team-based game where players discover clues, solve puzzles, and accomplish tasks in one or more rooms in order to accomplish a specific goal (usually escaping from the room) in a limited amount of time*" (Nicholson, 2015). Escape rooms often vary in storyline and theme, and incorporate elements from interactive theatre, movies, treasure hunts, and TV shows to attract consumers. As such, the escape room concept has grown in popularity in recent years, with over 8000 rooms registered worldwide in 2018 (Kroski, 2019).

Escape rooms have been used in postsecondary education to facilitate acquisition of information literacy skills (Kapp, 2016), foster constructive interactions (Wu et al., 2018), and assist in the understanding of the scientific method (Stone, 2016). They have also been used to encourage nursing students to think critically and work together during medical emergencies (Edwards et al., 2019), educate individuals about earthquake preparedness (Novak et al., 2019), assess team-building skills in healthcare settings (Gordon et al., 2019), and recruit young people for a career in medicine (Connelly et al., 2018).

Research suggests that escape rooms can be used to galvanise team-related skills and improve cohesion (Zhang et al., 2018), practice a range of collaboration skills (Pan et al., 2017), boost communication skills (Kapp, 2016), provide instructional scaffolding for learners to interact with new information (Giang et al., 2018), and enhance problem-based learning (Nelson et al., 2017). Perhaps unsurprisingly then, employers and academic programs alike are increasingly exploring escape rooms as a team-building experience (Gordon et al., 2019; Stasiak, 2019; Wiemker et al., 2015). However, commercial escape rooms are generally cost-prohibitive for research purposes and most studies conducted rely heavily on small samples, self-report data, and/or economic alternatives, such as simulation games (Fotaris & Mastoras, 2019).

Study 2 is the first empirical inquiry to address personality in a commercial escape room with multiple teams. It is also the only investigation of narcissism and team-related behaviours in an escape room. The study builds upon the limitations noted in Study 1 by introducing escape room success as a measure of *objective* team performance and by utilising multiple types (i.e., self-report, round-robin) and levels (i.e., individual, relational, team) of data. Moreover, it expands upon the literature focused on the opposing effects of the dark and bright sides of narcissism (Back, 2018; Fatfouta, 2019; Leckelt et al., 2019) by including more than one measure of narcissism.

### 3.1.3 Individual-Level Hypotheses

In line with Study 1, I hypothesised that personality would influence team-related behaviours, processes, and team performance. In particular, I hypothesised that dark narcissists would exhibit more negative behaviours, which would predict poorer team processes (i.e., increased team conflict, reduced team cohesion) and poorer team performance (i.e., failure to complete team tasks in the escape room, failure to 'escape' the game) than bright narcissists. I will explore individual-level hypotheses using the same analyses as Study 1.

### 3.1.4 Relational-Level Hypotheses

Relationships with narcissists can be a paradoxical experience. Narcissists might initially be perceived as popular, likeable, and charismatic, but these positive perceptions may decrease over time (Campbell et al., 2011; Judge et al., 2006; Leckelt et al., 2019; Nevicka et al., 2011; Paulhus, 1998). Correspondingly, narcissists are known to make favourable first impressions (Back et al., 2010; Carlson et al., 2011), yet are also perceived over time as more arrogant, less entertaining, and as chronic boasters (Paulhus, 1998). Based on these findings, I hypothesised that team member ratings of narcissists would also change over time. In particular, ratings of narcissists at zero-acquaintance will differ to those obtained after the escape room task. To overcome any potential methodological limitations regarding the short duration of this task, I introduced a relationship closeness induction task (Sedikides et al., 1999) to speed up the process of inducing relatedness among participants.

Narcissists differentially perceive themselves as superior to others on agentic traits, such as creativity, intelligence, and power (Campbell et al., 2002; Raskin, 1980; Zajenkowski & Czarna, 2015) and demonstrate overconfidence in their abilities (Campbell et al., 2004; Carlson et al., 2011; Paulhus et al., 2003; Robins & Beer, 2001). Indeed, narcissists possess inflated self-views (Campbell & Foster, 2007) and perceive themselves as better-than-average on a range of personality items and agentic domains (Zajenkowski & Fronczyk, 2020). Based on these well-established findings, I hypothesised that there would be interindividual differences in how narcissists view themselves and their team members, as well as how other team members view them. In particular, there will be disparity between the ratings that narcissists provide for themselves on interpersonal attributes (i.e., likeability, confidence, leadership, creativity) and the ratings obtained by the rest of their team.

Although narcissism (in particular, grandiose narcissism) is linked with self-enhancement and biased self-views (Campbell et al., 2002), relatively little is known about whether these distorted perceptions extend to other variants or forms of narcissism. For example, do individuals high on narcissistic rivalry possess similarly endowed self-views as those high on vulnerable narcissism? Do individuals high on narcissistic admiration rate themselves equally high on interpersonal behaviours as those high on adaptive narcissism? For exploratory purposes, analyses will touch upon these types of relationships. Given the theoretical and empirical differences between their adaptive and maladaptive psychological profiles (Chesure et al., 2020; Manley et al., 2020), I hypothesised that the bright and dark sides of narcissism would be associated with differing biases in self-views and self-enhancement estimations on interpersonal attributes.

### 3.1.5 Team-Level Hypotheses

Teams that communicate effectively, share information, pool resources, and embrace collaboration in decision-making tasks are more successful (Grietemeyer et al., 2006; Mathieu et al., 2014). Successful teams report lower levels of conflict, and higher levels of cohesion and team performance (Braun et al., 2020; Ensley et al., 2002; Grietemeyer et al., 2006; Wei et al., 2020). As narcissism is associated with the rejection of team goals (Arthur et al., 2011), the selfish exploitation of team resources (Campbell et al., 2005; Park et al., 2013), interpersonal aggression (Bryne & Worthy, 2013), and the withholding of task relevant information (Lakey et al., 2007), there are theoretical and empirical grounds for hypothesising that narcissists pose a threat to teams. Moreover, this threat may be seemingly heightened in teams that comprise high levels (or higher percentages) of narcissism.

Following the analyses of previous research (Campbell et al., 2005), I hypothesised that teams with high levels of narcissism (or “average narcissism”) will report more damaging team-related behaviours, processes, and performance than teams with low levels of narcissism. I also hypothesised that teams with a high percentage of narcissists (or “percentage narcissism”) will

report more damaging team-related behaviours, processes, and performance than teams with a low percentage of narcissists. I derived rationale for these hypotheses from research showing that the number of narcissists in a group is linked to diverging team outcomes (i.e., a few narcissists are linked to creative outcomes but too many leads to diminishing returns; Goncalo et al., 2010).

Finally, I hypothesised that team-level effects would be greater (or more damaging) in teams that are comprised of high levels (or a high percentage) of dark narcissists than teams comprised of high levels (or a high percentage) of bright narcissists. That is, teams with high levels of dark narcissism would be associated with poorer team-related processes (i.e., high levels of team conflict, low levels of team cohesion) and reduced team performance than teams with high levels of bright narcissism. Research focused on the diverging intra- and interpersonal correlates of bright and dark sides of narcissism provides a basis for this proposition (Chesure et al., 2020; Leckelt et al., 2015; Manley et al., 2020).

In all, this study addresses narcissistic behaviours within an escape room while accounting for multiple levels of influence (i.e., individual, relational, team) on team processes (i.e., team cohesion, team conflict) and team performance. Following recommendations from Foster et al. (2018) and Manley et al. (2018), I incorporate multiple measures of narcissism (i.e., grandiose narcissism and its breakdown into adaptive and maladaptive components, narcissistic admiration and narcissistic rivalry, and vulnerable narcissism), and add to the growing team and round-robin literatures on narcissism (Carlson & Desjardins, 2015; Ong et al., 2016).

## 3.2 Method

### 3.2.1 Participants

The sample comprised of 101 self-selecting participants who were recruited online and face-to-face. Most participants (59 women, 42 men) were in their 20s (*M* = 29.87, *SD* = 10.19, range 18-64) and were White British (78.2%). Also, most of them had completed higher education (44.6% “college/higher education”, 22% “bachelor’s degree”, 14.9% “master’s degree”), and were currently employed (49.5% “full-time”, 8.9% “part-time”, 6.9% “self-employed”) across a variety of organisational fields (13.9% “education”, 10.9% “health and social care”, 10.9% “retail”, 8.9% “software”). Further, most participants held management positions (11.9% “trainee professional”, 10.9% “junior management”, 9.9% “middle management”), and worked in a job that involved a lot of team-oriented tasks (50.5%). The majority of them had not played an escape room game before (62.4%). Of the 37.6% of participants with prior experience with an escape room game, most had only played one (63.6%) or three (21.2%) games.

### 3.2.2 Procedure and Measures

Participants were recruited online (e.g., Facebook, Twitter) and face-to-face (e.g., leaflet distribution, public interaction) to take part in a study on personality and team performance. A link to an online survey tool (using Qualtrics) with further information and a consent form was provided (all study documents can be accessed via the Open Science Framework: https://tiny.cc/qj2liz). Participants were informed that the study was in two parts (Part 1: an online questionnaire; Part 2: an escape room game with additional questionnaires). Participants were informed that they could withdraw at any time, and were asked to acknowledge their understanding and willingness to take part in the study. At the end of the online questionnaire, participants were asked to leave their contact details (e.g., name, email address, telephone number) and to select their availability (e.g., dates and times from a predetermined list) for Part 2. All of them received a promotional discount code for a future escape room game at the venue of Part Two.

In Part 2, participants were randomly assigned to teams (based on their availability) and invited to the escape room venue ($k$ = 23 teams, $M_{size}$ = 4.45, range = 4-5). Due to the assignment of teams, it was possible that some team members may have known other team members (based on similar availabilities). Upon arriving at the venue, participants were provided with information regarding Part 2 (e.g., round-robin ratings, video footage) and a consent form. Participants were then directed to an empty room where they were asked to sit in a circle so that each member of their team was visible. Participants received a clipboard containing the first questionnaire (Part 2a) and instructions regarding an icebreaker 'getting-to-know-you' task. The icebreaker task was based on the Relationship Closeness Induction Task (Sedikides et al., 1999) and involved seven questions aimed at briefly introducing oneself to the rest of the room (e.g., "What is your first name?", "Where are you from?", "What is something you have always wanted to do but probably never will be able to do?"). Participants were instructed to spend a few moments thinking about their answers, and then to read out their answers to the rest of their team.

Participants were then instructed to open the first questionnaire, read the instructions, and provide ratings for every member of their team (including themselves) on a number of interpersonal and team-related statements and questions. They were asked to base their answers on their first impressions of each team member and their limited interactions during the icebreaker task. Once completed, participants were given a short verbal description of the escape room game (e.g., themed narrative, team instructions, venue rules, video footage) and provided with a walkie talkie (as per usual venue conditions). They were further informed that the walkie talkie would be the only form of communication with the researcher during the game, and was solely for the purpose of asking for assistance (e.g., hints/clues) and receiving game-related information (e.g., instructing participants to not damage game props). Participants were then led to the entrance of the game and were informed that they had 60 minutes to 'escape' (or complete the required tasks) the game, and that they could begin.

The escape room game was based on the popular film series 'Ace Ventura: Pet Detective' and was adventure fun-themed. The game comprised three connecting rooms (Room 1: Puzzle room with four tasks; Room 2: Jungle room with four tasks; Room 3: Cave with three tasks) with numerous challenges and tasks that required teamwork (e.g., deciphering a fictional language; creating musical sounds with hanging vines in a jungle; locating a hidden artefact; matching patterns to unlock a door; reading and following information). The second and third room only opened once all tasks in the previous room(s) were solved. As such, it was possible that some teams failed to solve all of the tasks in the first room, and therefore remained in this room for the duration of the game. The aim of the game was to solve all tasks as a team and to locate and return a sacred object (e.g., a white bat), which only appears once all of the tasks are solved.

During the game, participants were recorded using video cameras placed throughout the different rooms (as per venue conditions). The researcher watched each game via a live feed and made notes on the number of instances a clue was given per team game, the exact time in which each task and room was solved, and if there were any problems experienced during the game. At the end of the 60 minutes, the researcher stopped the game (for those teams still playing) and informed participants that their time was up. Participants were then directed back to the icebreaker room and given a summary of their game (e.g., pass or fail). Subsequently, they were handed a clipboard with the final questionnaires (Part 2b) and instructed to read all questions carefully. The first part of this questionnaire was identical to Part 2a, with the exception being that participants were asked to base their responses solely on their time spent during the game. The second part of this questionnaire involved a number of questions relating to their thoughts on, feelings about, and perceptions of their team's performance during the game. After participants completed these questionnaires they were handed with a debrief statement, thanked, and then taken to the exit of the venue.

#### 3.2.2.1 Part 1 Measures

Part 1 measures were identical to the measures used in Study 1. All measures (except the NPI which used a dichotomous response option) used an 8-point response scale (1 = *strongly disagree*, 8 = *strongly agree*).

##### 3.2.2.1.1 Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988).

Narcissistic responses were summed for all participants (theoretical range: 0 to 40; current sample: 1 to 32; $M = 13.55$, $SD = 6.89$, $\alpha = .85$), with higher scores indicating higher levels of narcissism. Mean scores for adaptive ($M = .43$, $SD = .20$, $\alpha = .68$) and maladaptive ($M = .29$, $SD = .19$, $\alpha = .74$) narcissism were also computed. In line with previous research (Barry et al., 2007; Hepper et al., 2014), adaptive narcissism and maladaptive narcissism were correlated positively, $r(99) = .73$, $p < .001$.

Following recommendations by Campbell et al. (2005), narcissism scores were also examined at the team-level as two predictor variables: the average narcissism score of the team (average narcissism; *M* = 13.55, *SD* = 2.97, range 8.25 to 23.00) and the percentage of narcissists (i.e., those with scores above the median NPI) in the team (percentage narcissism; range 0 to 100%). The same team-level predictor variables were also computed for adaptive narcissism (average adaptive narcissism: *M* = .43, *SD* = .08, range .23 to .69; percentage adaptive narcissism: range 0 to 80%) and maladaptive narcissism (average maladaptive narcissism: *M* = .29, *SD* =.29, range .15 to .56; percentage maladaptive narcissism: range 0 to 100%).

#### 3.2.2.1.2 Narcissistic Admiration and Rivalry Questionnaire (Back et al., 2013).

Responses were summed and averaged for each narcissistic dimension, with higher scores indicating higher levels of narcissistic admiration (*M* = 4.27, *SD* = 1.26, $\alpha$ = .85) and narcissistic rivalry (*M* = 2.66, *SD* = 1.01, $\alpha$ = .78). Responses were also examined at the team-level using two predictor variables: the average narcissistic admiration (*M* = 4.27, *SD* = .50, range 2.67 to 5.31) and narcissistic rivalry (*M* = 2.66, *SD* = .50, range 1.92 to 3.78) of the team, and the percentage of individuals high on narcissistic admiration (i.e., those with scores above the median; range 0 to 80%) and narcissistic rivalry (range 0 to 100%) in each team.

#### 3.2.2.1.3 Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997).

Narcissistic responses were summed (*M* = 3.85, *SD* = .98, $\alpha$ = .69), with higher scores indicating higher levels of vulnerable narcissism. Responses were also examined at the team-level using two predictor variables: the average vulnerable narcissism (*M* = 3.85, *SD* = .41, range 2.97 to 4.52) of the team and the percentage of individuals high on vulnerable narcissism (i.e., those with scores above the median; range: 0 to 80%).

#### 3.2.2.1.4 The Balanced Inventory of Desired Responding – BIDR-16 (Hart et al., 2015).

The impression management subscale from the BIDR-16 was used due to the reliance on self-report measures in the study (*M* = 5.04, *SD* = 1.25, $\alpha$ = .74).

### 3.2.2.2 Part 2 Measures – Part 2a

#### 3.2.2.2.1 Round-Robin – Interpersonal Measures.

Participants were requested to rate themselves and every member of their team on an 11-item measure of interpersonal perception (created for the purpose of the current study). All items used an 8-point response scale (0 = *not at all*, 8 = *extremely/very much so*). Some items were taken from interpersonal measures used in previous studies (Campbell et al., 2005; Paulhus, 1998). Individuals rated their agreement on statements, such as “This person is supportive”, “This person is trustworthy”, “This person is likeable”, “This person is aggressive”, and “This person is empathic”.

#### 3.2.2.3 Part Two Measures – Part 2b

Part 2b measures (except round-robin and escape room measures) were identical to the measures used in Study 1.

##### 3.2.2.3.1 Round-Robin – Interpersonal Measures.

The questions and instructions were identical to Part 2a, with the exception that participants were asked to base their responses on the time spent with their team members during the game.

##### 3.2.2.3.2 Enhanced Teamwork Competencies (ETC; Cisek et al., 2010).

Following the factor structure identified in Study 1, mean scores for each teamwork competency were computed, with higher scores indicating greater possession of that teamwork competency: communication ($M$ = 5.34, $SD$ = .88, $\alpha$ = .67), management ($M$ = 4.63, $SD$ = .91, $\alpha$ = .77), intrapersonal ($M$ = 5.89, $SD$ = 1.03, $\alpha$ = .74), and interpersonal ($M$ = 6.33, $SD$ = .84, $\alpha$ = .90).

##### 3.2.2.3.3 Group Cohesion Evaluation Questionnaire (Glass & Benshoff, 2002).

Team cohesion responses were summed and averaged for each participant, with higher scores indicating higher levels of perceived team cohesion ($M$ = 6.05, $SD$ = 1.33, $\alpha$ = .95). Responses were also examined at the team-level by aggregating each team members' responses ($M$ = 6.05, $SD$ = .80, range 4.44 to 7.20), with higher scores indicating higher levels of team-level cohesion.

##### 3.2.2.3.4 Intragroup Conflict Scale (ICS; Jehn, 1992).

Team conflict responses were summed and averaged for each participant, with higher scores indicating higher levels of perceived team conflict ($M$ = 2.65, $SD$ = 1.37, $\alpha$ = .92). Responses were also examined at the team-level by aggregating each team members' responses, with higher scores indicating higher levels of team-level conflict ($M$ = 2.65, $SD$ = .86, range 1.28 to 4.29).

##### 3.2.2.3.5 Subjective Team Performance

This 8-item measure of subjective team performance was created for the purpose of this study. Participants rated their agreement to statements such as "My team often struggled to solve the puzzles", "My team failed to complete the tasks on time", and "My team was successful at completing the tasks". Scores were summed and averaged, with higher scores indicating greater levels of subjective team performance ($M$ = 5.38, $SD$ = 1.64, $\alpha$ = .65). Three items were reverse scored.

#### 3.2.2.3.6 Objective Team Performance

Objective team performance was scored by summing the number of rooms completed by each team (*M* = 1.83, *SD* = 1.12, range 0-3).

## 3.3 Results

### 3.3.1 Preliminary Data Analysis – Normality

Using IBM SPSS 25.0, several preliminary analyses were carried out to check the suitability of the data (e.g., normality). An independent samples t-test revealed significant differences between male and female participants on narcissistic admiration, $t(99) = 2.44$, $p = .02$, $d = .49$, and narcissistic rivalry, $t(99) = 2.67$, $p = .01$, $d = .55$. In line with previous research (Back et al., 2013; Leckelt et al., 2017), males scored higher on narcissistic admiration (*M* = 4.63, *SD* = 1.30) and narcissistic rivalry (*M* = 2.97, *SD* = .85) than females (*M* = 4.02, *SD* = 1.18; *M* = 2.44, *SD* = 1.06, respectively). Accordingly, gender was treated as a control variable in the remaining analyses.

Similar to Study 1, normality checks were carried out by exploring data plots and dealing with any outliers. Reliability estimates and internal consistencies for all measures were examined using Cronbach's alpha (Cronbach, 1951). Ten subscales of the ETC had a poor alpha level of between .31 and .70, whereas all other measures were deemed acceptable to excellent (Table 17). These poor alpha levels may be due to two reasons: (a) the ETC is based on teamwork competencies that take time for an individual to develop and become aware of, and (b) participants were forced into teams and were expected to interact as a team within a short period of time. For the purposes of our analyses, these subscales were retained.

To investigate the influence of narcissism on team-related behaviours, processes, and team performance at the individual-level, a series of analyses were run which were identical to Study 1.

### 3.3.2 Study 1 Replication: Correlations

Zero-order correlations (similar to Study 1) were computed to examine the relation among individual-level narcissism measures with teamwork competencies, team processes, and team performance (Table 18). Objective team performance was also added. For exploratory purposes, correlations between narcissism measures and the ETC subscales were also computed (Table 19). For brevity, only significant correlations are noted below.

#### 3.3.2.1 Narcissism

The NPI correlated negatively with interpersonal competency (e.g., readiness for teamwork, empathy), indicating that narcissists are likely to exhibit lower levels of self-reported

interpersonal skills when interacting with their team. Narcissism also correlated positively with management competency (e.g., leadership), indicating that narcissists are likely to exhibit higher levels of self-reported management skills when interacting with their team.

#### 3.3.2.2 Adaptive Narcissism

Adaptive narcissism correlated positively with management competency (e.g., leadership, dealing with conflict), indicating that an increase in scores on adaptive narcissism is associated with higher levels of self-reported management skills when interacting with a team.

#### 3.3.2.3 Maladaptive Narcissism

Maladaptive narcissism correlated negatively with interpersonal competency (e.g., sharing information, perspective-taking, back-up behaviour, readiness for teamwork, integrity, empathy), indicating that an increase in scores on maladaptive narcissism is associated with lower levels of self-reported interpersonal skills when interacting with a team.

#### 3.3.2.4 Narcissistic Admiration

Narcissistic Admiration correlated positively with management competency (e.g., dealing with conflict, stability in difficult situations), indicating that an increase in scores on narcissistic admiration is associated with higher levels of self-reported management skills when interacting with a team.

#### 3.3.2.5 Narcissistic Rivalry

Narcissistic rivalry correlated negatively with communication (e.g., encouraging others, mind wandering, clarity), intrapersonal (e.g., adaptability, coping with stress) and interpersonal (e.g., perspective-taking, back-up behaviour, team connectedness, readiness for teamwork, positive outlook, integrity, patience with others, empathy) competencies, indicating that an increase in scores on narcissistic rivalry is associated with lower levels of these self-reported skills when interacting with a team. Narcissistic rivalry was correlated negatively with perceived team cohesion and correlated positively with perceived team conflict, indicating that an increase in narcissistic rivalry is associated with lower levels of perceived team cohesion and higher levels of perceived team conflict when interacting with a team.

#### 3.3.2.6 Vulnerable Narcissism

Vulnerable narcissism correlated negatively with communication (e.g., encouraging others, mind wandering, clarity), management (e.g., motivating others), intrapersonal (e.g., adaptability, coping with stress, conscientiousness), and interpersonal (e.g., sharing information, perspective-taking, positive outlook, integrity, patience with others) competencies, indicating that an increase in

scores on vulnerable narcissism is associated with lower levels of these self-reported skills when interacting with a team.

#### 3.3.2.7 Team Processes and Team Performance

All of the ETC competencies correlated positively with perceived team cohesion and subjective team performance, and correlated negatively (except management competency) with perceived team conflict. Subjective team performance was positively correlated with perceived team cohesion and negatively correlated with perceived team conflict, indicating that as levels of perceived team cohesion and conflict increase, subjective team performance levels increase and decrease, respectively. Objective team performance (i.e., total number of rooms completed) correlated positively with perceived team cohesion, indicating that as levels of perceived team cohesion increase, so does the number of rooms completed by a team.

### 3.3.3 Study 1 Replication: How Does Individual-Level Narcissism Predict Team Processes and Team Performance?

Similar to Study 1, several multiple mediation models (using PROCESS V3.4 Model 4; Hayes, 2018) were run to examine how individual-level narcissism predicts team processes and team performance. Objective performance (i.e., total number of rooms completed) was also added. Gender, impression management, and the other form of narcissism were controlled for in all models[iii]. Path models of the relations are shown in Figures 21-26, with corresponding parameters reported in Tables 20-25. For brevity, significant indirect effects are presented in the *summary diagrams* in section 3.3.5, and only significant mediations are noted below.

#### 3.3.3.1 Adaptive Narcissism

Adaptive narcissism indirectly influenced perceived team conflict through its effect on management competency (Table 22, Model B), and subjective team performance through its effect on intrapersonal competency (Model C). Scoring high on adaptive narcissism was associated with high levels of self-reported management and intrapersonal skills, which predicted high levels of perceived team conflict (38% of the variance explained) and subjective team performance (27% of the variance explained), respectively. Adaptive narcissism also indirectly influenced objective performance through its effect on intrapersonal competency (Model D). Scoring high on adaptive narcissism was associated with high levels of self-reported intrapersonal skills, which predicted high levels of objective performance (16% of the variance explained).

#### 3.3.3.2 Maladaptive Narcissism

Maladaptive narcissism indirectly influenced perceived team cohesion through its effect on interpersonal competency (Table 22, Model A), and perceived team conflict through its effect on interpersonal competency (Model B). Scoring high on maladaptive narcissism was associated with

low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion (46% of the variance explained) and high levels of perceived team conflict (38% of the variance explained), respectively. Maladaptive narcissism also indirectly influenced subjective team performance through its effect on intrapersonal competency (Model C). Scoring high on maladaptive narcissism was associated with low levels of self-reported intrapersonal skills, which predicted low levels of subjective team performance (27% of the variance explained).

#### 3.3.3.3 Narcissistic Admiration

Narcissistic admiration indirectly influenced perceived team conflict through its effect on management competency (Table 23, Model B). Scoring high on narcissistic admiration was associated with high levels of self-reported management skills, which predicted high levels of perceived team conflict (37% of the variance explained).

#### 3.3.3.4 Narcissistic Rivalry

Narcissistic rivalry indirectly influenced perceived team cohesion through its effect on interpersonal competency (Table 24, Model A), and perceived team conflict through its effect on interpersonal competency (Model B). Scoring high on narcissistic rivalry was associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion (47% of the variance explained) and high levels of perceived team conflict (37% of the variance explained), respectively. Narcissistic rivalry also indirectly influenced subjective team performance through its effects on intrapersonal and interpersonal competencies (Model C). Scoring high on narcissistic rivalry was associated with low levels of self-reported intrapersonal and interpersonal skills, which predicted low levels of subjective team performance (26% of the variance explained). Narcissistic rivalry also indirectly influenced subjective team performance through its effect on perceived team cohesion (Model. E). Scoring high on narcissistic rivalry was associated with low levels of perceived team cohesion, which predicted low levels of subjective team performance (29% of the variance explained).

#### 3.3.3.5 Vulnerable Narcissism

Vulnerable narcissism indirectly influenced perceived team cohesion through its effect on interpersonal competency (Table 25, Model A), and perceived team conflict through its effect on interpersonal competency (Model B). Scoring high on vulnerable narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion (46% of the variance explained), and high levels of perceived team conflict (38% of the variance explained), respectively. Vulnerable narcissism also indirectly influenced subjective team performance through its effects on intrapersonal and interpersonal competencies (Model C). Scoring high on vulnerable narcissism was associated with low levels of self-reported intrapersonal

and interpersonal skills, which predicted low levels of subjective team performance (26% of the variance explained).

### 3.3.4 Study 1 Replication: How Does Individual-Level Narcissism Predict Team Processes, and, in turn, Team Performance?

Similar to Study 1, several sequential multiple mediation models (using PROCESS V3.4 Model 80; Hayes, 2018) were run to examine how individual-level narcissism predicts team processes, and in turn, team performance. Objective performance (i.e., total number of rooms completed) was also added. Gender, impression management, and the other form of narcissism were controlled for in all models[iv]. Path models of the relations are shown in Figures 27-33, with corresponding parameters reported in Tables 26-31. For brevity, significant indirect effects are presented in the *summary diagrams* in 3.3.5, and only significant mediations are noted below.

#### 3.3.4.1 Adaptive Narcissism

Adaptive narcissism indirectly influenced subjective team performance through its effect of management skills on perceived team conflict (Table 27, Model B). Scoring high on adaptive narcissism was associated with high self-reported management skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (35% of the variance explained).

#### 3.3.4.2 Maladaptive Narcissism

Maladaptive narcissism indirectly influenced subjective team performance through its effect of interpersonal skills on perceived team cohesion (Table 28, Model A) and perceived team conflict (Model B). Scoring high on maladaptive narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion and high levels perceived team conflict, and in turn, predicted low levels of subjective team performance (36% and 37% of the variance explained, respectively).

#### 3.3.4.3 Narcissistic Rivalry

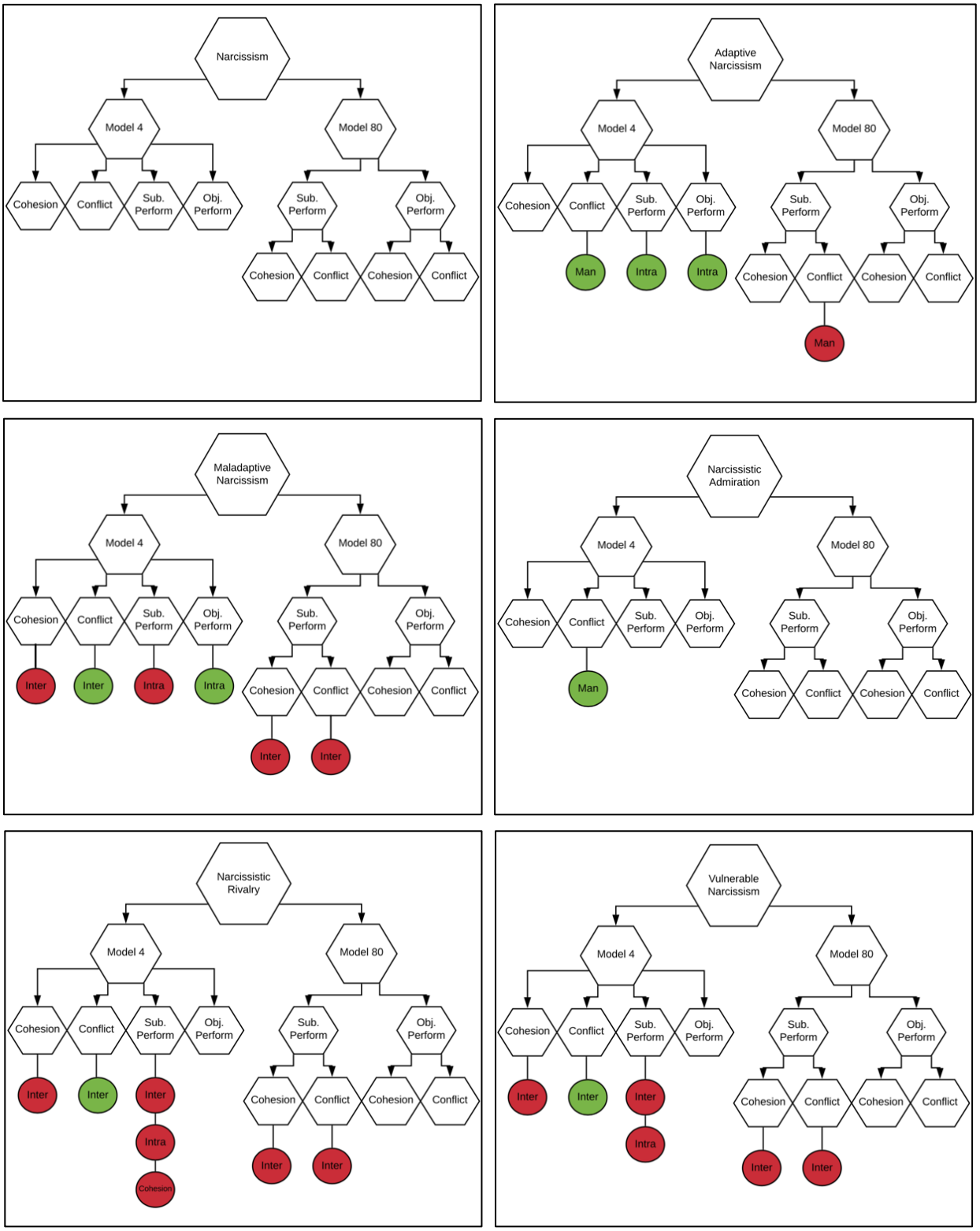
Narcissistic rivalry indirectly influenced subjective team performance through its effect of interpersonal skills on perceived team cohesion (Table 30, Model A) and perceived team conflict (Model B). Scoring high on narcissistic rivalry was associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion and high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (48% and 36% of the variance explained, respectively).

#### 3.3.4.4 Vulnerable Narcissism

Vulnerable narcissism indirectly influenced subjective team performance through its effect of interpersonal skills on perceived team cohesion (Table 31, Model A) and perceived team conflict (Model B). Scoring high on vulnerable narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion and high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (47% and 38% of the variance explained, respectively).

### 3.3.5 Summary Diagrams

The below diagrams illustrate the significant indirect paths noted in the multiple mediation models (Model 4) and sequential multiple mediation models (Model 80). The top hexagon represents the IV, followed by a hexagon representing the PROCESS mediation model used. This is followed by small hexagons representing the DV. Each circle represents a significant indirect effect on the corresponding DV. Green circles represent a positive indirect effect, whereas red circles represent a negative indirect effect.




### 3.3.6 Team-Level Analyses – Correlations and Regressions

As team processes and team performance depend upon the actions and behaviours of each member of the team, I also examined two team-level predictor variables in a second set of analyses: the average narcissism score of the team ("average narcissism") and the percentage of narcissists ("percentage narcissism"; those with scores above the median value) in the team. Correlations

between team-level narcissism measures, team processes, and objective performance are noted in Table 32. Hierarchical multiple regressions predicting team-level processes (i.e., aggregated team cohesion and team conflict scores) from team-level narcissism variables were also run (Tables 33-38). These models controlled for gender and the other form of narcissism[v]. Results using these two team-level predictor variables were similar and are thus presented together.

#### 3.3.6.1 Narcissism

Average narcissism (NPI) correlated negatively with team-level cohesion, and correlated positively with team-level conflict and objective team performance. Percentage narcissism correlated positively with objective team performance. Average narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.34$, $t(98) = -3.61$, $p < .001$, $R^2 = .12$ , indicating that teams with high levels of narcissism report lower levels of team cohesion than teams with low levels of narcissism (Table 33, Model A). Average narcissism predicted the amount of conflict the team reported experiencing, $\beta = .31$, $t(98) = 3.26$, $p = .002$, $R^2 = .11$, indicating that teams with high levels of narcissism report higher levels of team conflict than teams with low levels of narcissism (Table 33, Model B). Average narcissism also predicted objective team performance, $\beta = .24$, $t(98) = 2.45$, $p = .016$, $R^2 = .10$, indicating that teams with high levels of narcissism experience more success in their team than teams with low levels of narcissism (Table 33, Model C). Percentage narcissism predicted objective team performance, $\beta = .28$, $t(98) = 2.99$, $p = .003$, $R^2 = .13$, indicating that teams with a high percentage of narcissists experience more success than teams with a low percentage of narcissists (Table 33, Model F).

#### 3.3.6.2 Adaptive Narcissism

Average adaptive narcissism correlated negatively with team-level cohesion, and correlated positively with team-level conflict. Percentage adaptive narcissism correlated positively with objective performance. Average adaptive narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.34$, $t(97) = -2.25$, $p = .03$, $R^2 = .14$, indicating that teams with high levels of adaptive narcissism report lower levels of team cohesion than teams with low levels of adaptive narcissism (Table 34, Model A). Percentage narcissism also predicted objective team performance, $\beta = .28$, $t(97) = 2.52$, $p = .013$, $R^2 = .18$, indicating that teams with a high percentage of adaptive narcissists experience more success than teams with a low percentage of adaptive narcissists (Table 34, Model F).

#### 3.3.6.3 Maladaptive Narcissism

Average maladaptive narcissism correlated negatively with team-level cohesion and correlated positively with objective team performance. Percentage maladaptive narcissism correlated negatively with team-level cohesion and correlated positively with team-level conflict and objective team performance. Average maladaptive narcissism predicted objective team

performance, $\beta = .53$, $t(97) = 3.59$, $p = .001$, $R^2 = .18$, indicating that teams with high levels of maladaptive narcissism experience more success than teams with low levels of maladaptive narcissism (Table 35, Model C). Percentage maladaptive narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.39$, $t(97) = -3.29$, $p = .001$, $R^2 = .12$, indicating that teams with a high percentage of maladaptive narcissists experience lower levels of team cohesion than teams with a low percentage of maladaptive narcissists (Table 35, Model D). Percentage maladaptive narcissism also predicted the amount of conflict the team reported experiencing, $\beta = .40$, $t(97) = 3.45$, $p = .001$, $R^2 = .13$, indicating that teams with a high percentage of maladaptive narcissists experience higher levels of team conflict than teams with a low percentage of maladaptive narcissists (Table 35, Model E).

#### 3.3.6.4 Narcissistic Admiration

Average narcissistic admiration and percentage narcissistic admiration correlated positively with objective team performance. Percentage narcissistic admiration predicted the amount of cohesion the team reported experiencing, $\beta = .22$, $t(97) = 2.25$, $p = .027$, $R^2 = .16$, indicating that teams with a high percentage of individuals high on narcissistic admiration experience higher levels of team cohesion than teams with a low percentage of individuals high on narcissistic admiration (Table 36, Model D). Percentage narcissistic admiration also predicted objective team performance, $\beta = .47$, $t(97) = 5.12$, $p < .001$, $R^2 = .28$, indicating that teams with a high percentage of individuals high on narcissistic admiration experience more success than teams with a low percentage of individuals high on narcissistic admiration (Table 36, Model F).

#### 3.3.6.5 Narcissistic Rivalry

Average and percentage narcissistic rivalry correlated negatively with team-level cohesion and positively with objective team performance. Average narcissistic rivalry predicted the amount of cohesion the team reported experiencing, $\beta = -.34$, $t(97) = -2.81$, $p = .006$, $R^2 = .08$, indicating that teams with high levels of narcissistic rivalry report lower levels of team cohesion than teams with low levels of narcissistic rivalry (Table 37, Model A). Percentage narcissistic rivalry also predicted the amount of cohesion the team reported experiencing, $\beta = -.41$, $t(97) = -4.10$, $p < .001$, $R^2 = .16$, indicating that teams with a high percentage of individuals high on narcissistic rivalry experience lower levels of cohesion than teams with a low percentage of individuals high on narcissistic rivalry (Table 37, Model D).

#### 3.3.6.6 Vulnerable Narcissism

Percentage vulnerable narcissism correlated positively with team-level cohesion. Percentage vulnerable narcissism predicted the amount of cohesion the team reported experiencing, $\beta = .05$, $t(98) = 2.44$, $p = .014$, $R^2 = .06$, indicating that teams with a high percentage of individuals

high on vulnerable narcissism experience higher levels of cohesion than teams with a low percentage of individuals high on vulnerable narcissism (Table 38, Model D).

#### 3.3.6.7 Team Cohesion, Team Conflict, and Team Performance

Team-level cohesion correlated negatively with team-level conflict, and positively with objective team performance. Team-level cohesion predicted objective team performance, $\beta = .37$, $t(99) = 3.97$, $p < .001$, $R^2 = .14$, indicating that teams with high levels of team cohesion experience more team-level success than teams with low levels of team cohesion (Table 39, Model A). Team-level conflict also predicted objective team performance, $\beta = -.29$, $t(99) = -3.01$, $p = .003$, $R^2 = .08$, indicating that teams with high levels of team conflict experience less team-level success than teams with low levels of team conflict (Table 39, Model B).

### 3.3.7 How Does Team-Level Narcissism Predict Team Processes and Team Performance?

Several mediation models (using PROCESS V3.4 Model 4; Hayes, 2018) were run to examine whether different aspects/traits of narcissism at the team-level (e.g., average narcissism, percentage narcissism) predict team-level cohesion and team-level conflict, and the impact that this has on team performance. Gender and the other forms of narcissism were controlled for in all models[vi]. Path models of the relations are shown in Figures 34-37, with corresponding parameters reported in Tables 40-41. For brevity, all significant indirect effects are presented in the *summary diagram* in section 3.3.8, and only significant mediations are noted below.

#### 3.3.7.1 Narcissism

Average narcissism (NPI) indirectly influenced objective team performance through its effect on team-level cohesion (Table 40, Model A). Teams with high levels of narcissism reported low levels of team-level cohesion, which predicted low levels of objective team performance (58% of the variance explained).

#### 3.3.7.2 Adaptive Narcissism

Average adaptive narcissism indirectly influenced objective team performance through its effect on team-level cohesion (Table 40, Model B). Teams with high levels of adaptive narcissism reported low levels of team-level cohesion, which predicted low levels of objective performance (62% of the variance explained).

#### 3.3.7.3 Maladaptive Narcissism

Percentage maladaptive narcissism indirectly influenced objective team performance through its effect on team-level cohesion (Table 41, Model C). Teams with a high percentage of

maladaptive narcissists reported low levels of team-level cohesion, which predicted low levels of objective team performance (42% of the variance explained).

#### 3.3.7.4 Narcissistic Rivalry

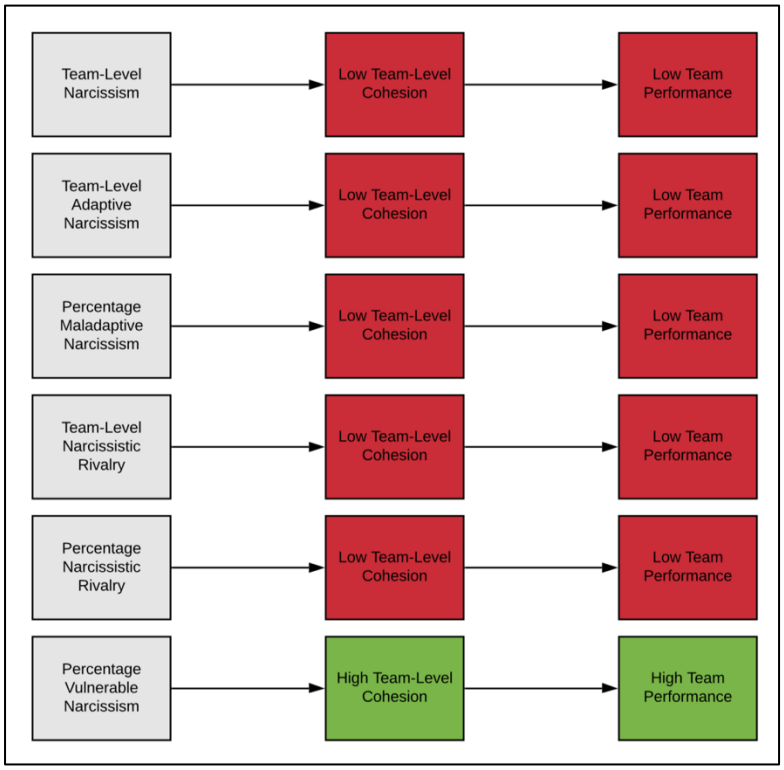
Average narcissistic rivalry indirectly influenced objective team performance through its effect on team-level cohesion (Table 40, Model E). Teams with high levels of narcissistic rivalry reported low levels of team cohesion, which predicted low levels of objective team performance (59% of the variance explained). Percentage narcissistic rivalry indirectly influenced objective team performance through its effect on team-level cohesion (Table 41, Model E). Teams with a high percentage of individuals high on narcissistic rivalry reported low levels of team-level cohesion, which predicted low levels of objective team performance (42% of the variance explained).

#### 3.3.7.5 Vulnerable Narcissism

Percentage vulnerable narcissism indirectly influenced objective team performance through its effect on team-level cohesion (Table 41, Model F). Teams with a high percentage of individuals high on vulnerable narcissism reported high levels of team-level cohesion, which predicted high levels of objective team performance (18% of the variance explained).

### 3.3.8 Summary Diagram

The below diagram illustrates the significant indirect paths noted in the multiple mediation models (Model 4) for team-level narcissism. The grey square represents the IV, followed by the mediator and then the DV. Red squares represent a negative indirect effect, whereas green squares represent a positive indirect effect.




### 3.3.9 Round-Robin Analyses

Due to the round-robin nature of the study, the SRM (Back & Kenny, 2010; Kenny, 1994; Kenny et al., 2006; Kenny & La Voie, 1984) was applied to the interpersonal measures at Time 1 and Time 2. SRM accounts for the interdependent nature of dyadic and intergroup perceptions, and it separates the team member ratings into perceiver, target, and relationship effects. As such, it is possible to measure how much variance of an interpersonal perception (e.g., likeability) can be attributed to the perceiver, the target, and the unique relationship shared between both perceiver and target. Round-robin ratings were analysed with the TripleR package (Schonbrodt et al., 2011) operating on R (R Core Team, 2017), while accounting for multiple teams.

To partition the variances for each interpersonal measure, several univariate round-robin analyses were run. Round-robin effects are presented in Table 42. Across all interpersonal measures at both time points (with the exception of "good leader" at Time 1), there were significant interindividual differences for how much people rated others in their team on each measure (i.e., perceiver variance), *p*s < .01. That is, there were significant differences in the biases that individuals demonstrated in their ratings of others (i.e., some individuals rated others high or low on a measure, whereas other individuals do not).

Across five interpersonal measures ("confident", "supportive", "arrogant", "creative", "hardworking'") at both time points, there were significant interindividual differences for how much people were rated by their team members on these measures (i.e., target variance), *p*s < .05. That is, there were significant differences in how people were rated by others in their team as being

confident, supportive, arrogant, creative, and hardworking (i.e., some individuals were rated high or low on a measure, whereas other individuals were not) before and after the escape room game. At Time 2 (but not at Time 1), there were also significant interindividual differences for how much people were rated by their team members as being aggressive, likeable, empathic, and as a good leader. There were no significant target effects for people being rated as competent or trustworthy. These findings may offer insight into the types of interpersonal perceptions that are considered salient during first impressions, and those that appear to develop over time (or during and after a team task).

As participants also provided self-ratings for each interpersonal measure, two partial correlations were computed: assumed similarity (whereby self-ratings are correlated with perceiver effects) and self-other agreement (whereby self-ratings are correlated with target effects). Taking the measure of confidence, for example, a positive assumed similarity score would indicate that people who describe themselves as confident also rate others in their team as confident. A positive self-other agreement score would indicate that people who describe themselves as confident are also rated by others in their team as confident. At Time 1, people who described themselves as arrogant, competent, aggressive, likeable, creative, or hardworking also rated others in their team as such, $r$s > .23, $p$s < .05. At Time 2, these findings were extended with those who also described themselves as confident, supportive, trustworthy, or empathic, rating others in their team as such, $r$s > .28, $p$s < .01. For self-other agreement, people who described themselves as confident, likeable, empathic, or as a good leader at Time 1 were rated by others in their team as such, $r$s > .24, $p$s < .04. At Time 2, people who described themselves as competent, empathic, or as a good leader were rated by others in their team as such, $r$s > .26, $p$s < .02. No other effects were found. Assumed similarity and self-other agreement correlations are presented in Table 43.

#### 3.3.9.1 Round-Robin Analyses with Narcissism Measures

TripleR was also used to compute partial correlations between the *target effects* of the interpersonal measures and narcissism, while controlling for team membership. The *target* effects were used because they are independent of perceiver and relationship biases (Kenny, 1994), and only the team agreement on the interpersonal perceptions of a given target were of interest. TripleR was also used to obtain an index of self-enhancement for each interpersonal measure (i.e., an unbiased estimate of how accurately a particular person perceives his or her ratings) based on Kwan et al. (2004; Equation 3). This index is computed by subtracting the target effect (i.e., an individual's perceived level of creativity, as rated by his or her team), perceiver effect (i.e., how the individual tends to rate others on levels of creativity), and the team mean of self-reported creativity from the individual's self-report of his or her own creativity. In this computation, a negative score on creativity, for example, would indicate that an individual tends to underestimate how much they are viewed by others in their team as creative, whereas a positive score would indicate the opposite. Correlations between narcissism measures and interpersonal perceptions (i.e., target effects, self-

views, and self-enhancement) at Time 1 and Time 2 are presented in Table 44. For brevity, all significant effects are presented in the *summary diagrams* in section 3.3.10.

#### 3.3.9.2 NPI

Relative to people who scored low, people who scored high on the NPI believed that they were more confident than others in their team at Time 1 ($r = .30$, $p < .001$), and were rated as such by their team members at both Time 1 ($r = .27$, $p = .01$) and Time 2 ($r = .25$, $p = .03$). They believed that they were more arrogant than others at Time 1 ($r = .38$, $p < .001$), but were only rated as such by others at Time 2 ($r = .23$, $p = .04$). People high on the NPI also believed that they were better team leaders than others at Time 1 ($r = .47$, $p < .001$) and Time 2 ($r = .32$, $p < .01$), and overvalued how much they were rated by others as arrogant ($r = .33$, $p < .01$) and aggressive ($r = .25$, $p = .03$) at Time 1.

#### 3.3.9.3 Adaptive Narcissism

Relative to people who scored low, people who scored high on adaptive narcissism believed that they were more confident ($r = .44$, $p < .001$), arrogant ($r = .30$, $p < .01$), competent ($r = .34$, $p < .01$), and likeable ($r = .25$, $p = .03$) than others in their team at Time 1. They also believed that they were better leaders than others at Time 1 ($r = .61$, $p < .001$) and Time 2 ($r = .41$, $p < .001$), and overvalued how much they were rated by others as arrogant ($r = .34$, $p < .01$), aggressive ($r = .22$, $p = .05$), and as good leaders ($r = .43$, $p < .001$) at Time 1. People high on adaptive narcissism were rated as more confident ($r = .25$, $p = .03$) and arrogant ($r = .27$, $p = .02$) than others at Time 2.

#### 3.3.9.4 Maladaptive Narcissism

Relative to people who scored low, people who scored high on maladaptive narcissism believed that they were more confident than others in their team at Time 1 ($r = .22$, $p = .05$), and were rated as such by their team members at both Time 1 ($r = .31$, $p < .01$) and Time 2 ($r = .24$, $p = .03$). They believed that they were more arrogant ($r = .33$, $p < .01$) and aggressive ($r = .26$, $p = .02$) than others in their team, and overvalued how much they were rated by others as such ($r = .24$, $p = .03$; $r = .24$, $p = .04$, respectively) at Time 1. People high on maladaptive narcissism believed that they were better leaders than others at Time 1 ($r = .31$, $p < .01$) and Time 2 ($r = .25$, $p = .03$), and overvalued how much they were rated by others as being good leaders at Time 1 ($r = .27$, $p = .02$). In addition, maladaptive narcissists were rated as less hardworking ($r = -.02$, $p = .04$) than others in their team at Time 1.

#### 3.3.9.5 Narcissistic Admiration

Relative to people who scored low, people who scored high on narcissistic admiration believed that they were more confident than others in their team at Time 1 ($r = .37$, $p < .001$) and

Time 2 ($r$ = .31, $p$ < .01), and were rated as such by their team members at both timepoints ($r$ = .35, $p$ < .01; $r$ = .22, $p$ = .05, respectively). They were rated by others as more arrogant ($r$ = .28, $p$ = .01) and less hardworking ($r$ = -.24, $p$ = .03) at Time 1, and more arrogant ($r$ = .23, $p$ = .04) and less empathic ($r$ = -.36, $p$ < .01) at Time 2. People high on narcissistic admiration believed that they were more liked by others at Time 1 ($r$ = .36, $p$ < .01) and Time 2 ($r$ = .36, $p$ < .001), and overvalued how much they were rated as likeable by others at Time 2 ($r$ = .24, $p$ = .03). They also believed that they were better leaders than others in the team at Time 1 ($r$ = .28, $p$ = .01) and Time 2 ($r$ = .24, $p$ = .03).

#### 3.3.9.6 Narcissistic Rivalry

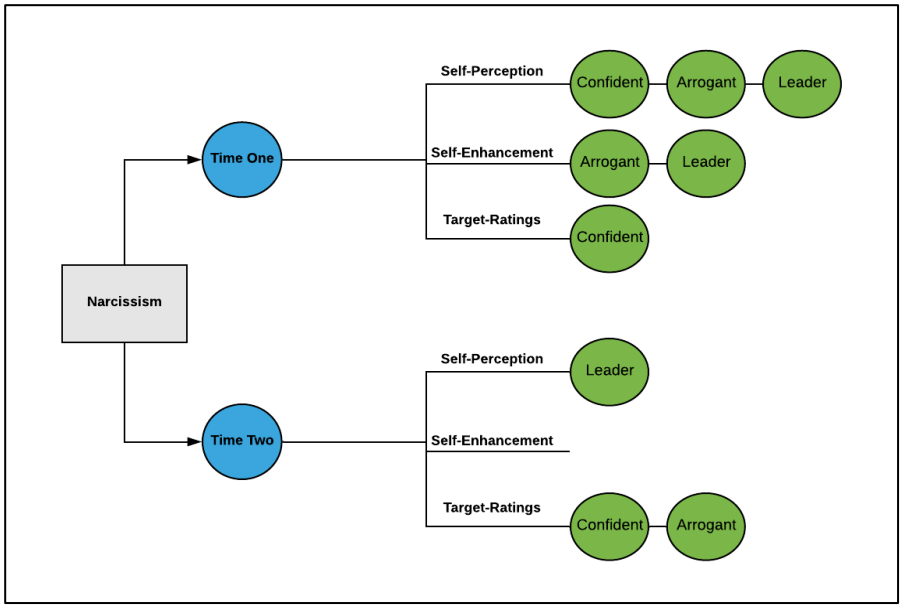
Relative to people who scored low, people who scored high on narcissistic rivalry believed that they were more aggressive ($r$ = .25, $p$ = .03) and less hardworking ($r$ = -.25, $p$ = .03) than others at Time 1, and were rated as such by their team members at Time 1 ($r$ = .22, $p$ = .05; $r$ = -.25, $p$ = .02, respectively). They believed that they were more arrogant ($r$ = .24, $p$ = .04), aggressive ($r$ = .23, $p$ = .04), and less trustworthy ($r$ = -.23, $p$ = .04) than others in their team at Time 2, and undervalued how much they are rated as likeable by others ($r$ = -.28, $p$ = .01) at Time Two.

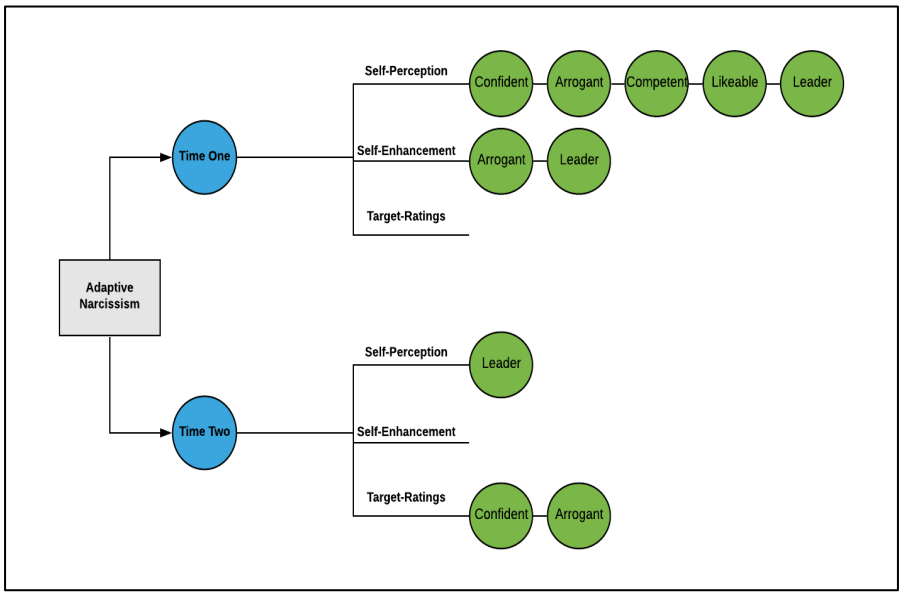
#### 3.3.9.7 Vulnerable Narcissism

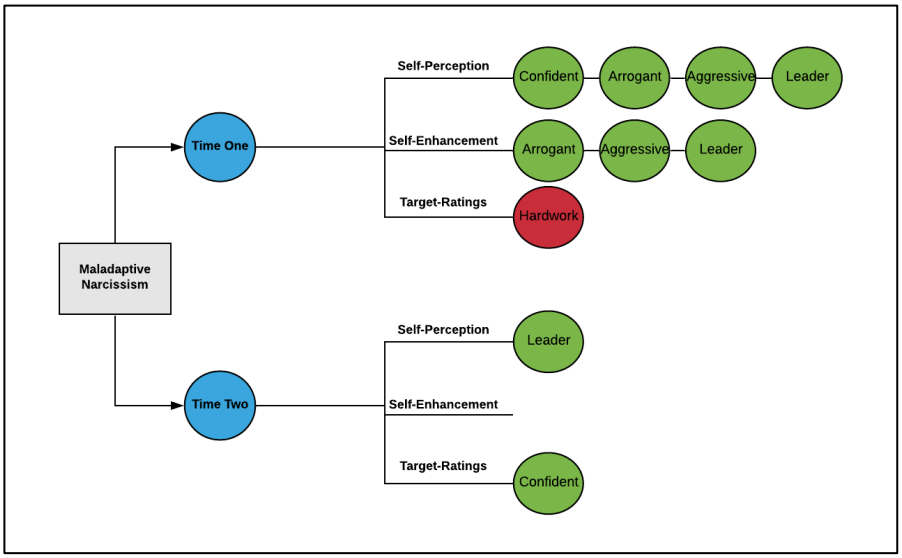
Relative to people who scored low, people who scored high on vulnerable narcissism believed that they were less confident ($r$ = -.38, $p$ < .001) than others at Time 1.

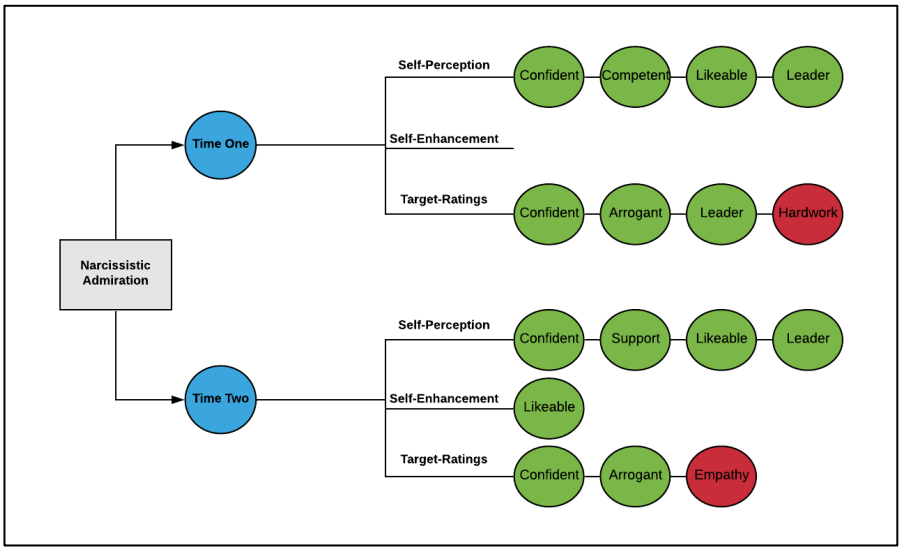
### 3.3.10 Summary Diagrams

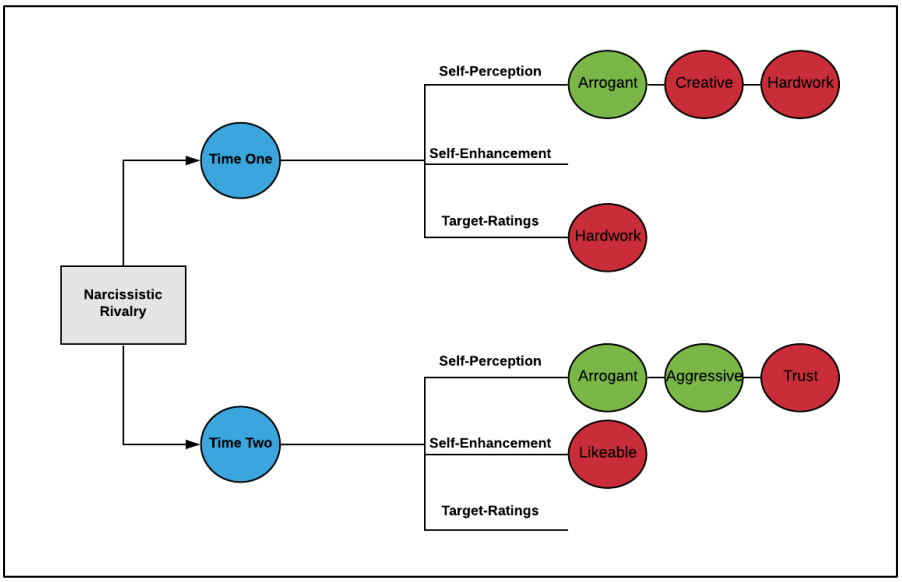
The below diagrams illustrate the significant relationships between round-robin effects and narcissism across two time points (Time 1: before escape room; Time 2: after escape room). Green circles represent a positive relationship, whereas red circles represent a negative relationship.

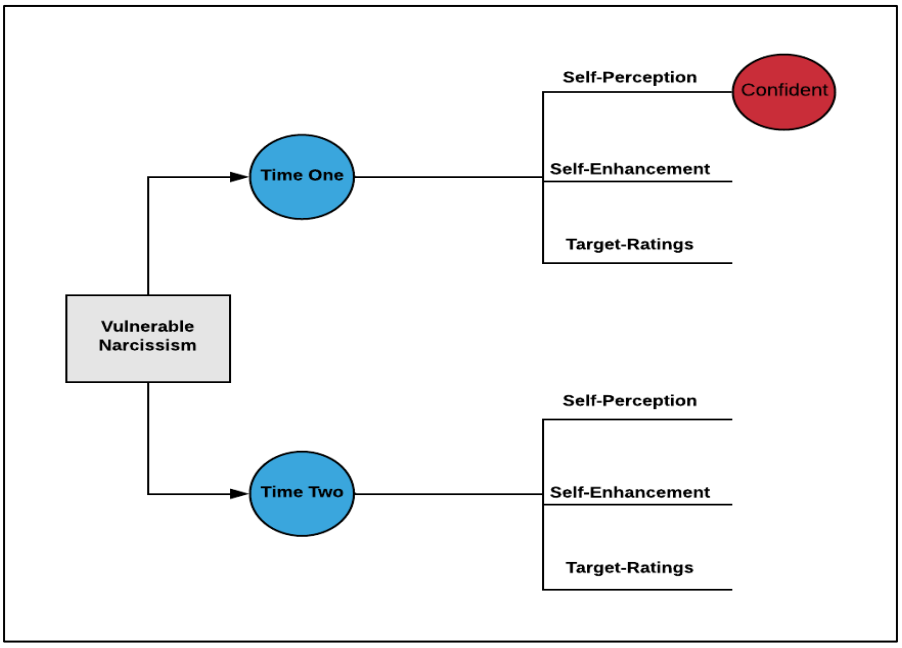

Narcissism
Time One
Self-Perception
Confident
Arrogant
Leader
Self-Enhancement
Arrogant
Leader
Target-Ratings
Confident
Time Two
Self-Perception
Leader
Self-Enhancement
Target-Ratings
Confident
Arrogant


Adaptive Narcissism
Time One
Self-Perception
Confident
Arrogant
Competent
Likeable
Leader
Self-Enhancement
Arrogant
Leader
Target-Ratings
Time Two
Self-Perception
Leader
Self-Enhancement
Target-Ratings
Confident
Arrogant


Maladaptive Narcissism
Time One
Self-Perception
Confident
Arrogant
Aggressive
Leader
Self-Enhancement
Arrogant
Aggressive
Leader
Target-Ratings
Hardwork
Time Two
Self-Perception
Leader
Self-Enhancement
Target-Ratings
Confident


Narcissistic Admiration
Time One
Self-Perception
Confident
Competent
Likeable
Leader
Self-Enhancement
Target-Ratings
Confident
Arrogant
Leader
Hardwork
Time Two
Self-Perception
Confident
Support
Likeable
Leader
Self-Enhancement
Likeable
Target-Ratings
Confident
Arrogant
Empathy


Narcissistic Rivalry
Time One
Self-Perception
Arrogant
Creative
Hardwork
Self-Enhancement
Target-Ratings
Hardwork
Time Two
Self-Perception
Arrogant
Aggressive
Trust
Self-Enhancement
Likeable
Target-Ratings


Vulnerable Narcissism
Time One
Self-Perception
Confident
Self-Enhancement
Target-Ratings
Time Two
Self-Perception
Self-Enhancement
Target-Ratings

## 3.4 Discussion

This study aimed to replicate and expand upon the findings of Study 1 by investigating how different traits/subtypes of narcissism predict engagement in a range of team-related behaviours, and the impact that this has on team processes and team performance in an escape room. I hypothesised that narcissism would influence team-related behaviours, processes, and performance at the individual, relational, and team levels of analysis, and that these effects would be markedly different for the dark and bright sides of narcissism: Dark narcissists (compared to bright narcissists) would engage in more negative behaviour, and so would conduce to poorer team processes (i.e., high levels of team conflict, low levels of team cohesion) and reduced team performance. The results were generally consistent with the hypotheses.

At the individual-level, several findings from Study 1 were replicated. For example, the dark side of narcissism (specifically narcissistic rivalry) was negatively correlated with team cohesion and positively correlated with team conflict. Likewise, dark narcissists typically scored low on all of the teamwork competencies (i.e., communication, management, intrapersonal, interpersonal skills). Presumably, dark narcissists do not always behave in ways that are congruent to the interests of their team, and this may influence team processes. Indeed, in the mediation models, dark narcissism significantly predicted low levels of team cohesion and high levels of team conflict, and this was explained, in part, by their low levels of interpersonal skills. For example, dark narcissism was negatively related with openness to share information, better perspective-taking ability, willingness to support other team members, a readiness for teamwork, greater levels of integrity, being more patient with others, a positive outlook on team objectives, and having more empathy for team members. In the sequential multiple mediation models, these effects were replicated, and in turn, predicted low levels of perceived team performance. Bearing in mind that interpersonal skills are fundamental in fostering a caring, effective, and successful team environment (Harris & Harris, 1996; Kets De Vries, 1999; Tarricone & Luca, 2002), these findings are concerning.

In line with Study 1, the bright side of narcissism was positively correlated with the management competency. Specifically, bright narcissism was positively related with leadership qualities and the ability to deal with conflict in team settings. However, although high levels of management skills led to high levels of team cohesion in Study 1, this finding was not replicated. Instead, high levels of management skills led to high levels of team conflict for bright narcissists, and this, in turn, predicted low levels of perceived team performance. This finding, albeit unexpected, may be explained by the type of management strategies bright narcissists employ in team settings.

Previous research has suggested that it is not simply the presence of management skills that may influence team processes and outcomes; rather how team members approach and use their

skills to manage their environment (Ayoko et al., 2002; De Dreu & van de Vliert, 1997; Somech et al., 2008). In their Dual Concern Model, Blake and Mouton (1964) argued that management strategies related to dealing with conflict derive from two underlying motives: concern for the self and concern for others. The first motive refers to the degree to which an individual attempts to satiate his or her own concerns, whereas the second motive is more targeted towards satisfying the concerns of others. Extending this model, Tjosvold (1989) argued that management strategies within teams reflect two opposing styles: the cooperative style and the competitive style. The former reflects a high level of concern for the self and the team, and is often described as *win-win*, problem-solving, or collaborative style. The latter, however, reflects a high level of concern for the self but a low level for the team, and is often described as *win-lose*, *zero-sum*, or controlling style (Rahim et al., 2000). Although bright narcissism is often associated with relatively positive and desirable social consequences (Back et al., 2013), it is theoretically plausible that their management skills are more self-focused (i.e., competitive style) rather than other-focused (i.e., cooperative style). That is, the management skills and strategies employed by bright narcissists may serve the self rather than the collective team, and as a result, lead to high levels of team conflict and low levels of team performance. As narcissism is associated with toxic management and leadership behaviours (Higgs, 2009; Nevicka et al., 2018) and the exploitation of teams for self-interest (Campbell et al., 2005; Park et al., 2013), there is convincing support for this proposition.

At the team-level, I hypothesised that teams with high levels (or a high percentage) of narcissism would report more detrimental team-related behaviours, processes, and performance than teams with low levels (or a low percentage) of narcissism: Team-level effects would be greater (or more damaging) for teams comprised of high levels (or a high percentage) of dark narcissists than teams comprised of high levels (or a high percentage) of bright narcissists. Although the overall hypotheses were not confirmed, some findings, however, were in the hypothesised direction.

Team-level dark narcissism (i.e., maladaptive narcissism, narcissistic rivalry) was negatively correlated with team-level cohesion and positively correlated with team-level conflict. Seemingly, dark narcissists do not always behave in ways that are beneficial to team interactions and processes, and these effects are potentially exacerbated in teams with high levels (or a high percentage) of dark narcissists. Given that the dark side of narcissism is associated with vindictive and intrusive problematic behaviours (Ogrodniczuk et al., 2009), self-regulatory strategies of antagonistic self-protection and defensiveness (Back et al., 2013; Hepper et al., 2010), and negative social consequences such as unpopularity, rejection, and interpersonal transgressions (Back et al., 2013), there is convincing empirical support for these findings. In the mediation analyses, team-level dark narcissism (i.e., maladaptive narcissism, narcissistic rivalry) predicted low levels of team-level cohesion, which predicted low levels of team performance. This expected finding provides additional support to the rapidly growing cohesion-performance literature (Chioccio &

Essiembre, 2009; Mathieu et al., 2008) and offers new insight into dark narcissism and its consequences within team settings.

Team-level vulnerable narcissism, on the other hand, predicted high levels of team-level cohesion, which subsequently predicted high levels of team performance. As vulnerable narcissism is associated with high levels of neuroticism and low levels of agreeableness, extraversion, and self-esteem (Jauk & Kaufman, 2018; Miller et al., 2011), and that agreeableness, extraversion, and self-esteem are positively related with team processes and team performance (Bell, 2007; Hofmann & Jones, 2005), this finding is unexpected. Nevertheless, it is possible to draw inferences from the self-presentation literature to explain this finding. Self-presentation involves the careful display of specific characteristics of oneself that would make a coveted impression on others (Leary, 1993). Individuals engage in self-presentation to enhance their well-being, maximise rewards (e.g., friendship, approval, money, awards), and to boost or maintain self-esteem (Baumeister, 1998; Leary & Kowalski, 1990; Schlenker, 1980).

Although some literature dispels the self-enhancement and self-presentation abilities of vulnerable narcissists (Besser & Priel, 2010; Freis et al., 2015; Hart et al., 2017), it is theoretically plausible that, within the context of an escape room, self-presentation may increase given the competition for desired rewards (e.g., team performance) and necessary interactions with others upon whom the individual is dependent (e.g., other team members). For example, whereas vulnerable narcissism is typically associated with introversion and feelings of inferiority (Hendin & Cheek, 1997; Krizan & Herlache, 2017; Rathvon & Holmstrom, 1996; Rose, 2002), it is also associated with strong cravings for social approval and a constant need for reassurance (Brown & Brunell, 2017). As such, it is conceivable that vulnerable narcissists may rely on certain self-presentation strategies (i.e., enhancing positive and reducing negative characteristics of oneself) to maximise rewards (i.e., social approval, team cohesion, team performance) that they find important within a competitive team environment like an escape room.

In line with the individual-level findings, team-level bright narcissism was positively related with team-level conflict. Presumably, bright narcissists do not always get along with their team, and these effects are potentially exacerbated in teams with high levels (or a high percentage) of bright narcissists. This finding may be explained, in part, by the dynamic self-regulatory processing model of narcissism (Morf & Rhodewalt, 2001). According to this model, narcissism manifests through social dynamics (i.e., settings) and can shape the interactions within a team and their outcomes. In the interpersonal realm, narcissism is associated with self-assuredness, arrogance, manipulation, self-indulgence, and a chronic quest for self-affirmation and self-aggrandisement (Back et al., 2010; Fatfouta, 2019; Oltmanns et al., 2004; Park & Colvin, 2014; Paulhus, 1998). Similarly, narcissists have been shown to seize opportunities to shape team discussions on decision-making and problem solving that will influence events in their social environment to their own ends (Morf & Rhodewalt, 2001; Kollmann et al., 2019; O'Reilly et al.,

2018). In striving to fulfil their own needs, it is theoretically plausible that bright narcissists actively engage in certain behaviours (i.e., defending their opinions, refusing to recoil from arguments with others, standing their ground until their decisions are accepted) that ultimately shape interactions with their team and outcomes experienced (i.e., high levels of team conflict). Research suggesting that narcissism has considerable potential to shape interactive team processes and outcomes (Brown, 1997), offers support for this proposition.

As hypothesised, team-level bright narcissism predicted high levels of team performance. One likely reason for this is that narcissists perform well in situations where the prospect for self-enhancement (i.e., opportunity for recognition, presence of an audience, difficult or high pressure tasks) is high (Roberts et al., 2015; Roberts et al., 2019; Wallace & Baumeister, 2002). For example, narcissists excel in competitive sporting domains (Guekes et al., 2012, 2013; Roberts et al., 2013) and when under pressure in laboratory settings (Roberts et al., 2010; Woodman et al., 2011). As an escape room comprises a competitive environment filled with difficult tasks that need to be accomplished in a limited amount of time (Kroski, 2019; Nicholson, 2015), there is arguably, ample opportunities for narcissists to seek and attain personal glory, as well as support for this finding.

At the relational-level, I hypothesised that there will be significant interindividual differences in how narcissists view themselves and their team members, as well as how other team members view narcissists. I also hypothesised that team member ratings of narcissists would change over time and that the bright and dark sides of narcissism would be associated with differing biases in self-views and self-enhancement estimations on interpersonal attributes. The findings were generally consistent with the hypotheses and provide a nuanced understanding of narcissistic behaviours within the team context.

There were significant interindividual differences in how much people rated others in their team on each interpersonal attribute across both time points. Given that interpersonal ratings embody the perceiver's perspective (i.e., self, team member), the perceiver's idiosyncrasies (i.e., personal characteristics), the target's level of interpersonal attribute, and random error (Cheng et al., 2017), and that interpersonal ratings originate from perceiver bias (Bono et al., 2012; Castilla & Benard, 2010; Scullen et al., 2000), these results are in the hypothesised direction. Across several interpersonal attributes (i.e., confident, supportive, arrogant, creative, hardworking), there were significant interindividual differences in how people were rated by others in their team across both time points. Moreover, at Time 2 (but not Time 1), there were also significant interindividual differences in how much people were rated by their team as being aggressive, likeable, empathic, and as a good leader. Arguably, these findings provide insight into the factors that undermine interpersonal perceptions (i.e., rating bias, contextual factors, personality), and also highlight dispositional characteristics that may be considered salient during first impressions, as well as those that appear to develop over time (or after a team task).

In line with previous research on ratings bias (Bernardin et al., 2009, 2016; Jawahar, 2001; LeDoux et al., 2012; Randall & Sharples, 2012), I found assimilation effects between self-ratings and other-ratings on a number of interpersonal attributes. For example, individuals who described themselves as arrogant, competent, aggressive, likeable, creative, or hardworking at Time 1, also rated others in their team as similar on these particular characteristics. At Time 2, these findings were extended to those who also described themselves as confident, supportive, trustworthy, or empathic. Research suggests that individuals view others as more similar to the self (Bryne, 1971), and that, within a team setting, members become more similar (or develop shared perceptions) over time in the way that they make sense of events and their environment (Salancik & Pfeffer, 1978). The current results were consistent with these findings, given that an escape room facilitates intense teamwork and constructive interactions (Wu et al., 2018; Stasiak, 2019; Zhang et al., 2018).

I also found consensus effects between self-ratings and other-ratings on a number of interpersonal attributes. For example, individuals who described themselves as confident, likeable, empathic, or as a good leader at Time 1 were also rated by others in their team as such. At Time 2, these effects were significant for individuals who described themselves as competent, empathic, or as a good leader. These findings offer insight into the degree to which team members are perceived in similar ways by other members, as well as the types of interpersonal attributes that may be prevalent during team interactions. In accord with research on the link between interpersonal perceptions and team member personality (Cheng et al., 2017; Taggar & Brown, 2006), these effects may be influenced by narcissism.

In the round-robin analyses, dark narcissists (i.e., maladaptive narcissism, narcissistic rivalry) rated themselves across both time points as confident, arrogant, aggressive, and good leaders. They also rated themselves as less hardworking than others at Time 1, and less trustworthy than others at Time 2. As targets, dark narcissists were rated by others in their team as confident and arrogant across both time points, as well as aggressive and less hardworking at Time 1. These findings are consistent with evidence that narcissists have genuine insight into the behavioural manifestations of their narcissism (Carlson, 2013; Carlson et al., 2011). The findings also shed some light on the mechanisms that may underlie and maintain dark narcissists' maladaptive interpersonal style.

In their social motives model, Sheldon et al. (2019) posit that narcissism is associated with self-seeking goals and behaviours called *egosystem* motives. In contrast to *ecosystem* motives which prompt other-interested, altruistic goals and behaviours (Crocker & Canevello, 2015), *egosystem* motives prompt self-interested, egoistic goals and behaviours that typically come at the expense of other's needs. For example, narcissism has been linked to conceitedness and callousness (Roberts et al., 2018; Thomaes et al., 2018), as well as "interpersonal coldness" (Hart et al., 2020) and low regard for others (Park & Colvin, 2015). Likewise, narcissists have been associated with low levels of empathy (Hart et al., 2018), and appear argumentative and antagonistic (Sedikides &

Campbell, 2017). Given that dark narcissists rated themselves and were rated by others as aggressive and arrogant, it is theoretically plausible that they endorse non-compassionate *egosystem* interpersonal motivations. Moreover this may explain some of the negative outcomes (i.e., low levels of team cohesion, high levels of team conflict) experienced in their teams.

Interestingly, although dark narcissists rated themselves as good leaders across both time points, these ratings were not shared by others in their team. The narcissistic-leader relationship is plagued with inconsistent findings. For example, some studies suggest that narcissists are perceived (albeit in the short-term) as good or favourable leaders (Judge et al., 2006; Nevicka et al., 2011; Owens et al., 2015), whereas other studies have found negative relationships (Judge et al., 2006; Martin et al., 2016) or null effects (Grijalva et al., 2015). As an escape room facilitates team-building (Gordon et al., 2019) and encourages equal participation from all team players (Pan et al., 2017), it is possible that the prototypical leadership skills that narcissists possess (i.e., extraversion, dominance, enthusiasm, charismatic vision; Galvin et al., 2010; Kellett et al., 2006; Paunonen et al., 2006; Smith & Foti, 1998) do not have time to emerge (or are not required) in this context. Future investigation is warranted.

In the round-robin analyses, bright narcissists rated themselves across both time points as confident, likeable, and good leaders. They also rated themselves as arrogant and competent at Time 1. As targets, bright narcissists were rated by others in their team as confident and arrogant across both time points, as well as less hardworking at Time 1 and less empathic at Time 2. These findings are in line with literature on the accuracy of narcissistic self-insight (Carlson, 2013; Carlson et al., 2011), as well as research on narcissists' low empathy levels (Hart et al., 2018; Hepper et al., 2014; Leunissen et al., 2017; Watson & Morris, 2014). Interestingly, bright narcissists overvalued how much they were rated by others as arrogant, aggressive, and as good leaders at Time 1, and how much they were rated by others as likeable at Time 2. Since narcissists are overconfident in their abilities (Campbell et al., 2004; Carlson et al., 2011; Paulhus et al., 2003; Robins & Beer, 2001) and possesses an exaggerated sense of self-importance (Campbell et al., 2007; Carroll, 1987), these findings are in the hypothesised direction.

Taken together, the results offer a nuanced understanding of the dark and bright sides of narcissism within a competitive team setting. Moreover, they provide insight into the perceptions and behaviours of narcissists at the individual, team, and relational levels of analysis. As team and organisational success depends upon individuals and their interactions (Braun et al., 2020; Forsyth, 2010; Mohanty et al., 2018; Verburg et al., 2013; Wei et al., 2020; Welbourne et al., 1998), these findings are a cause for concern.

### 3.4.1 Implications

The findings have implications for research on personality and teams. The findings were in line with research showing that personality is relevant to team processes and team performance (Bell, 2007; Boudreau & Anis, 2020; Bradley et al., 2013; Filipiak & Lubianka, 2020; Magnusson & Torestad, 1993; Nassif, 2019; Rezvani et al., 2018). Specifically, the findings are consistent with literature suggesting that narcissism is an important construct to examine within the team context (DeNisi, 2015; Kollmann et al., 2019; Nevicka et al., 2018). Dark narcissists (i.e., maladaptive narcissism, narcissistic rivalry) exhibited more negative behaviours, which were associated with more negative team-related processes and outcomes than bright narcissists. Both sides of narcissism were associated with high levels of team conflict, as well as low levels of team cohesion, which subsequently predicted reduced team performance. However, only team-level vulnerable narcissism was associated with high levels of team cohesion. These findings are instructive given that cohesion plays a vital role in teams as an outcome (Harrison et al., 1998; Wellen & Neale, 2006), and conflict can exert significant influence on team functioning and success (Braun et al., 2020; Griffith et al., 2014; Tekleab et al., 2009).

The findings also have implications for organisational practice. *First*, they highlight narcissism as a relevant trait to understand and monitor within the workplace - in particular, how the dark and bright sides of narcissism differentially influence a range of team-related behaviours and processes, and how these subsequently affect team performance. *Second*, they offer organisations a nuanced perspective of the intergroup dynamics of teamwork, and how the perceptions and behaviours of team members may be influenced by personality characteristics. *Third*, they enrich the literature on the utilisation of escape rooms by corporations to study teamwork and assess particular team behaviours and outcomes. *Finally*, they inform ways to increase team-related behaviours among narcissistic members, which would likely enhance their participation, satisfaction, and productivity in team and organisational settings. For example, high levels of management skills were associated with high levels of team conflict for bright narcissists, and low levels of interpersonal skills were associated with low levels of team cohesion and team performance for dark narcissists. If these skills do underlie narcissists' dysfunctional team behaviours and outcomes, then corporations would likely benefit from tailoring interventions to try to decrease (or fulfil in some other way) or increase (or change one's perspective of) certain narcissistic behaviours in the team and organisational setting.

Furthermore, the findings have implications for future research. The results highlight the importance of incorporating round-robin designs when investigating interpersonal phenomena in teams. They also demonstrate the benefit of including external variables (e.g., personality variables) to retrieve a nuanced understanding of the complexities of interpersonal relationships within teams. In all, the findings complement prior research and also add to the literature:

Narcissists do not always make the best team members and this may influence team processes and team performance.

### 3.4.2 Limitations and Future Research

The study used a small sample size. Small samples often lack statistical power, produce false-positive results, or overestimate the magnitude of an association (Hackshaw, 2008). As such, caution is required when interpreting findings. Nevertheless, the SRM (in particular, round-robin designs) offers some statistical leniency over other tests when it comes to power and sample sizes as participants tend to produce more data points to account for the various interindividual and interpersonal effects within a group (Lashley & Kenny, 1998). Correspondingly, team size is also a limitation of this study, as teams ranged from four to five. As team size influences team processes and outcomes (Carron & Spink, 1995; Gevers et al., 2020; Wheelan, 2009), findings may be difficult to generalise. Yet, the sample size represents an advancement over escape room studies that have relied on small teams (and samples smaller than 40; Fotaris & Mastoras, 2019; Pan et al., 2017).

Future research would do well to focus on team size and its influence on team processes and performance. For example, teams containing three to four members are more productive than teams with five to six members (Wheelan, 2009). Similarly, larger teams are associated with less available social support (Mueller, 2012), more dissatisfaction (Lundgren & Bogart, 1974; Thomas & Fink, 1963), more confusion and disagreement (Jiang & Klein, 2000), and reduced levels of efficiency and performance (Forsyth, 2010; Steiner, 1972). Round-robin designs are suitable to testing the role of team size on team processes and team performance. For example, do larger teams always experience less cohesion than smaller teams? Are there significant interindividual differences among team sizes in how individuals rate other members of their team? Are narcissists more harmful to team processes and outcomes in teams with more members?

Future research might also consider longitudinal designs that explore narcissism in the team across a period of weeks or months. For example, although some research has explored the longitudinal influence of narcissism in the team context (Felty et al., 2014; Leckelt et al., 2015; Paulhus, 1998), the temporal influence of narcissism on team processes and performance with round-robin data is yet to be addressed. Are narcissists always rated favourably at zero-acquaintance by others? Do these ratings always wane over time? Do ratings of narcissists change over time in relation to spikes of cohesion and conflict within the team? Are there certain behaviours that narcissists exhibit that can explain temporal changes in team member ratings of narcissists? Do certain traits/subtypes of narcissism influence different team processes over time? Answers to these questions will improve understanding of the influence of narcissism in team contexts, development of team processes over time, and provide additional scope for research.

# Chapter 4 Study 3

Organisations increasingly rely on teams to enhance productivity, improve innovation, maximise goal effectiveness, and meet rapidly changing industrial pressures, challenges, and targets (Eisenberg et al., 2019; Gore & Camp, 2020; Koshe et al., 2020; Sanyal & Hisam, 2018; Stouten & Liden, 2020). Successful teams comprise members who contribute their fair share of the workload, handle disagreements in a respectful and constructive way; appreciate the ideas, skills, and perceptions of others; and provide back-up assistance to those who are overworked or underskilled (Grietemeyer et al., 2006; Hoegl & Parboteeach, 2007; Salas et al., 2005). Successful teams are typically associated with high levels of team cohesion and low levels of team conflict (Braun et al., 2020; Wei et al., 2020). One personality trait that might disrupt these team dynamics and negatively influence organisational outcomes (i.e., team performance) is narcissism.

## 4.1 The Present Study

The results of Study 1 and Study 2 offer support for the proposition that personality plays a crucial role in the influence of team-related behaviour, processes, and outcomes. Specifically, narcissism was identified as an important personality trait to investigate at the individual, relational, and team levels of analysis. At the individual level, dark narcissists engaged in more negative behaviours, which were associated with poorer team processes and outcomes (i.e., increased team conflict, reduced team cohesion, poorer team performance) than bright narcissists. At the team level, these findings were largely replicated, with teams comprised of high levels (or a high percentage) of dark narcissism (excluding vulnerable narcissism) being associated with more harmful team-related behaviours, processes, and performance than teams with high levels (or a high percentage) of bright narcissism. At the relational level, the presence of narcissistic team members did not go unnoticed by others in the team: Round-robin ratings painted an interesting portrait of narcissistic team members.

The present study aims to replicate and expand upon these findings by addressing some of the noted limitations (i.e., small sample size, small number of groups, lack of longitudinal effects), and integrating self-enhancement and social exchange theories to investigate the longitudinal influence of narcissism in the team and organisational context.

### 4.1.1 Narcissism in Team and Organisational Contexts

The results of Study 1 and Study 2 suggest that narcissists do not always make the best team members. Given their documented intra- and interpersonal shortcomings in the team and organisational context, these findings are far from surprising. For example, narcissism has been linked with the selfish pursuit of economic gains (Park et al., 2013) and allocation of resources

(Campbell, Bush et al., 2005) in team settings; the derogation of other team members who outperform them (Locke, 2009; Rhodewalt & Morf, 2005); poor listening and communication skills (Farwell & Wohlwend-Lloyd, 1998); and the domination of interpersonal interactions for their own benefit (Morf & Rhodewalt, 1993). Arguably, such negative relationships underscore the need for research on the influence of narcissistic team members upon individual-level behaviour, relational-level perceptions, and team-level outcomes in the team and organisational context.

Indeed, perhaps most vexing to organisations are the potential costs associated with highly narcissistic employees. Empirical research suggests that narcissists are more likely than their counterparts to engage in behaviours that are incongruent with organisational goals (Blickle et al., 2006; Campbell et al., 2011), display workplace aggression (Penney & Spector, 2002), disrupt team creativity and motivation (Goncalo et al., 2010), and disregard the opinions and feelings of other work colleagues (Lubit, 2005). Moreover, narcissism is associated positively with counterproductive work behaviours (CWB's; Judge et al., 2006; Penney & Spector, 2002) and negatively with organisational citizenship behaviours (OCB's; Blair et al., 2008; Judge et al., 2006). By and large, if interactions among employees or team members become tainted by individual factors, then team processes (e.g., team cohesion, team conflict), organisational outcomes (e.g., stock prices, production deadlines, team morale, quality assurance, production output) and team performance are likely to be negatively affected (King, 2007).

Although the findings of such research are relatively instructive, attention to the longitudinal influence of narcissism in the team and organisational contexts is nevertheless scant. For example, do narcissists always exhibit behaviours that are incongruent to team and organisational goals? Can instances of workplace aggression be located to specific points in time during team interactions? Do ratings of narcissists change over time in relation to spikes in cohesion and conflict in the team? Furthermore, can the longitudinal influence of narcissism in the team and organisational context be explained by social and personality theory? Given the call from researchers to better incorporate temporal considerations into team and organisational research (Ancona et al., 2001; Marks et al., 2001; Shipp & Fried, 2014), an in-depth understanding into how narcissism influences team processes (e.g., team cohesion, team conflict) and organisational outcomes (e.g., team performance) over time is warranted.

### 4.1.2 The Temporal Influence of Narcissism in Team and Organisational Contexts

Many of the traits that supposedly propel narcissists into positive positions at early or limited acquaintance are also hypothesised to be the same as those that precipitate their subsequent downfall (Rosenthal & Pittinsky, 2006). For example, narcissists are known to make positive first impressions (Back et al., 2010; Paulhus, 1998), which likely underwrite their propensity to emerge as leaders during zero-acquaintance situations (Brunell et al., 2008; Nevicka et al., 2011). These

impressions are largely associated with the perception that narcissists are extraverted, funny, charismatic, attractive and confident (Back et al., 2011; Carlson et al., 2011; Gabriel et al., 1994; Wortman & Wood, 2011). However, with increasing acquaintance, these impressions tend to wane, and narcissists are seen as more arrogant, less entertaining, and less desirable to be around (Back et al., 2010; Czarna et al., 2016; Leckelt et al., 2015; Oltmanns et al., 2004; Paulhus, 1998).

This temporal change is illustrated in Campbell's (2005) chocolate cake model and Campbell and Campbell's (2009) contextual reinforcement model of narcissism. Originally developed to explain romantic relationships with narcissistic individuals, the chocolate cake model likens interactions with narcissists to eating chocolate cake. The first bite of the cake is usually rich in flavour and enjoyable, but over time, the richness of the cake leads to feelings of nausea and regret. In a similar vein, the contextual reinforcement model (Campbell & Campbell, 2009) posits that individuals tend to experience the positive aspects of narcissism (i.e., charm, extraversion) during the initial phase of acquaintanceship (i.e., the *emerging* zone), but are left with the burdensome costs of narcissism (e.g., aggression, hostility) later on (i.e., the *enduring* zone). For both models, the costs endured by the narcissist typically pale in comparison to the costs suffered by those around them. For example, when a narcissistic CEO runs a company into the ground, they may suffer personally, but their employees will suffer much more.

The longitudinal influence of narcissism in the team and organisational context may be explained, in part, by self-enhancement and social exchange theories. Self-enhancement theory suggests that individuals are motivated to possess a positive self-concept and will often go to great lengths to achieve this (Alicke & Govorun, 2005; Baumeister, 1998; Hepper et al., 2010). Typically inherent in psychologically healthy adults, self-enhancement is considered a prevalent and pervasive motive, which often takes precedence over other long-term goals (e.g., academic success; Crocker & Park, 2003). Relative to non-narcissists however, self-enhancement appears to be a narcissists' Achilles heel: The continuity and vitality of their self-worth is contingent upon self-enhancement outcomes. For example, narcissists display a chronic obsession with attaining and maximising grandiose views of the self (Campbell et al., 2002; John & Robins, 1994) and appear to possess an urgent need to self-enhance (Sedikides & Gregg, 2001). They are preoccupied with positive self-presentation (Buss & Chiodo, 1991; Rogoza & Fatfouta, 2019), perceive themselves better-than-average on agentic characteristics such as attractiveness, intelligence, and leadership qualities (Bleske-Rechek et al., 2008; Grijalva et al., 2015; Grijalva & Zhang, 2015; Paulhus et al., 2003), and will often flout their assumed positive qualities, even when they know that they will later be held accountable for their ratings (Collins & Stukas, 2008). Arguably, narcissists' predilection for self-enhancement may have noticeable implications for team processes and organisational outcomes.

In accordance with self-enhancement theory, it is theoretically plausible that narcissistic team members may disrupt team processes and organisational outcomes due to their chronic pursuit

of self-enhancement. Moreover, these effects may be most visible during certain stages of team development. For instance, as narcissists display self-serving biases for both success and failure (Rhodewalt & Morf, 1995), and have been shown to protect their inflated self-concept from negative feedback with defensiveness and aggression (Twenge & Campbell, 2008), they may perceive certain team interactions (i.e., delegation of roles during the "Forming" stage of team development; group discussions regarding progress during the "Storming" stage of team development; sharing of task-relevant information during the "Norming" stage of team development; reviewing attainment milestones and discussing issues during the "Performing" stage of team development) in a negative light, which may lead to instances of heightened conflict in the team.

Similarly, given their low levels of empathy (Hart et al., 2018) and argumentative and antagonistic orientation (Sedikides & Campbell, 2017), narcissists may be less interested in coordinating with and relating to other team members during team interactions, and be more interested in pursuing opportunities to enhance their grandiose views, which again may ultimately serve as a disruption to team processes and long-term goals, such as team performance. Research suggesting that narcissists only perform well in team settings when they have an opportunity for personal glory (Roberts et al., 2019; Wallace & Baumeister, 2002) or when the identifiability of individual performance is high (Woodman et al., 2011) offer support for this proposition. Arguably, self-enhancement theory is an important addition to the current study and offers further understanding of the longitudinal influence of narcissism in the team and organisational context.

Social exchange theory (Blau, 1964; Gergen, 1969) posits that interdependent social exchanges are characterised by obligatory reciprocal arrangements. That is, interpersonal interactions unravel through a mutual trade-off whereby both helpful and harmful deeds are repaid in kind (Cropanzo & Mitchell, 2005; O'Boyle et al., 2012). In line with this theory, individuals always try to obtain the best rewards for themselves from their social interactions, and will likely be most attracted to those who can offer such reward. As such, the norm of reciprocity for exchanges makes it likely that the occurrence of certain behaviours and interactions will have an impact on team processes and organisational outcomes (Ashforth & Mael, 1989; Johnson et al., 2009).

On the basis that a narcissist's *raison d'être* concerns the self, it is theoretically plausible that social exchanges with narcissistic team members will be at a detriment to the team. Moreover, these effects may be most apparent during certain points in a team's lifecycle. For instance, narcissism is associated with self-seeking, egoistic goals and behaviours that often come at the expense of other's needs (Sheldon et al., 2019). Arguably, as the nature of teamwork becomes more focused on collaboration (i.e., near completion deadlines), such egocentric behaviours may evoke reciprocal selfishness from other team members, which may lead to greater levels of team conflict and poorer team performance. Likewise, narcissists are often regarded as being

"interpersonally cold" (Hart et al., 2020), insensitive (Wales et al., 2013), and callous (Roberts et al., 2018; Thomaes et al., 2018). As such, it is likely that a blatant disregard for others would become apparent in peer performance ratings (provided throughout the lifecycle of a team or at the end of a team task) as a function of social exchange.

Similarly, given that narcissists are preoccupied with behaviours focused on themselves (i.e., those associated with power, shameless self-admiration, and resistance to external reproach; Resick et al., 2009), it is also likely that they may perceive social exchanges based on long-term interactions with their team as less beneficial and more time-consuming than the potential rewards that could be obtained in the short-term (i.e., during the *emerging* zone). As a result, narcissists may be more inclined to take advantage of team members to fulfil their desire for short-term rewards, at the cost of long-term gains, such as team cohesion and team performance. Research indicating that narcissists favour short-term strategies that provide immediate gratification over long-term goals that offer substantial reward (Wu et al., 2019) affords support for this proposition. Given narcissists' preoccupation with the self and lack of regard for others, social exchange theory offers an important contribution to the current study.

The present study builds upon the limitations noted in Study 1 and Study 2 by introducing a *longitudinal* approach to investigate narcissism in the team and organisational context. As such, it is the first empirical study of its kind to investigate the temporal effects of a comprehensive analysis of narcissism measures within the team and organisational literatures.

### 4.1.3 Hypotheses

This study aims to replicate and expand upon the findings of Study 1 and Study 2. As such, many of the hypotheses at the individual, relational, and team levels of analysis are similar. For brevity, these hypotheses are listed below and the reader is directed to Study 1 and Study 2 for further information. Where relevant, hypotheses are expanded to account for the longitudinal nature of this study.

*Hypothesis 1*: Individuals high on traits associated with the dark side of narcissism will engage in more negative behaviours, which in turn, will predict poorer team processes and performance than individuals high on traits associated with the bright side of narcissism.

*Hypothesis 1a*: In line with social exchange theory, narcissists' disregard for others in their team will lead to negative team performance ratings by their peers. Specifically, the dark side of narcissism will be associated with more negative peer-rated performance ratings than the bright side of narcissism.

*Hypothesis 1b*: Relative to bright narcissism, individuals high on traits associated with the dark side of narcissism will report more instances (or higher levels) of team conflict and fewer instances (or lower levels) of team cohesion throughout the lifecycle of their team.

*Hypothesis 2*: In line with social exchange theory, there will be significant interindividual differences between narcissists' self-ratings and other-ratings (i.e., assumed similarity, self-other agreement) on interpersonal and teamwork measures across time. In particular, positive effects will be identified when team cohesion is high (i.e., individuals who rate themselves as likeable will rate others as such, and be rated by their team as such), and negative effects will be identified when team conflict is high (i.e., individuals who rate themselves as low on arrogance will rate others as high on this trait, and be rated by their team as high on this trait).

*Hypothesis 2a*: Temporal effects identified in *Hypothesis 2* will be influenced by the dark and bright sides of narcissism. Specifically, the dark side of narcissism will be related to more negative effects (i.e., due to more hypothesised instances of team conflict) than the bright side of narcissism.

*Hypothesis 3*: In line with self-enhancement theory, narcissists will overestimate how much they are rated by others on positive attributes (i.e., likeability, hardworking) during early acquaintance or when team cohesion is high, and will underestimate how much they are rated by others on negative attributes (i.e., aggression, disorganisation) later on in the team lifecycle or when team conflict is high.

*Hypothesis 4*: In line with the chocolate cake model (Campbell, 2005) and contextual reinforcement model (Campbell & Campbell, 2009), team member ratings of narcissists on interpersonal and teamwork measures will be more positive at zero-acquaintance (i.e., the *emerging* zone) than later on in the team lifecycle (i.e., the *enduring* zone).

*Hypothesis 4a*: Temporal effects identified in *Hypothesis 4* will be influenced by the dark and bright sides of narcissism. Specifically, the dark side of narcissism will be related to more negative ratings over time than the bright side of narcissism.

*Hypothesis 5*: Teams with high levels (or a high percentage) of narcissism will report more detrimental team-related behaviours, processes, and performance than teams with low levels (or a low percentage) of narcissism.

*Hypothesis 5a*: Team-level effects identified in *Hypothesis 5* will be greater (or more detrimental) in teams that are comprised of high levels (or a high percentage) of dark narcissists than teams comprised of high levels (or a high percentage) of bright narcissists.

## 4.2 Method

### 4.2.1 Participants

The sample comprised 387 undergraduate students (323 women, 62 men, 2 unknown) enrolled on an introductory psychology module called 'Thinking Psychology (PSYC1005)' at The University of Southampton. This study was conducted over two consecutive years with two different cohort samples (Cohort 1: $n$ = 192; Cohort 2: $n$ = 195). Most students in Cohort 1 (156 female, 35 male, 1 unknown) were in their late teens ($M$ = 18.61, $SD$ = 1.68, range 18-34) and were White British (63.5%). Most students in Cohort 2 (167 female, 27 male, 1 unknown) were in their late teens ($M$ = 19.28, $SD$ = 3.90, range 17-50) and were White British (66.2%). In both cohorts, the unknown individual is a student who was rated by all others in their team, but did not provide any ratings themselves. For the purposes of the round-robin analyses, these individuals are retained in the dataset.

There were 196 students enrolled in Cohort 1, of which 192 completed Part 1, 191 completed Part 2, 190 completed Part 3, 189 completed Part 4, 189 completed Part 5, and 188 completed Part 6. There were 196 students enrolled in Cohort 2, of which 195 completed Part 1, 193 completed Part 2, 191 completed Part 3, 189 completed Part 4, 184 completed Part 5, and 190 completed Part 6. Due to some individuals moving between teams during the start of the semester (e.g., timetabling issues), the data may contain missing values for individuals who were present in one team during one stage of the semester but absent thereafter.

### 4.2.2 Procedure and Measures

Recruitment took place during student induction week (i.e., zero-acquaintance) via a verbal speech, advertised email, and an announcement on the PSYC1005 online module page. PSYC1005 is a module that encourages students to work in a team over the course of a semester (12 weeks), in order to achieve a number of team-related goals (e.g., a team research poster, team presentation). Given that teams assembled in academic settings are considered to operate comparably to those in the organisational context (Hayes, 1997), this sample complemented the current study. At the time of recruitment, students were randomly assigned to one of 43 teams (Cohort 1: $k$ = 23, Cohort 2: $k$ = 20) supervised by a member of staff. However, due to the scheduling of lectures, students had not yet met their team yet. Team sizes ranged between 4 and 10 students in Cohort 1 ($M$ = 8.35, $SD$ = 1.40) and between 8 and 12 students in Cohort 2 ($M$ = 9.75, $SD$ = 1.02).

During recruitment, participants were provided with a link to an online survey with further information and consent forms for all parts of the study (all study documents can be accessed via the Open Science Framework: http://tiny.cc/l9ouiz). Participants were informed that the study consisted of six parts: the first part (personality questionnaire) at zero-acquaintance, the second part

(first-impressions of team members) after their first team meeting, and the remaining four parts taking place every subsequent two-to-three weeks for the duration of the PSYC1005 module. Participants were informed that they could withdraw at any time, and were asked to acknowledge their understanding and willingness to participate. By participating, students received up to 32 research credits and up to 60 entries for a prize draw to win one of four £50 gift vouchers (with more credits and entries attained for each part of the study completed).

Across all parts, instructions requested participants to answer all questions accurately and honestly. During Part 1 participants were asked to complete demographic information (e.g., age, nationality, gender) and a number of personality questionnaires. Participants were instructed to create a unique keycode (i.e., a series of letters and numbers that are unique to them) and to remember this keycode for subsequent parts, in order for their datasets to be linked. At the end of Part 1, participants were asked to click on a link to a separate online survey, in which they were requested to provide their university email address for study-related alerts. All email addresses were kept separate to survey responses and kept confidential. Participants were informed via email when they were required to complete each part of the study. During their first team meeting (approx. 1.5 hours), individuals were required to introduce themselves to their team and to follow any module-related lesson plans. After their first timetabled class for PSYC1005, Part 2 was released. Participants were provided with information about the study again and were requested to provide their unique keycode before participating. Instructions requested participants to rate their first impressions of every member of their PSYC1005 team on a number of questions and statements. To ensure that all team members were rated, participants were directed to the online module page where a class register was provided. Participants were asked to type in the name of each team member before providing their ratings. Finally, participants were instructed to rate themselves on the same questions and statements.

Parts 3-5 were identical to Part 2 with the exception of some minor changes to the wording of question instructions (i.e., Parts 3-5 were based on participants' experiences since the previous survey was completed, rather than on first impressions as in Part 2). Each Part was released every two-to-three weeks throughout the module. During week 11 on the module, participants completed a team performance task (a team presentation worth 40% of their module grade) in front of an audience, which was marked by three independent assessors based on a number of module-specific criteria (e.g., content quality, presentation skills, critical evaluation). Participants were then asked to complete a short peer-rated performance measure for each member of their team (1 = *didn't show up to team meetings/not heavily involved in team discussions,* 4 = *excellent member of the team*). After the team performance task, participants were provided with the final part of the study. In Part 6, participants were requested to provide their thoughts on, feelings about, and behaviours enacted within their team since Part 5. After completion of Part 6, participants were debriefed and thanked for their participation.

#### 4.2.2.1 Part 1 Measures

Part 1 measures were identical to the measures used in Study 1 and Study 2. All measures (except the NPI which used a dichotomous response option) used an 8-point response scale (1 = *strongly disagree,* 8 = *strongly disagree*).

##### 4.2.2.1.1 Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988).

Narcissistic responses were summed for all participants (theoretical range: 0 to 40; current sample: 1 to 30; $M = 11.03$, $SD = 5.87$, $\alpha = .82$), with higher scores indicating higher levels of narcissism. Mean scores for adaptive ($M = .33$, $SD = .19$, $\alpha = .69$) and maladaptive ($M = .23$, $SD = .16$, $\alpha = .69$) narcissism were also computed. In line with previous research (Barry et al., 2007; Hepper et al., 2014), adaptive narcissism and maladaptive narcissism were correlated positively, $r(383) = .48$, $p < .001$.

Following recommendations by Campbell et al. (2005), narcissism scores were also examined at the team-level as two predictor variables: the average narcissism score of the team (average narcissism; $M = 11.03$, $SD = 1.94$, range 5.68 to 15.78) and the percentage of narcissists (i.e., those with scores above the median NPI) in the team (percentage narcissism; range 0 to 77.8%). The same team-level predictor variables were also computed for adaptive narcissism (average adaptive narcissism: $M = .33$, $SD = .05$, range .21 to .44; percentage adaptive narcissism: range 37.5% to 100%) and maladaptive narcissism (average maladaptive narcissism: $M = .22$, $SD = .06$, range .05 to .38; percentage maladaptive narcissism: range 0 to 77.8%).

##### 4.2.2.1.2 Narcissistic Admiration and Rivalry Questionnaire (Back et al., 2013).

Responses were summed and averaged for each narcissistic dimension, with higher scores indicating higher levels of narcissistic admiration ($M = 3.74$, $SD = 1.09$, $\alpha = .83$) and narcissistic rivalry ($M = 2.44$, $SD = 1.07$, $\alpha = .84$). Responses were also examined at the team-level using two predictor variables: the average narcissistic admiration ($M = 3.74$, $SD = .39$, range 2.65 to 4.65) and narcissistic rivalry ($M = 2.43$, $SD = .37$, range 1.83 to 3.74) of the team, and the percentage of individuals high on narcissistic admiration (i.e., those with scores above the median; range 0 to 100%) and narcissistic rivalry (range 20% to 80%) in each team.

##### 4.2.2.1.3 Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997).

Responses were summed ($M = 3.97$, $SD = 1.06$, $\alpha = .76$), with higher scores indicating higher levels of vulnerable narcissism. Responses were also examined at the team-level using two predictor variables: the average vulnerable narcissism ($M = 3.97$, $SD = .43$, range 3.15 to 5.15) of the team and the percentage of individuals high on vulnerable narcissism (i.e., those with scores above the median, range 11.1% to 90%).

#### 4.2.2.1.4 The Balanced Inventory of Desired Responding (Hart et al., 2015).

The impression management subscale from the BIDR-16 was used due to the reliance on self-report measures in the study ($M$ = 4.62, $SD$ = 1.08, $\alpha$ = .69). Four items were reverse scored.

### 4.2.2.2 Parts 2-5 Measures

#### 4.2.2.2.1 Round-Robin Data – Interpersonal Measures

Parts 2-5 requested participants to rate themselves and every member of their team on an 11-item measure of interpersonal perception (identical to the measures used in Study 2). All items used a measurement slider (0 = *not at all,* 100 = *extremely*). Round-robin interpersonal measures were analysed with linear mixed effects models to assess their associations with narcissism over time. While some items (e.g., aggression, leadership, likeability) were chosen to complement the existing literature on narcissistic aggression (Bushman & Baumeister, 1998; Reidy et al., 2010), narcissistic emergent leadership (Brunell et al., 2008; Grijalva et al., 2013; Ong et al., 2016), and peer likeability ratings of narcissists (Oltmanns et al., 2003; Paulhus, 1998); other items (e.g., hardworking, arrogant, competent, supportive, empathic, confident, trustworthy, creative) were analysed for their unique contribution to the literature. Descriptive statistics for these measures are presented in Table 45.

#### 4.2.2.2.2 Round-Robin Data – Teamwork Measures

Parts 2-5 requested participants to rate themselves and every member of their team on a 16-item measure of teamwork behaviours (created for the purpose of the current study). All items used a measurement slider (0 = *not at all*, 100 = *extremely*). Selected items were taken from the Enhanced Teamwork Competencies scale (ETC; Cisek et al., 2010) and adapted for the current study. Individuals rated their agreement with statements, such as “This person worked well under pressure”, “This person shared ideas with other team members”, “This person was a good team player”, and “People could rely on this person to do their fair share of the work”. Round-robin teamwork measures were analysed with linear mixed effects models to assess their associations with narcissism over time. Descriptive statistics for these measures are presented in Table 46.

#### 4.2.2.2.3 Team Processes Measures

Parts 2-5 requested participants to rate their thoughts on four items relating to the dynamics of their team. All items used an 8-point response scale (1 = *strongly disagree*, 8 = *strongly agree*). Two statements referred to individual perceptions of team cohesion (“There is a feeling of togetherness amongst team members” and “We get along well together”) and two statements referred to individual perceptions of team conflict (“There are tensions amongst team members” and “There are some conflicts in my team”). These measures were analysed with linear mixed

effects models to assess perceptions of team cohesion and team conflict over time. Descriptive statistics for these measures are also presented in Table 46.

#### 4.2.2.3 Part 6 Measures

Part 6 measures were identical to the measures used in Study 1 and Study 2. Participants were requested to reflect upon their experiences and interactions with their team throughout the module for all responses. All measures used an 8-point response scale (1 = *strongly disagree*, 8 = *strongly agree*).

##### 4.2.2.3.1 Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

Following the factor structure identified in Study 1, mean scores for each teamwork competency were computed, with higher scores indicating greater possession of that teamwork competency: communication ($M$ = 5.14, $SD$ = .99, $\alpha$ = .78), management ($M$ = 4.94, $SD$ = 1.03, $\alpha$ = .85), intrapersonal ($M$ = 5.43, $SD$ = 1.07, $\alpha$ = .77), and interpersonal ($M$ = 6.03, $SD$ = .88, $\alpha$ = .91).

##### 4.2.2.3.2 Group-Cohesion Evaluation Questionnaire (Glass & Benshoff, 2002).

Team cohesion responses were summed and averaged for each participant, with higher scores indicating higher levels of perceived team cohesion ($M$ = 6.55, $SD$ = 1.39, $\alpha$ = .97). Responses were also examined at the team-level by aggregating each team members' responses ($M$ = 6.54, $SD$ = .80, range 3.86 to 7.75), with higher scores indicating higher levels of team-level cohesion.

##### 4.2.2.3.3 Intragroup Conflict Scale (Jehn, 1992).

Team conflict responses were summed and averaged for each participant, with higher scores indicating higher levels of perceived team conflict ($M$ = 2.24, $SD$ = 1.25, $\alpha$ = .95). Responses were also examined at the team-level by aggregating each team members' responses, with higher scores indicating higher levels of team-level conflict ($M$ = 2.25, $SD$ = .73, range 1.29 to 4.91).

##### 4.2.2.3.4 Subjective Team Performance

This 9-item measure of subjective team performance was created for the purpose of this study. Participants rated their agreement with statements such as "My team often struggled to meet deadlines", "My team was productive at completing tasks most of the time", and "My team was usually successful at meeting goals". Scores were summed and averaged for each individual, with higher scores indicating greater levels of subjective team performance ($M$ = 6.94, $SD$ = 1.02, $\alpha$ = .91). Three items were reverse scored.

#### 4.2.2.3.5 Objective Team Performance

Objective team performance was measured in two ways. First, the overall grade assigned to each team by three independent assessors was recorded as the overall team performance score (*M* = 67.12, *SD* = 4.17, range: 58 to 78). This grade was for the team presentation task, with higher scores indicating higher levels of success. Second, the peer-rated performance scores obtained at the end of the module were summed for each participant, with higher scores indicating higher levels of peer-rated team performance (*M* = 3.87, *SD* = .37, range: 1.38 to 4.00).

## 4.3 Results

### 4.3.1 Preliminary Data Analysis – Normality

Using IBM SPSS 26.0, several preliminary analyses were carried out to check the suitability of the data (e.g., normality) and comparisons between the two cohort samples. An independent samples t-test with Hedges' *g* revealed significant differences between male and female participants on narcissistic rivalry, $t(380) = 4.40$, $p < .001$, $g = .61$. In line with previous research (Back et al., 2013; Leckelt et al., 2017), males scored higher on narcissistic rivalry (*M* = 2.97, *SD* = 1.13) than females (*M* = 2.33, *SD* = 1.02). A second independent samples t-test also revealed significant differences between cohort samples on the NPI, $t(368.85) = -2.17$, $p = .03$, $d = .44$, and the HSNS, $t(383) = -2.54$, $p = .011$, $d = .26$, indicating a violation of homogeneity within populations. Cohort 1 scored lower on the NPI (*M* = 10.38, *SD* = 5.19) and the HSNS (*M* = 3.83, *SD* = 4.10) than Cohort 2 (*M* = 11.66, *SD* = 6.43; *M* = 4.10, *SD* = 1.04, respectively). Accordingly, gender and cohort were treated as control variables in the remaining analyses.

Similar to Study 1 and Study 2, normality checks were carried out by exploring data plots and dealing with any outliers. Reliability estimates and internal consistencies for all measures were examined using Cronbach's alpha (Cronbach, 1951). Eight subscales of the ETC had an poor alpha level of between .53 and .70, whereas all other measures were deemed good to excellent (Table 47).

### 4.3.2 Study Replications: Correlations

Zero-order correlations were computed (similar to Study 1 and Study 2) to examine the relation among individual-level narcissism measures with teamwork competencies, team processes, and team performance (Table 48). Objective team performance and peer-rated performance were also added. For exploratory purposes, correlations between narcissism measures and the ETC subscales were also computed (Table 49). For brevity, only significant correlations are noted below.

#### 4.3.2.1 Narcissism

The NPI correlated negatively with interpersonal competency (e.g., perspective-taking, readiness for teamwork, integrity, patience with others, trust, empathy), indicating that narcissists are likely to exhibit lower levels of self-reported interpersonal skills when interacting with their team. In line with previous findings that narcissists are likely to demonstrate leadership tendencies (Ong et al., 2016), the NPI correlated positively with management competency (e.g., motivating others, dealing with conflict, leadership, stability). The NPI also correlated positively with communication competency (e.g., encouraging others, clarity), and objective team performance.

#### 4.3.2.2 Adaptive Narcissism

Adaptive narcissism correlated positively with management (e.g., leadership, motivating others, dealing with conflict, stability), communication (e.g., encouraging others, summarising, clarity), and intrapersonal (e.g., creativity, coping with stress, conscientiousness) competencies, indicating that an increase in scores on adaptive narcissism is associated with higher levels of these self-reported skills when interacting with their team. Adaptive narcissism also correlated negatively with interpersonal (e.g., readiness for teamwork, integrity, patience with others, trust) competency, and correlated positively with objective team performance.

#### 4.3.2.3 Maladaptive Narcissism

Maladaptive narcissism correlated negatively with interpersonal competency (e.g., perspective-taking, readiness for teamwork, integrity, patience with others, trust, empathy), indicating that an increase in scores on maladaptive narcissism is associated with lower levels of self-reported interpersonal skills when interacting with their team. Maladaptive narcissism also correlated positively with management (e.g., leadership, dealing with conflict) competency, and objective team performance.

#### 4.3.2.4 Narcissistic Admiration

Narcissistic admiration correlated positively with communication (e.g., encouraging others, summarising) and management (e.g., leadership, motivating others, dealing with conflict, stability) competencies, indicating that an increase in scores on narcissistic admiration is associated with higher levels of these self-reported skills when interacting with their team.

#### 4.3.2.5 Narcissistic Rivalry

Narcissistic rivalry correlated negatively with communication (e.g., mind wandering, clarity), intrapersonal (e.g., adaptability, coping with stress, conscientiousness, emotional intelligence), and interpersonal (all subscales) competencies, indicating that an increase in scores on narcissistic rivalry is associated with lower levels of these self-reported skills when interacting

with their team. Narcissistic rivalry also correlated positively with perceived team conflict, and correlated negatively with perceived team cohesion and subjective team performance.

#### 4.3.2.6 Vulnerable Narcissism

Vulnerable narcissism correlated negatively with all competencies (and the majority of subscales), indicating that an increase in scores on vulnerable narcissism is associated with lower levels of self-reported communication, management, intrapersonal, and interpersonal skills when interacting with their team. Vulnerable narcissism correlated positively with perceived team conflict, and correlated negatively with perceived team cohesion and subjective team performance. Vulnerable narcissism also correlated negatively with peer-rated performance, indicating that an increase in scores on vulnerable narcissism is associated with lower levels of peer-rated performance.

#### 4.3.2.7 Team Processes and Team Performance

All of the ETC competencies correlated positively with perceived team cohesion and subjective team performance, and correlated negatively (except management competency) with perceived team conflict. Subjective team performance correlated positively with perceived team cohesion and correlated negatively with perceived team conflict, indicating that as levels of perceived team cohesion and conflict increase, subjective team performance levels increase and decrease, respectively. Peer-rated performance correlated positively with team cohesion, indicating that as levels of perceived team cohesion increase, so does peer-rated performance in a team.

### 4.3.3 Study Replications: How Does Individual-Level Narcissism Predict Team Processes and Team Performance?

Similar to Study 1 and Study 2, several multiple mediation models (using PROCESS V3.4 Model4; Hayes, 2018) were run to examine how individual-level narcissism predicts team processes and team performance. Objective team performance and peer-rated performance were also added. Gender, cohort, impression management, and the other form of narcissism were controlled for in all models[vii]. Path models of the relations are shown in Figures 36-41, with corresponding parameters reported in Tables 50-55. For brevity, significant indirect effects are presented in the *summary diagrams* in section 4.3.5, and only significant mediations are noted below.

#### 4.3.3.1 Narcissism

Narcissism indirectly influenced perceived team cohesion through its effects on management and interpersonal competencies (Table 50, Model A). Scoring high on narcissism was associated with high levels of self-reported management skills, which predicted high levels of

perceived team cohesion (37% of the variance explained). Scoring high on narcissism was also associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion. Narcissism also indirectly influenced perceived team conflict through its effects on management and interpersonal skills (Model B). Scoring high on narcissism was associated with high levels of self-reported management skills, and low levels of self-reported interpersonal skills, which predicted high levels of team perceived team conflict (26% of the variance explained).

Narcissism also indirectly influenced subjective team performance through its effect on interpersonal competency (Model C). Scoring high on narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of subjective team performance (36% of the variance explained). Narcissism also indirectly influenced peer-rated team performance through its effect on management competency (Model E). Scoring high on narcissism was associated with high levels of self-reported management skills, which predicted high levels of peer-rated team performance (12% of the variance explained).

#### 4.3.3.2 Adaptive Narcissism

Adaptive narcissism indirectly influenced perceived team cohesion through its effect on management competency (Table 51, Model A), and perceived team conflict through its effect on management competency (Model B). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion (37% of the variance explained) and perceived team conflict (26% of the variance explained). Adaptive narcissism also indirectly influenced peer-rated team performance through its effect on management competency (Model E). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of peer-rated team performance (12% of the variance explained).

#### 4.3.3.3 Narcissistic Admiration

Narcissistic admiration indirectly influenced perceived team cohesion through its effect on management competency (Table 53, Model A), and perceived team conflict through its effect on management competency (Model B). Scoring high on narcissistic admiration was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion (37% of the variance explained), and high levels of perceived team conflict (26% of the variance explained).

#### 4.3.3.4 Narcissistic Rivalry

Narcissistic rivalry indirectly influenced perceived team cohesion through its effects on management and interpersonal competencies (Table 54, Model A). Scoring high on narcissistic

rivalry was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion (37% of the variance explained). Narcissistic rivalry also indirectly influenced perceived team conflict through its effects on management and interpersonal competencies (Model B). Scoring high on narcissistic rivalry was associated with low levels of self-reported management and interpersonal skills, which predicted low and high levels of perceived team conflict, respectively (26% of the variance explained).

Narcissistic rivalry also indirectly influenced subjective team performance through its effect on interpersonal competency (Model C) and perceived team conflict (Model F). Scoring high on narcissistic rivalry was associated with low levels of self-reported interpersonal skills, which predicted low levels of subjective team performance (36% of the variance explained). Scoring high on narcissistic rivalry was also associated with high levels of perceived team conflict, which predicted low levels of subjective team performance (29% of the variance explained). Narcissistic rivalry also indirectly influenced peer-rated team performance through its effect on perceived team cohesion (Model H). Scoring high on narcissistic rivalry was associated with low levels of perceived team cohesion, which predicted low levels of peer-rated team performance (14% of the variance explained).

#### 4.3.3.5 Vulnerable Narcissism

Vulnerable narcissism indirectly influenced perceived team cohesion through its effects on management and interpersonal competencies (Table 55, Model A). Scoring high on vulnerable narcissism was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion (37% of the variance explained). Vulnerable narcissism also indirectly influenced perceived team conflict through its effects on management and interpersonal competencies (Model B). Scoring high on vulnerable narcissism was associated with low levels of self-reported management and interpersonal skills, which predicted low and high levels of perceived team conflict, respectively (26% of the variance explained).

Vulnerable narcissism also indirectly influenced subjective team performance through its effect on interpersonal competency (Model C), and through its effects on perceived team cohesion and perceived team conflict (Model F). Scoring high on vulnerable narcissism was associated with low levels of self-reported interpersonal skills, which predicted low levels of subjective team performance (36% of the variance explained). Scoring high on vulnerable narcissism was also associated with low levels of perceived team cohesion and high levels of perceived team conflict, which predicted low levels of subjective team performance (28% of the variance explained).

Vulnerable narcissism indirectly influenced peer-rated team performance (Model E) through its effect on management competency. Scoring high on vulnerable narcissism was associated with low levels of self-reported management skills, which predicted low levels of peer-

rated team performance (9% of the variance explained). Furthermore, vulnerable narcissism indirectly influenced peer-rated team performance through its effect on perceived team cohesion (Model H). Scoring high on vulnerable narcissism was associated with low levels of perceived team cohesion, which predicted low levels of peer-rated team performance (14% of the variance explained).

### 4.3.4 Study Replications: How Does Individual-Level Narcissism Predict Team Processes, and, in turn, Team Performance?

Similar to Study 1 and Study 2, several sequential multiple mediation models (using PROCESS V3.4 Model 80; Hayes, 2018) were run to examine how individual-level narcissism predicts team processes, and in turn, team performance (see Figure 42 for conceptual model). Objective team performance and peer-rated performance were also added. Gender, cohort, impression management, and the other form of narcissism were controlled for in all models[viii]. Path models are shown in Figures 43-48, with corresponding parameters reported in Tables 56-61. For brevity, significant indirect effects are presented in the *summary diagrams* in section 4.3.5, and only significant mediations are noted below.

#### 4.3.4.1 Narcissism

Narcissism indirectly influenced subjective team performance through its effects of management and interpersonal skills on perceived team cohesion (Table 56, Model A). Scoring high on narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance (49% of variance explained). Scoring high on narcissism was also associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance. Narcissism also indirectly influenced subjective team performance through its effects of management and interpersonal skills on perceived team conflict (Model B). Scoring high on narcissism was associated with high levels of self-reported management skills and low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (26% of variance explained).

Narcissism also indirectly influenced peer-rated team performance through its effects of management and interpersonal skills on perceived team cohesion (Model E). Scoring high on narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of peer-rated team performance (18% of the variance explained). Scoring high on narcissism was also associated with low levels of self-reported interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of peer-rated team performance.

#### 4.3.4.2 Adaptive Narcissism

Adaptive narcissism indirectly influenced subjective team performance through its effect of management skills on perceived team cohesion (Table 57, Model A). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance (50% of the variance explained). Adaptive narcissism also indirectly influenced subjective team performance through its effect of management skills on perceived team conflict (Model B). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (42% of the variance explained).

Adaptive narcissism also indirectly influenced peer-rated performance through its effect of management skills on perceived team cohesion (Model E). Scoring high on adaptive narcissism was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of peer-rated team performance (19% of the variance explained).

#### 4.3.4.3 Narcissistic Admiration

Narcissistic admiration indirectly influenced subjective team performance through its effect of management skills on perceived team cohesion (Table 59, Model A). Scoring high on narcissistic admiration was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of subjective team performance (50% of the variance explained). Narcissistic admiration also indirectly influenced peer-rated team performance through its effect of management skills on perceived team cohesion (Model E). Scoring high on narcissistic admiration was associated with high levels of self-reported management skills, which predicted high levels of perceived team cohesion, and in turn, predicted high levels of peer-rated team performance (17% of the variance explained).

#### 4.3.4.4 Narcissistic Rivalry

Narcissistic rivalry indirectly influenced subjective team performance through its effects of management and interpersonal skills on perceived team cohesion (Table 60, Model A). Scoring high on narcissistic rivalry was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance (37% of the variance explained). Narcissistic rivalry also indirectly influenced subjective team performance through its effect of interpersonal skills on perceived team conflict (Model B). Scoring high on narcissistic rivalry was associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance (42% of the variance explained).

Narcissistic rivalry also indirectly influenced peer-rated team performance through its effects of management and interpersonal skills on perceived team conflict (Model F). Scoring high on narcissistic rivalry was associated low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of peer-rated team performance (10% of the variance explained).

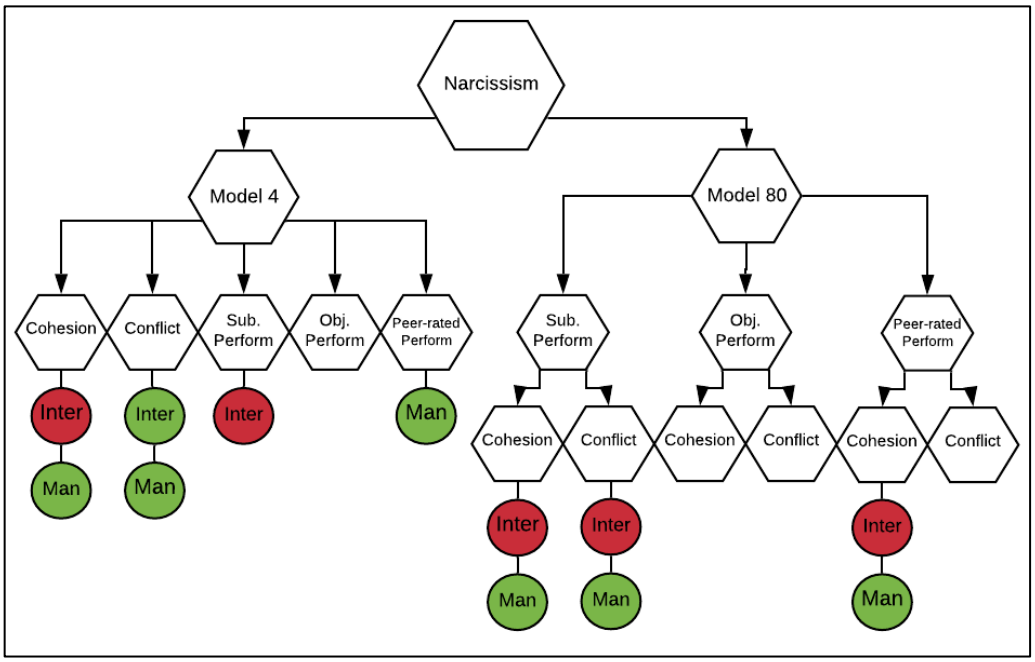
#### 4.3.4.5 Vulnerable Narcissism

Vulnerable narcissism indirectly influenced subjective team performance through its effects of management and interpersonal skills on perceived team cohesion (Table 61, Model A). Scoring high on vulnerable narcissism was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of subjective team performance (50% of the variance explained). Vulnerable narcissism also indirectly influenced subjective team performance through its effects of management and interpersonal skills on perceived team conflict (Model B). Scoring high on vulnerable narcissism was associated with low levels of self-reported management skills, which predicted low levels of perceived team conflict, and in turn, predicted high levels of subjective team performance (42% of the variance explained). Scoring high on vulnerable narcissism was also associated with low levels of self-reported interpersonal skills, which predicted high levels of perceived team conflict, and in turn, predicted low levels of subjective team performance.

Vulnerable narcissism also indirectly influenced peer-rated team performance through its effects of management and interpersonal skills on perceived team cohesion (Model E). Scoring high on vulnerable narcissism was associated with low levels of self-reported management and interpersonal skills, which predicted low levels of perceived team cohesion, and in turn, predicted low levels of peer-rated team performance (17% of the variance explained).

### 4.3.5 Summary Diagrams

The below diagrams illustrate the significant indirect paths noted in the multiple mediation models (Model 4) and sequential multiple mediation models (Model 80). The top hexagon represents the IV, followed by a hexagon representing the PROCESS mediation model used. This is followed by small hexagons representing the DV. Each circle represents a significant indirect effect on the corresponding DV. Green circles represent a positive indirect effect, whereas red circles represent a negative indirect effect.


Narcissism
Model 4
Model 80
Cohesion
Conflict
Sub. Perform
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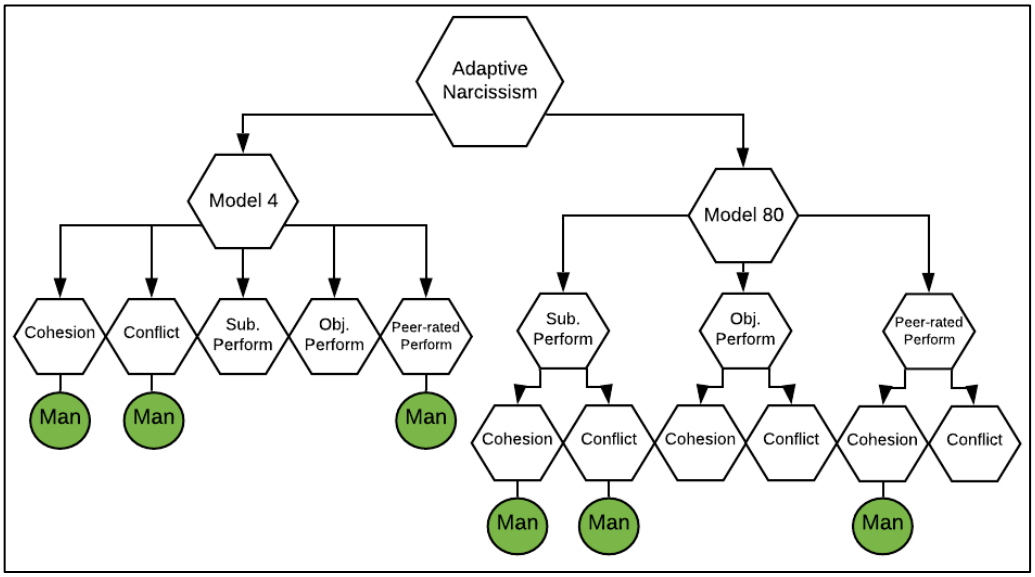
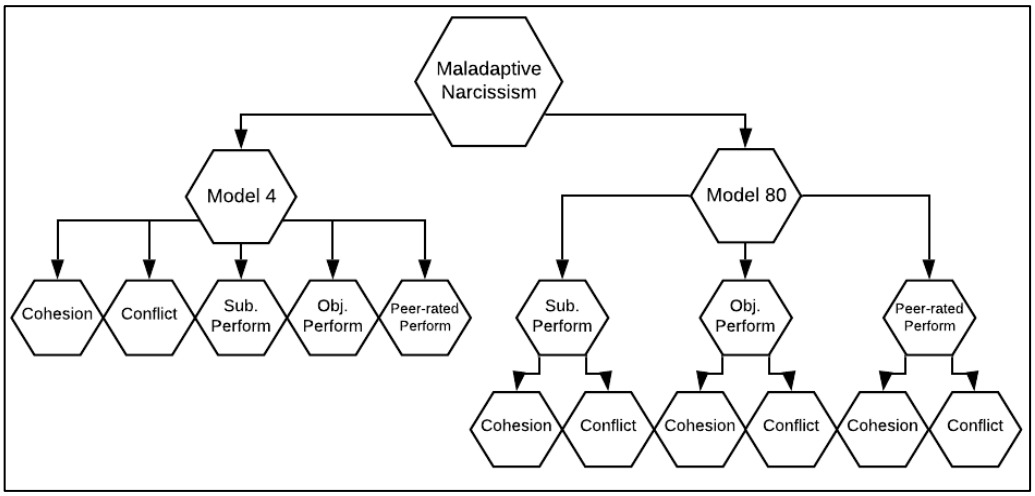
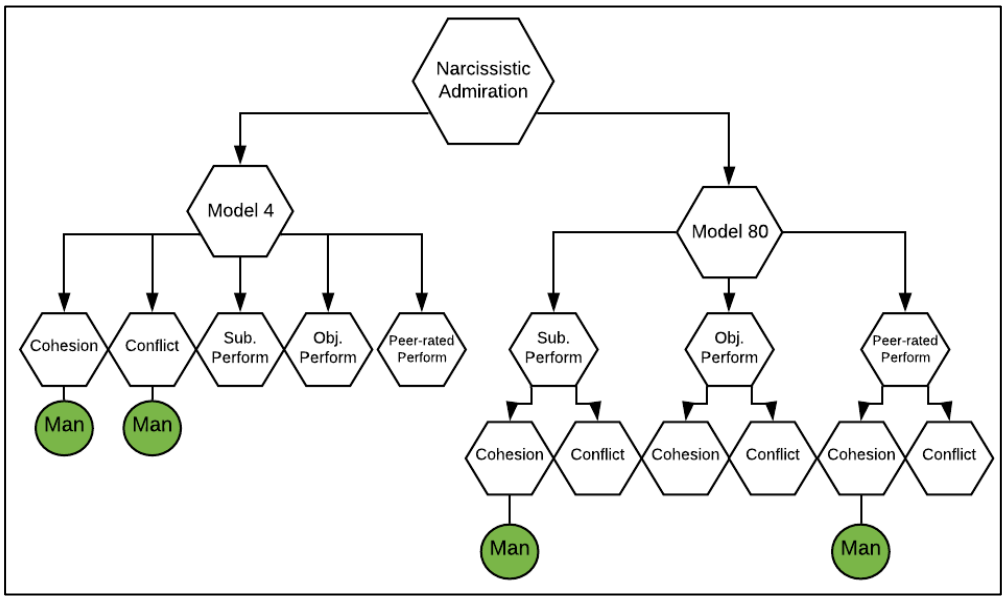

Adaptive Narcissism
Model 4
Model 80
Cohesion
Conflict
Sub. Perform
Obj. Perform
Peer-rated Perform
Man


Maladaptive Narcissism
Model 4
Model 80
Cohesion
Conflict
Sub. Perform
Obj. Perform
Peer-rated Perform


Narcissistic Admiration
Model 4
Model 80
Cohesion
Conflict
Sub. Perform
Obj. Perform
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Peer-rated Perform
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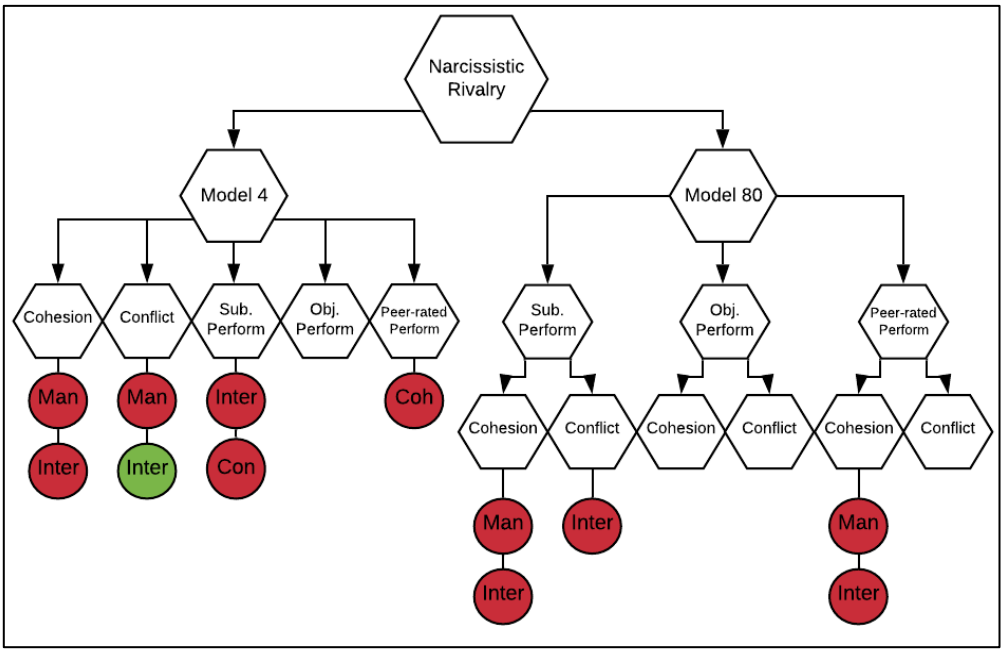
Narcissistic Rivalry
Model 4
Model 80
Cohesion
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Sub. Perform
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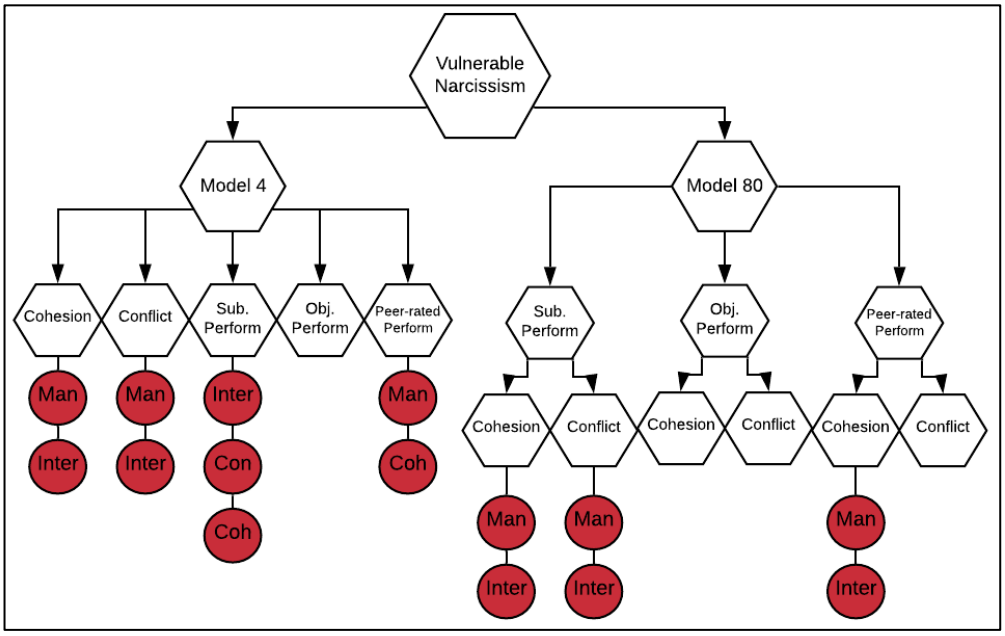
Vulnerable Narcissism
Model 4
Model 80
Cohesion
Conflict
Sub. Perform
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Cohesion
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### 4.3.6 Narcissism and Team Processes over time

Given the longitudinal nature of this study, additional analyses were run to examine the influence of narcissism on team processes (i.e., perceived team cohesion, perceived team conflict) throughout the lifecycle of the team. Correlations between individual-level narcissism and team processes are noted in Table 62. Hierarchical multiple regressions predicting team processes from individual-level narcissism variables were also run (Tables 63-68). These models controlled for gender, cohort, group size, and the other form of narcissism[ix]. For brevity only significant effects are noted below.

#### 4.3.6.1 Narcissism

Individual-level narcissism correlated negatively with perceived team cohesion at Time 1 and Time 3, and correlated positively with perceived team conflict at Time 1 and Time 4. Narcissism predicted lower levels of perceived team cohesion at Time 1, $\beta = -.11$, $t(371) = -1.97$, $p = .049$, and Time 3, $\beta = -.13$, $t(365) = -2.50$ $p = .013$ (Table 63, Models A & C); and higher levels of perceived team conflict at Time 1, $\beta = .02$, $t(369) = 2.06$, $p = .040$ (Model E).

#### 4.3.6.2 Maladaptive Narcissism

Individual-level maladaptive narcissism correlated negatively with perceived team cohesion at Time 1, and correlated positively with perceived team conflict at Time 1 and Time 4. Maladaptive narcissism predicted lower levels of perceived team cohesion at Time 1, $\beta = -.11$, $t(371) = -1.97$, $p = .049$ (Table 65, Model A).

#### 4.3.6.3 Narcissistic Rivalry

Individual-level narcissistic rivalry correlated negatively with perceived team cohesion across all time points, and correlated positively with perceived team conflict across all time points. Narcissistic rivalry predicted lower levels of perceived team cohesion across all time points, $\beta s = < -.17$, $ts(361) < -4.34$, $ps < .011$ (Table 67, Models A-D), and higher levels of perceived team conflict at Time 1, $\beta = .21$, $t(361) = 2.84$, $p = .005$ (Model E) and Time 3, $\beta = .17$, $t(361) = 2.18$, $p = .030$ (Model G).

#### 4.3.6.4 Vulnerable Narcissism

Individual-level vulnerable narcissism correlated negatively with perceived team cohesion across all time points, and correlated positively with perceived team conflict at Time 1, Time 3, and Time 4. Vulnerable narcissism predicted lower levels of perceived team cohesion across all time points, $\beta s = < -.17$, $ts(362) < -4.48$, $ps < .008$ (Table 68, Models A-D), and higher levels of perceived team conflict at Time 1, $\beta = .24$, $t(362) = 3.80$, $p < .001$ (Model E), Time 2, $\beta = .18$, $t(362) = 2.83$, $p = .005$ (Model G), and Time 4, $\beta = .16$, $t(362) = 2.08$, $p = .038$ (Model H).

### 4.3.7 Study Replications: Team-Level Correlations and Regressions

Similar to Study 2, team-level narcissism was analysed using two predictor variables: the average narcissism score of the team ("average narcissism") and the percentage of narcissists ("percentage narcissism"; those with scores above the median value) in the team. Correlations between team-level narcissism measures, team processes, and objective performance measures are noted in Table 69. Hierarchical multiple regressions predicting team-level processes (i.e., aggregated team cohesion and team conflict scores) from team-level narcissism variables were also run (Tables 70-75). These models controlled for gender, cohort, group size, and the other form of narcissism[x]. Results using these two team-level predictor variables were similar and thus are presented together.

#### 4.3.7.1 Narcissism

Average narcissism (NPI) correlated negatively with team-level cohesion and peer-rated team performance, and correlated positively with team-level conflict and objective team performance. Average narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.35$, $t(379) = -6.55$, $p < .001$, $R^2 = .12$, indicating that teams with high levels of narcissism report lower levels of team cohesion than teams with low levels of narcissism (Table 70, Model A). Average narcissism predicted the amount of conflict the teams reported experiencing, $\beta = .21$, $t(379) = 3.97$, $p < .001$, $R^2 = .08$, indicating that teams with high levels of narcissism report higher levels of team conflict than teams with low levels of narcissism (Model B). Average narcissism also predicted objective team performance, $\beta = .39$, $t(379) = 8.20$, $p < .001$, $R^2 = .27$, indicating that teams with high levels of narcissism experience higher levels of team success than teams with low levels of narcissism (Model C).

Percentage narcissism (NPI) correlated negatively with team-level cohesion and peer-rated team performance, and correlated positively with objective team performance. Percentage narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.34$, $t(379) = -6.82$, $p < .001$, $R^2 = .12$, indicating that teams with a high percentage of narcissists report lower levels of team cohesion than teams with a low percentage of narcissists (Model E). Percentage narcissism also predicted objective team performance, $\beta = .37$, $t(379) = 7.99$, $p < .001$, $R^2 = .27$, indicating that teams with a high percentage of narcissists experience higher levels of team success than teams with a low percentage of narcissists (Model G).

#### 4.3.7.2 Adaptive Narcissism

Average adaptive narcissism correlated negatively with team-level cohesion and peer-rated team performance, and correlated positively with team-level conflict and objective team performance. Average adaptive narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.18$, $t(378) = -2.97$, $p = .003$, $R^2 = .07$, indicating that teams with high levels of

adaptive narcissism report lower levels of team cohesion than teams with low levels of adaptive narcissism (Table 71, Model A). Average adaptive narcissism also predicted objective team performance, $\beta = .48$, $t(378) = 9.29$, $p < .001$, $R^2 = .37$, indicating that teams with high levels of adaptive narcissism experience higher levels of team success than teams with low levels of adaptive narcissism (Model C).

Percentage adaptive narcissism correlated negatively with team-level cohesion, and correlated positively with objective team performance. Percentage adaptive narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.12$, $t(378) = -2.33$, $p = .021$, $R^2 = .05$, indicating that teams with a high percentage of adaptive narcissists report lower levels of team cohesion than teams with a low percentage of adaptive narcissists (Model E). Percentage adaptive narcissism also predicted objective team performance, $\beta = .30$, $t(378) = 6.43$, $p < .001$, $R^2 = .27$, indicating that teams with a high percentage of adaptive narcissists experience higher levels of team success than teams with a low percentage of adaptive narcissists (Model G).

#### 4.3.7.3 Maladaptive Narcissism

Average maladaptive narcissism correlated negatively with team-level cohesion, and correlated positively with objective team performance. Percentage maladaptive narcissism correlated negatively with team-level cohesion, and correlated positively with objective team performance. Percentage maladaptive narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.12$, $t(378) = -2.22$, $p = .027$, $R^2 = .05$, indicating that teams with a high percentage of maladaptive narcissists report lower levels of team cohesion than teams with a low percentage of maladaptive narcissists (Table 72, Model E). Percentage maladaptive narcissism also predicted objective team performance, $\beta = .20$, $t(378) = 4.34$, $p < .001$, $R^2 = .27$, indicating that teams with a high percentage of maladaptive narcissists experience higher levels of team success than teams with a low percentage of maladaptive narcissists (Model G).

#### 4.3.7.4 Narcissistic Admiration

Average narcissistic admiration correlated negatively with team-level cohesion, and correlated positively with team-level conflict and objective team performance. Average narcissistic admiration predicted objective team performance, $\beta = .32$, $t(378) = 6.75$, $p < .001$, $R^2 = .23$, indicating that teams with high levels of narcissistic admiration experience higher levels of team success than teams with low levels of narcissistic admiration (Table 73, Model C).

Percentage narcissistic admiration correlated negatively with team-level cohesion, and correlated positively with team-level conflict and objective team performance. Percentage narcissistic admiration predicted the amount of cohesion the team reported experiencing, $\beta = -.30$, $t(378) = -5.85$, $p < .001$, $R^2 = .10$, indicating that teams with a high percentage of narcissistic admiration report lower levels of cohesion than teams with a low percentage of narcissistic

admiration (Model E). Percentage narcissistic admiration predicted the amount of conflict the team reported experiencing, $\beta = .25$, $t(378) = 4.86$, $p < .001$, $R^2 = .10$, indicating that teams with a high percentage of narcissistic admiration report higher levels of conflict than teams with a low percentage of narcissistic admiration (Model F). Percentage narcissistic admiration also predicted objective team performance, $\beta = .38$, $t(378) = 8.30$, $p < .001$, $R^2 = .27$, indicating that teams with a high percentage of narcissistic admiration experience higher levels of team success than teams with a low percentage of narcissistic admiration (Model G).

#### 4.3.7.5 Narcissistic Rivalry

Average narcissistic rivalry correlated negatively with team-level cohesion, and correlated positively with team-level conflict. Average narcissistic rivalry predicted the amount of cohesion the team reported experiencing, $\beta = -.24$, $t(378) = -4.49$, $p < .001$, $R^2 = .08$, indicating that teams with high levels of narcissistic rivalry experience lower levels of team cohesion than teams with low levels of narcissistic rivalry (Table 74, Model A). Average narcissistic rivalry also predicted the amount of conflict the team reported experiencing, $\beta = .23$, $t(378) = 4.27$, $p < .001$, $R^2 = .10$, indicating that teams with high levels of narcissistic rivalry experience higher levels of team conflict than teams with low levels of narcissistic rivalry (Model B). There were no significant correlations or regressions with percentage narcissistic rivalry.

#### 4.3.7.6 Vulnerable Narcissism

Average vulnerable narcissism correlated negatively with team-level cohesion, and correlated positively with team-level conflict. Average vulnerable narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.21$, $t(379) = -3.88$, $p < .001$, $R^2 = .05$, indicating that teams with high levels of vulnerable narcissism report lower levels of team cohesion than teams with low levels of vulnerable narcissism (Table 75, Model A). Average vulnerable narcissism also predicted the amount of conflict the team reported experiencing, $\beta = .15$, $t(379) = 2.75$, $p = .006$, $R^2 = .06$, indicating that teams with high levels of vulnerable narcissism report higher levels of team conflict than teams with low levels of vulnerable narcissism (Model B).

Percentage vulnerable narcissism correlated negatively with team-level cohesion, and correlated positively with team-level conflict. Percentage vulnerable narcissism predicted the amount of cohesion the team reported experiencing, $\beta = -.12$, $t(379) = -2.28$, $p = .023$, $R^2 = .03$, indicating that teams with a high percentage of vulnerable narcissists report lower levels of team cohesion than teams with a low percentage of vulnerable narcissists (Model E). Percentage vulnerable narcissism predicted the amount of conflict the team reported experiencing, $\beta = .15$, $t(379) = 2.84$, $p = .005$, $R^2 = .06$, indicating that teams with a high percentage of vulnerable narcissists report higher levels of team conflict than teams with a low percentage of vulnerable narcissists (Model F). Percentage vulnerable narcissism also predicted objective team performance,

$\beta$ = -.14, $t$(379) = -2.78, $p$ = .006, $R^2$ = .16, indicating that teams with a high percentage of vulnerable narcissists experience lower levels of team success than teams with a low percentage of vulnerable narcissists (Model G).

#### 4.3.7.7 Team Cohesion, Team Conflict, and Team Performance

Team-level cohesion correlated negatively with team-level conflict and objective team performance, and correlated positively with peer-rated team performance. Team-level conflict correlated negatively with peer-rated team performance. Team-level cohesion predicted objective team performance, $\beta$ = -.15, $t$(379) = -2.86, $p$ = .004, indicating that teams with high levels of team cohesion predict lower levels of objective team performance than teams with low levels of team cohesion (Table 76, Model A). Team-level cohesion also predicted peer-rated team performance, $\beta$ = .23, $t$(378) = 4.48, $p$ < .001, indicating that teams with high levels of team cohesion predict higher levels of peer-rated team performance than teams with low levels of team cohesion (Model C). Team-level conflict predicted peer-rated team performance, $\beta$ = -.18, $t$(378) = -3.51, $p$ = .001, indicating that teams with high levels of team conflict predict lower levels of peer-rated team performance than teams with low levels of team cohesion (Model D).

### 4.3.8 Study Replications: Team-Level Mediation Analyses

Similar to Study 2, several multiple mediation models (using PROCESS V3.4 Model 4; Hayes, 2018) were run to examine whether team-level narcissism predicts team-level processes, and the influence that this has on team performance. Gender, cohort, group size, and the other form of narcissism were controlled for in all models[xi]. Path models of the relations are shown in Figures 49-52, with corresponding parameters reported in Tables 77-78. For brevity, significant indirect effects are presented in the *summary diagram* in section 4.3.9, and only significant mediations are noted below.

#### 4.3.8.1 Narcissism

Average narcissism (NPI) indirectly influenced objective team performance through its effect on team-level conflict (Table 77, Model A). Teams with high levels of narcissism reported high levels of team conflict, which predicted low levels of objective team performance (27% of the variance explained). Average narcissism indirectly influenced peer-rated team performance through its effect on team-level cohesion (Table 77, Model B). Teams with high levels of narcissism reported low levels of team cohesion, which predicted low levels of peer-rated team performance (7% of the variance explained).

Percentage narcissism indirectly influenced peer-rated team performance through its effect on team-level cohesion (Table 78, Model B). Teams with a high percentage of narcissists reported

low levels of team-cohesion, which predicted low levels of peer-rated team performance (7% of the variance explained).

#### 4.3.8.2 Adaptive Narcissism

Average narcissism indirectly influenced peer-rated team performance through its effect on team-level cohesion (Table 77, Model D). Teams with high levels of narcissism reported low levels of team cohesion, which predicted low levels of peer-rated team performance (7% of the variance explained).

#### 4.3.8.3 Maladaptive Narcissism

Percentage maladaptive narcissism indirectly influenced objective team performance through its effect on team-level cohesion (Table 78, Model E). Teams with a high percentage of maladaptive narcissists reported low levels of team cohesion, which predicted high levels of objective team performance (28% of the variance explained).

#### 4.3.8.4 Narcissistic Admiration

Percentage narcissistic admiration indirectly influenced objective team performance through its effects on team-level cohesion and team-level conflict (Table 78, Model G). Teams with a high percentage of narcissistic admiration reported low levels of team cohesion, which predicted high levels of objective team performance (8% of the variance explained). Teams with a high percentage of narcissistic admiration also reported high levels of team conflict, which predicted low levels of objective team performance.

#### 4.3.8.5 Narcissistic Rivalry

Average narcissistic rivalry indirectly influenced objective team performance through its effects on team-level cohesion and team-level conflict (Table 77, Model I). Teams with high levels of narcissistic rivalry reported low levels of team cohesion, which predicted high levels of objective team performance (25% of the variance explained). Teams with high levels of narcissistic rivalry also reported high levels of team conflict, which predicted low levels of objective team performance.

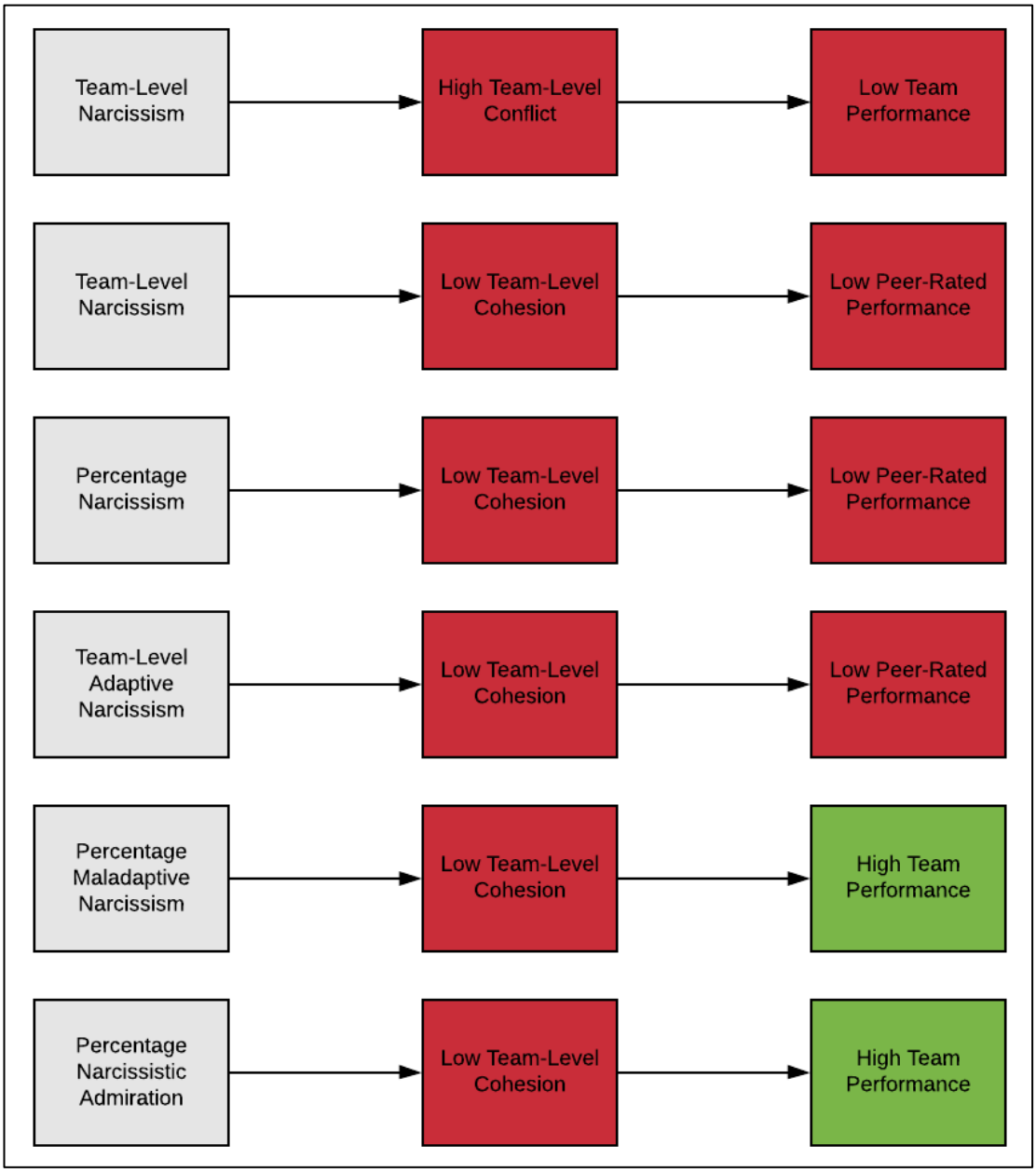
#### 4.3.8.6 Vulnerable Narcissism

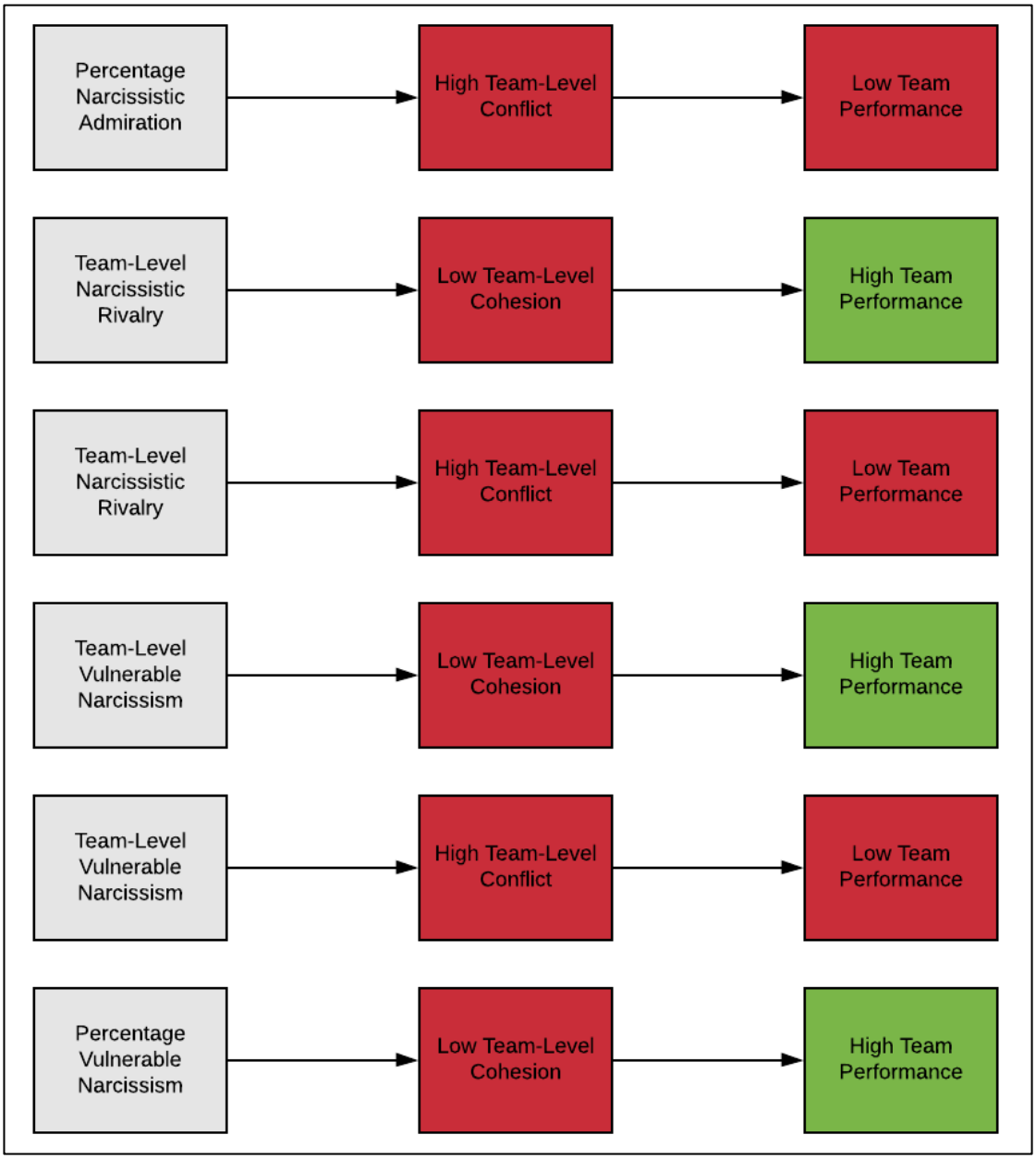
Average vulnerable narcissism indirectly influenced objective team performance through its effects on team-level cohesion and team-level conflict (Table 77, Model K). Teams with high levels of vulnerable narcissism reported low levels of team cohesion, which predicted high levels of objective team performance (16% of the variance explained). Teams with high levels of vulnerable narcissism also reported high levels of team conflict, which predicted low levels of

objective team performance. Percentage vulnerable narcissism also indirectly influenced objective team performance through its effect on team-level cohesion (Table 78, Model K). Teams with a high percentage of vulnerable narcissists reported low levels of team cohesion, which predicted high levels of objective team performance (18% of the variance explained).

### 4.3.9 Summary Diagram

The below diagram illustrates the significant indirect paths noted in the multiple mediation models (Model 4) for team-level narcissism. The first square represents the independent variable. Each subsequent square represents the mediator and then the dependent variable. Green squares represent a positive relationship, whereas red squares represent a negative relationship.






### 4.3.10 Round-Robin Analyses

Due to the round-robin nature of the study, the SRM (Back & Kenny, 2010) was applied to the interpersonal and teamwork measures across all time points. Following the steps carried out in Study 2, several univariate round-robin analyses were run. Round-robin effects are presented in Tables 79-82.

#### 4.3.10.1 Interpersonal Measures

Across all interpersonal measures at all time points, there were significant interindividual differences for how much people rated others in their team on each measure (i.e., perceiver variance), *p*s < .001. That is, there were significant differences in the biases that individuals

demonstrated in their ratings of others (i.e., some individuals rated others high or low on a measure, whereas other individuals did not). Across all interpersonal measures at all time points, there were also significant interindividual differences for how much people were rated by their team members on each measure (i.e., target variance), *p*s < .001. Effects are presented in Table 79.

Since participants also provided self-ratings for each interpersonal measure, two partial correlations were computed: assumed similarity (whereby self-ratings are correlated with perceiver effects) and self-other agreement (whereby self-ratings are correlated with target effects). Effects are presented in Table 80. Across all interpersonal measures at all time points (with the exception of 'confident' and 'good leader' at Time 1), people who described themselves as confident, supportive, arrogant, competent, aggressive, likeable, creative, trustworthy, empathic, hardworking, and as good leaders, also rated others in their team as such, *r*s > .13, *p*s < .05. Across all interpersonal measures at all time points (with the exceptions of 'trustworthy' at all time points, 'empathic' at Time 2 and Time 4, 'supportive' at Time 2, and 'competent' at Time 3), people who described themselves as confident, supportive, arrogant, competent, aggressive, likeable, creative, empathic, hardworking, and as good leaders, were also rated by others in their team as such, *r*s > .11, *p*s < .05.

#### 4.3.10.2 Teamwork Measures

Across all teamwork measures at all time points, there were significant interindividual differences for how much people rated others in their team on each measure (i.e., perceiver variance), *p*s < .001. Across all teamwork measures at all time points (with the exception of "This person took advantage of others" at Time 2), there were also significant interindividual differences for how much people were rated by their team members on each measure (i.e., target variance), *p*s < .001. Effects are presented in Table 81. Assumed similarity and self-other agreement correlations are presented in Table 82.

### 4.3.11 Round-Robin Analyses on Interpersonal Measures with Narcissism

Following Study 2, TripleR was used to compute partial correlations between the *target, self-enhancement*, and *self-perception* effects of interpersonal measures and narcissism, while controlling for team membership. Effects are presented in Table 83. For brevity, all significant effects are presented in the *summary diagrams* in section 4.3.12.

#### 4.3.11.1 Narcissism

Relative to people who scored low, people who scored high on the NPI believed that they were confident (*r*s > .38, *p*s < .001) and good leaders (*r*s > .36, *p*s < .001) across all time points, and were rated as such across all time points (*r*s > .36, *p*s < .001; *r*s > .27, *p*s < .001, respectively). They believed that they were arrogant at Time 1 ($r = .17$, $p = .002$), Time 2 ($r = .15$, $p = .004$), and

Time 3 ($r$ = .15, $p$ = .005), and were rated as such across all time points ($r$s > .20, $p$s < .001). People high on the NPI believed that were supportive ($r$s > .13, $p$s < .02), likeable ($r$s > .27, $p$s < .001), and creative ($r$s > .14, $p$s < .01) across all time points, but were only rated as supportive at Time 3 ($r$ = .14, $p$ = .01), likeable at Time 1 ($r$ = .15, $p$ = .005), and creative at Time 1, 2, and 3 ($r$s > .13, $p$s < .04). They believed that they were aggressive at Time 1, 2, and 4 ($r$s > .13, $p$s < .02), and were rated as such across all time points ($r$s > .15, $p$s < .007). They also believed that they were competent (rs > .16, $p$s < .001) and hardworking ($r$s > .16, $p$s < .003) across all time points, and were rated less empathic than others at Time 2 ($r$ = -.12, $p$ = .02).

Furthermore, people who scored high on the NPI overvalued how much they were rated by others as competent ($r$s > .16, $p$s < .004), likeable ($r$s > .21, $p$s < .001), creative ($r$s > .14, $p$s < .01), and as good leaders ($r$s > .24, $p$s < .001) across all time points. They overvalued how much they were rated by others as aggressive at Time 1 and 2 ($r$s > .14, $p$s < .001), supportive at Time 1 and 4 ($r$s > .11, $p$s < .04), hardworking at Time 1, 3, and 4 ($r$s > .15, $p$s < .005), and confident at Time 1, 2, and 4 ($r$s > .13, $p$s < .02).

#### 4.3.11.2 Adaptive Narcissism

Relative to people who scored low, people who scored high on adaptive narcissism believed that they were confident ($r$s > .37, $p$s < .001) and good leaders ($r$s > .39, $ps$ < .001) across all time points, and were rated as such across all time points ($r$s > .39, $p$s < .001; $r$s > .32, $p$s < .001, respectively). They believed that they were supportive ($r$s > .15, $p$s < .005), competent ($r$s > .18, $p$s < .001), and creative ($r$s > .12, $p$s < .005) across all time points, and were rated as such at Time 1, 2, and 3 ($r$s > .11, $p$s < .04; $r$s >.15, $p$s < .008; $r$s >.13, $p$s < .02, respectively). People who scored high on adaptive narcissism were rated by others as arrogant ($r$s > .22, $p$s < .001) and aggressive ($r$s > .18, $p$s < .001) across all time points, and as hardworking at Time 1 ($r$ = .11, $p$ = .04). They believed that they were likeable across all time points ($r$s > .20, $p$s < .001), and trustworthy at Time 3 and 4 ($r$s > .14, $p$s < .009).

Furthermore, people who scored high on adaptive narcissism overvalued how much they were rated by others as competent ($r$s > .11, $p$s < .04), likeable ($r$s > .17, $p$s < .001), and as good leaders ($r$s > .18, $p$s < .001) across all time points. They overvalued how much they were rated by others as supportive ($r$ = .11, $p$ = .04) and empathic ($r$ = .11, $p$ = .04) at Time 1, confident at Time 1 and 2 ($r$s = .19, $p$s < .001), trustworthy at Time 3 and 4 ($r$s > .13, $p$s < .01), and hardworking at Time 1, 3, and 4 ($r$s > .17, $p$s < .001).

#### 4.3.11.3 Maladaptive Narcissism

Relative to people who scored low, people who scored high on maladaptive narcissism believed that they were confident ($r$s > .25, $p$s < .001) arrogant ($r$s > .12, $p$s < .02), aggressive ($r$s > .17, $p$s < .001), and good leaders ($r$s > .26, $p$s < .001) across all time points, and were rated as such

across all time points (*r*s > .27, *p*s < .001; *r*s > .19, *p*s < .001; *r*s > .14, *p*s < .01; *r*s > .18, *p*s < .001, respectively). They believed that they were competent (*r*s > .11, *p*s < .03) and likeable (*r*s > .20, *p*s < .001) across all time points, supportive at Time 2, 3, and 4 (*r*s > .13, *p*s < .01), and creative at Time 1, 3, and 4 (*r*s > .11, *p*s < .04).

Furthermore, people who scored high on maladaptive narcissism overvalued how much they were rated by others as competent (*r*s > .14, *p*s < .004), likeable (*r*s > .17, *p*s < .001), and as good leaders (*r*s > .16, *p*s < .001) across all time points. They overvalued how much they were rated by others as confident (*r*s > .11, *p*s < .04) and aggressive (*r*s > .15, *p*s < .006) at Time 1 and 2, supportive at Time 4 (*r* = .11, *p* = .04), creative at Time 1, 3, and 4 (*r*s > .11, *p*s < .04), and trustworthy at Time 2, 3, and 4 (*r*s > .11, *p*s < .04). Individuals high on maladaptive narcissism also rated others as arrogant (*r*s > .11, *p*s < .05) at Time 1, 3, and 4.

#### 4.3.11.4 Narcissistic Admiration

Relative to people who scored low, people who scored high on narcissistic admiration believed that they were confident (*r*s > .31, *p*s < .001) and good leaders (*r*s > .28, *p*s < .001) across all time points, and were rated as such across all time points (*r*s > .18, *p*s < .001; *r*s > .15, *p*s < .001, respectively). They believed that they were supportive (*r*s > .12, *p*s < .03), likeable (*r*s > .28, *p*s < .001), and creative (*r*s > .19, *p*s < .001), across all time points, and were rated as supportive and likeable at Time 2 and 3 (*r*s > .14, *p*s < .01; *r*s > .12, *p*s < .03, respectively), and creative at Time 3 (*r* = .12, *p* = .03). People who scored high on narcissistic admiration believed that they were competent at Time 1, 2, and 3 (*r*s > .15, *p*s < .006), and were rated as such at Time 1, 2, and 3 (*r*s > .12, *p*s < .03). They believed that they were arrogant at Time 1, 2, and 3 (*r*s > .13, *p*s < .02), aggressive at Time 1 (*r* = .15, *p* = .005), and hardworking at Time 3 and 4 (*r*s > .11, *p*s < .04).

Furthermore, people who scored high on narcissistic admiration overvalued how much they were rated by others as confident (*r*s > .14, *p*s < .001), likeable (*r*s > .22, *p*s < .001), creative (*r*s > .17, *p*s < .002), and as good leaders (*r*s > .16, *p*s < .001) across all time points. They overvalued how much they were rated by others as supportive at Time 1 (*r* = .11, *p* = .04), arrogant at Time 3 (*r* = .13, *p* = .02), hardworking at Time 3 (*r* = .14, *p* = .01), and as empathic at Time 1 and 2 (*r*s > .12, *p*s < .03).

#### 4.3.11.5 Narcissistic Rivalry

Relative to people who scored low, people who scored high on narcissistic rivalry rated themselves as low on support (*r*s > -.16, *p*s < .001), trust (*r*s > -.14, *p*s < .01), empathy (*r*s > -.18, *p*s < .001), and hardworking (*r*s > -.16, *p*s < .003), and as high on aggression (*r*s > .24, *p*s < .001), and arrogance (*r*s > .23, *p*s < .001) across all time points. They were rated by others in their team as low on support at Time 1, 3, and 4 (*r*s > -.11, *p*s < .04), likeability at Time 4 (*r* = -.11, *p* = .04), creativity at Time 3 (*r* = -.11, *p* = .04), hard work at Time 2 (*r* = - .14, *p* = .01), and low on empathy

and trust (*r*s > -.15, *p*s < .001; *r*s > -.11, *p*s < .04, respectively) across all time points. Individuals high on narcissistic rivalry rated others as low on confidence (*r*s > -.15, *p*s < .001), likeability (*r*s > -.20, *p*s < .001), competence (*r*s > -.21, *p*s < .001), trust (*r*s > -.18, *p*s < .001), and empathy (*r*s > -.14, *p*s < .008) across all time points. They also rated others as arrogant (*r*s > .21, *p*s < .001) and aggressive (*r*s > .21, *p*s < .001) across all time points.

Furthermore, people who scored high on narcissistic rivalry overvalued how much they were rated by others as confident (*r*s > .12, *p*s < .03) and as good leaders (*r*s > .12, *p*s < .04) at Time 2 and 4, and as likeable (*r*s > .14, *p*s < .001) across all time points. They overvalued how much they were rated as competent (*r*s > .13, *p*s < .02) at Time 1, 2, and 4, aggressive (*r*s > .14, *p*s < .01) at Time 1, 2, and 3, and undervalued how much they were rated by others as arrogant ($r$ = -.43, $p$ = .04) at Time 4.

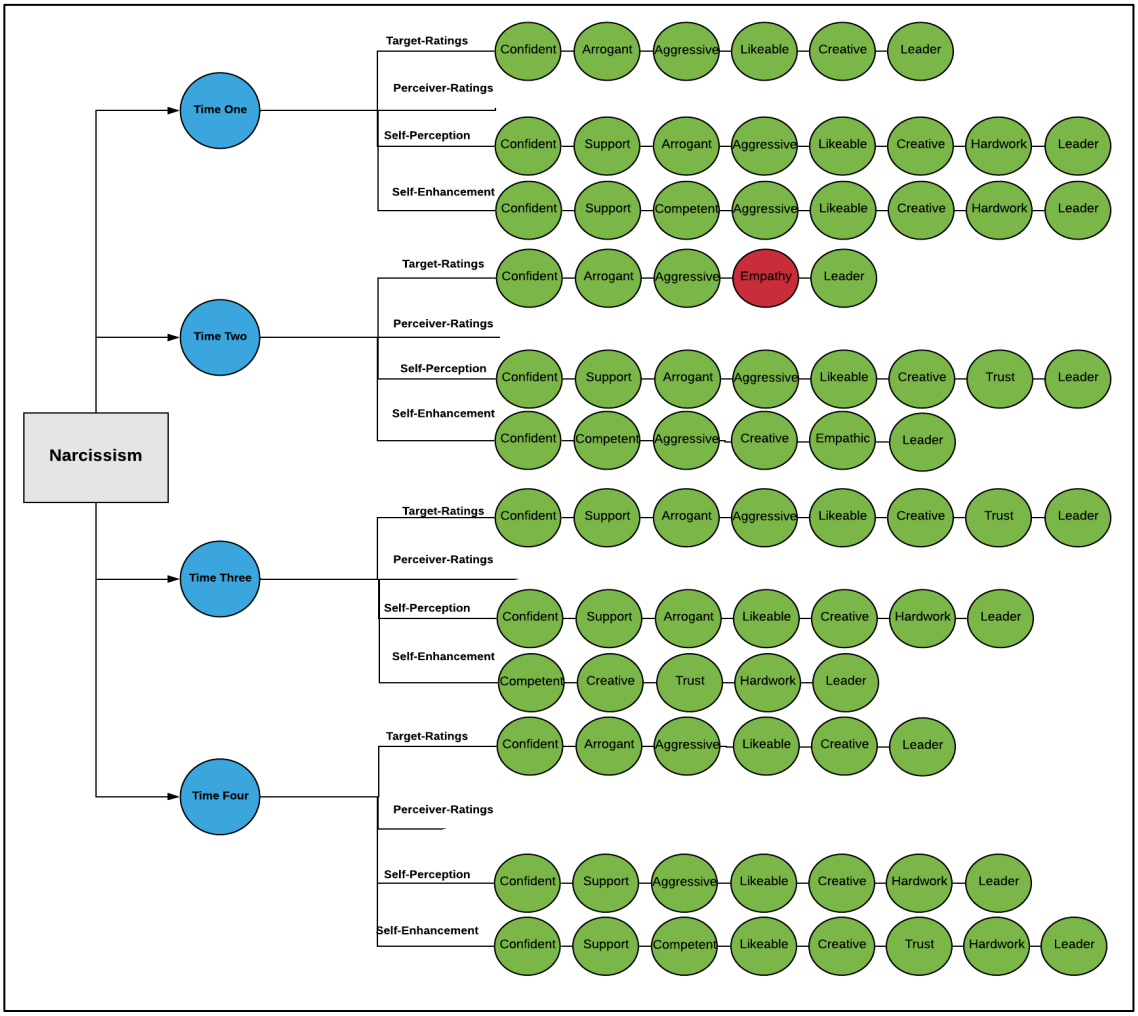
#### 4.3.11.6 Vulnerable Narcissism

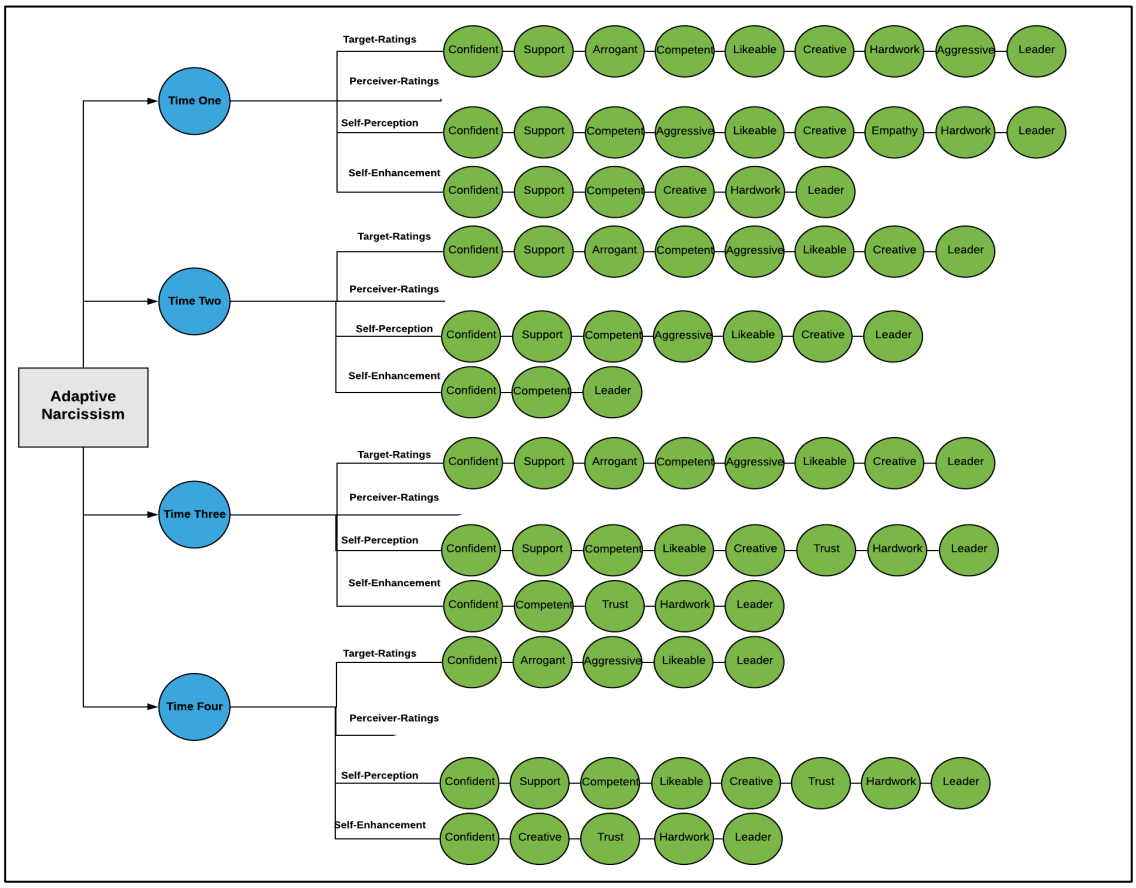
Relative to people who scored low, people who scored high on vulnerable narcissism rated themselves as low on confidence (*r*s > -.12, *p*s < .03), support (*r*s > - .15, *p*s < .004), trust (*r*s > -.15, *p*s < .005), competence (*r*s > -.14, *p*s < .008), and likeability (*r*s > -.12, *p*s < .03) across most time points, and as high on aggression (*r*s > .15, *p*s < .006) and arrogance (*r*s > .17, *p*s < .001) across all time points. They also rated themselves as low on empathy (*r*s > -.12, *p*s < .02) at Time 1, 3, and 4, and hard work (*r*s > -.12, *p*s < .03) at Time 2, 3, and 4. Individuals high on vulnerable narcissism were rated by others as low on confidence ($r$ = -.12, $p$ = .04) at Time 3, support and likeability (*r*s > -.11, *p*s < .03; *r*s > -.12, *p*s < .001, respectively) at Time 3 and 4, trust ($r$ = -.14, $p$ = .01) at Time 4, and low on empathy (*r*s > -.11, *p*s < .05) at Time 2 and 4.

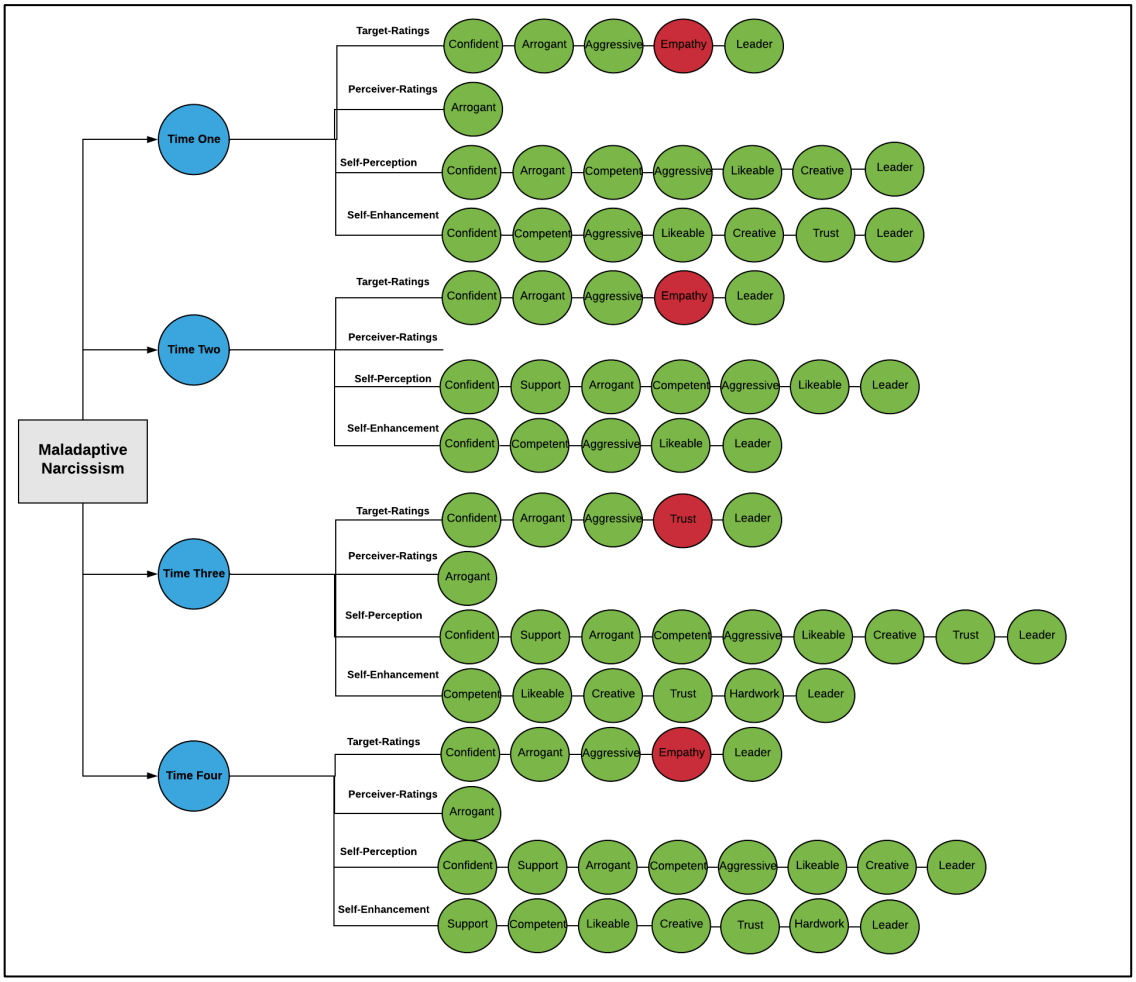
Furthermore, people who scored high on vulnerable narcissism rated others as low on confidence (*r*s > -.12, *p*s < .02), support (*r*s > -.14, *p*s < .001), competence (*r*s > -.11, *p*s < .03), likeability (*r*s > -.15, *p*s < .02), trust (*r*s > -.16, *p*s < .003), hard work (*r*s > -.16, *p*s < .002), empathy (*r*s > -.15, *p*s < .04), and leadership (*r*s > -.16, *p*s < .003) across all time points. They also rated others as arrogant (*r*s > .23, *p*s < .001) and aggressive (*r*s > .19, *p*s < .001) across all time points.

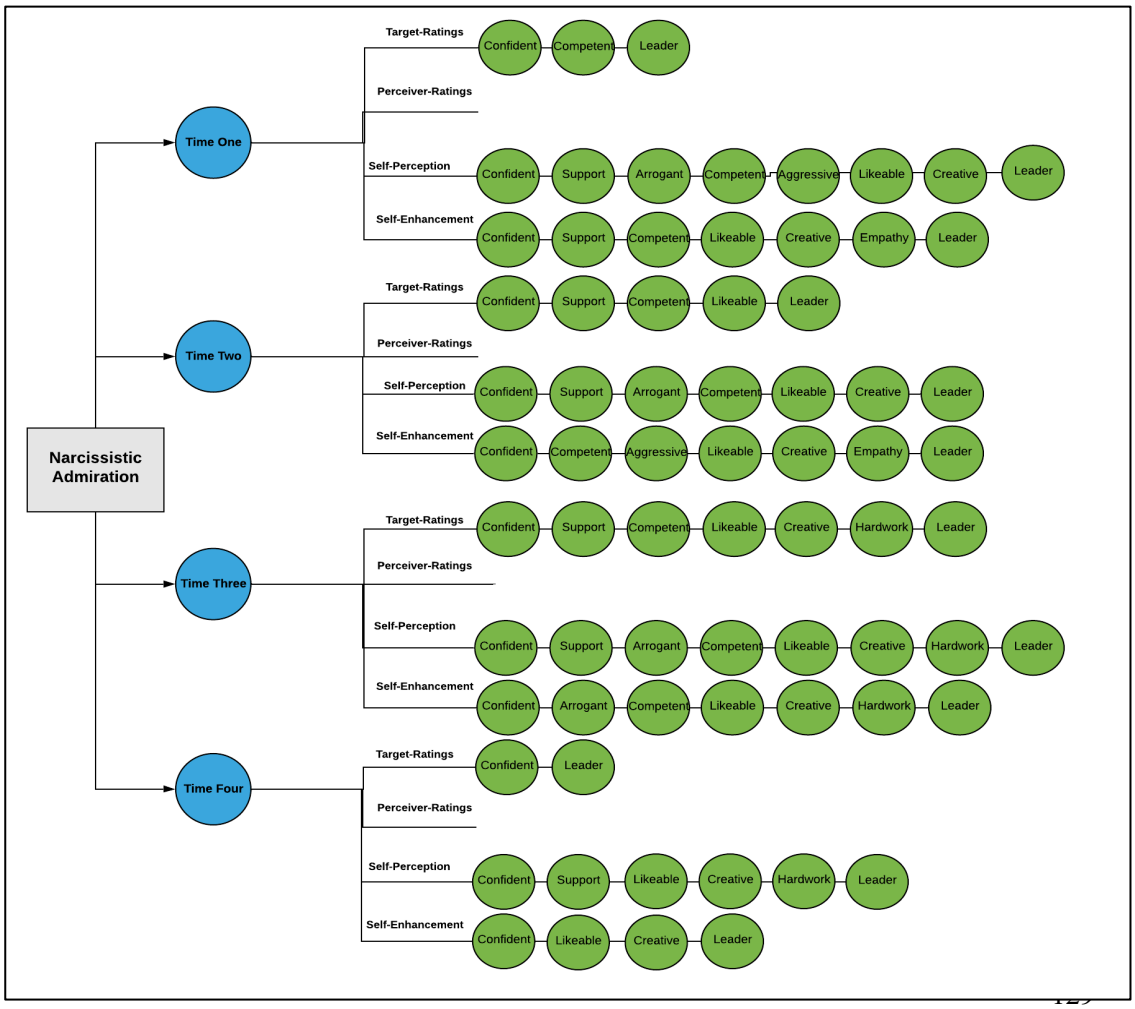
### 4.3.12 Summary Diagrams

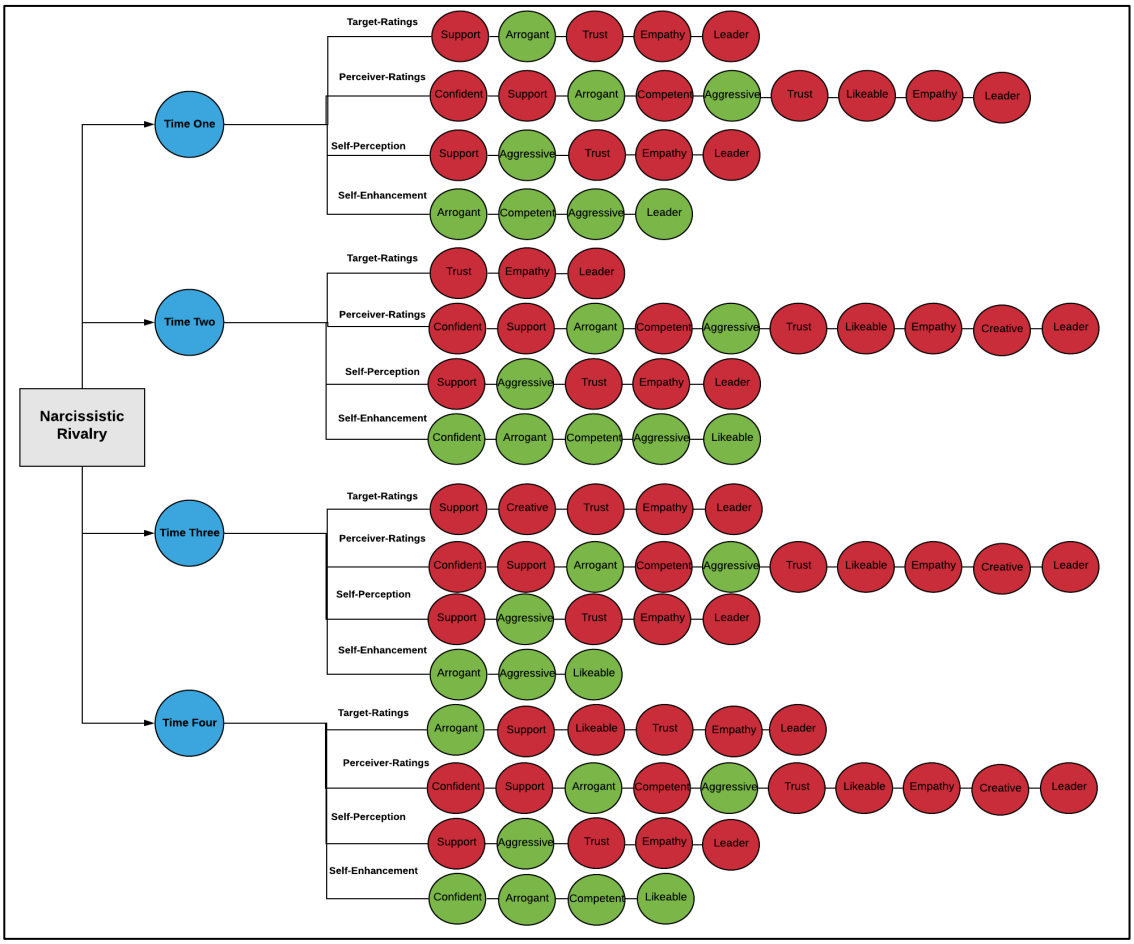
The below diagrams illustrate the significant relationships between round-robin effects (interpersonal measures) and narcissism across all time points. Green circles represent a positive relationship, whereas red circles represent a negative relationship.

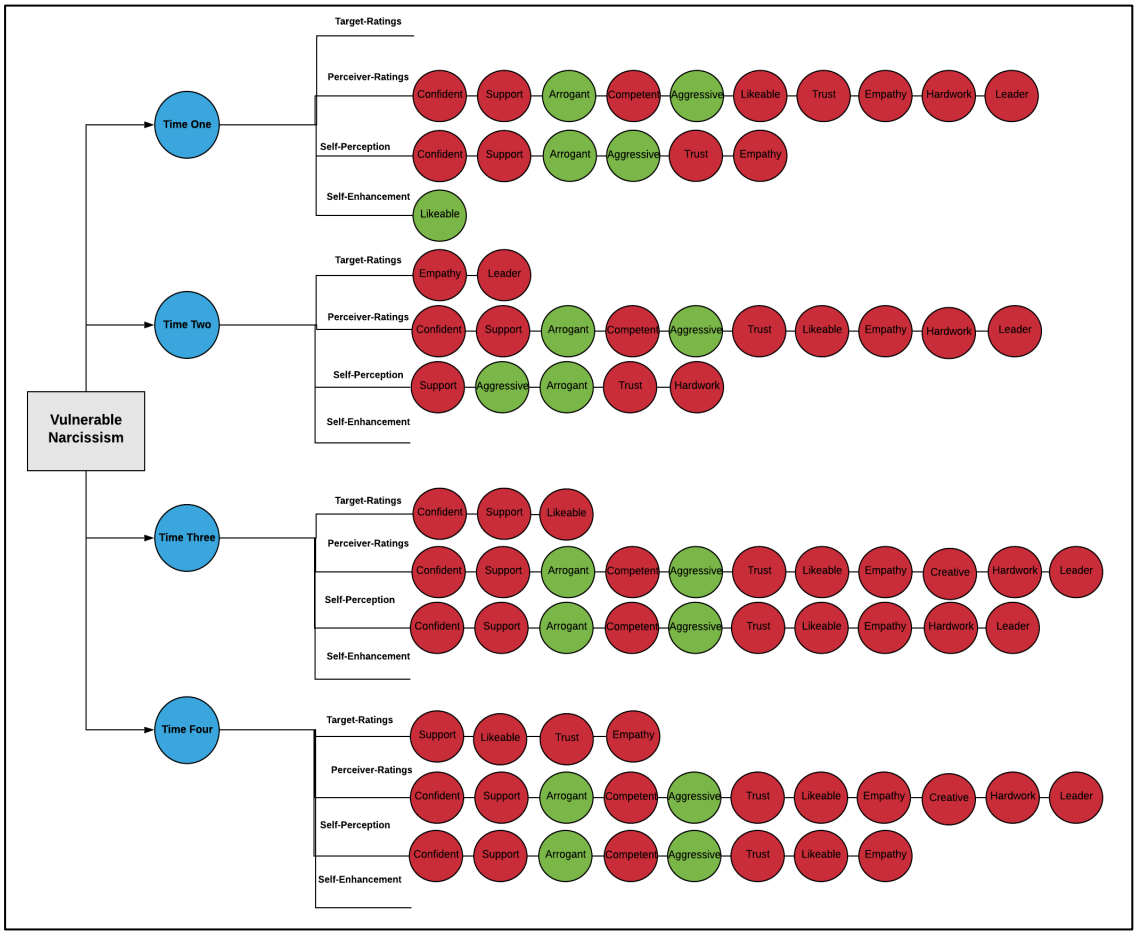

Narcissism
Time One
Target-Ratings
Confident Arrogant Aggressive Likeable Creative Leader
Perceiver-Ratings
Self-Perception
Confident Support Arrogant Aggressive Likeable Creative Hardwork Leader
Self-Enhancement
Confident Support Competent Aggressive Likeable Creative Hardwork Leader
Time Two
Target-Ratings
Confident Arrogant Aggressive Empathy Leader
Perceiver-Ratings
Self-Perception
Confident Support Arrogant Aggressive Likeable Creative Trust Leader
Self-Enhancement
Confident Competent Aggressive Creative Empathic Leader
Time Three
Target-Ratings
Confident Support Arrogant Aggressive Likeable Creative Trust Leader
Perceiver-Ratings
Self-Perception
Confident Support Arrogant Likeable Creative Hardwork Leader
Self-Enhancement
Competent Creative Trust Hardwork Leader
Time Four
Target-Ratings
Confident Arrogant Aggressive Likeable Creative Leader
Perceiver-Ratings
Self-Perception
Confident Support Aggressive Likeable Creative Hardwork Leader
Self-Enhancement
Confident Support Competent Likeable Creative Trust Hardwork Leader


Adaptive Narcissism
Time One
Target-Ratings
Confident Support Arrogant Competent Likeable Creative Hardwork Aggressive Leader
Perceiver-Ratings
Self-Perception
Confident Support Competent Aggressive Likeable Creative Empathy Hardwork Leader
Self-Enhancement
Confident Support Competent Creative Hardwork Leader
Time Two
Target-Ratings
Confident Support Arrogant Competent Aggressive Likeable Creative Leader
Perceiver-Ratings
Self-Perception
Confident Support Competent Aggressive Likeable Creative Leader
Self-Enhancement
Confident Competent Leader
Time Three
Target-Ratings
Confident Support Arrogant Competent Aggressive Likeable Creative Leader
Perceiver-Ratings
Self-Perception
Confident Support Competent Likeable Creative Trust Hardwork Leader
Self-Enhancement
Confident Competent Trust Hardwork Leader
Time Four
Target-Ratings
Confident Arrogant Aggressive Likeable Leader
Perceiver-Ratings
Self-Perception
Confident Support Competent Likeable Creative Trust Hardwork Leader
Self-Enhancement
Confident Creative Trust Hardwork Leader


Maladaptive Narcissism
Time One
Target-Ratings
Confident
Arrogant
Aggressive
Empathy
Leader
Perceiver-Ratings
Arrogant
Self-Perception
Confident
Arrogant
Competent
Aggressive
Likeable
Creative
Leader
Self-Enhancement
Confident
Competent
Aggressive
Likeable
Creative
Trust
Leader
Time Two
Target-Ratings
Confident
Arrogant
Aggressive
Empathy
Leader
Perceiver-Ratings
Self-Perception
Confident
Support
Arrogant
Competent
Aggressive
Likeable
Leader
Self-Enhancement
Confident
Competent
Aggressive
Likeable
Leader
Time Three
Target-Ratings
Confident
Arrogant
Aggressive
Trust
Leader
Perceiver-Ratings
Arrogant
Self-Perception
Confident
Support
Arrogant
Competent
Aggressive
Likeable
Creative
Trust
Leader
Self-Enhancement
Competent
Likeable
Creative
Trust
Hardwork
Leader
Time Four
Target-Ratings
Confident
Arrogant
Aggressive
Empathy
Leader
Perceiver-Ratings
Arrogant
Self-Perception
Confident
Support
Arrogant
Competent
Aggressive
Likeable
Creative
Leader
Self-Enhancement
Support
Competent
Likeable
Creative
Trust
Hardwork
Leader


Narcissistic Admiration
Time One
Target-Ratings
Confident
Competent
Leader
Perceiver-Ratings
Self-Perception
Confident
Support
Arrogant
Competent
Aggressive
Likeable
Creative
Leader
Self-Enhancement
Confident
Support
Competent
Likeable
Creative
Empathy
Leader
Time Two
Target-Ratings
Confident
Support
Competent
Likeable
Leader
Perceiver-Ratings
Self-Perception
Confident
Support
Arrogant
Competent
Likeable
Creative
Leader
Self-Enhancement
Confident
Competent
Aggressive
Likeable
Creative
Empathy
Leader
Time Three
Target-Ratings
Confident
Support
Competent
Likeable
Creative
Hardwork
Leader
Perceiver-Ratings
Self-Perception
Confident
Support
Arrogant
Competent
Likeable
Creative
Hardwork
Leader
Self-Enhancement
Confident
Arrogant
Competent
Likeable
Creative
Hardwork
Leader
Time Four
Target-Ratings
Confident
Leader
Perceiver-Ratings
Self-Perception
Confident
Support
Likeable
Creative
Hardwork
Leader
Self-Enhancement
Confident
Likeable
Creative
Leader


Narcissistic Rivalry
Time One
Target-Ratings
Support Arrogant Trust Empathy Leader
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Leader
Self-Perception
Support Aggressive Trust Empathy Leader
Self-Enhancement
Arrogant Competent Aggressive Leader
Time Two
Target-Ratings
Trust Empathy Leader
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Creative Leader
Self-Perception
Support Aggressive Trust Empathy Leader
Self-Enhancement
Confident Arrogant Competent Aggressive Likeable
Time Three
Target-Ratings
Support Creative Trust Empathy Leader
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Creative Leader
Self-Perception
Support Aggressive Trust Empathy Leader
Self-Enhancement
Arrogant Aggressive Likeable
Time Four
Target-Ratings
Arrogant Support Likeable Trust Empathy Leader
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Creative Leader
Self-Perception
Support Aggressive Trust Empathy Leader
Self-Enhancement
Confident Arrogant Competent Likeable


Vulnerable Narcissism
Time One
Target-Ratings
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Likeable Trust Empathy Hardwork Leader
Self-Perception
Confident Support Arrogant Aggressive Trust Empathy
Self-Enhancement
Likeable
Time Two
Target-Ratings
Empathy Leader
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Hardwork Leader
Self-Perception
Support Aggressive Arrogant Trust Hardwork
Self-Enhancement
Time Three
Target-Ratings
Confident Support Likeable
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Creative Hardwork Leader
Self-Perception
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Hardwork Leader
Self-Enhancement
Time Four
Target-Ratings
Support Likeable Trust Empathy
Perceiver-Ratings
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy Creative Hardwork Leader
Self-Perception
Confident Support Arrogant Competent Aggressive Trust Likeable Empathy
Self-Enhancement

### 4.3.13 Round-Robin Analyses on Teamwork Measures with Narcissism

TripleR was also used to compute partial correlations between the *target*, *self-enhancement*, and *self-perception* effects of teamwork measures and narcissism, while controlling for team membership. Effects are presented in Table 84. For brevity, all significant effects are presented in the *summary diagrams* in section 4.3.14

#### 4.3.13.1 Narcissism

Relative to people who scored low, people who scored high on the NPI were rated by others as individuals who put a lot of effort during team interactions ($r$s > .19, $p$s < .001), expressed ($r$s > .17, $p$s < .001) and shared ($r$s > .20, $p$s < .001) ideas clearly, encouraged others to talk ($r$s > .20, $p$s < .001), and motivated others to do their best ($r$s > .15, $p$s < .008), across all time points. They were rated as individuals who worked well under pressure ($r$s > .11, $p$s < .05) and who got along well with others ($r$s > .12, $p$s < .03) at Time 1, 3, and 4; and as individuals who got irritable ($r$s > .12, $p$s < .03) and took advantage of others ($r$s > .11, $p$s < .05) at Time 1 and 2. They were rated as individuals who set goals for others ($r$s > .14, $p$s < .007) at Time 3 and 4, and as good team players ($r$ = .11, $p$ = .04) at Time 1.

Individuals high on the NPI believed that they put in a lot of effort during team interactions ($r$s > .20, $p$s < .001), motivated others to do their best ($r$s > .15, $p$s < .003), encouraged others to talk ($r$s > .18, $p$s < .001), and expressed their ideas clearly ($r$s > .15, $p$s < .009) across all time points. They believed that they were reliable team members ($r$s > .13, $p$s < .01) and that they got along well with others ($r$s > .16, $p$s < .003) at Time 1, 3, and 4; that they shared their ideas clearly with others ($r$s > .13, $p$s < .02) at Time 1, 2, and 4; and set goals for others ($r$s > .20, $p$s < .001) at Time 3 and 4. They believed that they were good team players ($r$s > .18, $p$s < .001) at Time 1 and 2; disorganised ($r$s > .12, $p$s < .03) at Time 2, 3, and 4; and that they only took advantage of others ($r$s > .26, $p$s < .001) at Time 3 and 4.

Furthermore, people who scored high on the NPI overvalued how much they were rated as team members who got along well with others ($r$s > .11, $p$s < .04), and contributed their share of the work ($r$s > .18, $p$s < .001) at Time 1, 3, and 4. They overvalued how much they were rated as individuals who worked well under pressure ($r$s > .21, $p$s < .001), individuals who expressed their ideas clearly ($r$s > .15, $p$s < .004), and how much they were rated as good team players ($r$s > .18, $p$s < .001) at Time 1 and 2. They perceived others in their team as disorganised at Time 2 ($r$ = .11, $p$ < .05), moody at Time 4 ($r$ = .16, $p$ = .003), and as individuals who took advantage of others ($r$ = .13, $p$ = .02) at Time 4.

#### 4.3.13.2 Adaptive Narcissism

Relative to people who scored low, people who scored high on adaptive narcissism were rated by others as individuals who put a lot of effort during team interactions ($r$s > .24, $p$s < .001), expressed ($r$s > .22, $p$s < .001) and shared ($r$s > .24, $p$s < .001) their ideas clearly, encouraged others to talk ($r$s > .26, $p$s < .001), set goals for others ($r$s > .15, $p$s < .001), motivated others to do their best ($r$s > .20, $p$s < .001), worked well under pressure ($r$s > .15, $p$s < .006), and devoted time to helping others ($r$s > .12, $p$s < .03), across all time points. They were rated as good team players ($r$s > .11, $p$s < .04) at Time 1, 2, and 3, and as individuals who tried to see things from other team members' point of view ($r$ = .12, $p$ = .03) at Time 3.

Individuals high on adaptive narcissism believed that they put in a lot of effort during team interactions ($r$s > .25, $p$s < .001), motivated others to do their best ($r$s > .16, $p$s < .004), encouraged others to talk ($r$s > .22, $p$s < .001), set goals for others ($r$s > .13, $p$s < .02), expressed ideas clearly ($r$s > .15, $p$s < .006), and that they were particularly reliable team members ($r$s > .12, $p$s < .02) across all time points. They believed that people could rely on them to do their fair share of the work ($r$s > .15, $p$s < .007) at Time 1, 3, and 4; that they worked well under pressure ($r$s > .22, $p$s < .001), shared ideas ($r$s > .17, $p$s < .001), and were good team players ($r$s > .15, $p$s < .01) at Time 1 and 2; and that they were only disorganised ($r$s > .16, $p$s < .001) and took advantage of others ($r$s > .24, $p$s < .001) Time 3 and 4.

Furthermore, people who scored high on adaptive narcissism overvalued how much they were rated as individuals who could be relied upon to do their fair share of the work ($r$s > .18, $p$s < .001) at Time 1, 3, and 4; as individuals who put a lot of effort during team interactions ($r$s > .16, $p$s < .004) at Time 1 and 4; and as good team players ($r$s > .12, $p$s < .03) at Time 1 and 2. They overvalued how much they were rated by others as reliable ($r$ = .13, $p$ = .02), and as individuals who set goals ($r$ = .13, $p$ = .02) and expressed ideas clearly ($r$ = .11, $p$ = .03) at Time 1.

#### 4.3.13.3 Maladaptive Narcissism

Relative to people who scored low, people who scored high on maladaptive narcissism were rated by others as disorganised ($r$s > .13, $p$s < .02), and as individuals who shared ideas ($r$s > .12, $p$s < .02) and encouraged others ($r$s > .14, $p$s < .02) across all time points. They were rated by others as individuals who put a lot of effort during team interactions ($r$ > .12, $p$s < .03) at Time 1 and Time 3; individuals who expressed their ideas clearly ($r$s > .11, $p$s < .04) at Time 1, 2, and 3; individuals who were moody ($r$s > .15, $p$s < .008) at Time 1, 2, and 4; and as individuals who took advantage of others ($r$s > .12, $p$s < .02) at Time 1 and 2.

Individuals high on maladaptive narcissism believed that they put in a lot of effort during team interactions ($r$s > .16, $p$s < .005) across all time points; were good team players ($r$s > .14, $p$s < .01) who shared ($r$s > .14, $p$s < .01) and expressed ($r$s > .11, $p$s < .04) their ideas at Time 1, 2, and

4; were reliable members (*r*s > .11, *p*s < .03) who contributed to team tasks fairly (*r*s > .13, *p*s < .01) at Time 1, 3, and 4; and motivated (*r*s > .14, *p*s < .001), got along with others (*r*s > .13, *p*s < .01), and only took advantage of others (*r*s > .19, *p*s < .001) at Time 3 and 4.

Furthermore, people who scored high on maladaptive narcissism overvalued how much they were rated as reliable (*r*s > .12, *p*s < .02), and as individuals who contributed their fair share of the workload (*r*s > .16, *p*s < .001) at Time 1, 3, and 4. They overvalued how much they were rated as individuals who got along well with others (*r*s > .12, *p*s < .03), and as those who put in a lot of effort during team interactions (*r*s > .14, *p*s < .01) at Time 1 and 4; how much they worked well under pressure (*r*s > .17, *p*s < .001) at Time 1 and 2; how much they were rated as good team players (*r*s > .11, *p*s < .04) at Time 1, 2, and 4; and how much they were rated as disorganised ($r$ = .21, $p$ < .001) and motivated ($r$ = .11, $p$ < .05) at Time 4. They perceived others in their team as disorganised (*r*s > .12, *p*s < .03) at Time 1, 2, and 4, and irritable (*r*s > .12, $p$ < .03) at Time 2 and 4.

#### 4.3.13.4 Narcissistic Admiration

Relative to people who scored low, people who scored high on narcissistic admiration were rated as individuals who encouraged (*r*s > .16, *p*s < .006) and motivated others to do their best (*r*s > .13, *p*s < .02), and as individuals who expressed ideas clearly (*r*s > .11, *p*s < .03) across all time points. They were rated as individuals who put a lot of effort during team interactions (*r*s > .14, *p*s < .008), shared ideas with others (*r*s > .14, *p*s < .008), got along well with others (*r*s > .13, *p*s < .02), and set goals (*r*s > .14, *p*s < .01) at Time 2, 3, and 4. They were rated as individuals who worked well under pressure (*r*s > .15, *p*s < .005) and devoted their time to help others (*r*s > .12, *p*s < .03) at Time 3 and 4; good team players (*r*s > .14, *p*s < .01) at Time 2 and 3; reliable team members ($r$ = .19, $p$ = .03) at Time 3; and as individuals who tried to see things from other team members' POV (*r*s > .11, *p*s < .04) at Time 2 and 3.

Individuals high on narcissistic admiration believed that they put in a lot of effort during team interactions (*r*s > .14, *p*s < .008), encouraged others to talk (*r*s > .18, *p*s < .001), motivated others to do their best (*r*s > .16, *p*s < .001), and expressed their ideas clearly (*r*s > .12, *p*s < .001) across all time points. They believed that they worked well under pressure (*r*s > .16, *p*s < .003), shared their ideas (*r*s > .12, *p*s < .03), and were good team players (*r*s > .11, *p*s < .02) at Time 1 and 2; and that they were only disorganised (*r*s > .14, *p*s < .01) and took advantage of others (*r*s > .16, *p*s < .003) at Time 3 and 4.

Furthermore, people who scored high on narcissistic admiration overvalued how much they were rated as individuals who encouraged others to talk (*r*s > .12, *p*s < .03), individuals who worked well under pressure (*r*s > .16, *p*s < .003), individuals who expressed ideas clearly (*r*s > .19, *p*s < .001), and as reliable team members (*r*s > .15, *p*s < .05) at Time 1 and 2. They overvalued how much they were rated as individuals who put in a lot of effort during team interactions (*r*s > .14, *p*s

< .008) at Time 1 and 4; and as individuals who motivated others ($r$ = .16, $p$ = .004), shared ideas ($r$ = .11, $p$ = .04), and acted as good team players ($r$ = .14, $p$ < .05) at Time 1. They rated others as disorganised ($r$s > .12, $p$s < .03) at Time 1 and 2; and as individuals who could not be relied upon to do their fair share of the work ($r$ = -.11, $p$ = .04) at Time 1.

#### 4.3.13.5 Narcissistic Rivalry

Relative to people who scored low, people who scored high on narcissistic rivalry were rated as individuals who were particularly unreliable ($r$ = -.12, $p$ < .02), individuals who took advantage of others ($r$ = .19, $p$ < .001), and as individuals who could not be relied upon to do their fair share of the work ($r$ = -.11, $p$ = .04) at Time 1. They were rated as individuals who did not put in a lot of effort during team interactions ($r$ = -.11, $p$ = .04), individuals who did not work well under pressure ($r$ = -.13, $p$ = .01), and disorganised ($r$ = .12, $p$ = .02) at Time 2.

Individuals high on narcissistic rivalry believed that they were moody ($r$s > .19, $p$s < .001) across all time points; bad team players ($r$s > -.17, $p$ < .001) and unreliable ($r$s > -.12, $p$s < .02) at Time 2, 3, and 4; that they didn't get along well with others ($r$s > -.14, $p$s < .01) or see things from other team members' POV ($r$s > -.14, $p$s < .02) at Time 1, 2, and 3, and that they were disorganised ($r$ = .20, $p$ < .001) at Time 1. They believed that they worked well under pressure ($r$ = .13, $p$ = .02) at Time; did not share ideas ($r$s > -.12, $p$s < .02) or devote time to help others ($r$s > -.12, $p$s < .03) at Time 3 and 4; and only took advantage of others ($r$s > .20, $p$s < .001) at Time 1 and 2. Individuals high on narcissistic rivalry overvalued how much they were rated as good team players ($r$s > .24, $p$s < .001) and on levels of contribution to team tasks ($r$s > .11, $p$s < .01) at Time 3 and 4, irritabilty ($r$s > .14, $p$s < .001) at Time 1 and 2, and how much effort they put in during team interactions ($r$s > .11, $p$s < .001) at Time 2 and 4. They also undervalued how much they were rated as team members who took advantage of others ($r$s > -.16, $p$s < .002) at Time 3 and 4.

Furthermore, people who scored high on narcissistic rivalry rated others as low on effort during team interactions ($r$s > -.16, $p$s < .002), and as individuals who did not work well under pressure ($r$s > -.11, $p$s < .03), share ideas ($r$s > -.15, $p$s < .004), or get along well with others ($r$s > -.21, $p$s < .001) across all time points. They rated others as bad team players ($r$s > -.17, $p$s < .001), irritable ($r$s > .21, $p$s < .001), and unreliable ($r$s > -.17, $p$s < .004) across all time points; and as individuals who took advantage of others ($r$s > .19, $p$s < .001), did not contribute to the team workload ($r$s > -.13, $p$s < .02), and did not express ideas clearly ($r$s > .19, $p$s < .001) across all time points.

#### 4.3.13.6 Vulnerable Narcissism

Relative to people who scored low, people who scored high on vulnerable narcissism were rated as individuals who did not encourage others to talk ($r$s > -.11, $p$s < .04), did not share ideas ($r$s > -.11, $p$s < .05), did not devote time to helping others ($r$s > -.13, $p$s < .02), and did not get

along well with others in the team (*r*s > -.11, *p*s < .04) at Time 3 and 4. They were rated by others as particularly unreliable ($r = -.14$, $p = .01$) at Time 4, and as low on effort during team interactions ($r = -.11$, $p = .04$) and ability to work well under pressure ($r = -.11$, $p = .04$) at Time 4.

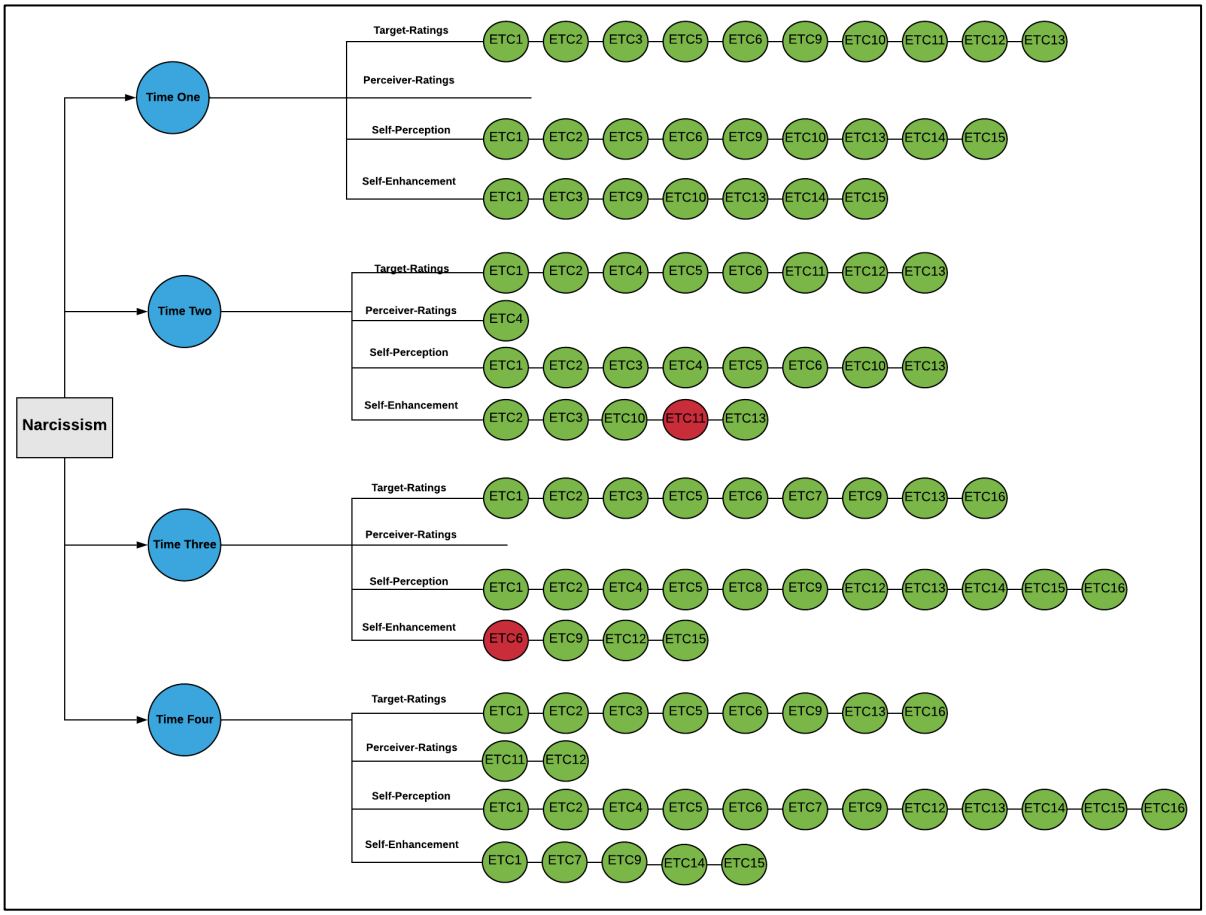
Individuals high on vulnerable narcissism believed that they put in less effort during team interactions (*r*s > -.13, *p*s < .02), provided less encouragement to others in team meetings (*r*s > -.14, *p*s < .01), worked poorly under pressure (*r*s > -.13, *p*s < .007), behaved irritable during interactions (*r*s > .11, *p*s < .01), and were not reliable (*r*s > -.11, *p*s < .03), across all time points. They believed that they did not get along with others (*r*s > -.13, *p*s < .03), did not share ideas (*r*s > -.13, *p*s < .01) or see things from other members' POV (*r*s > -.14, *p*s < .01) at Time 3 and 4, and that they did not motivate others to do their best (*r*s > - .11, *p*s < .04) at Time 1, 3, and 4.

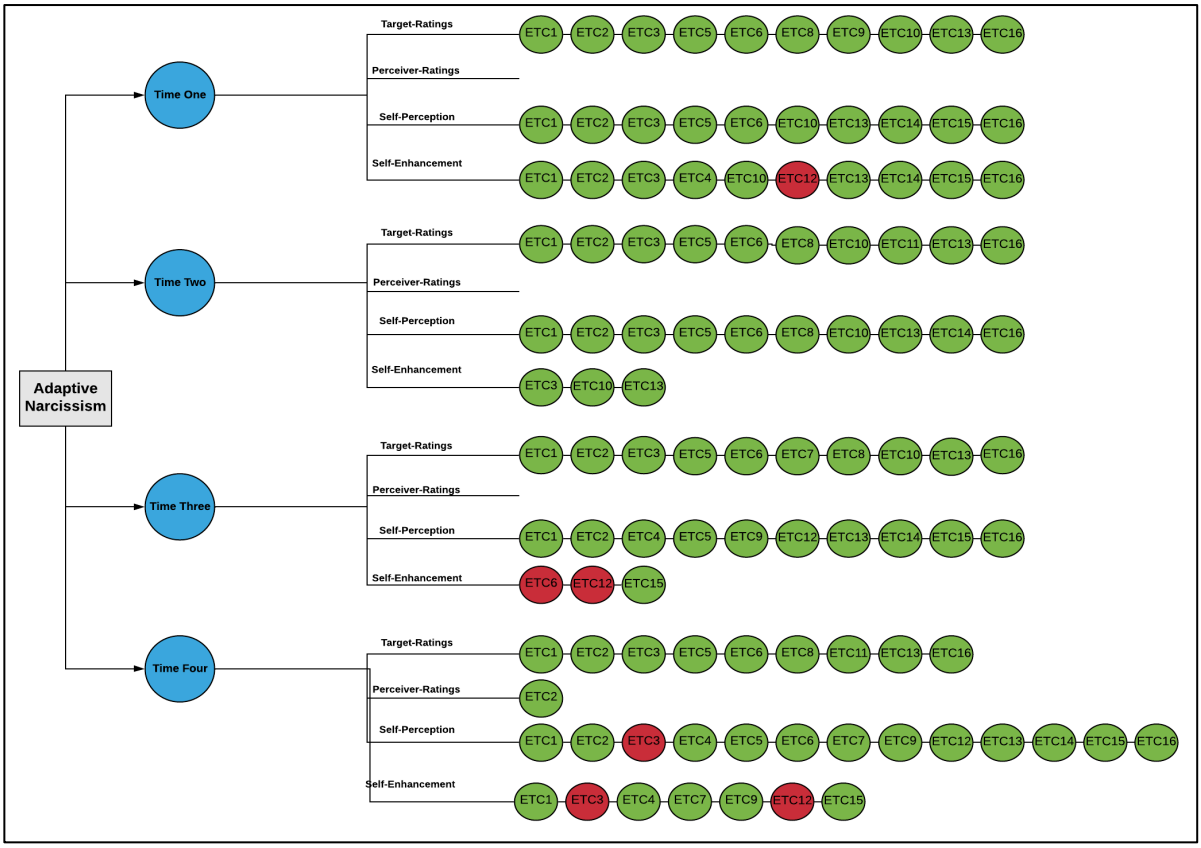
Individuals high on vulnerable narcissism undervalued how much they were rated as disorganised (*r*s > -.24, *p*s < .001), as individuals who took advantage of others (*r*s > -.21, *p*s < .001), and individuals who expressed their ideas clearly (*r*s > -.11, *p*s < .04) at Time 3 and 4. They overvalued how much they were rated as good team players (*r*s > .21, *p*s < .001) at Time 3 and 4; as reliable ($r = .11$, $p = .04$) team members who devoted time to helping others ($r = .13$, $p = .02$) at Time 4; how much they were rated as irritable (*r*s > .11, $p < .04$) at Time 1 and 2; and how much they got along with others ($r = .11$, $p = .03$) and set goals ($r = .13$, $p = .02$) at Time 1.

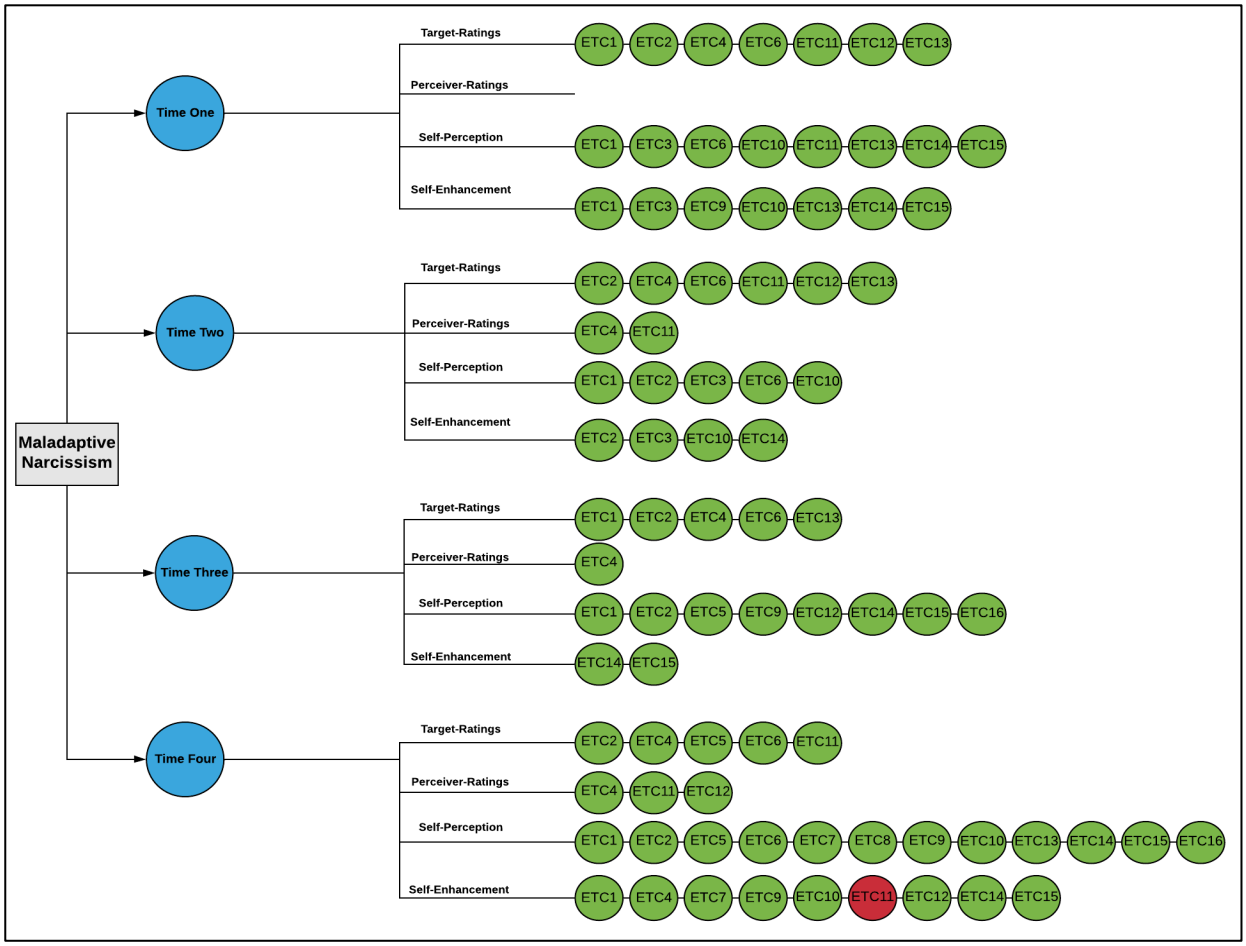
Furthermore, people who scored high on vulnerable narcissism rated others as low on effort during team interactions (*r*s > -.17, *p*s < .001), encouragement and motivation in team meetings (*r*s > -.14, $p < .01$; *r*s > -.12, *p*s < .02, respectively), and as those who did not share ideas (*r*s > -.13, *p*s < .01), see things from other members' POV (*r*s > -.11, *p*s < .03), or devote time to helping others (*r*s > -.16, *p*s < .001) across all time points. They rated others as disorganised (*r*s > .16, *p*s < .001), irritable (*r*s > .16, *p*s < .001), unreliable (*r*s > -.15, *p*s < .004), and low on ability to work well under pressure (*r*s > -.13, *p*s < .001) across all time points. They also rated others as those who took advantage of team members (*r*s > .16, *p*s < .004), those who did not express their ideas clearly (*r*s > -.15, *p*s < .004), did not set goals (*r*s > -.11, *p*s < .04), did not get along with others (*r*s > -.16, *p*s < .003), and those who did not contribute to the team workload (*r*s > -.17, *p*s < .001).

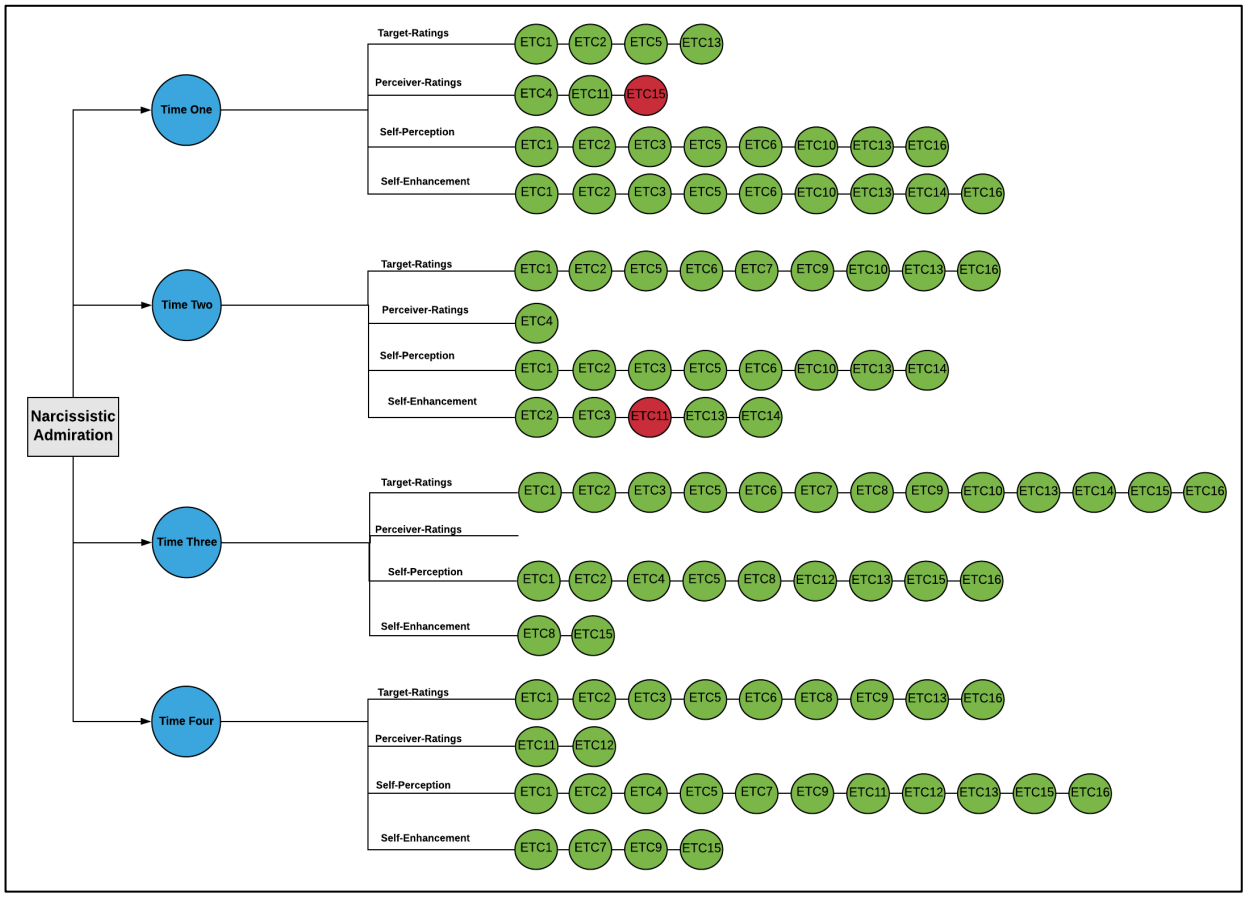
#### 4.3.14 Summary Diagrams

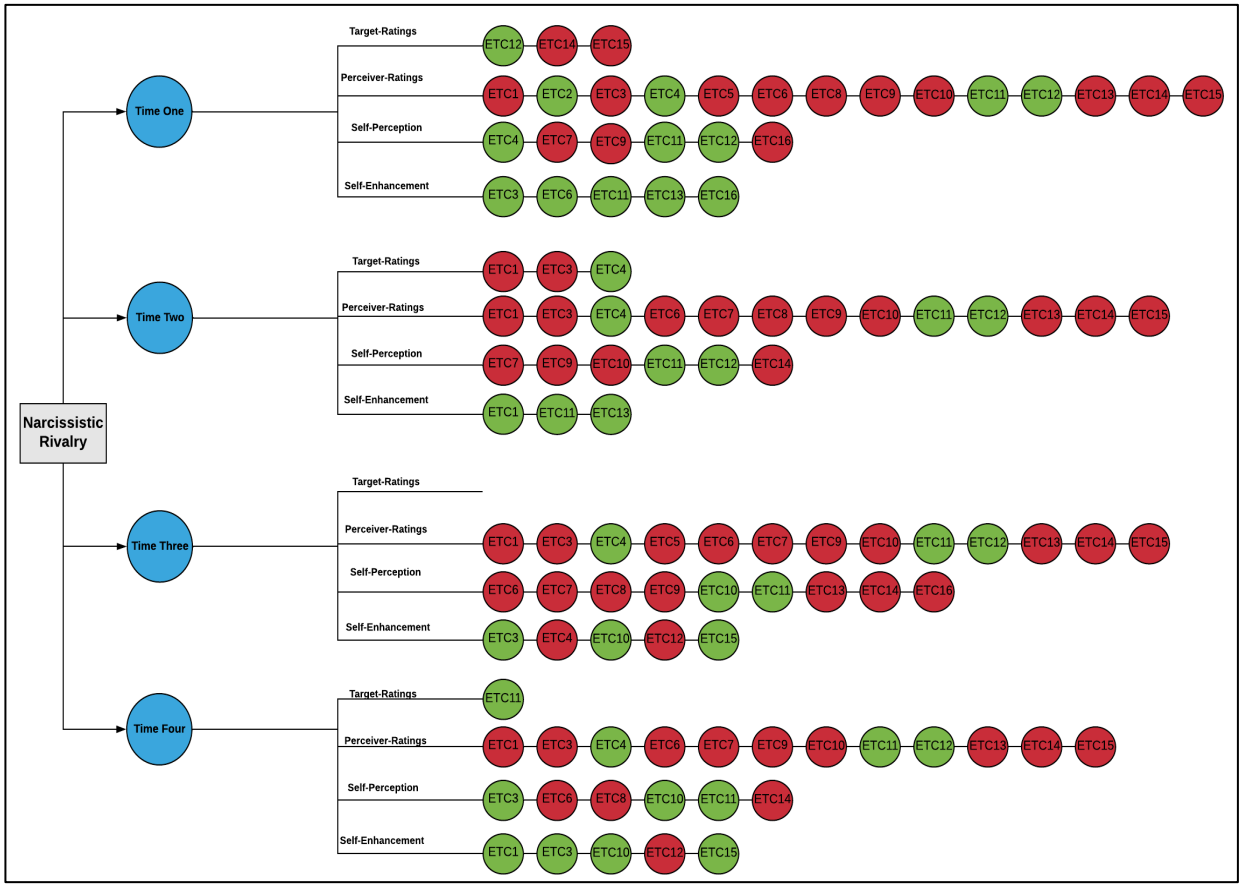
The below diagrams illustrate the significant relationships between round-robin effects (teamwork measures) and narcissism across all time points. Green circles represent a positive relationship, whereas red circles represent a negative relationship. Item key is presented as well.

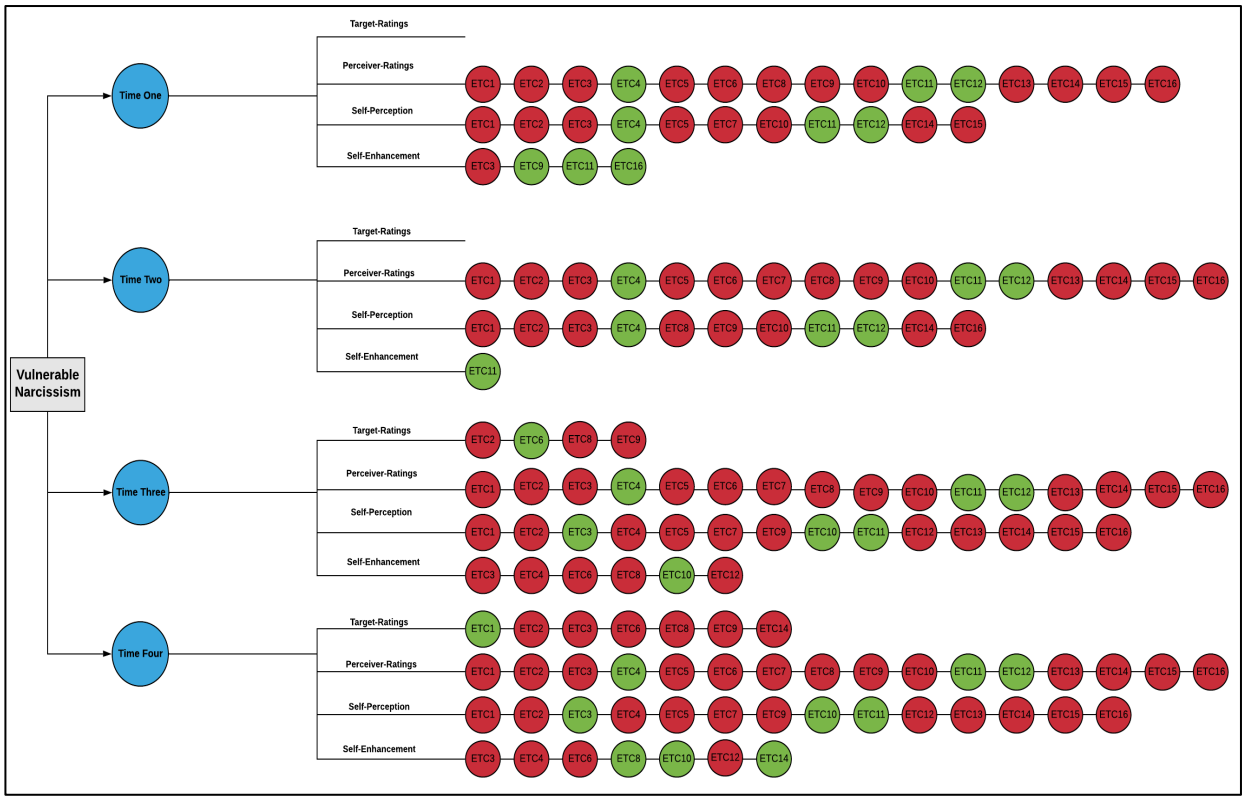

Narcissism
Time One
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC9 ETC10 ETC11 ETC12 ETC13
Perceiver-Ratings
Self-Perception
ETC1 ETC2 ETC5 ETC6 ETC9 ETC10 ETC13 ETC14 ETC15
Self-Enhancement
ETC1 ETC3 ETC9 ETC10 ETC13 ETC14 ETC15
Time Two
Target-Ratings
ETC1 ETC2 ETC4 ETC5 ETC6 ETC11 ETC12 ETC13
Perceiver-Ratings
ETC4
Self-Perception
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC10 ETC13
Self-Enhancement
ETC2 ETC3 ETC10 ETC11 ETC13
Time Three
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC7 ETC9 ETC13 ETC16
Perceiver-Ratings
Self-Perception
ETC1 ETC2 ETC4 ETC5 ETC8 ETC9 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC6 ETC9 ETC12 ETC15
Time Four
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC9 ETC13 ETC16
Perceiver-Ratings
ETC11 ETC12
Self-Perception
ETC1 ETC2 ETC4 ETC5 ETC6 ETC7 ETC9 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC1 ETC7 ETC9 ETC14 ETC15

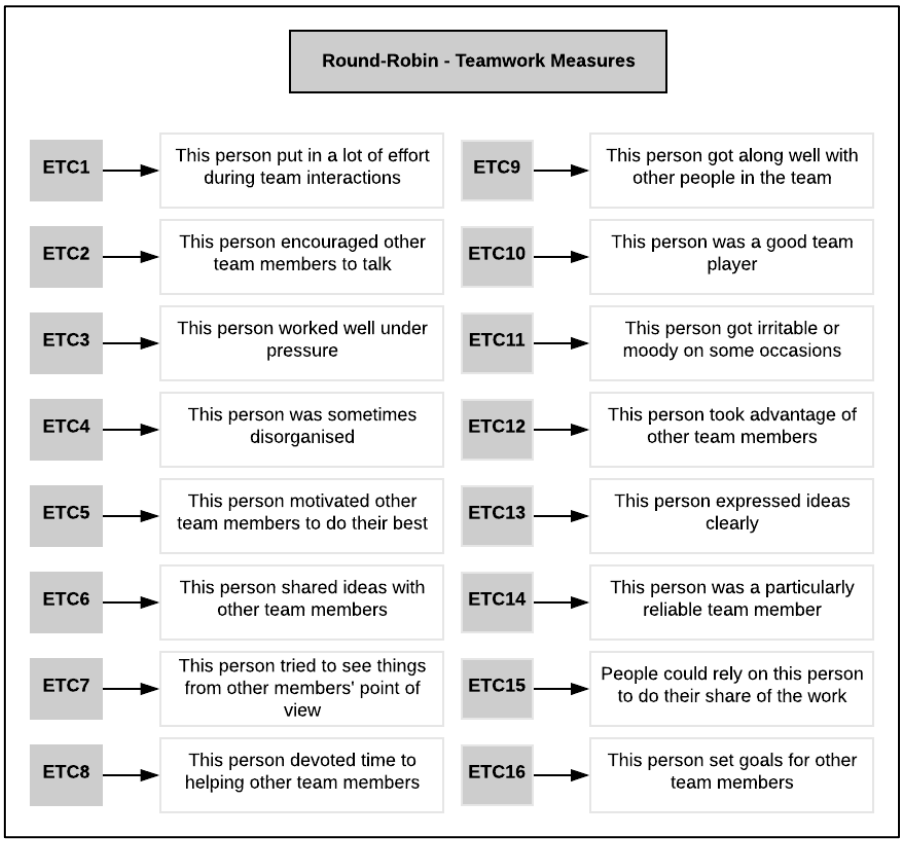

Adaptive Narcissism
Time One
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC8 ETC9 ETC10 ETC13 ETC16
Perceiver-Ratings
Self-Perception
ETC1 ETC2 ETC3 ETC5 ETC6 ETC10 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC1 ETC2 ETC3 ETC4 ETC10 ETC12 ETC13 ETC14 ETC15 ETC16
Time Two
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC8 ETC10 ETC11 ETC13 ETC16
Perceiver-Ratings
Self-Perception
ETC1 ETC2 ETC3 ETC5 ETC6 ETC8 ETC10 ETC13 ETC14 ETC16
Self-Enhancement
ETC3 ETC10 ETC13
Time Three
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC7 ETC8 ETC10 ETC13 ETC16
Perceiver-Ratings
Self-Perception
ETC1 ETC2 ETC4 ETC5 ETC9 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC6 ETC12 ETC15
Time Four
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC8 ETC11 ETC13 ETC16
Perceiver-Ratings
ETC2
Self-Perception
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC7 ETC9 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC1 ETC3 ETC4 ETC7 ETC9 ETC12 ETC15


Maladaptive Narcissism
Time One
Target-Ratings
ETC1 ETC2 ETC4 ETC6 ETC11 ETC12 ETC13
Perceiver-Ratings
Self-Perception
ETC1 ETC3 ETC6 ETC10 ETC11 ETC13 ETC14 ETC15
Self-Enhancement
ETC1 ETC3 ETC9 ETC10 ETC13 ETC14 ETC15
Time Two
Target-Ratings
ETC2 ETC4 ETC6 ETC11 ETC12 ETC13
Perceiver-Ratings
ETC4 ETC11
Self-Perception
ETC1 ETC2 ETC3 ETC6 ETC10
Self-Enhancement
ETC2 ETC3 ETC10 ETC14
Time Three
Target-Ratings
ETC1 ETC2 ETC4 ETC6 ETC13
Perceiver-Ratings
ETC4
Self-Perception
ETC1 ETC2 ETC5 ETC9 ETC12 ETC14 ETC15 ETC16
Self-Enhancement
ETC14 ETC15
Time Four
Target-Ratings
ETC2 ETC4 ETC5 ETC6 ETC11
Perceiver-Ratings
ETC4 ETC11 ETC12
Self-Perception
ETC1 ETC2 ETC5 ETC6 ETC7 ETC8 ETC9 ETC10 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC1 ETC4 ETC7 ETC9 ETC10 ETC11 ETC12 ETC14 ETC15


Narcissistic Admiration
Time One
Target-Ratings
ETC1 ETC2 ETC5 ETC13
Perceiver-Ratings
ETC4 ETC11 ETC15
Self-Perception
ETC1 ETC2 ETC3 ETC5 ETC6 ETC10 ETC13 ETC16
Self-Enhancement
ETC1 ETC2 ETC3 ETC5 ETC6 ETC10 ETC13 ETC14 ETC16
Time Two
Target-Ratings
ETC1 ETC2 ETC5 ETC6 ETC7 ETC9 ETC10 ETC13 ETC16
Perceiver-Ratings
ETC4
Self-Perception
ETC1 ETC2 ETC3 ETC5 ETC6 ETC10 ETC13 ETC14
Self-Enhancement
ETC2 ETC3 ETC11 ETC13 ETC14
Time Three
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC7 ETC8 ETC9 ETC10 ETC13 ETC14 ETC15 ETC16
Perceiver-Ratings
Self-Perception
ETC1 ETC2 ETC4 ETC5 ETC8 ETC12 ETC13 ETC15 ETC16
Self-Enhancement
ETC8 ETC15
Time Four
Target-Ratings
ETC1 ETC2 ETC3 ETC5 ETC6 ETC8 ETC9 ETC13 ETC16
Perceiver-Ratings
ETC11 ETC12
Self-Perception
ETC1 ETC2 ETC4 ETC5 ETC7 ETC9 ETC11 ETC12 ETC13 ETC15 ETC16
Self-Enhancement
ETC1 ETC7 ETC9 ETC15


Narcissistic Rivalry
Time One
Target-Ratings
ETC12 ETC14 ETC15
Perceiver-Ratings
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC8 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15
Self-Perception
ETC4 ETC7 ETC9 ETC11 ETC12 ETC16
Self-Enhancement
ETC3 ETC6 ETC11 ETC13 ETC16
Time Two
Target-Ratings
ETC1 ETC3 ETC4
Perceiver-Ratings
ETC1 ETC3 ETC4 ETC6 ETC7 ETC8 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15
Self-Perception
ETC7 ETC9 ETC10 ETC11 ETC12 ETC14
Self-Enhancement
ETC1 ETC11 ETC13
Time Three
Target-Ratings
Perceiver-Ratings
ETC1 ETC3 ETC4 ETC5 ETC6 ETC7 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15
Self-Perception
ETC6 ETC7 ETC8 ETC9 ETC10 ETC11 ETC13 ETC14 ETC16
Self-Enhancement
ETC3 ETC4 ETC10 ETC12 ETC15
Time Four
Target-Ratings
ETC11
Perceiver-Ratings
ETC1 ETC3 ETC4 ETC6 ETC7 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15
Self-Perception
ETC3 ETC6 ETC8 ETC10 ETC11 ETC14
Self-Enhancement
ETC1 ETC3 ETC10 ETC12 ETC15


Vulnerable Narcissism
Time One
Target-Ratings
Perceiver-Ratings
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC8 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Perception
ETC1 ETC2 ETC3 ETC4 ETC5 ETC7 ETC10 ETC11 ETC12 ETC14 ETC15
Self-Enhancement
ETC3 ETC9 ETC11 ETC16
Time Two
Target-Ratings
Perceiver-Ratings
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC7 ETC8 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Perception
ETC1 ETC2 ETC3 ETC4 ETC8 ETC9 ETC10 ETC11 ETC12 ETC14 ETC16
Self-Enhancement
ETC11
Time Three
Target-Ratings
ETC2 ETC6 ETC8 ETC9
Perceiver-Ratings
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC7 ETC8 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Perception
ETC1 ETC2 ETC3 ETC4 ETC5 ETC7 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC3 ETC4 ETC6 ETC8 ETC10 ETC12
Time Four
Target-Ratings
ETC1 ETC2 ETC3 ETC6 ETC8 ETC9 ETC14
Perceiver-Ratings
ETC1 ETC2 ETC3 ETC4 ETC5 ETC6 ETC7 ETC8 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Perception
ETC1 ETC2 ETC3 ETC4 ETC5 ETC7 ETC9 ETC10 ETC11 ETC12 ETC13 ETC14 ETC15 ETC16
Self-Enhancement
ETC3 ETC4 ETC6 ETC8 ETC10 ETC12 ETC14




### 4.3.15 Longitudinal Effects on Round-Robin Measures

Due to the longitudinal and multilevel nature of this study, repeated linear mixed effects models (LMM's) using the R package *lme4* (Bates et al., 2015) were run to account for the influence of narcissism on round-robin interpersonal and teamwork ratings over time. LMM's are well suited for analysing round-robin data as they aid the analysis of nested data, by plotting differing regression intercepts for each perceiver, target, team, and time point (Hudson et al., 2018). In all models, perceiver, target, and team were treated as random effects, and narcissism and time were treated as fixed effects. Following Hox (2010) and Finch et al. (2014), grand mean centring was used on the explanatory variable (i.e., narcissism) to ease interpretation. Following recommendations by Luke (2004), time was treated as a continuous variable. Data exceeded the recommendations from Hoyle and Gottfredson (2015) on the minimum sample size required to detect effect sizes in longitudinal multilevel modelling (i.e., as few as ten groups with a sample size of no less than N = 50).

Normality checks were conducted on all variables by adopting skewness and kurtosis cut-off values proposed by George and Mallery (2010) of -2 and +2. Log transformation was used to transform skewed data from one variable ("aggression") to confirm to normality. Outliers were also checked accordingly. Adopting a top-down approach, the initial models run were specified with full random structure to enable random slopes and intercepts to vary. However, these models failed

to converge and were subsequently rejected. Following steps by Garson (2020), models were re-specified by trimming the random structure (i.e., removing random slopes based on amount of variance explained) until they converged. The final models reflected a random intercept model in which the random effects of target and team were free to vary on the dependent variable. For all models, restricted maximum likelihood (REML) estimations were used. The R package *afex* (Singmann et al., 2020) was used to obtain *p* values for each model. Linear mixed effects are presented in Tables 85-96.

Significant interaction effects were explored by running additional LMMs to account for the influence of narcissism on round-robin ratings within specific time points. Subsets of time (i.e., Time 1, Time 2, Time 3, Time 4) were created and time was removed as a fixed effect. Interaction effects are presented in Table 97. For brevity, significant interactions are presented in the summary diagrams in section 4.3.17, and only significant effects are noted below.

#### 4.3.15.1 Narcissism

From the LMM's on the round-robin interpersonal ratings, several main effects and an interaction effect was identified. Individuals high on narcissism were rated by others as high on levels of arrogance ($\beta$ = 1.08, $p$ < .001) and aggression ($\beta$ = .04, $p$ = .037), and low on levels of empathy ($\beta$ = -.67, $p$ = .006). A positive interaction effect of narcissism*time on empathy ($\beta$ = .26, $p$ = .049) revealed that narcissistic individuals were rated negatively on levels of empathy at Time 1 ($\beta$ = -.92, $p$ = .003), Time 2 ($\beta$ = -.08, $p$ = .796), and Time 3 ($\beta$ = -.44, $p$ = .139), but rated positively at Time 4 ($\beta$ = .16, $p$ = .585).

From the LMM's on the round-robin teamwork ratings, several main effects and interaction effects were identified. Individuals high on narcissism were rated by others as disorganised in team meetings ($\beta$ = 1.18, $p$ < .001) and irritable/moody during team interactions ($\beta$ = .92, $p$ = .001). They were rated as individuals who did not encourage others to talk ($\beta$ = -.83, $p$ = .008), did not motivate others to do well ($\beta$ = -1.35, $p$ < .001), did not set goals for other team members ($\beta$ = -.91, $p$ = .015), did not devote time to helping others ($\beta$ = -.77, $p$ = .011), and as individuals who did not get along well with others ($\beta$ = -.71, $p$ = .001).

Positive interaction effects of narcissism*time on encouraging team members to talk ($\beta$ = .72, $p$ < .001) and motivating others to do well ($\beta$ = 1.07, $p$ < .001) revealed that narcissistic individuals were rated negatively on these measure at Time 1 ($\beta$ = -1.12, $p$ = .003; $\beta$ = -.82, $p$ = .021, respectively), but rated positively at Time 2 ($\beta$ = .01, $p$ = .813; $\beta$ = .09, $p$ = .811, respectively), Time 3 ($\beta$ = .47, $p$ = .246; $\beta$ = .11, $p$ = .781, respectively), and Time 4 ($\beta$ = 1.37, $p$ < .001; $\beta$ = 1.81, $p$ < .001, respectively). Similarly, positive interaction effects of narcissism*time on effort during team interactions ($\beta$ = .29, $p$ = .046) and goal setting behaviours ($\beta$ = 1.10, $p$ < .001) revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.51, $p$ = .141; $\beta$ = -1.20, $p$ = .004, respectively), but rated positively at Time 2 ($\beta$ = .21, $p$ = .517; $\beta$ = .80,

$p$ = .074, respectively), Time 3 ($\beta$ = .40, $p$ = .248; $\beta$ = 1.22, $p$ = .012, respectively), and Time 4 ($\beta$ = .47, $p$ = .151; $\beta$ = 2.12, $p$ < .001, respectively).

A positive interaction effect of narcissism*time on taking advantage of others ($\beta$ = 6.60, $p$ < .001) revealed that narcissistic individuals were rated positively on this measure across all time points (Time 1: $\beta$ = .59, $p$ = .198; Time 2: $\beta$ = .69, $p$ = .059; Time 3: $\beta$ = 1.16, $p$ = .013; Time 4: $\beta$ = 2.43, $p$ < .001). Positive interaction effects of narcissism*time on devoting time to help others ($\beta$ = 4.21, $p$ = .008) and seeing things from other team members' POV ($\beta$ = .31, $p$ = .028) revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.66, $p$ = .073; $\beta$ = -.61, $p$ = .064, respectively), Time 2 ($\beta$ = -.23, $p$ = .551; $\beta$ = -.01, $p$ = .891, respectively), and Time 3 ($\beta$ = -.30, $p$ = .418; $\beta$ = -.09, $p$ = .781, respectively), but rated positively at Time 4 ($\beta$ = .44, $p$ = .233; $\beta$ = .37, $p$ = .231, respectively).

Furthermore, positive interaction effects of narcissism*time on contributing fairly to the team workload ($\beta$ = .43, $p$ = .003) and getting along well with others ($\beta$ = .41, $p$ < .001) revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.37, $p$ = .265; $\beta$ = -.85, $p$ = .003, respectively) and Time 2 ($\beta$ = -.25, $p$ = .426; $\beta$ = -.27, $p$ = .312, respectively), but rated positively at Time 3 ($\beta$ = .51, $p$ = .166; $\beta$ = .16, $p$ = .566, respectively) and Time 4 ($\beta$ = .75, $p$ = .035; $\beta$ = .47, $p$ = .087).

#### 4.3.15.2 Adaptive Narcissism

From the LMM's on the round-robin interpersonal and teamwork ratings, several main effects and interaction effects were identified. Individuals high on adaptive narcissism were rated by others as high on levels of creativity ($\beta$ = .57, $p$ = .031) and as individuals who did not take advantage of others in the team ($\beta$ = -.72, $p$ < .001). Positive interaction effects of narcissism*time on contributing fairly to the team workload ($\beta$ = .33, $p$ = .024) and taking advantage of others in the team ($\beta$ = .72, $p$ < .001) revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.27, $p$ = .421; $\beta$ = -.45, $p$ = .207, respectively) and Time 2 ($\beta$ = -.17, $p$ = .562; $\beta$ = -.01, $p$ = .969, respectively), but rated positively at Time 3 ($\beta$ = .36, $p$ = .311; $\beta$ = .62, $p$ = .177, respectively) and Time 4 ($\beta$ = .75, $p$ = .033; $\beta$ = 1.54, $p$ = .002).

Furthermore, positive interaction effects of narcissism*time on setting goals for others ($\beta$ = .84, $p$ < .001) and encouraging others in the team to talk ($\beta$ = .61, $p$ < .001) revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.66, $p$ = .115; $\beta$ = -.34, $p$ = .367, respectively), but rated positively at Time 2 ($\beta$ = 1.12, $p$ = .011; $\beta$ = .89, $p$ = .023, respectively), Time 3 ($\beta$ = 1.22, $p$ = .010; $\beta$ = .95, $p$ = .016, respectively), and Time 4 ($\beta$ = 1.92, $p$ < .001; $\beta$ = 1.91, $p$ < .001).

#### 4.3.15.3 Maladaptive Narcissism

From the LMM's on the round-robin interpersonal ratings, several main effects and an interaction effect was identified. Individuals high on maladaptive narcissism were rated by others as low on levels of empathy ($\beta$ = -.83, $p$ < .001), and high on levels of arrogance ($\beta$ = 1.85, $p$ < .001) and aggression ($\beta$ = .08, $p$ < .001). A positive interaction effect of narcissism*time on empathy ($\beta$ = .33, $p$ = .010) revealed that narcissistic individuals were rated negatively on levels of empathy at Time 1 ($\beta$ = -.99, $p$ = .001), Time 2 ($\beta$ = -.39, $p$ = .202), and Time 3 ($\beta$ = -.34, $p$ = .275), but rated positively at Time 4 ($\beta$ = .20, $p$ = .505).

A positive interaction effect of narcissism*time on likeability ($\beta$ = .26, $p$ = .036) revealed that narcissistic individuals were rated negatively on likeability at Time 1 ($\beta$ = -.35, $p$ = .265) and Time 2 ($\beta$ = -.11, $p$ = .715), but rated positively at Time 3 ($\beta$ = .38, $p$ = .208) and Time 4 ($\beta$ = .48, $p$ = .109). Similarly, a positive interaction effect of narcissism*time on support ($\beta$ = .29, $p$ = .025) revealed that narcissistic individuals were rated negatively on support at Time 1 ($\beta$ = -.48, $p$ = .120), but rated positively across all other time points (Time 2: $\beta$ = .16, $p$ = .606; Time 3: $\beta$ = .27, $p$ = .391; Time 4: $\beta$ = .47, $p$ = .145).

From the LMM's on the round-robin teamwork ratings, several main effects and interaction effects were identified. Individuals high on maladaptive narcissism were rated by others as individuals who did not encourage others to talk ($\beta$ = -.76, $p$ = .018), did not motivate others to do well ($\beta$ = -1.61, $p$ < .001), and did not devote time to help others ($\beta$ = -.86, $p$ = .005). They were rated as individuals who were disorganised ($\beta$ = 1.35 $p$ < .001) and irritable during team interactions ($\beta$ = 1.18, $p$ < .001), and as individuals who took advantage of others ($\beta$ = 7.89, $p$ = .027). Positive interaction effects of narcissism*time on setting goals for others ($\beta$ = .96, $p$ < .001) and encouraging others to talk ($\beta$ = .61, $p$ < .001), revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.84, $p$ = .053; $\beta$ = -1.01, $p$ = .009, respectively), but rated positively at Time 2 ($\beta$ = .96, $p$ = .053; $\beta$ = .08, $p$ = .840, respectively), Time 3 ($\beta$ = 1.04, $p$ = .036; $\beta$ = .07, $p$ = .891, respectively), and Time 4 ($\beta$ = 2.27, $p$ < .0014 $\beta$ = 1.27, $p$ = .001, respectively).

Positive interaction effects of narcissism*time on motivating others to do well ($\beta$ = 1.18, $p$ < .001) and devoting time to helping others ($\beta$ = .44, $p$ = .005), revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.89, $p$ = .014; $\beta$ = -.61, $p$ = .105, respectively), Time 2 ($\beta$ = -.19, $p$ = .636; $\beta$ = -.56, $p$ = .152, respectively), and Time 3 ($\beta$ = -.09, $p$ = .819; $\beta$ = -.32, $p$ = .401, respectively), but rated positively at Time 4 ($\beta$ = 2.05, $p$ < .001; $\beta$ = .49, $p$ = .19, respectively). Positive interaction effects of narcissism*time on disorganisation ($\beta$ = .37, $p$ < .001) and taking advantage of others ($\beta$ = .42 $p$ = .023) revealed that narcissistic individuals were rated positively on these measures across all time points (Time 1: $\beta$ = 1.38 $p$ < .001; $\beta$ = 1.13, $p$ = .002, respectively; Time 2: $\beta$ = 2.04, $p$ < .001; $\beta$ = 1.24, $p$ < .001, respectively; Time 3: $\beta$ = 1.93, $p$

< .001; $\beta$ = 1.48, $p$ = .002, respectively; Time 4: $\beta$ = 2.60, $p$ < .001; $\beta$ = 2.29, $p$ < .001, respectively). Furthermore, a positive interaction effect of narcissism*time on getting along with others ($\beta$ = .35, $p$ = .002) revealed that narcissistic individuals were rated negatively on this measure at Time 1 ($\beta$ = -.53, $p$ = .072) and Time 2 ($\beta$ = -.17, $p$ = .528), but rated positively at Time 3 ($\beta$ = .34, $p$ = .234) and Time 4 ($\beta$ = .60, $p$ = .03).

#### 4.3.15.4 Narcissistic Admiration

From the LMM's on the round-robin interpersonal ratings, several main effects and interaction effects were identified. Individuals high on narcissistic admiration were rated by others as low on levels of hard work ($\beta$ = -.86, $p$ < .001), and high on levels of arrogance ($\beta$ = 1.25, $p$ < .001) and aggression ($\beta$ = .07, $p$ < .001). A positive interaction effect of narcissism*time on leadership ($\beta$ = .38, $p$ = .025) revealed that narcissistic individuals were rated positively on levels of leadership across all time points (Time 1: $\beta$ = .24, $p$ = .521; Time 2: $\beta$ = .08, $p$ = .822; Time 3: $\beta$ = .44, $p$ = .261; Time 4: $\beta$ = 1.24, $p$ = .002).

Positive interaction effects of narcissism*time on hard work ($\beta$ = .34, $p$ < .001) and on likeability ($\beta$ = .29, $p$ = .018) revealed that narcissistic individuals were rated negatively on levels of hard work at Time 1 ($\beta$ = -.88, $p$ = .004), Time 2 ($\beta$ = -.69, $p$ = .016), and Time 3 ($\beta$ = -.13, $p$ = .653), but rated positively at Time 4 ($\beta$ = .21, $p$ = .496); and were rated negatively on likeability at Time 1 ($\beta$ = -.22, $p$ = .479), but rated positively at Time 2 ($\beta$ = .41, $p$ = .185), Time 3 ($\beta$ = .46, $p$ = .125), and Time 4 ($\beta$ = .77, $p$ = .011). Furthermore, a negative interaction effect of narcissism*time on aggression ($\beta$ = -.02, $p$ = .032) revealed that narcissistic individuals were rated positively on aggression at Time 1 ($\beta$ = 1.26, $p$ < .001) and Time 2 ($\beta$ = .18, $p$ = .551), but rated negatively at Time 3 ($\beta$ = -.04, $p$ = .892) and Time 4 ($\beta$ = -.01, $p$ = .976).

From the LMM's on the round-robin teamwork ratings, several main effects and interaction effects were identified. Individuals high on narcissistic admiration were rated by others as individuals who did not put in effort during team interactions ($\beta$ = -.56, $p$ = .047), did not get along well with others ($\beta$ = -.09, $p$ < .001), and did not contribute their fair share of the work ($\beta$ = -1.26, $p$ < .001). They were rated as unreliable ($\beta$ = -1.26, $p$ < .001), disorganised ($\beta$ = 1.32 $p$ < .001), irritable ($\beta$ = 1.08, $p$ < .001), and as bad team players ($\beta$ = -.63 $p$ = .045) who set goals for others ($\beta$ = .84, $p$ = .026). Positive interaction effects of narcissism*time on setting goals for others ($\beta$ = .46, $p$ = .019), motivating others to well ($\beta$ = .44, $p$ = .024), encouraging others to talk ($\beta$ = .45, $p$ = .006), and taking advantage of others ($\beta$ = .58, $p$ = .001), revealed that narcissistic individuals were rated positively on these measures across all time points (Time 1: $\beta$ = 1.01 $p$ = .019; $\beta$ = .33, $p$ = .363; $\beta$ = .36, $p$ = .346; $\beta$ = 1.06, $p$ = .004, respectively; Time 2: $\beta$ = 1.15, $p$ = .012; $\beta$ = .76, $p$ = .049; $\beta$ = .46, $p$ = .253; $\beta$ = 1.10, $p$ = .003, respectively; Time 3: $\beta$ = 1.79, $p$ < .001; $\beta$ = .77, $p$ = .048; $\beta$ = 1.38, $p$ < .001; $\beta$ = 1.21, $p$ = .011, respectively; Time 4: $\beta$ = 2.18, $p$ < .001; $\beta$ = 1.58, $p$ < .001; $\beta$ = 1.63, $p$ < .001; $\beta$ = 2.73, $p$ < .001, respectively).

Positive interaction effects of narcissism*time on contributing fairly to the team workload ($\beta$ = .68, $p$ < .001) and getting along well with others ($\beta$ = .41, $p$ < .001), revealed that narcissistic individuals were rated negatively on these measures at Time 1 ($\beta$ = -.99, $p$ = .003; $\beta$ = -.94, $p$ = .001, respectively), Time 2 ($\beta$ = -.96, $p$ = .002; $\beta$ = -.62, $p$ = .022, respectively), and Time 3 ($\beta$ = -.04, $p$ = .912; $\beta$ = -.07, $p$ = .792, respectively), but rated positively at Time 4 ($\beta$ = .89, $p$ = .014; $\beta$ = .30, $p$ = .293). Furthermore, a positive interaction effect of narcissism*time on effort during team interactions ($\beta$ = .40, $p$ = .007) revealed that narcissistic individuals were rated negatively on this measure at Time 1 ($\beta$ = -.45, $p$ = .201) and Time 2 ($\beta$ = -.49, $p$ = .137), but rated positively at Time 3 ($\beta$ = .47, $p$ = .179) and Time 4 ($\beta$ = .55, $p$ = .102).

#### 4.3.15.5 Narcissistic Rivalry

From the LMM's on the round-robin interpersonal ratings, several main effects and an interaction effect was identified. Individuals high on narcissistic rivalry were rated by others as low on levels of competency ($\beta$ = -2.11, $p$ < .001), creativity ($\beta$ = -1.06, $p$ < .001), confidence ($\beta$ = -1.35 $p$ < .001), empathy ($\beta$ = -2.23, $p$ < .001), support ($\beta$ = -2.25, $p$ < .001), trust ($\beta$ = -2.00, $p$ < .001), likeability ($\beta$ = -2.15, $p$ < .001), leadership ($\beta$ = -1.75, $p$ < .001), and hard work ($\beta$ = -1.88, $p$ < .001). They were also rated by others as high on levels of arrogance ($\beta$ = 4.08, $p$ < .001) and aggression ($\beta$ = .25, $p$ < .001). A negative interaction effect of narcissism*time on creativity ($\beta$ = -.37, $p$ = .006) revealed that narcissistic individuals were rated negatively on levels of creativity across all time points (Time 1: $\beta$ = -.99, $p$ = .001; Time 2: $\beta$ = -1.42, $p$ < .001; Time 3: $\beta$ = -2.14, $p$ < .001; Time 4: $\beta$ = -2.11, $p$ < .001).

From the LMM's on the round-robin teamwork ratings, several main effects and interaction effects were identified. Individuals high on narcissistic rivalry were rated by others as individuals who did not put in effort during team interactions ($\beta$ = -1.90, $p$ < .001), did not encourage others to talk ($\beta$ = -1.66, $p$ < .001), did not work well under pressure ($\beta$ = -1.22, $p$ < .001), did not motivate others to do well ($\beta$ = -3.10, $p$ < .001), did not share ideas with others ($\beta$ = -1.69, $p$ < .001), did not see things from other team members' POV ($\beta$ = -2.01, $p$ < .001), did not get along with others ($\beta$ = -2.41, $p$ < .001), and did not devote time to helping others ($\beta$ = -1.67, $p$ < .001). They were also rated as individuals who did not express their ideas clearly ($\beta$ = -1.54, $p$ < .001), did not contribute their fair share of the work ($\beta$ = -1.96, $p$ < .001), and were rated as unreliable ($\beta$ = -1.91, $p$ < .001), and as bad team players ($\beta$ = -2.20, $p$ < .001). They were also rated as disorganised ($\beta$ = 2.67, $p$ < .001), irritable ($\beta$ = 3.21, $p$ < .001), and as members who took advantage of others ($\beta$ = 2.83 $p$ < .001).

A positive interaction effect of narcissism*time on motivating others to do well ($\beta$ = 1.98, $p$ < .001) revealed that narcissistic individuals were rated negatively on this measure at Time 1 ($\beta$ = -1.60, $p$ < .001), Time 2 ($\beta$ = -1.07, $p$ = .004), and Time 3 ($\beta$ = -2.04, $p$ < .001), but rated positively at Time 4 ($\beta$ = 4.51, $p$ < .001). Furthermore, a positive interaction effect of narcissism*time on

disorganised behaviour ($\beta$ = .36, $p$ = .041) revealed that narcissistic individuals were rated positively on this measure across all time points (Time 1: $\beta$ = 2.77, $p$ < .001; Time 2: $\beta$ = 3.63, $p$ < .001; Time 3: $\beta$ = 2.38, $p$ < .001; Time 4: $\beta$ = 4.34, $p$ < .001).

#### 4.3.15.6 Vulnerable Narcissism

From the LMM's on the round-robin interpersonal ratings, several main effects and an interaction effect was identified. Individuals high on vulnerable narcissism were rated by others as low on levels of competency ($\beta$ = -1.14, $p$ < .001), creativity ($\beta$ = -.75, $p$ = .005), confidence ($\beta$ = -1.27 $p$ < .001), empathy ($\beta$ = -1.91, $p$ < .001), support ($\beta$ = -2.14, $p$ < .001), trust ($\beta$ = -2.13, $p$ < .001), likeability ($\beta$ = -1.91, $p$ < .001), leadership ($\beta$ = -2.41, $p$ < .001), and hard work ($\beta$ = -1.92, $p$ < .001). They were also rated by others as high on levels of arrogance ($\beta$ = 3.83, $p$ < .001) and aggression ($\beta$ = .22, $p$ < .001). A negative interaction effect of narcissism*time on creativity ($\beta$ = -.34, $p$ = .014) revealed that narcissistic individuals were rated negatively on levels of creativity across all time points (Time 1: $\beta$ = -.85, $p$ = .010; Time 2: $\beta$ = -.99, $p$ = .002; Time 3: $\beta$ = -1.51, $p$ < .001; Time 4: $\beta$ = -1.80, $p$ < .001).

From the LMM's on the round-robin teamwork ratings, several main effects and an interaction effect was identified. Individuals high on vulnerable narcissism were rated by as individuals who did not put in effort during team interactions ($\beta$ = -2.25, $p$ < .001), did not encourage others to talk ($\beta$ = -2.45, $p$ < .001), did not work well under pressure ($\beta$ = -1.76, $p$ < .001), did not motivate others to do well ($\beta$ = -4.26, $p$ < .001), did not share ideas with others ($\beta$ = -1.73, $p$ < .001), did not see things from other team members' POV ($\beta$ = -1.97, $p$ < .001), did not get along well with others ($\beta$ = -2.09, $p$ < .001), and as individuals who did not devote time to helping others ($\beta$ = -2.75, $p$ < .001). They were also rated as unreliable ($\beta$ = -2.18, $p$ < .001), bad team players ($\beta$ = -2.12, $p$ < .001), individuals who did not set goals ($\beta$ = -2.78, $p$ < .001) or express their ideas clearly ($\beta$ = -1.70, $p$ < .001), individuals who took advantage of others ($\beta$ = 2.42 $p$ < .001) and did not contribute their share of the workload ($\beta$ = -2.21, $p$ < .001), and as individuals who were disorganised ($\beta$ = 2.57, $p$ < .001) and irritable ($\beta$ = 2.78, $p$ < .001) during team interactions.

A positive interaction effect of narcissism*time on motivating others to do well ($\beta$ = 2.05, $p$ < .001) revealed that narcissistic individuals were rated negatively on this measure at Time 1 ($\beta$ = -2.89, $p$ < .001), Time 2 ($\beta$ = -2.41, $p$ < .001), and Time 3 ($\beta$ = -2.63, $p$ < .001), but rated positively at Time 4 ($\beta$ = 3.38, $p$ < .001).

### 4.3.16 Longitudinal Effects on Team Processes

Additional linear mixed effects models were run to account for the influence of narcissism on perceived levels of team cohesion and team conflict over time. Similar to the models run for the round-robin data, grand mean centring was used on the explanatory variable and time was treated

as a continuous variable. In all models, participant and team were treated as random effects, and narcissism and time were treated as fixed effects. Normality checks were conducted on both variables and log transformation was used to transform skewed data from one variable ("Team conflict") to conform to normality. Similar to the previous models, after numerous models failed to converge, the final models employed were random intercept models in which the random effects of participant and team were free to vary on the dependent variable. REML estimations were used for all models. Linear mixed effects are presented in Table 98. For brevity, only significant effects are reported below. Significant interactions are presented in the *summary diagrams* in section 4.3.17.

#### 4.3.16.1 Narcissistic Rivalry

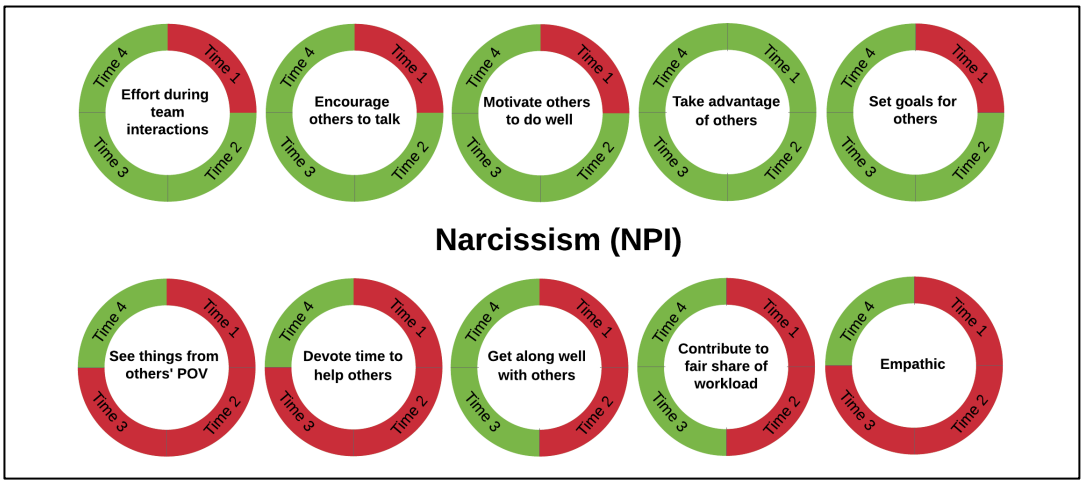
From the LMMs on perceived team cohesion and team conflict, several main effects and interaction effects were found. Individuals high on narcissistic rivalry reported lower levels of team cohesion ($\beta$ = -.64, $p$ = .003) and higher levels of team conflict ($\beta$ = .27, $p$ = .005) in their teams. Interestingly, a positive interaction effect of narcissism*time on team cohesion revealed that individuals high on narcissistic rivalry reported low levels of team cohesion at Time 1 ($\beta$ = -.87, $p$ < .001), Time 2 ($\beta$ = -.60, $p$ = .013), and Time 3 ($\beta$ = -1.29, $p$ < .001), but reported high levels at Time 4 ($\beta$ = .03, $p$ = .359). A negative interaction effect of narcissism*time on team conflict revealed that individuals high on narcissistic rivalry reported high levels of team conflict at Time 1 ($\beta$ = .42, $p$ < .001), Time 2 ($\beta$ = .25, $p$ = .014), and Time 3 ($\beta$ = .33, $p$ < .001), but reported low levels at Time 4 ($\beta$ = -.01, $p$ = .577).

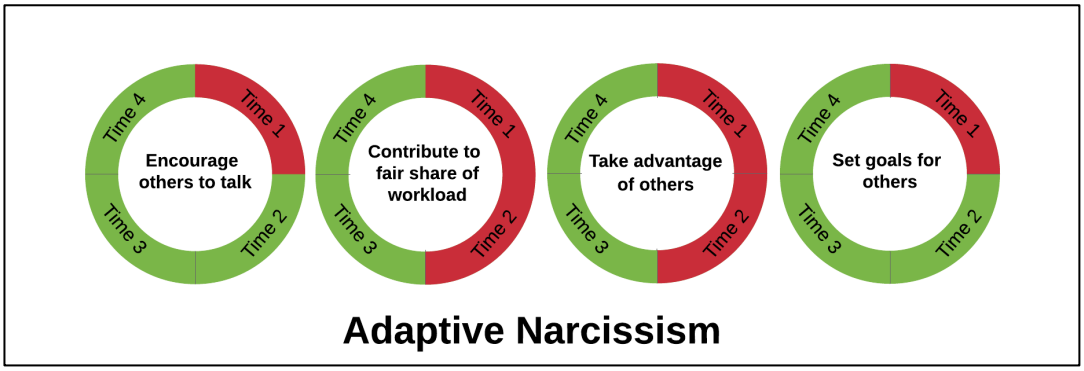
#### 4.3.16.2 Vulnerable Narcissism

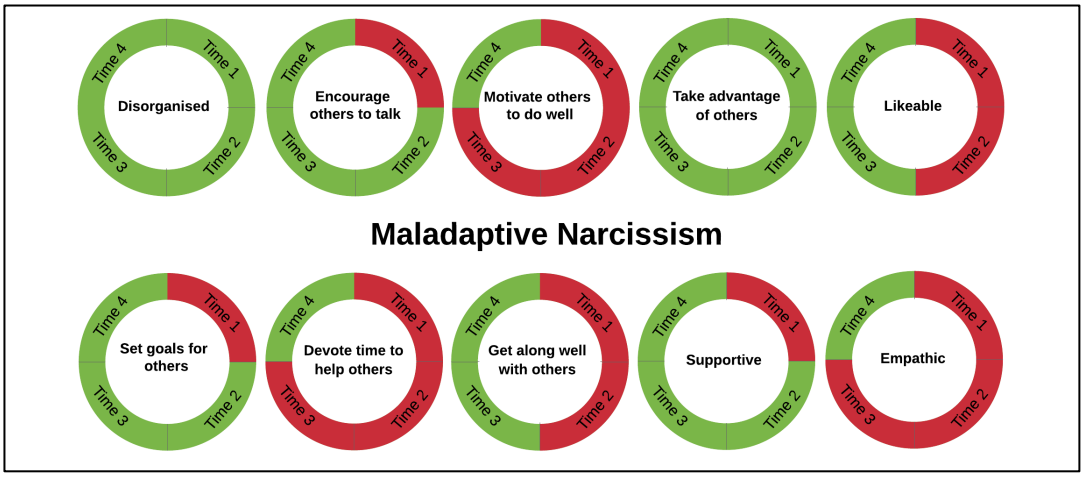
Individuals high on vulnerable narcissism reported low levels of team cohesion ($\beta$ = -.24, $p$ < .001) and high levels of team conflict ($\beta$ = .08, $p$ < .001) in their teams.

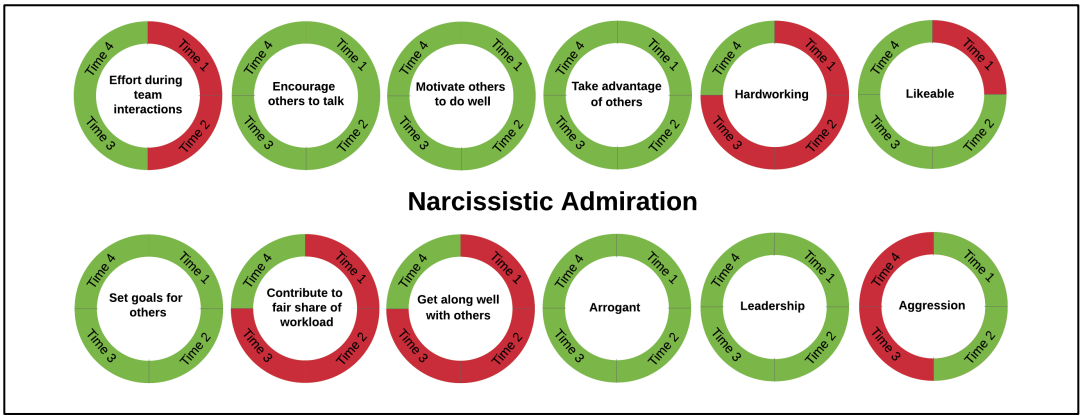
### 4.3.17 Summary Diagrams

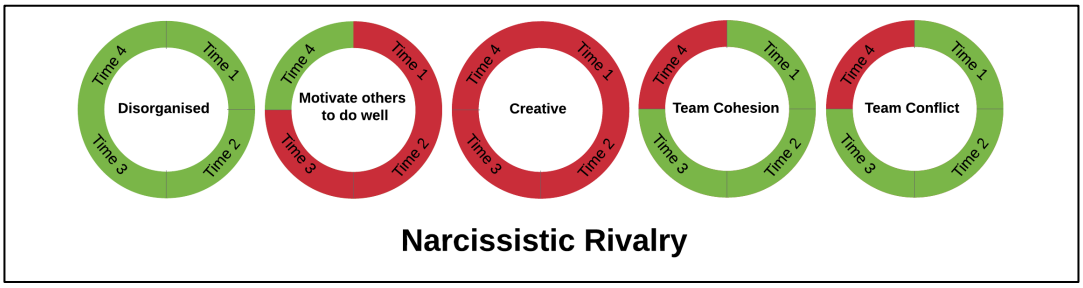
The below diagrams illustrate the significant interaction effects of narcissism*time on round-robin measures, and perceived teamwork processes. Circles are broken into four segments, each representing a different time point of the study. Green segments indicate a positive relationship of narcissism on the dependent variable, whereas red segments represent a negative relationship.

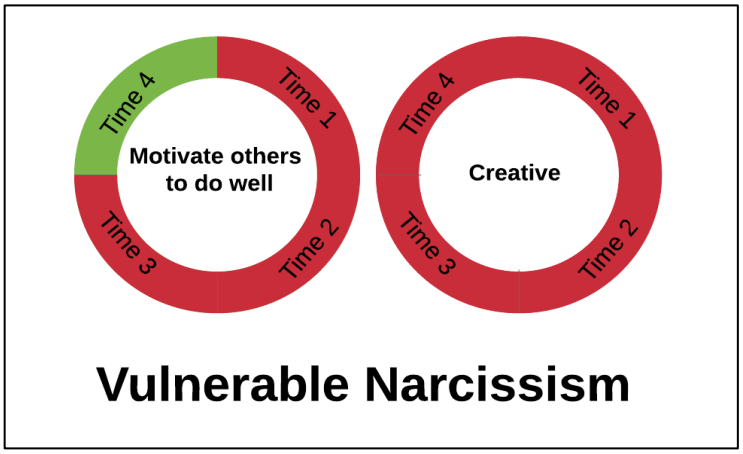

Effort during team interactions
Encourage others to talk
Motivate others to do well
Take advantage of others
Set goals for others
Narcissism (NPI)
See things from others' POV
Devote time to help others
Get along well with others
Contribute to fair share of workload
Empathic
Time 1
Time 2
Time 3
Time 4


Encourage others to talk
Contribute to fair share of workload
Take advantage of others
Set goals for others
Adaptive Narcissism
Time 1
Time 2
Time 3
Time 4


Disorganised
Encourage others to talk
Motivate others to do well
Take advantage of others
Likeable
Maladaptive Narcissism
Set goals for others
Devote time to help others
Get along well with others
Supportive
Empathic
Time 1
Time 2
Time 3
Time 4


Effort during team interactions
Encourage others to talk
Motivate others to do well
Take advantage of others
Hardworking
Likeable
Narcissistic Admiration
Set goals for others
Contribute to fair share of workload
Get along well with others
Arrogant
Leadership
Aggression
Time 1
Time 2
Time 3
Time 4




## 4.4 Discussion

This study aimed to replicate and expand upon the findings of Study 1 and Study 2 by investigating how different traits/subtypes of narcissism predict engagement in a range of team-related behaviours, and the downstream consequences on team processes and team performance over time.

At the individual level, several findings from Study 1 and Study 2 were replicated (*Hypothesis 1*). The dark side of narcissism (specifically narcissistic rivalry and vulnerable narcissism) was negatively correlated with team cohesion and subjective team performance, and positively correlated with team conflict. Likewise, dark narcissists typically scored low on all of the teamwork competencies (i.e., communication, management, intrapersonal, interpersonal skills). Presumably, dark narcissists do not make the best team players, and this may negatively impact team processes. Indeed, in the mediation models, dark narcissism (excluding maladaptive narcissism) significantly predicted low levels of team cohesion and high levels of team conflict, and this was explained, in part, by their low levels of management and interpersonal skills. For example, dark narcissism was negatively related with feelings of team connectedness, patience with others, integrity, willingness to support other team members, perspective-taking ability, trust, openness to share information, empathy for others, and possessing a positive outlook for team tasks. In the sequential multiple mediation models, these effects were replicated, and predicted low levels of perceived team performance. As management and interpersonal competencies are

synonymous with successful team environments (Englefield et al., 2019; Kwiatkowski, 2019; Tarricone & Luca, 2002; Wu, Rivas et al., 2019), these results are in the hypothesised direction.

In line with Study 1 and Study 2, the bright side of narcissism was positively correlated with the communication, management, and intrapersonal competencies. Seemingly, bright narcissists behave in ways that *are* beneficial to team interactions and team processes. For example, bright narcissism was positively related with the ability to deal with conflict in team settings, high levels of creativity, stability, and leadership skills, effective team member motivation and encouragement, and positive communication strategies when expressing ideas in team settings. Given that team member stability is fundamental in team learning and performance (Akgün & Lynn, 2002), and that team member motivation is a vital ingredient for the operation of successful teams and organisations (Jiang, 2010), these findings paint a positive portrait of bright narcissism within the team and organisational context. Similar to the previous studies, high levels of management skills led to high levels of team cohesion and team conflict for bright narcissists, and this in turn, predicted high and low levels of perceived team performance, respectively. Arguably, these findings underwrite the need to examine the types of management strategies (i.e., cooperative *win-win* vs. competitive *win-lose* strategies; Tjosvold, 1989) that narcissists employ in team settings, and to investigate their relationship with team processes and performance indicators.

Consistent with *Hypothesis 1a*, the bright and dark sides of narcissism influenced peer-rated team performance. Specifically, the dark side of narcissism was associated with more negative peer-rated performance ratings than the bright side of narcissism. For example, in the mediation models, high levels of dark narcissism were associated with lower levels of management skills and lower levels of team cohesion, which predicted lower levels of peer-rated team performance. Contrariwise, high levels of bright narcissism were associated with higher levels of management skills and higher levels of team cohesion, which predicted higher levels of peer-rated team performance. Given the notion of reciprocity for exchanges within social exchange theory (Cropanzo & Mitchell, 2005; O'Boyle et al., 2012), these findings are in the hypothesised direction. Team members who felt personally affected by narcissists repaid their experiences in kind with low peer-rated team performance ratings. To all appearances, the bright and dark sides of narcissism have markedly different influences on team interactions, and subsequent team member ratings.

Adopting a temporal lens, I hypothesised that dark narcissists would report more instances (or higher levels) of team conflict, and fewer instances (or lower levels) of team cohesion than bright narcissists throughout the lifecycle of their team (*Hypothesis 1b*). The results generally supported this hypothesis. Dark narcissism (specifically, narcissistic rivalry and vulnerable narcissism) predicted low levels of team cohesion across all time points, and predicted high levels of team conflict across the majority of time points (Time 1, Time 3, Time 4). Since the literature is replete with examples of narcissism's maladaptive value in team and organisational settings

(Braun, 2017; Germain, 2018; Grijalva & Harms, 2014; O'Boyle et al., 2012), these findings are far from surprising. Yet, inasmuch that cohesion is presumed to be at the heart of teamwork dynamics (Hung & Gatica-Perez, 2010; Marques-Quinteiro et al., 2019; Maynard et al., 2015), and that individual factors may emerge over time that influence collective outcomes (Gyory et al., 2019; Myers & Lamm, 1976), these findings nevertheless heed a stark warning: Dark narcissists likely spell disaster to the teams and organisations that they are a part of.

At the relational level, I hypothesised that there would be significant interindividual differences in how narcissists view themselves and their team members, as well as how other team members generally view narcissists (*Hypothesis 2*). That is, positive effects would be identified when team cohesion were high, and negative effects would be identified when team conflict were high. I also hypothesised that these effects will be driven by the bright and dark sides of narcissism (*Hypothesis 2a*). The findings are generally consistent with the hypotheses.

Across all interpersonal and teamwork measures at all time points, there were significant interindividual differences in how much people rated others in their team on each measure (i.e., *perceiver* variance), as well as how much people were rated by their team members on each measure (i.e., *target* variance). Considering that peer ratings comprise idiosyncratic effects of the perceiver, the target's level of rateable attributes, individualism-collectivism orientations and biases, and random error (Cheng et al., 2017; Ng et al., 2011; Scullen et al., 2000), these results are in the hypothesised direction. In line with the literature on ratings bias (Bernadin et al., 2016; Randall & Sharples, 2012), assimilation and consensus effects were found on most interpersonal and teamwork measures. For example, individuals who described themselves at each time point as creative, likeable, and hardworking, rated others as such, and were also rated likewise by their team members at each time point. Similarly, individuals who described themselves at each time point as members of the team who put in a lot of effort, motivation, and encouragement, rated others as such, and were also rated likewise by their team members at each time point. These findings highlight the dispositional characteristics and attributes that may be considered salient during team interactions, and offer additional support to research on homophily (i.e., the amount of similarity two people perceive themselves as having; Rogers & Bhowmik, 1971) when investigating interpersonal perceptions and peer ratings (McCroskey et al., 1974; Rocca & McCroskey, 1999; Wheeless, 1974) in the team literature.

In the round-robin analyses, dark narcissists (i.e., narcissistic rivalry, vulnerable narcissism) rated themselves across all time points as arrogant, aggressive, unsupportive, and untrustworthy, and were rated likewise by their team members across most time points. Dark narcissists rated others in their team as low on support, confidence, trust, competence, empathy, and likeability across all time points, and as high on arrogance and aggression too. Importantly, when team cohesion was lowest (Time 1), positive assimilation and consensus effects were identified on several measures that are considered fundamental to healthy team functioning (e.g., Iacono &

Weisband, 1997; Sands et al., 2008). For example, dark narcissists rated themselves and others in their team as low on levels of support, trust, leadership, and empathy, and were rated likewise by others on these measures. As social support positively influences team cohesion (Vincer & Loughead, 2010) and a lack of trust is associated with low cohesiveness in newly formed teams (Yukl, 2010), these findings are in the hypothesised direction. Interestingly, when team conflict was highest (Time 4), similar positive effects were found. For example, dark narcissists rated themselves and others in their team as low on levels of support, trust, empathy, and likeability, and were rated likewise by others on these measures. As perspective-taking is positively associated with low levels of relational conflict in teams (LeBlanc et al., 2012), and trust is considered to reduce the negative impact of team conflict (Tiejun et al., 2013), these findings offer a nuanced understanding of dark narcissism in the team context.

On the teamwork measures, dark narcissists (i.e., narcissistic rivalry, vulnerable narcissism) rated themselves across most time points as unreliable, moody, disorganised, and irritable. They also rated themselves as individuals who did not help or share information with others, individuals who did not put a lot of effort in during team interactions, individuals who did not get along with others, and as individuals who did not work well under pressure. Dark narcissists rated others in their team as low on effort, encouragement, motivation, organisation, reliability, and on helping behaviours across all time points, and as team members who took advantage of others, members who did not work well under pressure, and as members who did not share ideas or consider others' point of view during team meetings. As successful teams are considered to be those in which members work together, report a culture of close listening and communication, share goals, and provide a source of back-up and assistance for all (Grietemeyer et al., 2006; Katzenbach & Smith, 2003; Salas et al., 2005; West et al., 1998), these findings are somewhat unnerving. In line with the above, when team cohesion was lowest, assimilation and consensus effects were identified on several measures. For example, dark narcissists rated themselves and others as high on advantage-taking behaviours and low on reliability and contribution to team tasks, and were rated likewise by others on these measures.

When team conflict was highest, both positive and negative effects were identified. For example, individuals high on narcissistic rivalry rated themselves and others in their team as irritable and moody, and were rated likewise by others on this measure. Individuals high on vulnerable narcissism rated themselves and others in their team as low on effort during team interactions, but were rated by others as high on this measure. Similarly, individuals high on vulnerable narcissism rated themselves as high on ability to work well under pressure, but rated others and were rated by others as low on this measure. Given that conflict management styles are associated with the ability to adapt to different work pressures (Aritzeta et al., 2005), and that cohesive teams comprise members who work just as hard collectively as coactively (Karau & Hart,

1998), these findings add further fuel to the fire that dark narcissists do not make the best team members, and that this is potentially recognised by those around them.

In the round-robin analyses, bright narcissists rated themselves across all time points as supportive, creative, confident, and as good leaders, and were rated likewise by others across most time points. When team conflict was lowest (Time 2), positive consensus effects were identified on several measures. For example, bright narcissists rated themselves as high on levels of confidence, support, competence, likeability, and leadership, and were rated likewise by others on these measures. As high levels of confidence are associated with low levels of process conflict in teams (Goncalo, Polman et al., 2010), and social support is linked to low levels of interpersonal conflict (Miranda & Bostrom, 1993), these findings are in the hypothesised direction. When team cohesion was highest (Time 4), similar positive effects were found. For example, bright narcissists rated themselves as high on levels of confidence and leadership, and were rated likewise by others on these measures. As leadership variables have been shown to positively predict team cohesion (Jowett & Chaundy, 2004; Rozell & Gundersen, 2003), these findings are in line with the literature and offer a nuanced understanding of bright narcissism in the team context.

On the teamwork measures, bright narcissists rated themselves across most time points as individuals who put in a lot of effort during team interactions, individuals who motivated and encouraged others to do well, individuals who shared information and ideas freely, and as good team players. Across most of the time points, bright narcissists were rated likewise by others in their team on these measures. Since individuals collaborating as a team often achieve more than individuals working alone (Marks et al., 2001; Sawyer, 2007), these findings paint a positive portrait of bright narcissism in the team setting. In line with the above, when team conflict was lowest, several positive consensus effects were identified. For example, bright narcissists rated themselves as high on levels of effort during team interactions, high on idea expression and information sharing behaviours, high on the motivation and encouragement of others, and as good team players. As expected, bright narcissists were rated likewise by others on these measures.

When team cohesion was highest, similar positive effects were identified. For example, bright narcissists rated themselves as high on levels of effort during team interactions, high on the encouragement and motivation of others, and high on idea expression and goal setting behaviours. In line with the above, bright narcissists were rated likewise by others on these measures. Given that teams with low levels of conflict comprise members who share similar views, feel more connected to one another, express ideas clearly, and share task-relevant information (Schriescheim, 1980; White & Harary, 2001), these findings highlight the positive attributes that bright narcissists likely bring to the team table.

At the relational level, I also hypothesised (*Hypothesis 3*) that in line with self-enhancement theory, narcissists would overestimate how much they are rated by others on positive attributes

during early acquaintance (or when team cohesion is highest), and would underestimate how much they are rated by others on negative attributes later on in the team lifecycle (or when team conflict is highest). While the overall hypothesis was not confirmed, some findings, however, were in the hypothesised direction.

During zero-acquaintance when team cohesion was lowest, narcissists overestimated how much they were rated by others as likeable, confident, competent, empathic, supportive, and as good leaders. They also overestimated how much they were rated as reliable team members, individuals who put in a lot of effort and got along with others, individuals who set goals, and individuals who contributed their fair share of the team workload. During late-acquaintance when team conflict was highest, similar findings were identified, and narcissists (specifically dark narcissists) underestimated how much they were rated as disorganised and as individuals who took advantage of others. As individuals are skilled at processing information in a biased manner to arrive at conclusions that flatter the self (Kruglanski, 1989; Kunda, 1990), and that self-enhancement focuses on attaining and regulating positive self-views (Alicke & Sedikides, 2009), these findings are in the hypothesised direction. However, given that narcissists possess grandiose views of the self and relish every opportunity to enhance those views (Campbell et al., 2002; Hepper et al., 2010; John & Robins, 1994), it was expected that more underestimations of negative peer-ratings would be apparent throughout the team lifecycle or when team conflict was highest. Future investigation on the self-enhancement strategies and perceptions of narcissists within the team context is warranted.

In line with the chocolate cake model (Campbell, 2005) and contextual reinforcement model of narcissism (Campbell & Campbell, 2009), I hypothesised (*Hypothesis 4*) that team member ratings of narcissists would be more positive at zero-acquaintance (i.e., the *emerging* zone) than later on in the team lifecycle (i.e., the *enduring* zone). Specifically, I hypothesised that these effects would be driven by the bright and dark sides of narcissism (*Hypothesis 4a*). Although the overall hypotheses were not confirmed, the LMM results offer an interesting twist to the literature: Narcissists were rated as poor team players initially, yet emerged as favourable team members over time.

During zero and early acquaintance, dark narcissists were rated low on levels of likeability, support, empathy, and creativity. They were rated as disorganised, manipulative, and unhelpful; and viewed negatively on encouragement, motivation, goal setting, and friendliness. Albeit contrary to previous research (Back et al., 2010; Czarna et al., 2016; Leckelt et al., 2015; Paulhus, 1998) and the positive aspects of narcissism that are expected to transpire during the *emerging* zone of acquaintanceship (Campbell & Campbell, 2009), these findings can be explained, in part, by narcissists' argumentative and antagonistic orientation (Sedikides & Campbell, 2017).

Narcissistic rivalry comprises three intertwined domains that may influence team interactions: striving for supremacy, active devaluation of others, and aggressiveness (Back et al., 2013). Given that zero and early acquaintanceship parallel the *forming* and *storming* stages of team development (Tuckman, 1965; Tuckman & Jensen, 1977), it is theoretically plausible that these antagonistic domains will be initiated and lead to negative consequences in the team. For example, during the *forming* stage, team members often become oriented to the task at hand, establish relationships with leaders, and set boundaries for interpersonal and task-related behaviours. As narcissists have been shown to reinstate and defend their own superior status (Back et al., 2013), they may approach this stage of team development expecting to emerge as leaders and subsequently face threats to their ego when they do not get their own way (Hepper et al., 2010). Likewise, during the *storming* stage in which team members start to challenge the authority of others and push against the established boundaries, narcissists may view others as unworthy components or as threats to their potential glory. As a result, narcissists may actively engage in the derogation of others (Vaillancourt, 2013) and lash out aggressively in team interactions (Bushman & Baumeister, 1998; Thomaes et al., 2011), which will ultimately lead to negative ratings by their peers.

Interestingly, during late acquaintance, dark narcissists (specifically maladaptive narcissism) were rated high on likeability, support, and empathy. They were still rated as disorganised and manipulative, but were viewed positively on encouragement, motivation, goal setting, and friendliness. While these findings are in line with the *norming* and *performing* stages of team development (Tuckman, 1965; Tuckman & Jensen, 1977) as they suggest that team members banded together to commit and accomplish team goals; they do not, however, provide evidence for the chocolate cake model (Campbell, 2005) or contextual reinforcement model (Campbell & Campbell, 2009) of narcissism. One likely explanation for these findings is narcissists' desire to win in interdependent settings (Thomaes et al., 2008).

As argued in Chapter 1, narcissistic relationships often follow a *zero-sum* principle: Only one of us can be greater, so your loss is my gain, and my gain is your loss (Brummelman et al., 2016). Indeed, research suggests that narcissists reject group goals in order to get ahead (Arthur et al., 2011), derogate peers who outperform them (Locke, 2009; Rhodewalt & Morf, 2005), and withhold task-relevant information to suit their own agenda (Lakey et al., 2007). While such behaviours are likely to cause unrest and be at the expense of the team, the current findings suggest otherwise. Dark narcissists were rated *more* favourably over time. Playing devil's advocate, the current findings suggest that narcissists may adopt a *win-win* principle when team success (or more importantly, their own success) is at stake: Your loss must be my loss, and your gain my gain.

Given their chronic pursuit of winning and satisfying their agentic self-views (Jones & Brunell, 2014), it is theoretically possible that narcissists may recognise the value of teamwork (albeit temporarily and when their own success is dependent) in order to attain success, and

subsequently behave in ways (i.e., motivating others, setting group goals, encouraging progress, offering support) that aid this agenda. To all appearances then, dark narcissists may emerge as good team players when performance deadlines are looming, but behind the façade they are just concerned with getting ahead. Albeit in its infancy, research suggesting that narcissists are capable of satisfying their agentic self-motives via communal means (i.e., communal narcissism; Gebauer et al., 2012) lends some support to this proposition.

For bright narcissists, similar temporal effects were identified (albeit mixed among measures). In support for the *win-win* principle, individuals high on adaptive narcissism were initially rated low on contribution, encouragement and goal setting, but were rated high on these measures later on. Similarly, individuals high on narcissistic admiration were initially rated as high on aggression, and rated low on likeability, hard work, effort, contribution, and friendliness. Over time, however, these ratings portrayed bright narcissists in a more favourable light. Interestingly, across the team's lifecycle, some ratings remained consistent. For example, individuals high on narcissistic admiration were rated across all time points as high on arrogance, manipulation, leadership, encouragement, goal setting, and motivation. These findings align well with previous research showing that bright narcissism is positively associated with leadership ratings and increased likeability over time (Leckelt, Richter et al., 2019). Taken together, these findings tell an interesting story of how bright and dark narcissists are viewed by others in the team. They also allude to the possible similarities and differences among narcissism measures that may arise when success is at stake.

At the team level, several findings from Study 2 were replicated (*Hypotheses 5* and *5a*). Team-level dark narcissism was negatively correlated with team-level cohesion and positively correlated with team-level conflict. To all appearances, teams with high levels (or a high percentage) of dark narcissists do not operate in ways that are conducive to team settings. Indeed, in the mediation analyses, team-level dark narcissism predicted high levels of team-level conflict, which predicted low levels of team performance. This expected finding provides additional support to the expansive conflict-performance literature (De Dreu & Weingart, 2003; Fui & Hassan, 2015; Martinez-Moreno et al., 2009; Nawaz & Gomes, 2020; Thiel et al., 2019) and offers new insight into the types of personalities that likely cause conflict in team settings (Antonioni, 1998; Lawrence, 2011; Shamsul, 2013).

In the mediation analyses, team-level dark narcissism predicted low levels of team-level cohesion, which predicted high levels of team performance. Albeit unexpected given the well-established cohesion-performance link in the literature (Braun et al., 2020; Kozlowski & Chao, 2012; Mathieu et al., 2008; Menges & Kilduff, 2015), these findings may be explained, in part, by narcissist's desire in getting ahead rather than getting along (Back et al., 2013; Hogan, 1983). For example, the literature is laden with findings that suggest narcissism predicts improvements in performance when pressure, competition, and opportunity for glory is high (Guekes et al., 2012,

2013; Roberts et al., 2013; Roberts et al., 2010; Wallace & Baumeister, 2002; Woodman et al., 2011). As narcissists are low on communal orientation (Paulhus & John, 1998; Campbell et al., 2002) and are motivated to respond to certain situations that are aligned with their personal goals (Morf et al., 2011; Morf & Rhodewalt, 2001), it is theoretically conceivable that they may overlook the potential benefits of team cohesion (i.e., enhanced communicative skills, higher individual well-being, increased team satisfaction; Fung, 2014; Markova & Perry, 2014), in favour for the self-enhancement opportunities that can be gained from team performance. That is, dark narcissists may be more inclined to bypass the formation of interpersonal relationships with others to get to the venerated finish line of success (i.e., high academic team grade). Research suggesting that individuals with low levels of communal values often perform the highest in agentic work environments (Garcia et al., 2014) offer support for this proposition.

Similarly, team-level bright narcissism predicted low levels of team-level cohesion, which predicted high levels of team performance and low levels of peer-rated performance. Since high levels of team cohesion are linked to team member trust (Marsh et al., 2010; Roark & Sharah, 1989), team belonging (Back, 1951; Friedkin, 2004; O'Keefe et al., 1975), and peer support (Greenberg, 2015), the influence of team cohesion on peer-rated performance is theoretically justifiable. Indeed, as the notion of reciprocity in social exchange (Adams, 1965) would suggest, individuals are likely to 'repay' their peers for any misgivings experienced (i.e., low levels of team harmony, tainted interpersonal relationships), by later giving poor ratings to those peers. The influence of team cohesion on team performance, however, adds further fuel to the fire that narcissists may be more inclined to view the destination (i.e., academic success) as more important than the journey (i.e., developing close bonds with others). As such, important questions are raised for future research. Do narcissists always require healthy relationships with others in order to enhance team-related outcomes, as the literature would suggest? Is team cohesion always a prerequisite for team success? Moreover, do different types of team cohesion (i.e., task, social) hold the key to understanding the narcissism-cohesion-performance link? Given that the cohesion literature is often plagued with inconsistences in measurement and findings (Carron & Brawley, 2000; Picazo et al., 2015), and that task cohesion is typically linked to better individual and team-related outcomes than social cohesion (Mudrack, 1989), future research would be fruitful.

Taken together, these findings paint an interesting portrait of the longitudinal influences of the bright and dark sides of narcissism within the team context. Moreover, they offer additional insight into the perceptions and behaviours of narcissists at the individual, team, and relational levels of analysis. The findings also provide a nuanced understanding of the interpersonal and intrapsychic strategies that narcissists likely employ to get ahead in team settings. As modern organisations are relying heavily upon teams to enhance productivity, improve innovation, and meet rapidly changing industrial challenges (Eisenberg et al., 2019; Gore & Camp, 2020; Koshle et al., 2020; Stouten & Liden, 2020), these findings nevertheless raise concerns.

### 4.4.1 Implications

These findings have implications for research on personality and teams. The findings are in line with research showing that personality is germane to team processes and team performance (Bell & Outland, 2017; Grijalva et al., 2020; Harms & Spain, 2015; Nassif, 2019; Rezvani et al., 2018). Specifically, the findings support research suggesting that narcissism is an important personality trait to investigate within the team context (Kollmann et al., 2019; Nevicka et al., 2018), and that longitudinal influences of narcissism are important to study (Czarna et al., 2016; Leckelt et al., 2015; Paulhus, 1998). While both sides of narcissism predicted team performance and positive changes in peer-ratings over time, the influence of narcissism on team-related behaviours and processes should not go unnoticed. For example, across the lifecycle of their team, individuals high on traits associated with the dark side of narcissism were generally prone to more negative behaviours, processes, and outcomes than individuals high on traits associated with the bright side of narcissism. Given that teamwork skills acquired in university group projects are fundamental for team success (Ahuja et al., 2020), and perhaps more importantly, are in demand in the modern workplace (Bentley & Gehringer, 2020), these findings are a cause for alarm.

The findings also have implications for organisational practice and future research. In line with Study 1 and Study 2, the findings highlight narcissism as a relevant trait to understand and monitor within team and organisational settings. Specifically, the results underline the importance of investigating the longitudinal influence of narcissism on team processes and team performance. As team development theories and empirical research suggests that team processes and dynamics evolve over time (Ackerman, 1989; Bartone & Adler, 1999; Dierdorff et al., 2011; Murphy, 1989; Tuckman, 1965), the results are rather instructive. As such, the results offer organisations a nuanced perspective of the intergroup dynamics of teamwork, and how the perceptions and behaviours of team members may be influenced by personality characteristics.

### 4.4.2 Limitations and Future Research

First, similar to Study 1 and Study 2, the use of the ETC scale is a methodological limitation as it has only been previously validated on engineering students. As such, it is possible that the poor alpha levels observed on the ETC subscales are a result of sampling from a population (i.e., psychology students) that is not representative of the sample for which this scale was originally constructed (DeVellis, 2003). Given that different course subjects have differing influences on psychological variables, with psychology students increasingly valuing benevolence throughout their degree and business students increasingly valuing achievement and power (Bardi et al., 2014), there is support for this proposition. Yet, given the shortage of scales that assess teamwork competencies in the extant literature, the use of the ETC arguably complements the current research.

A second limitation is the use of a student sample. Many concerns have been raised in using student samples regarding issues of generalisability, representativeness, and comparability of results (Henrich et al., 2010; Greenfield, 2014; Peterson & Merunka, 2014). For example, some researchers suggest that caution should be adopted when generalising from student samples to the general public, as students vary mostly randomly from the general public on attitudinal and personal variables (Hanel & Vione, 2016). For this reason, a pinch of salt should be taken when interpreting and generalising the current findings to other populations. However, given that teams assembled in academic settings are considered to operate comparably to those in the organisational context (Hayes, 1997), this sample complements the current study. A final limitation is the type of performance variable (i.e., team presentation) measured. Arguably, this outcome measure is very specific to the sample collected. As such, given the ample evidence of contextual specificity of behaviour in the literature (e.g., Biglan, 1995; Dumenci et al., 2010; Morris, 1988), future research is necessary to see if results are generalisable to other outcome measures and settings.

Future research might consider exploring the longitudinal influence of narcissism on other team processes (i.e., team climate, psychological safety, team efficacy, trust, team self-regulation) to see whether similar effects are identified. For instance, team self-regulation is considered to affect the distribution and allocation of resources required to perform tasks and accomplish certain goals (DeShon et al., 2004). Given that narcissists greedily allocate more resources to themselves (Cambell et al., 2005) and withhold task-relevant information from their peers (Lakey et al., 2007), team self-regulation is likely to be negatively affected. In a similar vein, team climate represents shared perceptions about the strategic imperatives that guide teamwork (Schneider & Reichers, 1983), and is influenced by how team members interact and share information (Zohar & Luria, 2004; Schaubroeck et al., 2012). As narcissists have been shown to neglect the feelings of their team members (Vonk et al., 2013), reject group goals (Arthur et al., 2011), and lash out aggressively when they don't get their own way (Bushman & Baumeister, 1998; Thomaes et al., 2011), it is theoretically and empirically plausible that narcissism will have a negative influence on team climate. With interdependence dubbed as the hallmark of teamwork (Reilly & Jones, 1974) and success in organisations being heavily rooted in the collaboration among team members (Bentley & Gehringer, 2020), future investigation is warranted.

# Chapter 5 General Discussion

Empirical research suggests that narcissism may be harmful in team and organisational settings (Fennimore, 2020; Furnham, 2008; Judge et al., 2006; Nevicka et al., 2018; Penney & Spector, 2002). Yet, the research does not reveal what, if any, influence narcissism has on the characteristics that underlie a successful team and its individual members. Do narcissists exhibit behaviours that are damaging to their teams? Can these behaviours be distinguished in terms of the bright and dark side of narcissism? Moreover, what impact does narcissistic behaviour have on team processes (i.e., team cohesion, team conflict) and organisational outcomes (i.e., team performance)? The principal aims of my research were to address these questions and to promote awareness of narcissism within the team and organisational literatures.

My research aims were threefold: (a) to investigate narcissistic team behaviours while accounting for multiple levels of influence (i.e., individual, relational, team), (b) to examine if effects replicate across different contexts (i.e., corporation, escape room, university) and outcomes (i.e., subjective, objective, peer-rated team performance), and (c) to incorporate multiple narcissism measures to understand better the influence of bright and dark narcissism within the team and organisational context. My hypotheses followed suit. At the individual level, I hypothesised that dark narcissists would be associated with more dysfunctional behaviours (i.e., impaired teamwork competencies) and poorer team processes and outcomes (i.e., low levels of team cohesion, high levels of team conflict, reduced team performance) than bright narcissists. At the relational level, I hypothesised that team member ratings of narcissists would be more positive at zero-acquaintance than later on in the team lifecycle, and that, relative to bright narcissists, dark narcissists would be rated more negatively over time. At the team level, I hypothesised that teams with high levels (or a high percentage) of dark narcissists would experience more detrimental team-related behaviours, processes, and performance than teams with high levels (or a high percentage) of bright narcissists.

*First*, I present a summary of key findings from each study. I include a brief description of the study limitations and how they also influenced my subsequent studies. *Second,* I present a detailed overview of the implications of my research, in particular, how the findings shape practice and research. *Third*, I stipulate avenues for future research. *Finally*, I offer a concluding remark on my research.

## 5.1 Summary of Key Findings

I investigated the behaviours and perceptions of narcissistic team members in three studies that grew in complexity and design. Although some hypotheses were disconfirmed, the results were generally in the hypothesised direction and offer an improved understanding of narcissism in the team and organisational context.

### 5.1.1 Study 1

In this online study ($N$ = 394), the sample comprised participants currently working in (or had previously worked in) an organisational team. In line with the hypotheses, dark narcissists typically scored low on all teamwork competencies, and were associated with low levels of team cohesion and reduced subjective team performance. The opposite was generally observed for bright narcissists, who scored high on these measures. Albeit unexpected, both sides of narcissism predicted high levels of team conflict. This finding was explained, in part, by low levels of interpersonal skills for dark narcissists and high levels of communication skills for bright narcissists. Although the former relationship is consistent with other work (Ayoko et al., 2008; Garrison et al., 2010; Pavlovich & Krahnke, 2012; Said et al., 2020), the latter relationship raised questions about the communication skills used by bright narcissists in team settings. That is, do bright narcissists *actually* exhibit impaired communication skills as the findings may suggest, or do they possess a distorted view of the communication skills that are required in team settings?

#### 5.1.1.1 Limitations

Study 1 relied upon self-report data, which were subject to bias and socially desirable responding (Paulhus, 1991). Although I attempted to control for narcissistic tendencies towards self-presentation tactics (i.e., impression management; DeWall et al., 2011; Hart et al., 2017) with the BIDR-16 (Hart et al., 2015), the results were nevertheless restricted to the individual-level of analysis (McEwan, 2020). That is, the findings only offered insight into narcissists' *individual perceptions* of themselves and their work teams, as opposed to team members' shared perceptions on these variables. For replication purposes and to build upon the limitations of this study, I next investigated narcissism at the individual, relational, and team-levels of analysis with an *objective* measure of team performance.

### 5.1.2 Study 2

In this round-robin study ($N$ = 101), the sample comprised participants who were assigned to teams ($k$ = 23) that were mostly formed of strangers. In accord with the hypotheses, several findings from Study 1 were replicated. Dark narcissists typically scored low on all teamwork competencies, and were associated with low levels of team cohesion and decreased subjective team

performance. Dark narcissists were also associated with high levels of team conflict, which again was explained, in part, by their low levels of interpersonal skills. Bright narcissists scored high on management competency and were also associated with high levels of team conflict. Although management skills predicted positive outcomes for bright narcissists in Study 1, they were associated with team conflict and impaired subjective team performance in Study 2. This raised questions about the management skills that bright narcissists used in team settings. That is, do bright narcissists *actually* exhibit impaired management skills as the findings may suggest, or do they adopt management strategies that ultimately serve the self?

Although the overall hypotheses were disconfirmed at the team-level, some findings, however, were in the hypothesised direction. Teams comprised mostly of dark narcissists were associated with more harmful team-related behaviours, processes, and objective performance than teams comprised of bright narcissists. Intriguingly, team-level vulnerable narcissism was associated with high levels of team cohesion and enhanced levels of subsequent objective team performance. Albeit contrary to the original hypotheses, I referred to the self-presentation literature (i.e., enhancing positive and reducing negative characteristics of oneself) for explanation. Based on this finding, I argued that vulnerable narcissists likely relied upon certain self-presentation strategies (i.e., tactical modesty, ingratiation behaviours that are conducive to liking or social approval, supplications behaviours such as asking for help) that they found crucial within a competitive team environment, or that they considered would shield them from potential negative consequences (i.e., team failure).

Congruently with the individual-level findings, team-level bright narcissism was positively related with team conflict. Although not originally hypothesised, the dynamic self-regulatory processing model of narcissism (Morf & Rhodewalt, 2001) was called upon to explain this finding. According to this model, narcissism manifests through social dynamics (i.e., settings) and can shape team interactions and outcomes. Based on research linking narcissism with self-assuredness, manipulation, opportunity grabbing, and self-affirmation behaviours (Fatfouta, 2019; Morf & Rhodewalt, 2001; Oltmanns et al., 2004; Park & Colvin, 2014), I argued that bright narcissists likely engaged in certain behaviours (i.e., standing their ground during decision-making, refusing to recoil from disagreements, defending their opinions) to fulfil their own needs, which ultimately shaped interactions with their team and predicted greater levels of team conflict.

At the relational-level, there were significant interindividual differences in how much people rated others (and were rated by others) in their team on each interpersonal attribute at both time points. As hypothesised, assimilation (whereby self-ratings are correlated with perceiver effects) and consensus (whereby self-ratings are correlated with target effects) effects were identified with several attributes (i.e., arrogant, confident, likeable), offering insight into team member perceptions and the types of attributes that are likely prevalent during team interactions. In the round-robin

analyses, dark narcissists rated themselves and were rated by others as arrogant and aggressive. They also rated themselves as less hardworking and less trustworthy than others. These findings are consistent with the *egosystem* motives proposed in the social motives model (Sheldon et al., 2019), and shed light on the mechanisms that may underlie and maintain dark narcissists' interpersonal style.

Bright narcissists rated themselves and were rated by others in their team as confident and arrogant. They were also rated as less hardworking and less empathic than others. Interestingly, bright narcissists overvalued how much they were rated by others as likeable and as good leaders. This finding highlighted the value (or overconfidence) that bright narcissists place on certain attributes – specifically those that are considered beneficial in teams (Neuman & Wright, 1999; Russell, 2016). Taken together, these findings depicted an interesting account of the bright and dark sides of narcissism within a competitive team setting.

#### 5.1.2.1 Limitations

Due to financial reasons, it was only possible to run Study 2 with a small sample size. Although round-robin designs offer some statistical leniency over other tests when it comes to power and sample size (Lashley & Kenny, 1998), it was considered prudent to perform a replication of this study with a larger sample (or larger team sizes) to test the robustness of these findings. Similarly, as this study was conducted with only a short period of time between pre-escape room ratings and post-escape room ratings (around 1.5 hours), future research with a longitudinal design would be informative. Study 2 was the first empirical examination of narcissism within a commercial escape room, and offered the literature a breakdown of narcissistic behaviour at the individual, relational, and team-levels of analysis. For replication purposes and to build upon the limitations of this study, I next investigated narcissism with a larger sample size using a longitudinal design.

### 5.1.3 Study 3

In this longitudinal round-robin study ($N = 387$), the sample comprised undergraduate students who were assigned to teams ($k = 43$), ranging in size from 4-12 members. In line with the hypotheses, several findings from Study 1 and Study 2 were replicated. Dark narcissists typically scored low on all teamwork competencies and were associated with high levels of team conflict, low levels of team cohesion, and reduced subjective team performance. In the mediation models, these associations were explained, in part, by their low levels of interpersonal and management skills. Bright narcissists typically scored high on most teamwork competencies, and were associated with high levels of cohesion and high levels of conflict. Consistent with the literature, in the mediation models, team cohesion positively predicted subjective team performance, whereas a

negative effect emerged with team conflict (Braun et al., 2020; Mullen & Copper, 1994; Rezvani et al., 2019).

At the individual-level, both sides of narcissism also influenced peer-rated team performance. For dark narcissists, low levels of management skills and low levels of team cohesion predicted negative peer performance ratings. For bright narcissists, the opposite was observed, as high levels of management skills and high levels of team cohesion predicted positive peer performance ratings. I relied on the notion of reciprocity for exchanges within social exchange theory (Blau, 1964; O'Boyle et al., 2012) to explain these findings. That is, individuals who felt personally affected by narcissistic team members 'repaid' their experiences in kind with low (or high) peer performance ratings.

At the team-level, several findings from Study 2 were replicated. Team-level dark narcissism was associated with high levels of team conflict and low levels of team cohesion. However, whereas high levels of team conflict predicted impairments to subsequent objective team performance, low levels of team cohesion did not. Low levels of team cohesion predicted high levels of objective team performance. This effect was mirrored for team-level bright narcissism. Albeit contrary to the cohesion-performance literature, I argued that bright and dark narcissists likely overlooked the potential benefits of team cohesion (i.e., increased well-being, greater team satisfaction, enhanced communicative skills) in favour for the self-enhancement opportunities attainable from team performance.

Several findings from Study 2 were also replicated at the relational-level. There were significant interindividual differences in how much people rated others (and were rated by others) in their team on each interpersonal and teamwork measure across all time points. Consistent with the literature on ratings bias (Bernadin et al., 2016), assimilation and consensus effects were found on most interpersonal (e.g., creative, likeable, hardworking) and teamwork (e.g., team member effort, team member encouragement) measures, which offered insight into the dispositional characteristics and attributes that are likely salient during team interactions.

In the round-robin analyses, dark narcissists rated themselves and were rated by others as arrogant, aggressive, unsupportive, untrustworthy, unreliable, and as members who did not contribute fairly to the team workload. They were also rated (at different time points) as individuals who did not encourage others, did not share ideas, did not help others, did not put in effort during team interactions, and as individuals who took advantage of others. As per their antagonistic and argumentative orientation (Sedikides & Campbell, 2017), dark narcissists rated others negatively (or low) on most interpersonal and teamwork measures. When cohesion was lowest, positive assimilation and consensus effects were identified on several measures (i.e., trust, leadership,

empathy, reliability, contribution to team workload, advantage-taking behaviours), and when conflict was highest similar positive effects were found.

Bright narcissists rated themselves and were rated by others as supportive, creative, confident, and as good leaders. They also rated themselves and were rated by others as individuals who motivated and encouraged others, shared ideas and information freely, put in a lot of effort during team interactions, and as good team players. Consistent with the hypotheses, positive consensus effects were identified on several measures when team cohesion was highest (i.e., confidence, leadership, encouragement of others, team member motivation, idea expression, goal-setting behaviours) and when team conflict was lowest (i.e., support, likeability, competence, idea expression, effort during team interactions, information sharing behaviours). Taken together, the round-robin findings illuminated the type of attributes that bright and dark narcissists exhibit in team settings.

Contrary to the hypotheses and previous literature, the longitudinal analyses revealed that ratings of narcissistic team members emerged *more* favourably over time. For example, dark narcissists were initially rated negatively on levels of support, likeability, empathy, motivation, and goal setting, but were rated positively on these measures during late acquaintance. Similarly, bright narcissists were initially rated negatively on levels of encouragement, contribution, and goal setting, but were rated positively on these measures later on. I argued that these findings were likely a result of narcissists adopting a *win-win* approach to teamwork. That is, based on their tendency to pursue success and satisfy agentic self-views (Jones & Brunell, 2014), narcissists likely recognised the value of teamwork (when their own success was dependent) in order to achieve success, and subsequently behaved in ways (i.e., encouraging others, motivating team members, setting group goals) that supported this agenda. Across the team's lifecycle, some ratings remained consistent. For dark narcissists, they were consistently rated low on creativity. For bright narcissists (narcissistic admiration), they were consistently rated as good leaders and high on levels of arrogance, encouragement, motivation, and goal-setting behaviours.

#### 5.1.3.1 Limitations

Study 3 relied upon a student sample, which raised issues of representativeness and generalisability of results (Henrich et al., 2010; Peterson & Merunka, 2014). As such, caution should be taken when drawing conclusions. Yet, given that some researchers argue that teams assembled in academic settings are similar to those in the organisational context (Hayes, 1997), the sample nevertheless complemented this study. Another limitation was the type of performance variable measured. Arguably, a team presentation task is very specific to the sample collected and thus future research is required to find out if results replicate in other contexts with other performance outcomes.

## 5.2 Implications

In this thesis, I presented three novel studies that addressed the relation between narcissism with team-related behaviours, processes, and outcomes. The findings have implications for both organisational practice and research.

Practically, the findings illustrate that narcissism has consequences for behaviour in the workplace. Narcissists' impaired interpersonal skills emerged as a possible explanation for the low levels of team cohesion and high levels of team conflict reported in their team. If interpersonal skills do underscore narcissists' dysfunctional team behaviours, then organisations would likely benefit from ensuring that team relationships are smooth, in order to discourage narcissists from causing conflict in the first place. Enhancing interpersonal processes via structured interventions (i.e., training employees to become more prosocial, incorporating experiential activities that offer active ways to practice teamwork, such as simulations of team tasks and workshop-style exercises) may be fruitful.

In their meta-analysis on teamwork training, McEwan et al. (2017) posit that interventions focused on improving social support and conflict management are fundamental to enriching team functioning and improving team performance. It was found that interventions targeting the interpersonal dynamics of a team (i.e., didactic workshops aimed at managing interpersonal conflict, collectively critiquing video vignettes of teams displaying optimal vs. suboptimal teamwork behaviours, simulation activities that encouraged groupthink and active collaboration) were most effective. Recognising that narcissists possess a manipulative interpersonal orientation (Rhodewalt & Morf, 1995) and demonstrate low levels of empathy (Burgmer et al., 2019; Hart et al., 2018; Watson & Morris, 1991), interventions focused on reducing these attributes (and the negative impact they may have on others) may be beneficial for team processes (i.e., reducing levels of team conflict, enhancing social relationships) and team performance. Although few attempts to curb narcissistic behaviours have been documented in the literature, research aimed at reducing state narcissism (Giacomin & Jordan, 2013) and improving narcissists' perspective-taking abilities following explicit manipulations (Hepper et al., 2014) provide a promising start.

The findings also have implications for organisational culture. The key to a successful company starts with employing individuals who will share the company's behavioural expectations and normative beliefs, and thrive in that culture (Ashkanasy et al., 2000; Sharma & Sharma, 2010). Individuals who internalise the organisational culture into their affective and cognitive make-up are considered ideal employees (Peters & Waterman, 1982), and experience positive effects on team creativity and innovation (Zeraatkar et al., 2020), job satisfaction (Nair et al., 2019), commitment and retention (Habib et al., 2014), and performance (Awadh & Saad, 2013). Yet, narcissists are linked to behaviours inconsistent with team and organisational goals (Arthur et al., 2011; Blickle et

al., 2006; Judge et al., 2006; Penney & Spector, 2002) and often enter organisations as a force to be reckoned with (Kernberg, 1998; Sedikides & Campbell, 2017; Stein, 2013). If narcissism is associated with dysfunctional behavioural tendencies as my research suggests, then this may result in a distorted organisational culture that promotes antagonistic self-protection, excessive self-enhancement, and organisational-relevant maladaptive behaviours.

One way to address this is to use psychometric and personality tests to monitor narcissism within the workplace. That is, hiring committees could filter out candidates during the recruitment process who do not exhibit behaviours and values embedded in the company's culture, or managers could identify employees during retention or promotion decisions who possess certain maladaptive traits. Psychometric tests attempt to measure the abilities, attributes, competencies, and personality traits of an individual, and can be used as a means of supporting talent development, assessing skill demands, and informing decision-making in organisations (Campion et al., 2019; Lake et al., 2019; Stein & Swan, 2019; Tett et al., 1991). However, they are not without criticism. The literature is abound with limitations, including their lack of predictive ability (Blinkhorn & Johnson, 1990), poor test-retest reliability (Schaubhut et al., 2009), and conceptual issues regarding their simplified view of human personality and lack of context specificity (Redding, 2008).

The findings also have implications for organisational research. Evidence is provided for how the perceptions and behaviours of team members may be influenced by personality characteristics. Specifically, how the bright and dark sides of narcissism differentially influence a range of team-related behaviours and processes, and how these subsequently affect team performance. Narcissistic team members appeared positively in some contexts and from some perspectives, and negatively from others. Likewise, teams with high levels of narcissism reported increased levels of cohesion and performance in some settings, and decreased levels in others. Echoing the notion that research findings are often moderated by contextual and methodological factors, my findings are instructive for organisational research. That is, different facets of personality are likely to be associated with different behaviours and outcomes, across different settings.

Weighing all the evidence reported, the findings also have methodological implications for organisational research. *First,* it was possible to investigate the goodness of fit and theoretically conceptualised factor structure of the ETC and offer additional psychometric validation for its internal consistency and structure. Although poor alpha levels were observed on some subscales – likely due to the representativeness of the sample (DeVellis, 2003) – the ETC nevertheless complements organisational research. It is a first in the literature and offers a reliable tool for assessing teamwork competencies. *Second*, it was possible to utilise an escape room as a novel setting to investigate team phenomena. As the first inquiry to address personality in a commercial escape room with multiple teams, my research enriches the literature and provides a stepping-stone for creative study designs that investigate teamwork behaviours and outcomes.

*Third*, it was possible to reiterate the importance of using round-robin designs in organisational research. Round robin designs are a well-suited paradigm for investigating interpersonal phenomena in teams (Back & Kenny, 2010; Kenny et al., 2006) as they produce dyadic data that accounts for the componential influence of every team member. The use of a round-robin design demonstrated the empirical benefit of including external variables (e.g., personality variables) to understand the complexities of relationships within teams, and, arguably, sets a precedent for organisational research. *Finally*, it was possible to explore the relative influence of team task, size, and outcome variables on widely-used cohesion and conflict measures. As such, my research highlights the need to consider possible moderators when investigating the dimensionality and structural characteristics of teamwork measures, and offers additional empirical support for their use in the literature.

Furthermore, the findings have implications for the narcissism literature. *First*, in line with previous recommendations (Foster et al., 2018; Manley et al., 2018), my findings reverberate the importance of incorporating multiple narcissism measures in research designs. Narcissism is a multidimensional construct and is associated with outcomes for the self and others that can be both positive and negative (Back, 2018; Leckelt et al., 2018; Rogoza et al., 2018; Sedikides & Campbell, 2017). For example, team-level vulnerable narcissism predicted high levels of cohesion and subsequent performance in Study 2, but predicted high levels of conflict and low levels of cohesion in Study 3. Incorporating multiple narcissism measures adds further theoretical understanding of the construct of narcissism and its varying consequences. *Second,* the findings indicate the importance of context when applying the chocolate cake (Campbell, 2005) and contextual reinforcement (Campbell & Campbell, 2009) models of narcissism to team settings. Contrary to previous studies (Back et al., 2010; Paulhus, 1998), my research provided evidence that narcissists were rated *more* favourable over time by their team members. Such findings offer insight into the intra- and interpersonal strategies (i.e., behaving in ways conducive to team functioning when personal success is dependent) that narcissists may employ in order to get ahead in certain settings (i.e., team environments), as well as the intrinsic value that they place on certain types of performance (i.e., academic success).

*Third,* consistent with other studies, my research supports the use of round-robin data and longitudinal designs to investigate narcissism. Narcissism is a multifaceted personality trait that has distinct, even diverging intra- and interpersonal correlates in both survey and laboratory contexts (Back et al., 2013; Chesure et al., 2020; Leckelt et al., 2015; Manley et al., 2020). As such, a round-robin and longitudinal approach offers a detailed examination of the complexities and idiosyncrasies of narcissistic team members, and highlights their influence on variables of interest over time. *Finally,* the findings indicate the pervasive influence that narcissism has on a variety of team and organisational processes. Dark narcissists typically engaged in more dysfunctional

behaviours (i.e., impaired teamwork competencies) and were associated with poorer team processes and outcomes (i.e., low levels of team cohesion, high levels of team conflict, reduced team performance) than bright narcissists. Although literature exists on narcissism within team and organisational settings, it hasn't, until now, revealed what influence narcissism has on teamwork competencies, team cohesion, and team conflict.

## 5.3 Future Research

Several directions for future research have emerged from the findings. Practically, it appears that researchers should consider round-robin and longitudinal designs when investigating narcissism. As the evidence suggests, narcissistic behaviour changes over time, and can be best understood by disentangling the perceptions of those around them. Although some studies investigating the separate longitudinal (Felty et al., 2014; Grijalva et al., 2020; Halpern et al., 2016; Poorthuis et al., 2019; Reijntjes et al., 2016) and round-robin (Carlson & Desjardins, 2015) influences of narcissism have emerged in the literature, studies incorporating both designs are nevertheless scant. At present, only one study (Ong et al., 2016) has emerged incorporating both designs to investigate narcissism. Therefore, future work should be undertaken to replicate findings from the narcissism literature to understand their applicability, if any, to the influence that narcissistic behaviour has on the self and others over time.

In a similar vein, the findings underscore the importance of investigating narcissism with other team processes and outcomes. For example, although narcissistic tendencies have been linked to a variety of organisationally-relevant, maladaptive behaviours (Blickle et al., 2006; Judge et al., 2006; Penney & Spector, 2002), research is yet to examine their influence on team processes, such as trust and helping behaviours. Are narcissists less likely to help others when tasked with work that offers little prospect for self-enhancement? Is team trust undermined when narcissists blame others for their own failures (Campbell et al., 2000) or attribute successful team performance to their own contributions (Stucke, 2003)? Moreover, how is team performance affected by these relationships? Research pertaining to other contexts and outcomes would also be relevant. For example, although narcissistic behaviours have been explored in academic (Back et al., 2010; Felty et al., 2015; Leckelt et al., 2019; Poorthuis et al., 2019) and organisational (Braun, 2017; O'Reilly et al., 2014; Resick et al., 2009; Wisse & Sleebos, 2016) teams, research is yet to address if results replicate to other types of teams (e.g., productive teams, virtual teams, service teams), tasks (e.g., incidental, routine, solo), or group compositions (e.g., heterogeneous work units, homogeneous teams). For example, in line with the rise of remote and virtual teams during the global Covid-19 pandemic (Gore & Camp, 2020; Koshle et al., 2020), are narcissists less likely to engage in teamwork behaviours due to being less 'visible' online, or are they more likely to engage in prosocial behaviours (e.g., helping other team members) due to the potential self-enhancement opportunities available from being a 'team sport' during a national crisis?

Notwithstanding the established cohesion-performance literature, the current findings suggest that narcissism positively predicts team performance even when cohesion is low (Study 3). Albeit, likely explained, in part, by their desire to win (Brummelman et al., 2016) and the potential self-enhancement opportunities gained from team performance, this finding nevertheless informs future research. Therefore, it would be prudent to perform a replication of this study to confirm and understand the robustness of this relationship. On this note, future work could also elucidate if effects replicate when potential moderators (e.g., team size, task type, personality composition) are taken into consideration. For example, do teams with high levels of narcissism still perform well when levels of teamwork dependency (i.e., how dependent individuals are on one another to achieve a goal) are experimentally manipulated? Are narcissists more likely to exhibit behaviours conducive to team cohesion in larger groups if a spotlight is cast on their contributions and efforts? Furthermore, does the number of narcissists in a team influence the supposed downfall of cohesion and rise of conflict? Development and testing of other contexts, outcomes, and moderators may offer substantiation to the current findings.

It is also important to consider the use of commercial escape rooms in future work. Given their popularity with organisations as a team-building experience (Gordon et al., 2019; Stasiak, 2019; Wiemker et al., 2015), escape rooms undoubtedly offer researchers with a novel setting to examine interpersonal relationships, team dynamics, and organisational processes. Moreover, based on their flexibility with themes, activities, narrative, and time-restrictions, escape rooms also provide a petri dish for innovative and original research in other fields (e.g., education, business, healthcare). Finally, the data also underscores the benefit of using the ETC as a measure of teamwork competencies in future studies. Future validation with other samples would be beneficial.

## 5.4 Concluding Remarks

This PhD thesis represents the first investigation to address narcissistic behaviours within the team and organisational context by incorporating an exhaustive analysis of narcissism measures. It is also the first to examine narcissism in a commercial escape room, and the first to concurrently investigate narcissistic behaviour at the individual, relational, and team-levels of analysis. The findings offer a compelling account of the behaviours and perceptions of bright and dark narcissistic team members, and provides considerable scope for future research.

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# Appendix A Tables

**Table 1**

*Study 1: Fit Indices for Confirmatory Factor Analyses of the Enhanced Teamwork Competencies Models*

*(N = 394)*

| Models | $\chi^2$ | *df* | $\chi^2$ /df | CFI | RMSEA | SRMR |
|---|---|---|---|---|---|---|
| Model A. Communication | 87.35 | 48 | 1.82 | .976 | .046 | .035 |
| Model B. Communication | 145.08 | 50 | 2.90 | .943 | .070 | .082 |
| Model A. Management | 91.87 | 48 | 1.91 | .972 | .048 | .043 |
| Model B. Management | 106.46 | 50 | 2.13 | .963 | .054 | .048 |
| Model A. Intrapersonal | 269.23 | 80 | 3.37 | .870 | .078 | .073 |
| Model A.1 Intrapersonal | 64.81 | 24 | 2.70 | .957 | .067 | .046 |
| Model B. Intrapersonal | 64.81 | 24 | 2.70 | .957 | .067 | .046 |
| Model A. Interpersonal | 925.39 | 360 | 2.57 | .889 | .063 | .068 |
| Model B. Interpersonal | 1266.06 | 395 | 3.21 | .830 | .075 | .081 |
| Model B.1 Interpersonal | 1089.52 | 391 | 2.79 | .863 | .067 | .075 |

*Note.* $\chi^2$ = chi-square; *df* = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual.

**Table 2**

*Study 1: Means, Standard Deviations and Reliability Coefficients for all Measures and Subscales (Two Pages)*

| | *M* | *SD* | *Skew* | Kurtosis | α |
|---|---|---|---|---|---|
| Narcissism (NPI) | 12.48 | 7.79 | .63 | -.40 | .89 |
| Adaptive Narcissism | .43 | .24 | .36 | -.60 | .78 |
| Maladaptive Narcissism | .24 | .19 | .76 | -.27 | .79 |
| Narcissistic Admiration | 4.05 | 1.38 | .17 | -.69 | .88 |
| Narcissistic Rivalry | 2.80 | 1.34 | .73 | -.27 | .88 |
| Vulnerable Narcissism | 4.16 | 1.15 | -.22 | -.10 | .80 |
| ETC_AL1_Encouragement | 5.94 | 1.30 | -.64 | .11 | .76 |
| ETC_AL2_Mind wanders | 4.66 | 1.69 | .10 | -.93 | .80 |
| ETC_AL3_Summarising | 5.59 | 1.47 | -.70 | .40 | .83 |
| ETC_Clarity | 5.20 | 1.52 | -.14 | -.60 | .71 |
| ETC_Adaptability | 5.31 | 1.58 | -.21 | -.70 | .72 |
| ETC_Coping with stress | 4.88 | 1.66 | .02 | -.80 | .75 |
| ETC_Conscientiousness | 5.71 | 1.40 | -.30 | -.36 | .61 |
| ETC_Leadership | 5.01 | 1.48 | -.29 | -.05 | .67 |
| ETC_Motivating others | 5.69 | 1.27 | -.32 | .13 | .65 |
| ETC_Dealing with conflict | 5.14 | 1.62 | -.42 | -.36 | .81 |
| ETC_Stability | 5.76 | 1.28 | -.23 | -.38 | .65 |
| ETC_Sharing information | 6.12 | 1.43 | -.52 | -.40 | .71 |
| ETC_Perspective-taking | 5.46 | 1.32 | -.26 | .08 | .60 |
| ETC_Back-up behaviour | 5.80 | 1.28 | -.29 | -.01 | .66 |
| ETC_Team connectedness | 5.76 | 1.40 | -.61 | -.05 | .73 |
| ETC_Readiness for teamwork | 4.55 | 1.62 | .17 | -.56 | .75 |
| ETC_Positive outlook | 5.78 | 1.53 | -.36 | -.77 | .71 |
| ETC_Integrity | 5.89 | 1.60 | -.64 | -.33 | .78 |

| | | | | | |
|---|---|---|---|---|---|
| ETC_Patience with others | 4.15 | 1.71 | .40 | -.45 | .82 |
| ETC_Trust | 5.61 | 1.42 | -.45 | -.18 | .74 |
| ETC_Empathy | 5.85 | 1.47 | -.33 | -.62 | .71 |
| ETC Communication Competency | 5.35 | 1.04 | .05 | -.07 | .81 |
| ETC Management Competency | 5.40 | 1.08 | -.15 | -.16 | .84 |
| ETC Intrapersonal Competency | 5.30 | 1.24 | -.01 | -.67 | .82 |
| ETC Interpersonal Competency | 5.50 | 1.07 | -.06 | -.36 | .93 |
| Impression Management | 5.16 | 1.29 | -.04 | -.25 | .78 |
| Team Cohesion | 6.11 | 1.49 | -1.05 | .80 | .96 |
| Team Conflict | 3.78 | 1.61 | .43 | -.51 | .96 |
| Subjective Team Performance | 6.42 | 1.14 | -.60 | -.34 | .92 |

*Note.* NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies; AL = Active Listening

**Table 3**

*Study 1: Correlations Between Narcissism, Teamwork Competencies, Team Processes, and Subjective Team Performance*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Narcissism (NPI) | - | | | | | | | | | | | | |
| 2. Adaptive Narcissism | .86*** | - | | | | | | | | | | | |
| 3. Maladaptive Narcissism | .90*** | .62*** | - | | | | | | | | | | |
| 4. Narcissistic Admiration | .73*** | .59*** | .66*** | - | | | | | | | | | |
| 5. Narcissistic Rivalry | .37*** | .18** | .46*** | .44*** | - | | | | | | | | |
| 6. Vulnerable Narcissism | .13* | -.01 | .20*** | .21*** | .58*** | - | | | | | | | |
| 7. ETC Communication | .04 | .17** | -.07 | .01 | -.48*** | -.47*** | - | | | | | | |
| 8. ETC Management | .29*** | .41*** | .16*** | .20*** | -.25*** | -.37*** | .69*** | - | | | | | |
| 9. ETC Intrapersonal | .01 | .15** | -.09 | -.07 | -.51*** | -.53*** | .59*** | .49*** | - | | | | |
| 10. ETC Interpersonal | -.23*** | -.13* | -.31*** | -.22*** | -.65*** | -.61*** | .64*** | .42*** | .57*** | - | | | |
| 11. Impression Management | -.18*** | -.07 | -.26*** | -.16** | -.48*** | -.45*** | .43*** | .30*** | .42*** | .51*** | - | | |
| 12. Team Cohesion | .06 | .09 | -.001 | .14** | -.18*** | -.21*** | .34*** | .35*** | .21*** | .53*** | .21*** | - | |
| 13. Team Conflict | .16** | .15** | .16** | .12* | .24*** | .16** | -.20*** | -.14** | -.26*** | -.47*** | -.22*** | -.63*** | - |
| 14. Sub. Performance | -.12* | -.02 | -.18** | -.09 | -.40*** | -.27*** | .42*** | .34*** | .40*** | .59*** | .25*** | .62*** | -.53*** |

*Note*. NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies; Sub = Subjective. N's ranged from 388 to 391 due to missing data and pairwise deletion. ***$p < .001$**$p < .01$, *$p < .05$

**Table 4**

*Study 1: Correlations Between Narcissism and Teamwork Competencies Subscales*

| Variable | Narcissism (NPI) | Adaptive Narcissism | Maladaptive Narcissism | Narcissistic Admiration | Narcissistic Rivalry | Vulnerable Narcissism |
|---|---|---|---|---|---|---|
| AL1_Encourage | .09 | .19*** | -.01 | .09 | -.29*** | -.30*** |
| AL2_Mind wanders | -.04 | .04 | -.13* | -.04 | -.42*** | -.37*** |
| AL3_Summarising | .14** | .19*** | .07 | .11* | -.18*** | -.18*** |
| Clarity | -.04 | .08 | -.11* | -.11* | -.42*** | -.45*** |
| Adaptability | .01 | .10* | -.08 | -.06 | -.48*** | -.50*** |
| Coping with stress | .08 | .20*** | .01 | .01 | -.31*** | -.42*** |
| Conscientiousness | -.08 | .05 | -.17*** | -.14** | -.45*** | -.36*** |
| Leadership | .35*** | .45*** | .24*** | .21*** | -.06 | -.16** |
| Motivating others | .07 | .14** | -.01 | .03 | -.36*** | -.37*** |
| Dealing with conflict | .29*** | .41*** | .18*** | .23*** | -.11* | -.27*** |
| Stability | .14** | .22*** | .03 | .13* | -.28*** | -.34*** |
| Sharing information | -.26*** | -.15** | -.30*** | -.27*** | -.53*** | -.48*** |
| Perspective-taking | -.22*** | -.13* | -.28*** | -.22*** | -.53*** | -.49*** |
| Back-up behaviour | -.10 | -.02 | -.16** | -.11* | -.45*** | -.41*** |
| Team connectedness | .08 | .13* | .01 | .12* | -.23*** | -.32*** |
| Ready for teamwork | -.05 | -.01 | -.10* | -.07 | -.39*** | -.47*** |
| Positive outlook | -.22*** | -.12* | -.31*** | -.24*** | -.56*** | -.45*** |
| Integrity | -.47*** | -.34*** | -.53*** | -.47*** | -.65*** | -.47*** |
| Patience | -.11* | -.08 | -.15** | -.12* | -.45*** | -.47*** |
| Trust | -.11* | -.09 | -.14** | -.02 | -.30*** | -.37*** |
| Empathy | -.21*** | -.11* | -.27*** | -.22*** | -.60*** | -.47*** |
| *Mean* | 12.48 | .43 | .24 | 4.05 | 2.80 | 4.16 |
| *SD* | 7.79 | .24 | .19 | 1.38 | 1.34 | 1.15 |

*Note*. NPI = Narcissistic Personality Inventory; AL = Active Listening. $N = 392$.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 5**

*Study 1: Direct, Indirect, and Total Effects of Narcissism (NPI) on Team Processes and Subjective Team Performance through Teamwork Competencies*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0023 | -.0078 | .0019 |
| | Management | .0159 | .0055 | .0274 |
| | Intrapersonal | -.0042 | -.0095 | -.0004 |
| | Interpersonal | -.0176 | -.0294 | -.0064 |
| | TOTAL | .0139 | -.0059 | .0336 |
| | DIRECT | .0221* | .0037 | .0405 |
| | | $R^2$ = .38, $F$(8, 376) = 28.36, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0057 | .0005 | .0129 |
| | Management | -.0043 | -.0162 | .0067 |
| | Intrapersonal | -.0009 | -.0043 | .0022 |
| | Interpersonal | .0155 | .0052 | .0268 |
| | TOTAL | .0272* | .0059 | .0485 |
| | DIRECT | .0112 | -.0103 | .0328 |
| | | $R^2$ = .27, $F$(8, 375) = 17.35, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Team Performance | Communication | -.0001 | -.0038 | .0037 |
| | Management | .0079 | .0011 | .0154 |
| | Intrapersonal | .0012 | -.0008 | .0038 |
| | Interpersonal | -.0108 | -.0185 | -.0040 |
| | TOTAL | -.0107 | -.0257 | .0043 |
| | DIRECT | -.0089 | -.0229 | .0050 |
| | | $R^2$ = .37, $F$(8, 375) = 28.01, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Team Performance | Team Cohesion | .0051 | -.0014 | .0116 |
| | Team Conflict | -.0040 | -.0082 | -.0007 |
| | TOTAL | -.0107 | -.0258 | .0045 |
| | DIRECT | -.0118 | -.0239 | .0003 |
| | | $R^2$ = .44, $F$(6, 374) = 48.17, $p$ < .001 | | |

*Note.* Model (No. 4) controls for sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 6**

*Study 1: Direct, Indirect, and Total Effects of Adaptive Narcissism on Team Processes and Subjective Team Performance through Teamwork Competencies*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.1500 | -.4505 | .1055 |
| | Management | .6118 | .2194 | 1.052 |
| | Intrapersonal | -.3453 | -.6390 | -.1145 |
| | Interpersonal | .1770 | -.2910 | .6276 |
| | TOTAL | .7429 | -.0309 | 1.5167 |
| | DIRECT | .4494 | -.2570 | 1.1558 |
| | | $R^2$ = .38, $F$(9, 375) = 25.25, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .3492 | .0268 | .7449 |
| | Management | -.2417 | -.7076 | .2315 |
| | Intrapersonal | -.0909 | -.3301 | .1399 |
| | Interpersonal | -.1739 | -.5697 | .2385 |
| | TOTAL | .6823 | -.1476 | 1.5121 |
| | DIRECT | .8396* | .0185 | 1.6607 |
| | | $R^2$ = .28, $F$(9, 374) = 15.85, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Team Performance | Communication | -.0080 | -.2207 | .2173 |
| | Management | .2829 | .0093 | .5689 |
| | Intrapersonal | .0907 | -.0647 | .2587 |
| | Interpersonal | .1078 | -.1707 | .3951 |
| | TOTAL | .5512 | -.0350 | 1.1374 |
| | DIRECT | .0777 | -.4603 | .6157 |
| | | $R^2$ = .37, $F$(9, 374) = 24.77, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Team Performance | Team Cohesion | .2651 | -.0207 | .2402 |
| | Team Conflict | -.1018 | -.2519 | .0252 |
| | TOTAL | .5556 | -.0347 | 1.1460 |
| | DIRECT | .3923 | -.0778 | .8624 |
| | | $R^2$ = .44, $F$(7, 373) = 42.32, $p$ < .001 | | |

*Note.* Model (No. 4) controls for maladaptive narcissism, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 7**

*Study 1: Indirect Effects of Maladaptive Narcissism on Team Processes and Subjective Team Performance through Teamwork Competencies*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0773 | -.0596 | .2860 |
| | Management | -.0583 | -.2641 | .1498 |
| | Intrapersonal | .2189 | .0253 | .4887 |
| | Interpersonal | -1.102 | -1.736 | -.4725 |
| | TOTAL | -.3659 | -1.3928 | .6610 |
| | DIRECT | .4981 | -.3620 | 1.3582 |
| | | $R^2$ = .38, $F$(9, 375) = 25.25, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.1787 | -.4995 | .0101 |
| | Management | .0202 | -.0922 | .1423 |
| | Intrapersonal | .0573 | -.0899 | .2436 |
| | Interpersonal | .9850 | .4397 | 1.598 |
| | TOTAL | .4653 | -.6359 | 1.5665 |
| | DIRECT | -.4185 | -1.4194 | .5825 |
| | | $R^2$ = .28, $F$(9, 374) = 15.85, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Team Performance | Communication | .0041 | -.1389 | .1302 |
| | Management | -.0238 | -.1402 | .0730 |
| | Intrapersonal | -.0571 | -.2036 | .0414 |
| | Interpersonal | -.6798 | -1.131 | -.2818 |
| | TOTAL | -1.103** | -1.880 | -.3267 |
| | DIRECT | -.3470 | -1.003 | .3098 |
| | | $R^2$ = .37, $F$(9, 374) = 24.77, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Team Performance | Team Cohesion | -.1359 | -.5196 | .2399 |
| | Team Conflict | -.0813 | -.2877 | .1016 |
| | TOTAL | -1.105** | -1.887 | -.3240 |
| | DIRECT | -.8887** | -1.499 | -.2782 |
| | | $R^2$ = .44, $F$(7, 373) = 42.32, $p$ < .001 | | |

*Note.* Model (No. 4) controls for adaptive narcissism, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 8**

*Study 1: Indirect Effects of Narcissistic Admiration on Team Processes and Subjective Team Performance through Teamwork Competencies*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0216 | -.0690 | .0221 |
| | Management | .0791 | .0229 | .1477 |
| | Intrapersonal | -.0292 | -.0623 | -.0053 |
| | Interpersonal | .0322 | -.0380 | .1084 |
| | TOTAL | .2457*** | .1278 | .3636 |
| | DIRECT | .1851*** | .0800 | .2903 |
| | | $R^2$ = .40, $F$(9, 377) = 27.44, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0518 | .0034 | .1125 |
| | Management | -.0158 | -.0789 | .0446 |
| | Intrapersonal | -.0092 | -.0374 | .0152 |
| | Interpersonal | -.0318 | -.1009 | .0353 |
| | TOTAL | .0596 | -.0689 | .1880 |
| | DIRECT | .0645 | -.0596 | .1886 |
| | | $R^2$ = .27, $F$(9, 377) = 15.78, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Team Performance | Communication | -.0020 | -.0363 | .0316 |
| | Management | .0361 | -.0017 | .0792 |
| | Intrapersonal | .0079 | -.0092 | .0272 |
| | Interpersonal | .0183 | -.0241 | .0616 |
| | TOTAL | .0748 | -.0121 | .1617 |
| | DIRECT | .0145 | -.0668 | .0957 |
| | | $R^2$ = .37, $F$(9, 376) = 24.87, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Team Performance | Team Cohesion | .0850 | .0441 | .1305 |
| | Team Conflict | -.0070 | -.0285 | .0119 |
| | TOTAL | .0756 | -.0120 | .1631 |
| | DIRECT | -.0025 | -.0750 | .0700 |
| | | $R^2$ = .48, $F$(7, 376) = 49.63, $p$ < .001 | | |

*Note.* Model (No. 4) controls for narcissistic rivalry, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 9**

*Study 1: Indirect Effects of Narcissistic Rivalry on Team Processes and Subjective Team Performance through Teamwork Competencies*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0378 | -.0416 | .1142 |
| | Management | -.0610 | -.1159 | -.0168 |
| | Intrapersonal | .0876 | .0237 | .1546 |
| | Interpersonal | -.4293 | -.5642 | -.3161 |
| | TOTAL | -.2745*** | -.4113 | -.1376 |
| | DIRECT | -.0905 | -.0448 | .2258 |
| | | $R^2$ = .40, $F$(9, 377) = 27.44, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0901 | -.1918 | -.0039 |
| | Management | .0120 | -.0371 | .0594 |
| | Intrapersonal | .0273 | -.0444 | .1027 |
| | Interpersonal | .3980 | .2858 | .5217 |
| | TOTAL | .2388** | .0899 | .3877 |
| | DIRECT | -.1085 | -.2683 | .0513 |
| | | $R^2$ = .27, $F$(9, 377) = 15.78, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Team Performance | Communication | .0035 | -.0571 | .0616 |
| | Management | -.0277 | -.0638 | .0021 |
| | Intrapersonal | -.0243 | -.0773 | .0240 |
| | Interpersonal | -.2455 | -.3309 | -.1676 |
| | TOTAL | .3589*** | -.4597 | -.2580 |
| | DIRECT | -.0649 | -.1697 | .0399 |
| | | $R^2$ = .37, $F$(9, 376) = 24.87, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Team Performance | Team Cohesion | -.0956 | -.1502 | -.0462 |
| | Team Conflict | -.0332 | -.0662 | -.0093 |
| | TOTAL | -.3594*** | -.4607 | -.2581 |
| | DIRECT | -.2305*** | -.3126 | -.1485 |
| | | $R^2$ = .48, $F$(7, 376) = 49.63, $p$ < .001 | | |

*Note.* Model (No. 4) controls for narcissistic admiration, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 10**

*Study 1: Indirect Effects of Vulnerable Narcissism on Team Processes and Subjective Team Performance through Teamwork Competencies*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0032 | -.0029 | .0106 |
| | Management | -.0093 | -.0160 | -.0040 |
| | Intrapersonal | .0094 | .0023 | .0168 |
| | Interpersonal | -.0406 | -.0534 | -.0294 |
| | TOTAL | -.0232** | -.0377 | -.0087 |
| | DIRECT | .0142* | .0000 | .0284 |
| | | $R^2$ = .37, $F$(8, 377) = 28.14, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0085 | -.0178 | -.0008 |
| | Management | .0014 | -.0039 | .0070 |
| | Intrapersonal | .0041 | -.0041 | .0124 |
| | Interpersonal | .0423 | .0301 | .0557 |
| | TOTAL | .0161* | .0002 | .0319 |
| | DIRECT | -.0232** | -.0396 | -.0067 |
| | | $R^2$ = .29, $F$(8, 378) = 18.81, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Team Performance | Communication | .0000 | -.0054 | .0050 |
| | Management | -.0031 | -.0069 | .0001 |
| | Intrapersonal | -.0047 | -.0106 | .0007 |
| | Interpersonal | -.0281 | -.0375 | -.0197 |
| | TOTAL | -.0200*** | -.0310 | -.0090 |
| | DIRECT | .0159** | .0053 | .0266 |
| | | $R^2$ = .39, $F$(8, 376) = 29.49, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Team Performance | Team Cohesion | -.0080 | -.0138 | -.0024 |
| | Team Conflict | -.0026 | -.0060 | .0001 |
| | TOTAL | -.0203*** | -.0315 | -.0092 |
| | DIRECT | -.0097* | -.0186 | -.0008 |
| | | $R^2$ = .44, $F$(6, 375) = 48.78, $p$ < .001 | | |

*Note.* Model (No.4) controls for sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 11**

*Study 1: Indirect Effects of Narcissism (NPI) on Subjective Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Team Performance | Communication | - | .0007 | -.0023 | .0042 |
| | Management | - | .0024 | -.0044 | .0088 |
| | Intrapersonal | - | .0026 | .0003 | .0059 |
| | Interpersonal | - | -.0048 | -.0096 | -.0012 |
| | Cohesion | - | .0077 | .0016 | .0147 |
| | Communication | Cohesion | -.0008 | -.0027 | .0006 |
| | Management | Cohesion | .0055 | .0018 | .0102 |
| | Intrapersonal | Cohesion | -.0014 | -.0033 | -.0002 |
| | Interpersonal | Cohesion | -.0062 | -.0107 | -.0023 |
| | TOTAL | | -.0107 | -.0258 | .0043 |
| | DIRECT | | -.0165* | -.0291 | -.0039 |
| | | | $R^2$ = .50, $F$(9, 373) = 41.87, $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Team Performance | Communication | - | .0012 | -.0020 | .0050 |
| | Management | - | .0070 | .0002 | .0139 |
| | Intrapersonal | - | .0010 | -.0009 | .0034 |
| | Interpersonal | - | -.0069 | -.0126 | -.0022 |
| | Conflict | - | -.0025 | -.0081 | .0026 |
| | Communication | Conflict | -.0013 | -.0031 | -.0001 |
| | Management | Conflict | .0011 | -.0016 | .0042 |
| | Intrapersonal | Conflict | .0002 | -.0005 | .0010 |
| | Interpersonal | Conflict | -.0038 | -.0070 | -.0012 |
| | TOTAL | | -.0107 | -.0258 | .0045 |
| | DIRECT | | -.0066 | -.0198 | .0065 |
| | | | $R^2$ = .46, $F$(9, 372) = 34.60, $p$ < .001 | | |

*Note.* Model (No. 80) controls for sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 12**

*Study 1: Indirect Effects of Adaptive Narcissism on Subjective Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Team Performance | Communication | - | .0430 | -.1292 | .2574 |
| | Management | - | .0712 | -.1900 | .3367 |
| | Intrapersonal | - | .2062 | .0552 | .3980 |
| | Interpersonal | - | .0434 | -.0789 | .1859 |
| | Cohesion | - | .1653 | -.0681 | .4449 |
| | Communication | Cohesion | -.0503 | -.1615 | .0381 |
| | Management | Cohesion | .2093 | .0642 | .3817 |
| | Intrapersonal | Cohesion | -.1160 | -.2311 | -.0365 |
| | Interpersonal | Cohesion | .0556 | -.1019 | .2108 |
| | TOTAL | | .5522 | -.0360 | 1.1403 |
| | DIRECT | | -.0756 | -.5604 | .4091 |
| | | | $R^2$ = .50, $F$(10, 372) = 37.28, $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Team Performance | Communication | - | .0727 | -.1251 | .3122 |
| | Management | - | .2266 | -.0552 | .5104 |
| | Intrapersonal | - | .0692 | -.0743 | .2344 |
| | Interpersonal | - | .0722 | -.1085 | .2681 |
| | Conflict | - | -.1930 | -.3904 | .0059 |
| | Communication | Conflict | -.0814 | -.1932 | -.0067 |
| | Management | Conflict | .0591 | -.0481 | .1781 |
| | Intrapersonal | Conflict | .0218 | -.0364 | .0800 |
| | Interpersonal | Conflict | .0389 | -.0601 | .1430 |
| | TOTAL | | .5546 | -.0337 | 1.1429 |
| | DIRECT | | .2684 | -.2379 | .7747 |
| | | | $R^2$ = .46, $F$(10, 371) = 31.27, $p$ < .001 | | |

*Note.* Model (No. 80) controls for maladaptive narcissism, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 13**

*Study 1: Indirect Effects of Maladaptive Narcissism on Subjective Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Team Performance | Communication | - | -.0222 | -.1629 | .0716 |
| | Management | - | -.0066 | -.0720 | .0399 |
| | Intrapersonal | - | -.1301 | -.3160 | -.0102 |
| | Interpersonal | - | -.2941 | -.5699 | -.0795 |
| | Cohesion | - | .1606 | -.1392 | .4644 |
| | Communication | Cohesion | .0260 | -.0199 | .1081 |
| | Management | Cohesion | -.0195 | -.0945 | .0516 |
| | Intrapersonal | Cohesion | .0732 | .0072 | .1801 |
| | Interpersonal | Cohesion | -.3768 | -.6504 | -.1571 |
| | TOTAL | | -1.104** | -1.8839 | -.3255 |
| | DIRECT | | -.5152 | -1.1047 | .0742 |
| | | | $R^2$ = .50, $F$(10, 372) = 37.28, $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Team Performance | Communication | - | -.0374 | -.1953 | .0631 |
| | Management | - | -.0184 | -.1165 | .0572 |
| | Intrapersonal | - | -.0433 | -.1713 | .0476 |
| | Interpersonal | - | -.4402 | -.7696 | -.1670 |
| | Conflict | - | .0931 | -.1707 | .3642 |
| | Communication | Conflict | .0418 | -.0027 | .1300 |
| | Management | Conflict | -.0048 | -.0359 | .0227 |
| | Intrapersonal | Conflict | -.0137 | -.0590 | .0209 |
| | Interpersonal | Conflict | -.2371 | -.4254 | -.0925 |
| | TOTAL | | -1.104** | -1.883 | -.3252 |
| | DIRECT | | -.4445 | -1.058 | .1699 |
| | | | $R^2$ = .46, $F$(10, 371) = 31.27, $p$ < .001 | | |

*Note.* Model (No. 80) controls for adaptive narcissism, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 14**

*Study 1: Indirect Effects of Narcissistic Admiration on Subjective Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Team Performance | Communication | - | .0055 | -.0219 | .0399 |
| | Management | - | .0078 | -.0286 | .0432 |
| | Intrapersonal | - | .0181 | .0022 | .0412 |
| | Interpersonal | - | .0065 | -.0098 | .2731 |
| | Cohesion | - | .0673 | .0286 | .1093 |
| | Communication | Cohesion | -.0075 | -.0263 | .0077 |
| | Management | Cohesion | .0281 | .0072 | .0566 |
| | Intrapersonal | Cohesion | -.0109 | -.0231 | -.0019 |
| | Interpersonal | Cohesion | .0108 | -.0149 | .0375 |
| | TOTAL | | .0755 | -.0117 | .1627 |
| | DIRECT | | -.0510 | -.1248 | .0228 |
| | | | $R^2$ = .51, $F$(10, 374) = 38.32 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Team Performance | Communication | - | .0101 | -.0210 | .0460 |
| | Management | - | .0323 | -.0029 | .0720 |
| | Intrapersonal | - | .0058 | -.0102 | .0242 |
| | Interpersonal | - | .0112 | -.0134 | .0400 |
| | Conflict | - | -.0143 | -.0500 | .0201 |
| | Communication | Conflict | -.0121 | -.0292 | -.0005 |
| | Management | Conflict | .0040 | -.0101 | .0207 |
| | Intrapersonal | Conflict | .0022 | -.0036 | .0092 |
| | Interpersonal | Conflict | .0073 | -.0087 | .0249 |
| | TOTAL | | .0749 | -.0123 | .1621 |
| | DIRECT | | .0283 | -.0477 | .1043 |
| | | | $R^2$ = .46, $F$(10, 374) = 31.62, $p$ < .001 | | |

*Note.* Model (No. 80) controls for narcissistic rivalry, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 15**

*Study 1: Indirect Effects of Narcissistic Rivalry on Subjective Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Team Performance | Communication | - | -.0098 | .0683 | .0396 |
| | Management | - | -.0060 | -.0323 | .0221 |
| | Intrapersonal | - | -.0549 | .1047 | -.0094 |
| | Interpersonal | - | -.0927 | -.1738 | -.0182 |
| | Cohesion | - | .0316 | -.0169 | .0867 |
| | Communication | Cohesion | .0132 | -.0149 | .0425 |
| | Management | Cohesion | -.0216 | -.0444 | -.0053 |
| | Intrapersonal | Cohesion | .0307 | .0077 | .0587 |
| | Interpersonal | Cohesion | -.1527 | -.2140 | -.1001 |
| | TOTAL | | -.3594*** | -.4606 | -.2583 |
| | DIRECT | | -.0974* | -.1909 | -.0039 |
| | | | $R^2$ = .51, $F$(10, 374) = 38.32 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Team Performance | Communication | - | -.0178 | .0781 | .0337 |
| | Management | - | -.0246 | -.0560 | .0023 |
| | Intrapersonal | - | -.0175 | -.0651 | .0264 |
| | Interpersonal | - | -.1489 | -.2300 | -.0767 |
| | Conflict | - | .0257 | -.0165 | .0706 |
| | Communication | Conflict | .0213 | .0006 | .0488 |
| | Management | Conflict | -.0031 | -.0157 | .0084 |
| | Intrapersonal | Conflict | -.0068 | -.0249 | .0101 |
| | Interpersonal | Conflict | -.0964 | -.1419 | -.0593 |
| | TOTAL | | -.3588*** | -.4598 | -.2578 |
| | DIRECT | | -.0907 | -.1886 | .0072 |
| | | | $R^2$ = .46, $F$(10, 374) = 31.62, $p$ < .001 | | |

*Note.* Model (No. 80) controls for narcissistic admiration, sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 16**

*Study 1: Indirect Effects of Vulnerable Narcissism on Subjective Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Team Performance | Communication | - | -.0010 | -.0064 | .0032 |
| | Management | - | .0000 | -.0031 | .00313 |
| | Intrapersonal | - | -.0077 | -.0135 | -.0025 |
| | Interpersonal | - | -.0151 | -.0232 | -.0078 |
| | Cohesion | - | .0046 | .0001 | .0094 |
| | Communication | Cohesion | .0010 | -.0010 | .0036 |
| | Management | Cohesion | -.0030 | -.0055 | -.0012 |
| | Intrapersonal | Cohesion | .0030 | .0008 | .0058 |
| | Interpersonal | Cohesion | -.0133 | -.0185 | -.0087 |
| | TOTAL | | -.0200*** | -.0310 | -.0090 |
| | DIRECT | | .0115* | .0018 | .0212 |
| | | | $R^2$ = .51, $F$(9, 374) = 42.00 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Team Performance | Communication | - | -.0019 | -.0075 | .0027 |
| | Management | - | -.0028 | -.0064 | .0002 |
| | Intrapersonal | - | -.0039 | -.0095 | .0012 |
| | Interpersonal | - | -.0188 | -.0274 | -.0110 |
| | Conflict | - | .0051 | .0014 | .0095 |
| | Communication | Conflict | .0019 | .0002 | .0043 |
| | Management | Conflict | -.0003 | -.0017 | .0008 |
| | Intrapersonal | Conflict | -.0009 | -.0030 | .0009 |
| | Interpersonal | Conflict | -.0096 | -.0142 | -.0057 |
| | TOTAL | | -.0203*** | -.0314 | -.0092 |
| | DIRECT | | .0109* | .0007 | .0212 |
| | | | $R^2$ = .46, $F$(9, 373) = 35.08, $p$ < .001 | | |

*Note.* Model (No. 80) controls for sample, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 17**

*Study 2: Means, Standard Deviations and Reliability Coefficients for all Measures and Subscales (Two pages)*

| | *M* | *SD* | *Skew* | Kurtosis | α |
|---|---|---|---|---|---|
| Narcissism (NPI) | 13.55 | 6.89 | .60 | -.05 | .85 |
| Maladaptive Narcissism | .29 | .19 | .83 | .27 | .74 |
| Adaptive Narcissism | .43 | .20 | .31 | -.29 | .68 |
| Narcissistic Admiration | 4.27 | 1.26 | .31 | -.23 | .85 |
| Narcissistic Rivalry | 2.66 | 1.01 | .62 | .01 | .78 |
| Vulnerable Narcissism | 3.85 | .98 | .22 | .02 | .69 |
| ETC_AL1_Encouragement | 4.92 | 1.25 | -.15 | -.05 | .55 |
| ETC_AL2_Mind wanders | 6.09 | 1.56 | .10 | .70 | .73 |
| ETC_AL3_Summarising | 4.47 | 1.55 | -.15 | -.82 | .77 |
| ETC_Clarity | 5.86 | 1.63 | -.71 | -.34 | .72 |
| ETC_Adaptability | 6.11 | 1.16 | -.42 | -.49 | .31 |
| ETC_Coping with stress | 5.85 | 1.53 | -.93 | .48 | .72 |
| ETC_Conscientiousness | 5.72 | 1.17 | -.42 | .48 | .39 |
| ETC_Leadership | 3.57 | 1.21 | .14 | -.08 | .45 |
| ETC_Motivating others | 5.06 | 1.27 | .13 | -.23 | .65 |
| ETC_Dealing with conflict | 4.85 | 1.31 | .25 | -.28 | .51 |
| ETC_Stability | 5.03 | 1.17 | -.03 | .03 | .55 |
| ETC_Sharing information | 7.24 | 1.03 | -1.89 | 2.58 | .78 |
| ETC_Perspective-taking | 5.89 | 1.19 | -.38 | -.40 | .37 |
| ETC_Back-up behaviour | 5.44 | 1.30 | -.45 | -.36 | .60 |
| ETC_Team connectedness | 5.62 | 1.46 | -.50 | -.35 | .81 |
| ETC_Readiness for teamwork | 5.84 | 1.65 | -.48 | -.70 | .83 |

| | | | | | |
|---|---|---|---|---|---|
| ETC_Positive outlook | 6.94 | 1.26 | -.99 | -.42 | .71 |
| ETC_Integrity | 7.19 | 1.05 | -1.58 | 1.82 | .76 |
| ETC_Patience with others | 6.59 | 1.57 | -1.37 | 1.38 | .85 |
| ETC_Trust | 6.29 | 1.02 | -.30 | -.43 | .45 |
| ETC_Empathy | 6.27 | 1.24 | -.69 | -.34 | .61 |
| ETC_Communication | 5.34 | .88 | -.24 | -.05 | .67 |
| ETC_Management | 4.63 | .91 | .18 | -.40 | .77 |
| ETC_Intrapersonal | 5.89 | 1.03 | -.85 | .59 | .74 |
| ETC_Interpersonal | 6.33 | .84 | -.47 | -.43 | .90 |
| Impression Management | 5.04 | 1.25 | -.28 | -.37 | .74 |
| Team Cohesion | 6.05 | 1.33 | -.72 | .22 | .95 |
| Team Conflict | 2.65 | 1.37 | .99 | .48 | .92 |
| Subjective Team Performance | 5.38 | 1.64 | -.35 | -.87 | .65 |
| Objective Team Performance | 1.83 | 1.12 | -.39 | -1.26 | - |

*Note.* NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies; AL = Active Listening.

**Table 18**

*Study 2: Correlations Between Individual-Level Narcissism, Teamwork Competencies, Team Processes, and Team Performance*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Narcissism (NPI) | - | | | | | | | | | | | | | |
| 2. Adaptive Narcissism | .86*** | - | | | | | | | | | | | | |
| 3. Maladaptive Narcissism | .91*** | .73*** | - | | | | | | | | | | | |
| 4. Narcissistic Admiration | .68*** | .55*** | .67*** | - | | | | | | | | | | |
| 5. Narcissistic Rivalry | .35*** | .17 | .47*** | .38*** | - | | | | | | | | | |
| 6. Vulnerable Narcissism | .06 | -.06 | .18 | .12 | .43*** | - | | | | | | | | |
| 7. ETC Communication | -.08 | .05 | -.18 | 02 | -.38*** | -.26** | - | | | | | | | |
| 8. ETC Management | .20* | .30** | .11 | .28** | -.15 | -.20* | .53*** | - | | | | | | |
| 9. ETC Intrapersonal | -.02 | .11 | -.11 | .09 | -.31** | -.39** | .58*** | .41*** | - | | | | | |
| 10. ETC Interpersonal | -.25* | -.14 | -.32** | -.08 | -.49*** | -.34*** | .64*** | .36*** | .52** | - | | | | |
| 11. Impression Manage | -.29** | -.18 | -.45*** | -.33** | -.55*** | -.36*** | .15 | .04 | .08 | .26** | - | | | |
| 12. Team Cohesion | -.06 | .004 | -.11 | .08 | -.28** | -.20* | .49*** | .32** | .44*** | .66*** | .11 | - | | |
| 13. Team Conflict | .03 | -.02 | .07 | -.07 | .24* | .05 | -.32** | -.11 | -.29** | -.57*** | -.19 | -.61*** | - | |
| 14. Sub. Performance | .02 | .02 | .02 | .12 | -.06 | -.09 | .35*** | .36*** | .40** | .38*** | -.01 | .50*** | -.42*** | - |
| 15. Obj. Performance | .10 | .06 | .16 | .14 | .18 | .06 | .17 | .14 | .21* | .09 | -.13 | .22* | -.18 | .80*** |

*Note*. NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies; Sub. Performance = Subjective Performance; Obj. Performance = Objective Performance. N = 101.
***$p < .001$**$p < .01$, *$p < .05$

**Table 19**

*Study 2: Correlations Between Individual-Level Narcissism and Teamwork Competencies Subscales*

| Variable | Narcissism (NPI) | Adaptive Narcissism | Maladaptive Narcissism | Narcissistic Admiration | Narcissistic Rivalry | Vulnerable Narcissism |
|---|---|---|---|---|---|---|
| AL_1_Encourage | -.15 | -.08 | -.16 | .05 | -.22* | -.16 |
| AL2_Mind wanders | -.08 | .02 | -.11 | -.09 | -.37*** | -.28** |
| AL3_Summarising | .004 | .05 | -.05 | -.00 | .04 | .00 |
| Clarity | .03 | .11 | -.11 | .10 | -.33** | -.22* |
| Adaptability | .01 | .12 | -.11 | .10 | -.36*** | -.33** |
| Coping with stress | -.03 | .06 | -.07 | .01 | -.22* | -.37*** |
| Conscientiousness | -.02 | .10 | -.09 | .13 | -.17 | -.21* |
| Leadership | .25* | .32** | .15 | .19 | -.09 | -.03 |
| Motivating others | .07 | .15 | .02 | .16 | -.19 | -.23* |
| Dealing with conflict | .17 | .25* | .10 | .22* | -.14 | -.19 |
| Stability | .10 | .16 | .04 | .25* | -.04 | -.12 |
| Sharing information | -.16 | -.08 | -.22* | -.02 | -.13 | -.28** |
| Perspective-taking | -.19 | -.09 | -.27** | -.07 | -.48*** | -.32** |
| Back-up behaviour | -.18 | -.13 | -.20* | -.04 | -.22* | -.10 |
| Team connectedness | -.05 | .03 | -.12 | .06 | -.25* | -.17 |
| Ready for teamwork | -.36*** | -.27** | -.36*** | -.18 | -.44*** | -.18 |
| Positive outlook | -.02 | .05 | -.10 | .03 | -.30** | -.28** |
| Integrity | -.17 | -.08 | -.24* | -.17 | -.41*** | -.29** |
| Patience with others | -.12 | -.06 | -.17 | -.08 | -.54*** | -.32** |
| Trust | -.13 | -.04 | -.17 | .06 | -.11 | -.17 |
| Empathy | -.24* | -.18 | -.25* | -.06 | -.23* | -.16 |
| *Mean* | 13.55 | .43 | .29 | 4.27 | 2.66 | 3.85 |
| *SD* | 6.89 | .20 | .19 | 1.26 | 1.01 | .98 |

*Note*. AL = Active Listening. ***$p < .001$, **$p < .01$, *$p < .05$

**Table 20**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Narcissism (NPI) on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0002 | -.0084 | .0065 |
| | Management | .0011 | -.0126 | .0101 |
| | Intrapersonal | .0001 | -.0065 | .0068 |
| | Interpersonal | -.0219 | -.0498 | .0012 |
| | TOTAL | -.0055 | -.0460 | .0350 |
| | DIRECT | .0154 | -.0174 | .0482 |
| | | $R^2$ = .46, $F$(7, 93) = 11.48, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0000 | -.0067 | .0064 |
| | Management | .0087 | -.0009 | .0269 |
| | Intrapersonal | .0000 | -.0066 | .0056 |
| | Interpersonal | .0245 | -.0012 | .0540 |
| | TOTAL | -.0049 | -.0461 | .0363 |
| | DIRECT | -.0380* | -.0745 | -.0016 |
| | | $R^2$ = .37, $F$(7, 93) = 7.95, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0000 | -.0079 | .0084 |
| | Management | .0098 | -.0056 | .0300 |
| | Intrapersonal | .0004 | -.0123 | .0164 |
| | Interpersonal | -.0113 | -.0314 | .0014 |
| | TOTAL | .0026 | -.0474 | .0527 |
| | DIRECT | .0037 | -.0439 | .0514 |
| | | $R^2$ = .25, $F$(7, 93) = 4.51, $p$ < .01 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.0007 | -.0090 | .0077 |
| | Management | -.0020 | -.0149 | .0089 |
| | Intrapersonal | .0002 | -.0079 | .0105 |
| | Interpersonal | -.0018 | -.0128 | .0062 |
| | TOTAL | .0094 | -.0238 | .0426 |
| | DIRECT | .0137 | -.0218 | .0491 |
| | | $R^2$ = .13, $F$(7, 93) = 2.03, $p$ = .059 | | |

*Note.* Model (No. 4) controls for gender and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 20 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.0027 | -.0248 | .0213 |
| | Team Conflict | .0011 | -.0102 | .0138 |
| | TOTAL | .0026 | -.0474 | .0527 |
| | DIRECT | .0042 | -.0387 | .0471 |
| | | $R^2$ = .29, $F$(5, 95) = 7.70, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0009 | -.0090 | .0101 |
| | Team Conflict | .0003 | -.0060 | .0062 |
| | TOTAL | .0094 | -.0238 | .0426 |
| | DIRECT | .0100 | -.0224 | .0424 |
| | | $R^2$ = .13, $F$(5, 95) = 2.95, $p$ = .016 | | |

*Note.* Model (No. 4) controls for gender and impression management. Sub = subjective, Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 21**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Adaptive Narcissism on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .1097 | -.6661 | .9683 |
| | Management | .0860 | -.7828 | .7562 |
| | Intrapersonal | .2562 | -.2711 | .8911 |
| | Interpersonal | .6051 | -.5261 | 1.8566 |
| | TOTAL | 1.0344 | -.9502 | 3.0190 |
| | DIRECT | -.0266 | -1.6493 | 1.604 |
| | | $R^2 = .46$, $F(8, 92) = 9.95$, $p < .001$ | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0198 | -.7911 | .6268 |
| | Management | .6401 | .0396 | 1.5147 |
| | Intrapersonal | -.0088 | -.7927 | .6794 |
| | Interpersonal | -.6847 | -1.9128 | .5618 |
| | TOTAL | -.7722 | -2.8009 | 1.2565 |
| | DIRECT | -.6990 | -2.5028 | 1.1049 |
| | | $R^2 = .38$, $F(8, 92) = 7.02$, $p < .001$ | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0244 | -.9102 | .8965 |
| | Management | .7684 | -.1980 | 2.0450 |
| | Intrapersonal | .8095 | .0451 | 1.9337 |
| | Interpersonal | .3025 | -.2879 | 1.0902 |
| | TOTAL | .2481 | -2.2232 | 2.7194 |
| | DIRECT | -1.6567 | -3.9933 | .6799 |
| | | $R^2 = .27$, $F(8, 92) = 4.30$, $p < .001$ | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | .3200 | -.0467 | .8085 |
| | Management | -.1407 | -.8279 | .5884 |
| | Intrapersonal | .5281 | .0058 | 1.307 |
| | Interpersonal | .0460 | -.2643 | .3605 |
| | TOTAL | -.4006 | -2.0339 | 1.2327 |
| | DIRECT | -1.153 | -2.8686 | .5609 |
| | | $R^2 = .16$, $F(8, 92) = 2.27$, $p = .029$ | | |

*Note.* Model (No. 4) controls for maladaptive narcissism, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p < .001$, **$p < .01$, *$p < .05$

**Table 21 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | .5134 | -.4844 | 1.7093 |
| | Team Conflict | .1772 | -.2704 | .8850 |
| | TOTAL | .2481 | -2.2232 | 2.7194 |
| | DIRECT | -.4425 | -2.5671 | 1.6822 |
| | | $R^2$ = .29, $F$(6, 94) = 6.42, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | .1871 | -.2034 | .7872 |
| | Team Conflict | .0518 | -.1793 | .4411 |
| | TOTAL | -.4006 | -2.033 | 1.232 |
| | DIRECT | -.6395 | -2.234 | .9555 |
| | | $R^2$ = .15, $F$(6, 94) = 2.70, $p$ = .019 | | |

*Note.* Model (No. 4) controls for maladaptive narcissism, gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 22**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Maladaptive Narcissism on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.1372 | -1.2097 | .8055 |
| | Management | -.0465 | -.5414 | .3859 |
| | Intrapersonal | -.2883 | -1.0784 | .3038 |
| | Interpersonal | -1.5955 | -3.3196 | -.2359 |
| | TOTAL | -1.4287 | -3.8104 | .9530 |
| | DIRECT | .6388 | -1.2547 | 2.5322 |
| | | $R^2$ = .46, $F$(8, 92) = 9.95, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0248 | -.8026 | .9423 |
| | Management | -.3457 | -1.0421 | .1025 |
| | Intrapersonal | .0099 | -.7431 | .8685 |
| | Interpersonal | 1.8053 | .2736 | 3.6310 |
| | TOTAL | .5906 | -1.8440 | 3.0253 |
| | DIRECT | -.9037 | -3.0033 | 1.1959 |
| | | $R^2$ = .38, $F$(8, 92) = 7.02, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | -.0306 | -1.1057 | 1.1123 |
| | Management | -.4150 | -1.4239 | .1889 |
| | Intrapersonal | -.9108 | -2.1084 | -.0148 |
| | Interpersonal | -.7975 | -2.0442 | .0082 |
| | TOTAL | -.1185 | -3.0844 | 2.8474 |
| | DIRECT | 2.0353 | -.6844 | 4.7551 |
| | | $R^2$ = .27, $F$(8, 92) = 4.30, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.4752 | -1.1402 | .0555 |
| | Management | .0760 | -.3519 | .5723 |
| | Intrapersonal | -.5941 | -1.4622 | .0089 |
| | Interpersonal | -.1212 | -.7663 | .4938 |
| | TOTAL | .9559 | -1.004 | 2.9161 |
| | DIRECT | 2.0705* | .0381 | 4.102 |
| | | $R^2$ = .16, $F$(8, 92) = 2.27, $p$ = .029 | | |

*Note.* Model (No. 4) controls for adaptive narcissism, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 22 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.7091 | -2.2216 | .4204 |
| | Team Conflict | -.1355 | -.9554 | .3593 |
| | TOTAL | -.1185 | -3.0844 | 2.8474 |
| | DIRECT | .7261 | -1.8291 | 3.2813 |
| | | $R^2$ = .29, $F$(6, 94) = 6.42, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.2584 | -.9543 | .2337 |
| | Team Conflict | -.0397 | -.4684 | .1885 |
| | TOTAL | .9559 | -1.004 | 2.916 |
| | DIRECT | 1.253 | -.6642 | 3.172 |
| | | $R^2$ = .15, $F$(6, 94) = 2.70, $p$ = .019 | | |

*Note.* Model (No. 4) controls for adaptive narcissism, gender and impression management. Sub = subjective, Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 23**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Admiration on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping BC 95% CI | |
|---|---|---|---|---|
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0092 | -.0583 | .0801 |
| | Management | .0074 | -.0781 | .0907 |
| | Intrapersonal | .0190 | -.0176 | .0777 |
| | Interpersonal | .0883 | -.0324 | .2202 |
| | TOTAL | .2292* | .0052 | .4532 |
| | DIRECT | .1052 | -.0861 | .2965 |
| | | $R^2$ = .47, $F$(8, 92) = 10.04, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0016 | -.0676 | .0596 |
| | Management | .0782 | .0020 | .1822 |
| | Intrapersonal | -.0031 | -.0699 | .0476 |
| | Interpersonal | -.0950 | -.2337 | .0343 |
| | TOTAL | -.2100 | -.4438 | .0237 |
| | DIRECT | -.1886 | -.4028 | .0257 |
| | | $R^2$ = .37, $F$(8, 92) = 6.74, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | -.0003 | -.0816 | .0697 |
| | Management | .0952 | -.0260 | .2744 |
| | Intrapersonal | .0603 | -.0099 | .1852 |
| | Interpersonal | .0520 | -.0198 | .1517 |
| | TOTAL | .1772 | -.1118 | .4661 |
| | DIRECT | -.0301 | -.3073 | .2471 |
| | | $R^2$ = .26, $F$(8, 92) = 4.09, $p$ < .01 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | .0173 | -.0139 | .0756 |
| | Management | -.0060 | -.0812 | .0987 |
| | Intrapersonal | .0395 | -.0103 | .1228 |
| | Interpersonal | .0118 | -.0198 | .0626 |
| | TOTAL | .0416 | -.1526 | .2358 |
| | DIRECT | -.0210 | -.2244 | .1824 |
| | | $R^2$ = .16, $F$(8, 92) = 2.12, $p$ = .042 | | |

*Note.* Model (No. 4) controls for narcissistic rivalry, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 23 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | .1129 | -.0013 | .2605 |
| | Team Conflict | .0486 | -.0176 | .1540 |
| | TOTAL | .1772 | -.1118 | .4661 |
| | DIRECT | .0157 | -.2412 | .2727 |
| | | $R^2$ = .29, $F$(6, 94) = 6.36, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | .0450 | -.0090 | .1375 |
| | Team Conflict | .0162 | -.0289 | .0730 |
| | TOTAL | .0416 | -.1526 | .2358 |
| | DIRECT | -.0196 | -.2120 | .1729 |
| | | $R^2$ = .15, $F$(6, 94) = 2.73, $p$ = .017 | | |

*Note.* Model (No. 4) controls for narcissistic rivalry, gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero.Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 24**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Rivalry on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0269 | -.2144 | .1512 |
| | Management | -.0074 | -.0952 | .0832 |
| | Intrapersonal | -.0557 | -.1900 | .0565 |
| | Interpersonal | -.4157 | -.6772 | -.1789 |
| | TOTAL | -.4997** | -.8232 | -.1762 |
| | DIRECT | .0060 | -.2855 | .2974 |
| | | $R^2$ = .47, $F$(8, 92) = 10.05, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0045 | -.1588 | .1788 |
| | Management | -.0787 | -.1929 | .0027 |
| | Intrapersonal | .0089 | -.1240 | .1671 |
| | Interpersonal | .4470 | .2210 | .6935 |
| | TOTAL | .3529* | .0153 | .6905 |
| | DIRECT | -.0290 | -.3554 | .2975 |
| | | $R^2$ = .37, $F$(8, 92) = 6.74, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0009 | -.1868 | .2152 |
| | Management | -.0959 | -.2891 | .0220 |
| | Intrapersonal | -.1764 | -.4147 | -.0026 |
| | Interpersonal | -.2448 | -.5529 | -.0350 |
| | TOTAL | -.2862 | -.7035 | .1312 |
| | DIRECT | .2300 | -.1924 | .6523 |
| | | $R^2$ = .26, $F$(8, 92) = 4.09, $p$ < .01 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.0311 | -.1084 | .0201 |
| | Management | .0060 | -.0904 | .0971 |
| | Intrapersonal | -.1156 | -.2772 | .0084 |
| | Interpersonal | -.0554 | -.2324 | .0860 |
| | TOTAL | .0732 | -.2073 | .3537 |
| | DIRECT | .2693 | -.0397 | .5784 |
| | | $R^2$ = .16, $F$(8, 92) = 2.12, $p$ = .042 | | |

*Note.* Model (No. 4) controls for narcissistic admiration, gender, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported. ***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 24 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.2461 | -.4621 | -.0630 |
| | Team Conflict | -.0816 | -.2737 | .0094 |
| | TOTAL | -.2862 | -.7035 | .1312 |
| | DIRECT | .0416 | -.3384 | .4215 |
| | | $R^2$ = .29, $F$(6, 94) = 6.36, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0982 | -.2400 | .0154 |
| | Team Conflict | -.0271 | -.1368 | .0386 |
| | TOTAL | .0732 | -.2073 | .3537 |
| | DIRECT | .1986 | -.0860 | .4831 |
| | | $R^2$ = .15, $F$(6, 94) = 2.73, $p$ = .131 | | |

*Note.* Model (No. 4) controls for narcissistic admiration, gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 25**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Vulnerable Narcissism on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -0116 | -.1350 | .1114 |
| | Management | -.0146 | -.0791 | .0433 |
| | Intrapersonal | -.0598 | -.2038 | .0433 |
| | Interpersonal | -.2416 | -.4781 | -.0674 |
| | TOTAL | -.2535 | -.5411 | .0341 |
| | DIRECT | .0741 | -.1664 | .3146 |
| | | $R^2$ = .46, $F$(7, 93) = 11.35, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0068 | -.1257 | .0928 |
| | Management | -.0346 | -.1044 | .0164 |
| | Intrapersonal | .0504 | -.0927 | .1987 |
| | Interpersonal | .2662 | .0786 | .5019 |
| | TOTAL | -.0414 | -.3386 | .2557 |
| | DIRECT | -.3166* | -.5816 | -.0515 |
| | | $R^2$ = .38, $F$(7, 93) = 8.24, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0069 | -.1190 | .1499 |
| | Management | -.0656 | -.2205 | .0173 |
| | Intrapersonal | -.1643 | -.4111 | -.0098 |
| | Interpersonal | -.1344 | -.3531 | -.0089 |
| | TOTAL | -.1623 | -.5219 | .1973 |
| | DIRECT | .1950 | -.1516 | .5416 |
| | | $R^2$ = .26, $F$(7, 93) = 4.74, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.0081 | -.0743 | .0326 |
| | Management | .0032 | -.0657 | .0727 |
| | Intrapersonal | -.1019 | -.2566 | .0036 |
| | Interpersonal | -.0177 | -.1321 | .0678 |
| | TOTAL | .0385 | -.2013 | .2783 |
| | DIRECT | .1632 | -.0931 | .4193 |
| | | $R^2$ = .14, $F$(7, 93) = 2.20, $p$ = .041 | | |

*Note.* Model (No. 4) controls for gender and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 25 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.1209 | -.2952 | .0082 |
| | Team Conflict | .0099 | -.1070 | .0945 |
| | TOTAL | -.1623 | -.5219 | .1973 |
| | DIRECT | -.0513 | -.3698 | .2671 |
| | | $R^2 = .29$, $F(5, 95) = 7.72$, $p < .001$ | | |
| Model F | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0462 | -.1453 | .0142 |
| | Team Conflict | .0025 | -.0497 | .0422 |
| | TOTAL | .0385 | -.2013 | .2783 |
| | DIRECT | .0822 | -.1582 | .3226 |
| | | $R^2 = .13$, $F(5, 95) = 2.97$, $p = .016$ | | |

*Note.* Model (No. 4) controls for gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 26**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Narcissism (NPI) on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0001 | -.0076 | .0089 |
| | Management | - | .0093 | -.0041 | .0303 |
| | Intrapersonal | - | .0003 | -.0109 | .0152 |
| | Interpersonal | - | -.0013 | -.0186 | .0120 |
| | Cohesion | - | .0071 | -.0086 | .0325 |
| | Communication | Cohesion | -.0001 | -.0043 | .0033 |
| | Management | Cohesion | .0005 | -.0065 | .0052 |
| | Intrapersonal | Cohesion | .0001 | -.0030 | .0034 |
| | Interpersonal | Cohesion | -.0101 | -.0249 | .0012 |
| | TOTAL | | .0026 | -.0474 | .0527 |
| | DIRECT | | -.0033 | -.0490 | .0423 |
| | | | $R^2$ = .33, $F$(8, 92) = 5.61, $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0001 | -.0079 | .0081 |
| | Management | - | .0134 | -.0022 | .0355 |
| | Intrapersonal | - | .0004 | -.0130 | .0160 |
| | Interpersonal | - | -.0013 | -.0175 | .0126 |
| | Conflict | - | .0156 | -.0004 | .0414 |
| | Communication | Conflict | .0000 | -.0029 | .0029 |
| | Management | Conflict | -.0036 | -.0129 | .0004 |
| | Intrapersonal | Conflict | .0000 | -.0027 | .0027 |
| | Interpersonal | Conflict | -.0100 | -.0263 | .0004 |
| | TOTAL | | .0026 | -.0474 | .0527 |
| | DIRECT | | -.0118 | -.0584 | .0347 |
| | | | $R^2$ = .33, $F$(8, 92) = 5.57, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 26 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0006 | -.0077 | .0065 |
| | Management | - | -.0016 | -.0137 | .0098 |
| | Intrapersonal | - | .0002 | -.0073 | .0088 |
| | Interpersonal | - | .0018 | -.0099 | .0116 |
| | Cohesion | - | .0031 | -.0033 | .0175 |
| | Communication | Cohesion | -.0002 | -.0025 | .0022 |
| | Management | Cohesion | -.0004 | -.0046 | .0014 |
| | Intrapersonal | Cohesion | .0000 | -.0018 | .0021 |
| | Interpersonal | Cohesion | -.0036 | -.0105 | .0024 |
| | TOTAL | | .0094 | -.0238 | .0426 |
| | DIRECT | | .0105 | -.0249 | .0460 |
| | | | $R^2$ = .15, $F$(8, 92) = 2.08, $p$ = .046 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0008 | -.0088 | .0233 |
| | Management | - | -.0008 | -.0121 | .0079 |
| | Intrapersonal | - | .0002 | -.0079 | .0106 |
| | Interpersonal | - | .0018 | -.0083 | .0096 |
| | Conflict | - | .0055 | -.0013 | .0121 |
| | Communication | Conflict | .0000 | -.0014 | .0183 |
| | Management | Conflict | -.0120 | -.0059 | .0010 |
| | Intrapersonal | Conflict | .0000 | -.0010 | .0004 |
| | Interpersonal | Conflict | -.0036 | -.0118 | .0014 |
| | TOTAL | | .0094 | -.0238 | .0426 |
| | DIRECT | | .0082 | -.0279 | .0442 |
| | | | $R^2$ = .15, $F$(8, 92) = 2.07, $p$ = .046 | | |

*Note.* Model (No. 80) controls for gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 27**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Adaptive Narcissism on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0251 | -1.0269 | .7481 |
| | Management | - | .7296 | -.1528 | 1.9444 |
| | Intrapersonal | - | .6938 | -.0218 | 1.6774 |
| | Interpersonal | - | .0293 | -.4448 | .6400 |
| | Cohesion | - | -.0102 | -.9642 | .9189 |
| | Communication | Cohesion | .0495 | -.1960 | .6096 |
| | Management | Cohesion | .0388 | -.3819 | .4153 |
| | Intrapersonal | Cohesion | .1157 | -.1342 | .4629 |
| | Interpersonal | Cohesion | .2732 | -.2149 | .8399 |
| | TOTAL | | .2481 | -2.2223 | 2.7194 |
| | DIRECT | | -1.646 | -3.8772 | .5842 |
| | | | $R^2 = .34$, $F(9, 91) = 5.31$, $p < .001$ | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0163 | -.9307 | .7947 |
| | Management | - | 1.0325 | .0578 | 2.3151 |
| | Intrapersonal | - | .8058 | .0355 | 1.8964 |
| | Interpersonal | - | .0200 | -.4575 | .5306 |
| | Conflict | - | .2884 | -.3670 | 1.1766 |
| | Communication | Conflict | .0082 | -.2570 | .3981 |
| | Management | Conflict | -.2641 | -.7818 | -.0070 |
| | Intrapersonal | Conflict | .0036 | -.3143 | .3487 |
| | Interpersonal | Conflict | .2825 | -.2297 | .9335 |
| | TOTAL | | .2481 | -2.2232 | 2.7194 |
| | DIRECT | | -1.9451 | -4.1796 | .2894 |
| | | | $R^2 = .35$, $F(9, 91) = 5.35$, $p < .001$ | | |

*Note.* Model (No. 80) controls for maladaptive narcissism, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 27 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .2687 | -.1374 | .7358 |
| | Management | - | -.1157 | -.8222 | .6379 |
| | Intrapersonal | - | .4723 | -.0775 | 1.280 |
| | Interpersonal | - | -.0437 | -.5017 | .2850 |
| | Cohesion | - | -.0160 | -.3694 | .3774 |
| | Communication | Cohesion | .0513 | -.0131 | .2970 |
| | Management | Cohesion | -.0250 | -.2479 | .0986 |
| | Intrapersonal | Cohesion | .0557 | -.0375 | .2570 |
| | Interpersonal | Cohesion | .0897 | -.1193 | .3718 |
| | TOTAL | | -.4006 | -2.0339 | 1.2327 |
| | DIRECT | | -1.1379 | -2.8454 | .5696 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.24, $p$ = .026 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .3197 | -.0637 | .8539 |
| | Management | - | -.0508 | -.7690 | .7133 |
| | Intrapersonal | - | .5259 | -.0306 | 1.3078 |
| | Interpersonal | - | -.0515 | -.5011 | .2295 |
| | Conflict | - | .0995 | -.1473 | .5184 |
| | Communication | Conflict | .0003 | -.0914 | .1079 |
| | Management | Conflict | -.0900 | -.3536 | .0295 |
| | Intrapersonal | Conflict | .0022 | -.1118 | .1714 |
| | Interpersonal | Conflict | .0975 | -.0945 | .4102 |
| | TOTAL | | -.4006 | -2.0339 | 1.2327 |
| | DIRECT | | -1.2533 | -2.9640 | .4573 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.28, $p$ = .024 | | |

*Note.* Model (No. 80) controls for maladaptive narcissism, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 28**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Maladaptive Narcissism on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0314 | -.9690 | 1.1913 |
| | Management | - | -.3940 | -1.3540 | .1799 |
| | Intrapersonal | - | -.7806 | -1.9387 | .0058 |
| | Interpersonal | - | -.0773 | -1.3146 | .8932 |
| | Cohesion | - | .2883 | -.6432 | 1.4086 |
| | Communication | Cohesion | -.0619 | -.8023 | .2584 |
| | Management | Cohesion | -.0210 | -.2921 | .1940 |
| | Intrapersonal | Cohesion | -.1301 | -.5365 | .1519 |
| | Interpersonal | Cohesion | -.7202 | -1.6442 | -.0095 |
| | TOTAL | | -.1185 | -3.0844 | 2.8474 |
| | DIRECT | | 1.747 | -.8558 | 4.3498 |
| | | | $R^2 = .34$, $F(9, 91) = 5.31$, $p < .001$ | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0203 | -1.0372 | 1.1585 |
| | Management | - | -.5576 | -1.7537 | .1536 |
| | Intrapersonal | - | -.9067 | -2.1305 | -.0130 |
| | Interpersonal | - | -.0526 | -1.1024 | .9616 |
| | Conflict | - | .3729 | -.4271 | 1.3944 |
| | Communication | Conflict | -.0102 | -.4667 | .3285 |
| | Management | Conflict | .1426 | -.0378 | .5392 |
| | Intrapersonal | Conflict | -.0041 | -.4007 | .3559 |
| | Interpersonal | Conflict | -.7449 | -1.8251 | -.0528 |
| | TOTAL | | -.1185 | -3.0844 | 2.8474 |
| | DIRECT | | 1.6625 | -.9404 | 4.2654 |
| | | | $R^2 = .35$, $F(9, 91) = 5.53$, $p < .001$ | | |

*Note.* Model (No. 80) controls for adaptive narcissism, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 28 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.3990 | -1.0857 | .2027 |
| | Management | - | .0625 | -.3558 | .5715 |
| | Intrapersonal | - | -.5314 | -1.4328 | .1004 |
| | Interpersonal | - | .1152 | -.6508 | .9316 |
| | Cohesion | - | .1468 | -.2014 | .7516 |
| | Communication | Cohesion | -.0762 | -.4238 | .0230 |
| | Management | Cohesion | .0135 | -.0736 | .1328 |
| | Intrapersonal | Cohesion | -.0627 | -.3138 | .0414 |
| | Interpersonal | Cohesion | -.2364 | -.7110 | .1461 |
| | TOTAL | | .9559 | -1.0043 | 2.9161 |
| | DIRECT | | 1.9237 | -.1113 | 3.9587 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.24, $p$ = .026 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.4747 | -1.1383 | .0679 |
| | Management | - | .0274 | -.4153 | .4694 |
| | Intrapersonal | - | -.5917 | -1.4861 | .0309 |
| | Interpersonal | - | .1358 | -.5352 | 1.0078 |
| | Conflict | - | .1276 | -.1600 | .5640 |
| | Communication | Conflict | -.0005 | -.1620 | .1316 |
| | Management | Conflict | .0486 | -.0228 | .2280 |
| | Intrapersonal | Conflict | -.0024 | -.1788 | .1269 |
| | Interpersonal | Conflict | -.2570 | -.7873 | .0726 |
| | TOTAL | | .9559 | -1.0043 | 2.9161 |
| | DIRECT | | 1.9428 | -.0857 | 3.9714 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.28, $p$ = .024 | | |

*Note.* Model (No. 80) controls for adaptive narcissism, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 29**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Admiration on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0045 | -.0896 | .0652 |
| | Management | - | .0918 | -.0199 | .2664 |
| | Intrapersonal | - | .0515 | -.0116 | .1589 |
| | Interpersonal | - | .0112 | -.0457 | .0937 |
| | Cohesion | - | .0486 | -.0565 | .1675 |
| | Communication | Cohesion | .0042 | -.0194 | .0530 |
| | Management | Cohesion | .0034 | -.0384 | .0502 |
| | Intrapersonal | Cohesion | .0088 | -.0099 | .0434 |
| | Interpersonal | Cohesion | .0408 | -.0158 | .1132 |
| | TOTAL | | .1772 | -.1118 | .4661 |
| | DIRECT | | -.0787 | -.3446 | .1872 |
| | | | $R^2$ = .34, $F$(9, 91) = 5.15 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0009 | -.0833 | .0678 |
| | Management | - | .1270 | .0055 | .3220 |
| | Intrapersonal | - | .0591 | -.0097 | .1766 |
| | Interpersonal | - | .0134 | -.0367 | .0898 |
| | Conflict | - | .0766 | -.0181 | .2166 |
| | Communication | Conflict | .0006 | -.0219 | .0346 |
| | Management | Conflict | -.0317 | -.1020 | .0002 |
| | Intrapersonal | Conflict | .0012 | -.0194 | .0305 |
| | Interpersonal | Conflict | .0386 | -.0135 | .1026 |
| | TOTAL | | .1772 | -.1118 | .4661 |
| | DIRECT | | -.1067 | -.3757 | .1624 |
| | | | $R^2$ = .33, $F$(9, 91) = 5.09, $p$ < .001 | | |

*Note.* Model (No. 80) controls for narcissistic rivalry, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 29 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0135 | -.0186 | .0651 |
| | Management | - | -.0026 | -.0800 | .1007 |
| | Intrapersonal | - | .0350 | -.0123 | .1134 |
| | Interpersonal | - | -.0031 | -.0492 | .0477 |
| | Cohesion | - | .0197 | -.0224 | .0783 |
| | Communication | Cohesion | .0038 | -.0027 | .0245 |
| | Management | Cohesion | -.0034 | -.0254 | .0149 |
| | Intrapersonal | Cohesion | .0045 | -.0026 | .0285 |
| | Interpersonal | Cohesion | .0148 | -.0087 | .0553 |
| | TOTAL | | .0416 | -.1526 | .2358 |
| | DIRECT | | -.0407 | -.2442 | .1628 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.18 $p$ = .031 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0180 | -.0140 | .0796 |
| | Management | - | .0048 | -.0718 | .1161 |
| | Intrapersonal | - | .0392 | -.0113 | .1203 |
| | Interpersonal | - | -.0030 | -.0471 | .0416 |
| | Conflict | - | .0286 | -.0115 | .0930 |
| | Communication | Conflict | -.0007 | -.0109 | .0080 |
| | Management | Conflict | -.0108 | -.0179 | .0040 |
| | Intrapersonal | Conflict | .0004 | -.0086 | .0169 |
| | Interpersonal | Conflict | .0148 | -.0080 | .0498 |
| | TOTAL | | .0416 | -.1526 | .2358 |
| | DIRECT | | -.0496 | -.2547 | .1555 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.18, $p$ = .030 | | |

*Note.* Model (No. 80) controls for narcissistic rivalry, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 30**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Rivalry on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0133 | -.1637 | .2352 |
| | Management | - | -.0924 | -.2797 | .0184 |
| | Intrapersonal | - | -.1506 | -.3850 | .0170 |
| | Interpersonal | - | -.0527 | -.3600 | .1546 |
| | Cohesion | - | .0028 | -.1091 | .1471 |
| | Communication | Cohesion | -.0124 | -.1468 | .0542 |
| | Management | Cohesion | -.0034 | -.0536 | .0398 |
| | Intrapersonal | Cohesion | -.0257 | -.1035 | .0287 |
| | Interpersonal | Cohesion | -.1921 | -.3700 | -.0368 |
| | TOTAL | | -.2862 | -.7035 | .1312 |
| | DIRECT | | .2272 | -.1753 | .6298 |
| | | | $R^2$ = .34, $F$(9, 91) = 5.15 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0027 | -.1844 | .2145 |
| | Management | - | -.1278 | -.3399 | -.0032 |
| | Intrapersonal | - | -.1727 | -.4154 | .0079 |
| | Interpersonal | - | -.0632 | -.3537 | .1541 |
| | Conflict | - | .0118 | -.1501 | .1569 |
| | Communication | Conflict | -.0018 | -.0837 | .0645 |
| | Management | Conflict | .0320 | -.0011 | .1058 |
| | Intrapersonal | Conflict | -.0036 | -.0780 | .0558 |
| | Interpersonal | Conflict | -.1816 | -.3573 | -.0378 |
| | TOTAL | | -.2862 | -.7035 | .1312 |
| | DIRECT | | .2182 | -.1851 | .6216 |
| | | | $R^2$ = .33, $F$(9, 91) = 5.10, $p$ < .001 | | |

*Note.* Model (No. 80) controls for narcissistic admiration, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 30 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0243 | -.0949 | .0268 |
| | Management | - | .0026 | -.0974 | .0897 |
| | Intrapersonal | - | -.1024 | -.2634 | .0238 |
| | Interpersonal | - | .0144 | -.1871 | .1794 |
| | Cohesion | - | .0004 | -.0594 | .0602 |
| | Communication | Cohesion | -.0068 | -.0377 | .0026 |
| | Management | Cohesion | .0034 | -.0148 | .0258 |
| | Intrapersonal | Cohesion | -.0133 | -.0658 | .0065 |
| | Interpersonal | Cohesion | -.0698 | -.1675 | .0289 |
| | TOTAL | | .0732 | -.2073 | .3537 |
| | DIRECT | | .2689 | -.0379 | .5757 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.18, $p$ = .030 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0324 | -.1116 | .0210 |
| | Management | - | -.0048 | -.1145 | .0808 |
| | Intrapersonal | - | -.1145 | -.2830 | .0146 |
| | Interpersonal | - | .0142 | -.1464 | .1827 |
| | Conflict | - | .0044 | -.0718 | .0643 |
| | Communication | Conflict | .0013 | -.0118 | .0177 |
| | Management | Conflict | .0109 | -.0040 | .0462 |
| | Intrapersonal | Conflict | -.0011 | -.0419 | .0250 |
| | Interpersonal | Conflict | -.0695 | -.1711 | .0084 |
| | TOTAL | | .0732 | -.2073 | .3537 |
| | DIRECT | | .2650 | -.0418 | .5717 |
| | | | $R^2$ = .18, $F$(9, 91) = 2.18, $p$ = .030 | | |

*Note.* Model (No. 80) controls for narcissistic admiration, gender, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 31**

*Study 2: Direct, Indirect, and Total Effects of Individual-Level Vulnerable Narcissism on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0121 | -.1053 | .1627 |
| | Management | - | -.0590 | -.2116 | .0162 |
| | Intrapersonal | - | -.1374 | -.3463 | .0054 |
| | Interpersonal | - | -.0260 | -.2306 | .0972 |
| | Cohesion | - | .0333 | -.0762 | .1762 |
| | Communication | Cohesion | -.0052 | -.0791 | .0340 |
| | Management | Cohesion | -.0065 | -.0398 | .0197 |
| | Intrapersonal | Cohesion | -.0268 | -.1004 | .0244 |
| | Interpersonal | Cohesion | -.1084 | -.2413 | -.0142 |
| | TOTAL | | -.1623 | -.5219 | .1973 |
| | DIRECT | | .1618 | -.1701 | .4936 |
| | | | $R^2$ = .33, $F$(8, 92) = 5.78 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0043 | -.1230 | .1487 |
| | Management | - | -.0788 | -.2488 | .0097 |
| | Intrapersonal | - | -.1450 | -.3745 | .0122 |
| | Interpersonal | - | -.0326 | -.2086 | .1018 |
| | Conflict | - | .1210 | -.0061 | .2915 |
| | Communication | Conflict | .0026 | -.0503 | .0486 |
| | Management | Conflict | .0132 | -.0059 | .0539 |
| | Intrapersonal | Conflict | -.0192 | -.0923 | .0378 |
| | Interpersonal | Conflict | -.1018 | -.2647 | -.0111 |
| | TOTAL | | -.1623 | -.5219 | .1973 |
| | DIRECT | | .0740 | -.2692 | .4172 |
| | | | $R^2$ = .33, $F$(8, 92) = 5.56, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 31 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0064 | -.0600 | .0306 |
| | Management | - | .0028 | -.0688 | .0753 |
| | Intrapersonal | - | -.0894 | -.2346 | .0188 |
| | Interpersonal | - | .0212 | -.0940 | .1238 |
| | Cohesion | - | .0107 | -.0390 | .0668 |
| | Communication | Cohesion | -.0017 | -.0225 | .0081 |
| | Management | Cohesion | .0004 | -.0117 | .0140 |
| | Intrapersonal | Cohesion | -.0125 | -.0596 | .0064 |
| | Interpersonal | Cohesion | -.0390 | -.1115 | .0194 |
| | TOTAL | | .0385 | -.2013 | .2783 |
| | DIRECT | | .1525 | -.1024 | .4074 |
| | | | $R^2$ = .16, $F$(8, 92) = 2.23, $p$ = .032 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0087 | -.0747 | .0334 |
| | Management | - | -.0005 | -.0816 | .0678 |
| | Intrapersonal | - | -.0962 | -.2528 | .0133 |
| | Interpersonal | - | .0181 | -.0837 | .1281 |
| | Conflict | - | .0428 | -.0198 | .1277 |
| | Communication | Conflict | .0006 | -.0067 | .0088 |
| | Management | Conflict | .0037 | -.0042 | .0260 |
| | Intrapersonal | Conflict | -.0057 | -.0417 | .0161 |
| | Interpersonal | Conflict | -.0358 | -.1188 | .0114 |
| | TOTAL | | .0385 | -.2013 | .2783 |
| | DIRECT | | .1204 | -.1425 | .3833 |
| | | | $R^2$ = .16, $F$(8, 92) = 2.17, $p$ = .037 | | |

*Note.* Model (No. 80) controls for gender and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 32**

*Study 2: Correlations Between Team-Level Narcissism Measures and Team Processes*

| Variable | Team-Level Cohesion | Team-Level Conflict | Objective Team Performance |
|---|---|---|---|
| Average Narcissism (NPI) | -.34*** | .31** | .24* |
| Average Adaptive Narcissism | -.37*** | .25* | .13 |
| Average Maladaptive Narcissism | -.30** | .19 | .34** |
| Average Narcissistic Admiration | -.03 | .09 | .31** |
| Average Narcissistic Rivalry | -.22* | .06 | .36*** |
| Average Vulnerable Narcissism | .11 | -.12 | .14 |
| Percentage Narcissism (NPI) | -.17 | .12 | .28** |
| Percentage Adaptive Narcissism | -.14 | .12 | .35*** |
| Percentage Maladaptive Narcissism | -.33** | .33** | .29*** |
| Percentage Narcissistic Admiration | .10 | .07 | .48*** |
| Percentage Narcissistic Rivalry | -.32** | .13 | .23* |
| Percentage Vulnerable Narcissism | .24* | -.14 | .05 |
| Team-Level Cohesion | - | -.64*** | .37*** |
| Team-Level Conflict | - | - | -.29** |

*Note*. NPI = Narcissistic Personality Inventory; Average values = aggregate data; Percentage = split median values.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 33**

*Study 2: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level (NPI) Narcissism (Two Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .002 | | | | | | .12 |
| Step 1 | Gender | -.07 | .16 | -.04 | -.45 | .65 | | -.09 | .15 | -.05 | -.58 | .56 | |
| Step 2 | Average Narcissism | | | | | | | -.09 | .03 | -.34 | -3.61 | < .001 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .11 |
| Step 1 | Gender | .17 | .17 | .09 | .95 | .34 | | .18 | .17 | .10 | 1.09 | .28 | |
| Step 2 | Average Narcissism | | | | | | | .09 | .03 | .31 | 3.26 | .002 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .05 | | | | | | .10 |
| Step 1 | Gender | -.49 | .22 | -.22 | -2.21 | .029 | | -.48 | .22 | -.21 | -2.19 | .031 | |
| Step 2 | Average Narcissism | | | | | | | .09 | .04 | .24 | 2.45 | .016 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .002 | | | | | | .03 |
| Step 1 | Gender | -.07 | .16 | -.05 | -.45 | .652 | | -.06 | .16 | -.04 | -.40 | .689 | |
| Step 2 | Percentage Narcissism | | | | | | | -.01 | .00 | -.17 | -1.69 | .094 | |

*Note*. Model controls for gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 33 (cont.)**

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .009 | | | | | | .023 |
| Step 1 | Gender | .17 | .17 | .10 | .95 | .343 | | .16 | .17 | .09 | .92 | .362 | |
| Step 2 | Percentage Narcissism | | | | | | | .005 | .004 | .12 | 1.18 | .242 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .05 | | | | | | .13 |
| Step 1 | Gender | -.49 | .22 | -.22 | -2.21 | .029 | | -.51 | .21 | -.23 | -2.39 | .019 | |
| Step 2 | Percentage Narcissism | | | | | | | .016 | .005 | .283 | 2.99 | .003 | |

*Note*. Model controls for gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 34**

*Study 2: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Adaptive Narcissism (Two Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .10 | | | | | | .14 |
| Step 1 | Gender | -.12 | .16 | -.08 | -.79 | .43 | | -.06 | .15 | -.04 | -.41 | .68 | |
| | NPI_Mal | -2.75 | .86 | -.31 | -3.19 | .002 | | -.373 | 1.35 | -.04 | -.28 | .783 | |
| Step 2 | Average NPI_Ada | | | | | | | -3.17 | 1.41 | -.34 | -2.25 | .03 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .05 | | | | | | .07 |
| Step 1 | Gender | .20 | .17 | .12 | 1.16 | .25 | | .16 | .17 | .09 | .90 | .37 | |
| | NPI_Mal | 1.91 | .95 | .20 | 2.01 | .047 | | .17 | 1.51 | .02 | .11 | .91 | |
| Step 2 | Average NPI_Ada | | | | | | | 2.33 | 1.58 | .23 | 1.47 | .144 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .15 | | | | | | .18 |
| Step 1 | Gender | -.42 | .21 | -.19 | -1.97 | .051 | | -.35 | .21 | -.155 | -1.65 | .10 | |
| | NPI_Mal | 3.98 | 1.18 | .32 | 3.38 | .001 | | 6.71 | 1.86 | .53 | 3.59 | .001 | |
| Step 2 | Average NPI_Ada | | | | | | | -3.63 | 1.94 | -.27 | -1.86 | .065 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .11 | | | | | | .12 |
| Step 1 | Gender | -.089 | .153 | -.055 | -.581 | .563 | | -.093 | .154 | -.058 | -.60 | .547 | |
| | NPI_Mal | -.011 | .003 | -.334 | -3.52 | .001 | | -.013 | .004 | -.387 | -3.30 | .001 | |
| Step 2 | Percentage NPI_Ada | | | | | | | .004 | .005 | .091 | .77 | .442 | |

*Note*. Model controls for maladaptive narcissism and gender; NPI_Adap = Adaptive Narcissism; NPI_Mal = Maladaptive Narcissism. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 34 (cont.)**

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .12 | | | | | | .13 |
| Step 1 | Gender | .18 | .16 | .11 | 1.11 | .269 | | .187 | .16 | .11 | 1.14 | .257 | |
| | NPI_Mal | .01 | .003 | .34 | 3.57 | .001 | | .014 | .004 | .40 | 3.45 | .001 | |
| Step 2 | Percentage NPI_Ada | | | | | | | -.005 | .005 | -.11 | -.96 | .340 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .13 | | | | | | .18 |
| Step 1 | Gender | -.47 | .21 | -.21 | -2.21 | .029 | | -.49 | .21 | -.22 | -2.34 | .021 | |
| | NPI_Mal | .01 | .004 | .29 | 3.04 | .003 | | .006 | .005 | .12 | 1.06 | .289 | |
| Step 2 | Percentage NPI_Ada | | | | | | | .016 | .007 | .29 | 2.52 | .013 | |

*Note*. Model controls for maladaptive narcissism and gender; NPI_Adap = Adaptive Narcissism; NPI_Mal = Maladaptive Narcissism. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 35**

*Study 2: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Maladaptive Narcissism (Two Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .14 | | | | | | .14 |
| Step 1 | Gender | -.06 | .15 | -.03 | -.36 | .72 | | -.06 | .16 | -.04 | -.41 | .68 | |
| | NPI_Ada | -3.47 | .88 | -.38 | -3.97 | <.001 | | -3.17 | 1.41 | -.34 | -2.25 | .03 | |
| Step 2 | Average NPI_Mal | | | | | | | -.37 | 1.35 | -.04 | -.27 | .78 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .07 | | | | | | .07 |
| Step 1 | Gender | .15 | .17 | .09 | .90 | .37 | | .16 | .17 | .09 | .90 | .37 | |
| | NPI_Ada | 2.46 | .98 | .25 | 2.51 | .01 | | 2.33 | 1.58 | .23 | 1.47 | .14 | |
| Step 2 | Average NPI_Mal | | | | | | | .17 | 1.51 | .02 | .11 | .91 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .07 | | | | | | .18 |
| Step 1 | Gender | -.50 | .221 | -.22 | -2.27 | .026 | | -.35 | .21 | -.16 | -1.65 | .102 | |
| | NPI_Ada | 1.83 | 1.24 | .14 | 1.43 | .156 | | -3.63 | 1.94 | -.28 | -1.86 | .065 | |
| Step 2 | Average NPI_Mal | | | | | | | 6.71 | 1.87 | .53 | 3.60 | .001 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .02 | | | | | | .12 |
| Step 1 | Gender | -.07 | .16 | -.04 | -.44 | .659 | | -.09 | .15 | -.06 | -.60 | .548 | |
| | NPI_Ada | -.006 | .004 | -.14 | -1.35 | .179 | | .004 | .005 | .09 | .77 | .442 | |
| Step 2 | Percentage NPI_Mal | | | | | | | -.013 | .004 | -.39 | -3.30 | .001 | |

*Note*. Model controls for adaptive narcissism and gender; NPI_Adap = Adaptive Narcissism; NPI_Mal = Maladaptive Narcissism. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 35 (cont.)**

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .13 |
| Step 1 | Gender | .16 | .17 | .09 | .94 | .347 | | .19 | .16 | .11 | 1.14 | .257 | |
| | NPI_Ada | .005 | .004 | .12 | 1.24 | .220 | | -.005 | .005 | -.11 | -.96 | .340 | |
| Step 2 | Percentage NPI_Mal | | | | | | | .01 | .004 | .40 | 3.45 | .001 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .17 | | | | | | .18 |
| Step 1 | Gender | -.50 | .21 | -.22 | -2.39 | .019 | | -.49 | .21 | -.22 | -2.34 | .021 | |
| | NPI_Ada | .02 | .005 | .36 | 3.87 | < .001 | | .02 | .007 | .29 | 2.52 | .013 | |
| Step 2 | Percentage NPI_Mal | | | | | | | .006 | .005 | .12 | 1.07 | .289 | |

*Note*. Model controls for adaptive narcissism and gender; NPI_Adap = Adaptive Narcissism; NPI_Mal = Maladaptive Narcissism. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 36**

*Study 2: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Narcissistic Admiration (Two Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .07 | | | | | | .08 |
| Step 1 | Gender | -.22 | .17 | -.14 | -1.31 | .193 | | -.23 | .17 | -.14 | -1.39 | .17 | |
| | Rivalry | -.43 | .17 | -.27 | -2.58 | .01 | | -.54 | .19 | -.34 | -2.81 | .006 | |
| Step 2 | Average Admiration | | | | | | | .18 | .16 | .13 | 1.15 | .25 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .02 | | | | | | .02 |
| Step 1 | Gender | .22 | .18 | .13 | 1.21 | .22 | | .21 | .19 | .12 | 1.16 | .25 | |
| | Rivalry | .17 | .18 | .10 | .93 | .36 | | .10 | .21 | .06 | .48 | .63 | |
| Step 2 | Average Admiration | | | | | | | .11 | .17 | .07 | .61 | .54 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .14 | | | | | | .16 |
| Step 1 | Gender | -.24 | .23 | -.11 | -1.08 | .285 | | -.27 | .22 | -.12 | -1.19 | .236 | |
| | Rivalry | .73 | .23 | .33 | 3.26 | .002 | | .51 | .26 | .23 | 1.98 | .051 | |
| Step 2 | Average Admiration | | | | | | | .35 | .21 | .18 | 1.70 | .098 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .11 | | | | | | .16 |
| Step 1 | Gender | -.19 | .16 | -.12 | -1.22 | .227 | | -.21 | .15 | -.13 | -1.36 | .178 | |
| | Rivalry | -.01 | .003 | -.34 | -3.49 | .001 | | -.01 | .003 | -.41 | -4.09 | <. 001 | |
| Step 2 | Percentage Admiration | | | | | | | .007 | .003 | .22 | 2.25 | .027 | |

*Note*. Model controls for narcissistic rivalry and gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 36 (cont.)**

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .22 | .18 | .13 | 1.26 | .212 | | .22 | .18 | .13 | 1.23 | .220 | |
| | Rivalry | .006 | .004 | .15 | 1.50 | .138 | | .005 | .004 | .14 | 1.33 | .188 | |
| Step 2 | Percentage Admiration | | | | | | | .001 | .004 | .03 | .27 | .788 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .08 | | | | | | .28 |
| Step 1 | Gender | -.40 | .22 | -.18 | -1.76 | .081 | | -.50 | .20 | -1.98 | -2.24 | .027 | |
| | Rivalry | .009 | .005 | .20 | 1.99 | .049 | | .002 | .004 | .046 | .50 | .621 | |
| Step 2 | Percentage Admiration | | | | | | | .021 | .004 | .466 | 5.12 | < .001 | |

*Note*. Model controls for narcissistic rivalry and gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 37**

*Study 2: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Narcissistic Rivalry (Two Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .003 | | | | | | .08 |
| Step 1 | Gender | -.08 | .16 | -.05 | -.49 | .63 | | -.23 | .17 | -.14 | -1.39 | .17 | |
| | Admiration | -.05 | .14 | -.03 | -.33 | .75 | | .18 | .16 | .13 | 1.15 | .25 | |
| Step 2 | Average Rivalry | | | | | | | -.54 | .19 | -.34 | -2.81 | .006 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .02 | | | | | | .02 |
| Step 1 | Gender | .19 | .17 | .11 | 1.07 | .29 | | .21 | .19 | .12 | 1.16 | .25 | |
| | Admiration | .15 | .15 | .10 | 1.00 | .32 | | .11 | .17 | .07 | .61 | .54 | |
| Step 2 | Average Rivalry | | | | | | | .10 | .21 | .06 | .48 | .63 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .13 | | | | | | .16 |
| Step 1 | Gender | -.41 | .21 | -.18 | -1.91 | .059 | | -.27 | .22 | -.12 | -1.19 | .236 | |
| | Admiration | .56 | .18 | .29 | 3.07 | .003 | | .35 | .21 | .18 | 1.67 | .098 | |
| Step 2 | Average Rivalry | | | | | | | .51 | .26 | .23 | 1.97 | .051 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .01 | | | | | | .16 |
| Step 1 | Gender | -.07 | .16 | -.04 | -.43 | .666 | | -.21 | .15 | -.13 | -1.36 | .178 | |
| | Admiration | .003 | .003 | .09 | .93 | .353 | | .007 | .003 | .22 | 2.25 | .027 | |
| Step 2 | Percentage Rivalry | | | | | | | -.01 | .003 | -.41 | -4.10 | < .001 | |

*Note*. Model controls for narcissistic admiration and gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 37 (cont.)**

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .17 | .17 | .10 | .96 | .337 | | .22 | .18 | .13 | 1.24 | .220 | |
| | Admiration | .002 | .003 | .07 | .72 | .471 | | .001 | .004 | .03 | .27 | .788 | |
| Step 2 | Percentage Rivalry | | | | | | | .005 | .004 | .14 | 1.33 | .188 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .28 | | | | | | .28 |
| Step 1 | Gender | -.47 | .20 | -.21 | -2.42 | .018 | | -.50 | .20 | -.20 | -2.24 | .027 | |
| | Admiration | .02 | .004 | .48 | 5.59 | < .001 | | .02 | .004 | .47 | 5.12 | < .001 | |
| Step 2 | Percentage Rivalry | | | | | | | .002 | .004 | .05 | .50 | .621 | |

*Note*. Model controls for narcissistic admiration and gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 38**

*Study 2: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Vulnerable Narcissism (Two Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .002 | | | | | | .01 |
| Step 1 | Gender | -.07 | .16 | -.04 | -.45 | .65 | | -.06 | .16 | -.04 | -.37 | .71 | |
| Step 2 | Average Vuln Narc | | | | | | | .20 | .20 | .10 | 1.02 | .31 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .02 |
| Step 1 | Gender | .17 | .17 | .09 | .95 | .34 | | .15 | .17 | .09 | .86 | .39 | |
| Step 2 | Average Vuln Narc | | | | | | | -.23 | .21 | -.11 | -1.10 | .27 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .05 | | | | | | .06 |
| Step 1 | Gender | -.49 | .22 | -.22 | -2.21 | .029 | | -.47 | .22 | -.21 | -2.11 | .038 | |
| Step 2 | Average Vuln Narc | | | | | | | .34 | .27 | .13 | 1.27 | .207 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .002 | | | | | | .062 |
| Step 1 | Gender | -.073 | .162 | -.045 | -.452 | .652 | | -.073 | .158 | -.045 | -.462 | .645 | |
| Step 2 | Percentage Vuln Narc | | | | | | | .008 | .003 | .244 | 2.496 | .014 | |

*Note*. Model controls for gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor; Vuln Narc = Vulnerable Narcissism.

**Table 38 (cont.)**

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .17 | .17 | .10 | .95 | .343 | | .17 | .17 | .10 | .96 | .342 | |
| Step 2 | Percentage Vuln Narc | | | | | | | -.005 | .004 | -.14 | -1.37 | .174 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .05 | | | | | | .05 |
| Step 1 | Gender | -.49 | .22 | -.22 | -2.21 | .029 | | -.49 | .22 | -.22 | -2.20 | .030 | |
| Step 2 | Percentage Vuln Narc | | | | | | | .002 | .005 | .05 | .53 | .597 | |

*Note*. Model controls for gender. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor; Vuln Narc = Vulnerable Narcissism.

**Table 39**

*Study 2: Regressions Predicting Objective Team Performance from Team-Level Cohesion and Conflict*

| | Objective Performance | | | | | | |
|---|---|---|---|---|---|---|---|
| | Predictor | *B* | *SE* | *β* | *t* | *p* | $R^2$ |
| Model A | | | | | | | .14 |
| | Cohesion | .52 | .13 | .37 | 3.96 | < .001 | |
| | Objective Performance | | | | | | |
| | Predictor | *B* | *SE* | *β* | *t* | *p* | $R^2$ |
| Model B | | | | | | | .08 |
| | Conflict | -.38 | .13 | -.29 | -3.01 | .003 | |

*Note*. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 40**

*Study 2: Direct, Indirect, and Total Effects of Team-Level Narcissism Measures (Average) on Objective Team Performance through Team Cohesion and Team Conflict (Two Pages)*

| | | | | Bootstrapping BC 95% CI | |
|---|---|---|---|---|---|
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Narcissism (NPI) | Team Performance | Team Cohesion | -.0546 | -.0909 | -.0168 |
| | | Team Conflict | -.0159 | -.0609 | .0084 |
| | | TOTAL | .0889* | .0170 | .1608 |
| | | DIRECT | .1594*** | .0922 | .2265 |
| | | $R^2$ = .58, $F$(4, 96) = 12.05, $p$ < .001 | | | |
| Model B | | | Indirect Effects | | |
| Adaptive Narcissism | Team Performance | Team Cohesion | -1.9952 | -4.0015 | -.1539 |
| | | Team Conflict | -.2091 | -1.450 | .3595 |
| | | TOTAL | -3.630 | -7.489 | .2290 |
| | | DIRECT | -1.425 | -4.880 | 2.021 |
| | | $R^2$ = .62, $F$(5, 95) = 11.94, $p$ < .001 | | | |
| Model C | | | Indirect Effects | | |
| Maladaptive Narcissism | Team Performance | Team Cohesion | -.2352 | -2.5744 | 1.5493 |
| | | Team Conflict | -.0151 | -.5080 | .5415 |
| | | TOTAL | 6.709** | 3.005 | 10.412 |
| | | DIRECT | 6.959*** | 3.726 | 10.192 |
| | | $R^2$ = .62, $F$(5, 95) = 11.94, $p$ < .001 | | | |
| Model D | | | Indirect Effects | | |
| Narcissistic Admiration | Team Performance | Team Cohesion | .1081 | -.0659 | .3584 |
| | | Team Conflict | -.0061 | -.0802 | .0441 |
| | | TOTAL | .3505 | -.0663 | .7672 |
| | | DIRECT | .2484 | -.1293 | .6262 |
| | | $R^2$ = .59, $F$(5, 95) = 10.58, $p$ < .001 | | | |
| Model E | | | Indirect Effects | | |
| Narcissistic Rivalry | Team Performance | Team Cohesion | -.3271 | -.6409 | -.0858 |
| | | Team Conflict | -.0059 | -.0986 | .0475 |
| | | TOTAL | .5122 | -.0021 | 1.026 |
| | | DIRECT | .8452** | .3641 | 1.326 |
| | | $R^2$ = .59, $F$(5, 95) = 10.58, $p$ < .001 | | | |

**Table 40 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model F | | | Indirect Effects | | |
| Vulnerable | Team Performance | Team Cohesion | .0894 | -.0519 | .2713 |
| Narcissism | | Team Conflict | .0184 | -.1232 | .1333 |
| | | TOTAL | .3432 | -.1926 | .8791 |
| | | DIRECT | .2354 | -.2723 | .7431 |
| | | | $R^2$ = .43, $F$(4, 96) = 5.54, $p$ < .01 | | |

*Note.* Model (No. 4) controls for gender, impression management, and the other forms of narcissism (where necessary). BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 41**

*Study 2: Direct, Indirect, and Total Effects of the Effect of Team-Level Narcissism Measures (Percentage) on Objective Team Performance through Team Cohesion and Team Conflict (Two Pages)*

| | | | | Bootstrapping BC 95% CI | |
|---|---|---|---|---|---|
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Narcissism (NPI) | Team Performance | Team Cohesion | -.0035 | -.0090 | .0011 |
| | | Team Conflict | -.0005 | -.0034 | .0009 |
| | | TOTAL | .0157** | .0053 | .0262 |
| | | DIRECT | .0197*** | .0102 | .0293 |
| | | $R^2$ = .30, $F$(4, 96) = 10.40, $p$ < .001 | | | |
| Model B | | | Indirect Effects | | |
| Adaptive Narcissism | Team Performance | Team Cohesion | .0021 | -.0029 | .0089 |
| | | Team Conflict | .0010 | -.0009 | .0047 |
| | | TOTAL | .0164* | .0035 | .0294 |
| | | DIRECT | .0133* | .0022 | .0244 |
| | | $R^2$ = .42, $F$(5, 95) = 13.55, $p$ < .001 | | | |
| Model C | | | Indirect Effects | | |
| Maladaptive Narcissism | Team Performance | Team Cohesion | -.0074 | -.0147 | -.0020 |
| | | Team Conflict | -.0029 | -.0083 | .0007 |
| | | TOTAL | .0056 | -.1149 | .0162 |
| | | DIRECT | .0160** | .0064 | .0256 |
| | | $R^2$ = .42, $F$(5, 95) = 13.55, $p$ < .001 | | | |
| Model D | | | Indirect Effects | | |
| Narcissistic Admiration | Team Performance | Team Cohesion | .0030 | -.0001 | .0067 |
| | | Team Conflict | -.0002 | -.0015 | .0014 |
| | | TOTAL | .0209*** | .0128 | .0290 |
| | | DIRECT | .0181*** | .0104 | .0259 |
| | | $R^2$ = .42, $F$(5, 95) = 13.79, $p$ < .001 | | | |
| Model E | | | Indirect Effects | | |
| Narcissistic Rivalry | Team Performance | Team Cohesion | -.0058 | -.0127 | -.0005 |
| | | Team Conflict | -.0009 | -.0040 | .0004 |
| | | TOTAL | .0022 | -.0066 | .0109 |
| | | DIRECT | .0089* | .0002 | .0176 |
| | | $R^2$ = .42, $F$(5, 95) = 13.79, $p$ < .001 | | | |

**Table 41 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model F | | | Indirect Effects | | |
| Vulnerable | Team Performance | Team Cohesion | .0037 | .0001 | .0081 |
| Narcissism | | Team Conflict | .0004 | -.0018 | .0027 |
| | | TOTAL | .0024 | -.0067 | .0116 |
| | | DIRECT | -.0017 | -.0106 | .0071 |
| | | $R^2 = .18$, $F(4, 96) = 5.32$, $p < .001$ | | | |

*Note.* Model (No. 4) controls for gender, impression management, and the other forms of narcissism (where necessary). BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 42**

*Study 2: Round-Robin Analyses for Interpersonal Measures at Time One and Time Two*

| | Perceiver | Target | Relationship (Error) | Perceiver | Target | Relationship (Error) |
|---|---|---|---|---|---|---|
| | | **Time 1** | | | **Time 2** | |
| Confident | .19(.12)*** | .33(.18)*** | .48(.11)*** | .16(.12)** | .33(.18)*** | .51(.12)*** |
| Supportive | .27(.15)*** | .12(.11)* | .61(.12)*** | .28(.14)*** | .16(.12)** | .56(.13)*** |
| Arrogant | .47(.21)*** | .08(.09)* | .45(.12)*** | .38(.23)*** | .11(.17)* | .51(.16)*** |
| Competent | .30(.13)*** | .10(.09) | .59(.11)*** | .40(.17)*** | .06(.07) | .54(.11)*** |
| Aggressive | .36(.19)*** | .01(.09) | .63(.18)*** | .39(.19)*** | .13(.12)** | .48(.13)*** |
| Likeable | .29(.15)** | .06(.10) | .66(.15)*** | .28(.16)*** | .15(.12)** | .57(.14)*** |
| Creative | .21(.15)** | .16(.15)** | .63(.17)*** | .35(.16)*** | .13(.11)** | .52(.12)*** |
| Trustworthy | .40(.16)*** | .01(.07) | .59(.11)*** | .38(.16)*** | .06(.08) | .55(.11)*** |
| Empathic | .25(.15)** | .05(.10) | .70(.15)*** | .36(.18)*** | .20(.14)** | .43(.11)*** |
| Hardworking | .44(.19)*** | .12(.09)** | .43(.10)*** | .32(.15)*** | .16(.10)** | .51(.12)*** |
| Good Leader | .13(.18)*** | .07(.14) | .80(.21)*** | .25(.22)*** | .20(.20)** | .55(.19)*** |

*Note.* The values in brackets are standard error values. ***$p < .001$, **$p < .01$, *$p < .05$

**Table 43**

*Study 2: Assumed Similarity and Self-Other Agreement Correlations for Round-Robin Analyses on Interpersonal Measures*

| | Time One | | Time Two | |
|---|---|---|---|---|
| | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement |
| Confident | .13 | .26* | .31** | .19 |
| Supportive | .22 | .19 | .52*** | .20 |
| Arrogant | .41*** | .10 | .53*** | .16 |
| Competent | .31** | .08 | .40*** | .32** |
| Aggressive | .29* | .11 | .42*** | .01 |
| Likeable | .48*** | .27* | .53*** | .10 |
| Creative | .23* | .16 | .38** | .01 |
| Trustworthy | .21 | .12 | .28* | -.05 |
| Empathic | .16 | .30** | .31** | .36*** |
| Hardworking | .29** | .19 | .29** | .14 |
| Good Leader | .22 | .24* | .19 | .26* |

*Note*. ***$p < .001$, **$p < .01$, *$p < .05$

**Table 44**

*Study 2: Partial Correlations Between Narcissism Measures and Interpersonal Perceptions (Two Pages)*

| | NPI | | Adaptive | | Maladaptive | | Admiration | | Rivalry | | Vulnerable | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** |
| **Confident** | | | | | | | | | | | | |
| Other | .27* | .25* | .22 | .25* | .31** | .24* | .35** | .22* | .05 | -.02 | -.20 | -.14 |
| Self-Perception | .38*** | .14 | .44*** | .19 | .22* | .06 | .37*** | .31** | -.16 | -.16 | -.38*** | -.21 |
| Self-Enhance | .11 | -.02 | .17 | -.06 | -.03 | -.08 | .02 | .08 | -.13 | -.01 | -.08 | -.03 |
| **Supportive** | | | | | | | | | | | | |
| Other | .11 | -.04 | .17 | -.03 | .10 | -.03 | -.01 | -.07 | -.08 | .06 | .06 | .002 |
| Self-Perception | .05 | .10 | .10 | .21 | .03 | .02 | .17 | .25* | -.17 | -.09 | -.14 | .02 |
| Self-Enhance | -.16 | .19 | -.17 | .20 | -.13 | .13 | -.06 | .19 | -.05 | -.02 | -.05 | .01 |
| **Arrogant** | | | | | | | | | | | | |
| Other | .15 | .23* | .09 | .27* | .16 | .19 | .28* | .23* | .04 | -.05 | -.01 | -.09 |
| Self-Perception | .38*** | .11 | .30** | .04 | .33** | .18 | .20 | -.04 | .21 | .24* | -.01 | .12 |
| Self-Enhance | .33** | -.03 | .34** | -.08 | .24* | .02 | .19 | -.09 | .03 | .09 | -.04 | .09 |
| **Competent** | | | | | | | | | | | | |
| Other | .04 | -.10 | .08 | -.06 | .04 | -.07 | .06 | -.08 | -.01 | .09 | -.02 | -.05 |
| Self-Perception | .20 | -.09 | .34** | .01 | .09 | .11 | .24* | .11 | -.06 | -.09 | -.08 | -.03 |
| Self-Enhance | .16 | -.06 | .19 | -.06 | .10 | -.09 | .09 | .03 | -.06 | -.17 | -.02 | .04 |
| **Aggressive** | | | | | | | | | | | | |
| Other | .13 | .16 | .11 | .16 | .15 | .20 | .11 | .13 | .22* | -.07 | .14 | -.10 |
| Self-Perception | .21 | .01 | .15 | .01 | .26* | .08 | .06 | -.06 | .25* | .23* | .12 | .06 |
| Self-Enhance | .25* | -.05 | .22* | -.03 | .24* | -.03 | .15 | -.08 | .07 | .19 | .04 | .09 |
| **Likeable** | | | | | | | | | | | | |
| Other | .18 | -.08 | .20 | -.04 | .20 | -.03 | .16 | -.11 | .08 | .19 | .04 | .03 |
| Self-Perception | .20 | .13 | .25* | .19 | .09 | .02 | .36** | .36*** | -.06 | -.21 | -.15 | -.17 |
| Self-Enhance | -.04 | .10 | -.02 | .08 | -.12 | -.01 | .08 | .24* | -.08 | -.28* | -.13 | -.12 |
| **Creative** | | | | | | | | | | | | |
| Other | -.01 | -.09 | -.08 | -.08 | -.01 | -.10 | -.06 | -.05 | -.11 | .04 | .05 | -.11 |
| Self-Perception | .08 | .08 | .17 | .15 | -.04 | -.01 | .06 | .15 | -.23* | -.21 | -.13 | -.11 |
| Self-Enhance | .07 | .12 | .16 | .11 | -.02 | .08 | .07 | .04 | -.05 | -.16 | -.09 | -.01 |
| **Trustworthy** | | | | | | | | | | | | |
| Other | -.03 | -.06 | .01 | -.07 | -.03 | -.05 | -.14 | -.09 | -.09 | .12 | -.08 | .01 |
| Self-Perception | .05 | -.11 | .11 | -.03 | .01 | -.15 | .12 | .11 | -.07 | -.23* | -.18 | -.17 |
| Self-Enhance | -.05 | -.09 | -.06 | -.11 | -.05 | -.09 | .00 | .01 | .08 | .22 | .02 | -.04 |

**Table 44 (cont.)**

| | NPI | | Adaptive | | Maladaptive | | Admiration | | Rivalry | | Vulnerable | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** | **T1** | **T2** |
| **Empathic** | | | | | | | | | | | | |
| Other | .04 | -.19 | .12 | -.18 | -.02 | -.20 | -.16 | -.36** | -.15 | -.01 | .001 | .07 |
| Self-Perception | -.07 | -.04 | -.001 | .01 | -.05 | -.04 | -.14 | -.04 | -.10 | -.14 | -.21 | -.01 |
| Self-Enhance | -.12 | .12 | -.14 | .09 | -.05 | .12 | -.14 | .15 | .09 | -.01 | -.12 | -.12 |
| **Hardworking** | | | | | | | | | | | | |
| Other | -.17 | -.09 | -.07 | -.07 | -.02* | -.11 | -.24* | -.10 | -.25* | .02 | -.04 | -.06 |
| Self-Perception | .12 | -.13 | .16 | .01 | .07 | -.17 | .06 | -.04 | -.25* | -.16 | -.12 | .01 |
| Self-Enhance | .13 | -.02 | .05 | .01 | .13 | -.05 | .08 | -.03 | -.01 | -.11 | -.03 | .06 |
| **Leader** | | | | | | | | | | | | |
| Other | .19 | .11 | .22 | .16 | .13 | .09 | .29** | .15 | -.08 | .18 | -.19 | -.13 |
| Self-Perception | .47*** | .32** | .61*** | .41*** | .31** | .25* | .28* | .24* | -.07 | -.03 | -.19 | -.06 |
| Self-Enhance | .36** | .19 | .43*** | .17 | .27* | .14 | .08 | .04 | .04 | -.03 | .001 | .04 |

*Note.* NPI = Narcissistic Personality Inventory; T1 = Time One; T2 = Time Two.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 45**

*Study 3: Descriptive Statistics for Round-Robin Interpersonal Measures across Time Points (Two Pages)*

| | *M* | *SD* | *Skew* | Kurtosis |
|---|---|---|---|---|
| Confident (Time 1) | 66.54 | 22.14 | -.66 | -.08 |
| Confident (Time 2) | 68.99 | 21.60 | -.788 | .18 |
| Confident (Time 3) | 70.14 | 21.33 | -.94 | .50 |
| Confident (Time 4) | 72.00 | 21.31 | -1.06 | .77 |
| Supportive (Time 1) | 70.00 | 17.53 | -.52 | .39 |
| Supportive (Time 2) | 70.76 | 18.16 | -.71 | .74 |
| Supportive (Time 3) | 72.22 | 18.08 | -.76 | .77 |
| Supportive (Time 4) | 73.86 | 18.70 | -1.03 | 1.45 |
| Arrogant (Time 1) | 21.18 | 21.60 | 1.10 | .45 |
| Arrogant (Time 2) | 19.01 | 21.67 | 1.36 | 1.17 |
| Arrogant (Time 3) | 18.42 | 21.46 | 1.42 | 1.34 |
| Arrogant (Time 4) | 17.54 | 21.74 | 1.55 | 1.70 |
| Competent (Time 1) | 71.86 | 16.06 | -.48 | .57 |
| Competent (Time 2) | 74.47 | 16.11 | -.65 | .86 |
| Competent (Time 3) | 74.19 | 15.98 | -.84 | 1.65 |
| Competent (Time 4) | 76.06 | 16.64 | -.99 | 1.80 |
| Aggressive (Time 1) | 15.11 | 17.85 | 1.45 | 1.55 |
| Aggressive (Time 2) | 13.25 | 16.99 | 1.73 | 2.69 |
| Aggressive (Time 3) | 13.43 | 17.34 | 1.87 | 3.53 |
| Aggressive (Time 4) | 13.11 | 17.87 | 1.96 | 3.60 |
| Likeable (Time 1) | 73.51 | 17.30 | -.66 | .67 |
| Likeable (Time 2) | 74.42 | 17.59 | -.83 | 1.06 |
| Likeable (Time 3) | 75.64 | 17.06 | -.88 | 1.17 |
| Likeable (Time 4) | 76.49 | 17.29 | -.95 | 1.32 |
| Creative (Time 1) | 62.82 | 18.48 | -.27 | .01 |
| Creative (Time 2) | 63.44 | 18.88 | -.39 | .05 |
| Creative (Time 3) | 65.14 | 19.08 | -.57 | .37 |
| Creative (Time 4) | 66.90 | 19.49 | -.64 | .42 |
| Trustworthy (Time 1) | 69.84 | 17.35 | -.38 | -.01 |
| Trustworthy (Time 2) | 71.71 | 17.07 | -.46 | .06 |
| Trustworthy (Time 3) | 72.68 | 17.38 | -.70 | .76 |
| Trustworthy (Time 4) | 74.10 | 17.80 | -.93 | 1.33 |
| Empathic (Time 1) | 68.06 | 17.62 | -.26 | -.11 |
| Empathic (Time 2) | 69.74 | 17.48 | -.43 | .17 |
| Empathic (Time 3) | 71.14 | 16.96 | -.49 | .29 |
| Empathic (Time 4) | 72.50 | 17.84 | -.73 | .85 |
| Hardworking (Time 1) | 72.45 | 17.68 | -.63 | .35 |

| | | | | |
|---|---|---|---|---|
| Hardworking (Time 2) | 74.66 | 17.14 | -.69 | .47 |
| Hardworking (Time 3) | 75.49 | 17.62 | -.95 | 1.29 |
| Hardworking (Time 4) | 76.53 | 18.25 | -1.21 | 2.00 |
| Good Leader (Time 1) | 57.02 | 23.21 | -.18 | -.60 |
| Good Leader (Time 2) | 59.04 | 24.14 | -.31 | -.69 |
| Good Leader (Time 3) | 60.41 | 24.26 | -.45 | -.53 |
| Good Leader (Time 4) | 62.40 | 25.34 | -.58 | -.47 |

*Note*. Skewness and kurtosis values presented for 'Aggressive' are prior to log transformation.

**Table 46**

*Study 3: Descriptive Statistics for Round-Robin Teamwork Measures and Team Processes across Time Points (Two Pages)*

| | *M* | *SD* | *Skew* | Kurtosis |
|---|---|---|---|---|
| ETC1 (Time 1) | 65.96 | 21.28 | -.63 | .15 |
| ETC1 (Time 2) | 68.28 | 20.88 | -.74 | .29 |
| ETC1 (Time 3) | 68.38 | 21.53 | -.86 | .50 |
| ETC1 (Time 4) | 70.89 | 21.91 | -1.06 | .93 |
| ETC2 (Time 1) | 55.89 | 22.74 | -.31 | -.31 |
| ETC2 (Time 2) | 57.50 | 23.35 | -.42 | -.39 |
| ETC2 (Time 3) | 60.37 | 23.29 | -.52 | -.25 |
| ETC2 (Time 4) | 63.67 | 23.42 | -.69 | -.05 |
| ETC3 (Time 1) | 62.37 | 17.42 | -.17 | .22 |
| ETC3 (Time 2) | 65.02 | 17.80 | -.41 | .38 |
| ETC3 (Time 3) | 64.86 | 20.64 | -.74 | .63 |
| ETC3 (Time 4) | 66.35 | 22.43 | -.89 | .53 |
| ETC4 (Time 1) | 30.72 | 23.67 | .48 | -.67 |
| ETC4 (Time 2) | 27.13 | 24.11 | .75 | -.45 |
| ETC4 (Time 3) | 29.11 | 25.57 | .64 | -.76 |
| ETC4 (Time 4) | 28.55 | 27.05 | .77 | -.61 |
| ETC5 (Time 1) | 55.81 | 20.42 | -.40 | .16 |
| ETC5 (Time 2) | 57.18 | 22.22 | -.50 | -.09 |
| ETC5 (Time 3) | 61.67 | 22.22 | -.64 | .09 |
| ETC5 (Time 4) | 65.44 | 22.26 | -.81 | .41 |
| ETC6 (Time 1) | 68.57 | 19.76 | -.88 | 1.07 |
| ETC6 (Time 2) | 70.79 | 19.57 | -.99 | 1.35 |
| ETC6 (Time 3) | 71.46 | 18.61 | -1.04 | 1.55 |
| ETC6 (Time 4) | 73.36 | 19.05 | -1.18 | 1.92 |
| ETC7 (Time 1) | 64.25 | 18.29 | -.55 | .96 |
| ETC7 (Time 2) | 66.14 | 18.79 | -.67 | .76 |
| ETC7 (Time 3) | 67.15 | 18.83 | -.74 | .90 |
| ETC7 (Time 4) | 69.77 | 19.28 | -.91 | 1.17 |
| ETC8 (Time 1) | 58.87 | 21.04 | -.43 | .12 |
| ETC8 (Time 2) | 59.20 | 22.11 | -.47 | -.09 |
| ETC8 (Time 3) | 64.50 | 21.47 | -.65 | .22 |
| ETC8 (Time 4) | 68.09 | 21.95 | -.89 | .62 |
| ETC9 (Time 1) | 75.18 | 16.67 | -.81 | 1.24 |
| ETC9 (Time 2) | 76.43 | 16.04 | -.82 | 1.23 |
| ETC9 (Time 3) | 76.38 | 16.41 | -.92 | 1.59 |
| ETC9 (Time 4) | 77.82 | 16.61 | -1.16 | 2.43 |
| ETC10 (Time 1) | 71.02 | 18.27 | -.73 | .99 |

| | | | | |
|---|---|---|---|---|
| ETC10 (Time 2) | 72.63 | 17.37 | -.77 | 1.11 |
| ETC10 (Time 3) | 67.95 | 24.41 | -1.13 | .89 |
| ETC10 (Time 4) | 69.41 | 25.64 | -1.23 | .88 |
| ETC11 (Time 1) | 18.65 | 20.95 | 1.23 | .70 |
| ETC11 (Time 2) | 16.83 | 20.59 | 1.48 | 1.48 |
| ETC11 (Time 3) | 15.91 | 19.75 | 1.62 | 2.09 |
| ETC11 (Time 4) | 16.27 | 21.51 | 1.76 | 2.49 |
| ETC12 (Time 1) | 18.01 | 20.49 | 1.29 | 1.07 |
| ETC12 (Time 2) | 17.16 | 20.85 | 1.46 | 1.45 |
| ETC12 (Time 3) | 22.77 | 26.16 | 1.14 | .12 |
| ETC12 (Time 4) | 24.55 | 28.77 | 1.09 | -.12 |
| ETC13 (Time 1) | 68.10 | 18.72 | -.67 | .76 |
| ETC13 (Time 2) | 70.10 | 18.61 | -.80 | 1.04 |
| ETC13 (Time 3) | 71.15 | 18.07 | -.91 | 1.36 |
| ETC13 (Time 4) | 73.16 | 18.38 | -1.01 | 1.47 |
| ETC14 (Time 1) | 67.94 | 19.75 | -.60 | .43 |
| ETC14 (Time 2) | 7.038 | 19.21 | -.70 | .55 |
| ETC14 (Time 3) | 72.44 | 18.40 | -.81 | .93 |
| ETC14 (Time 4) | 74.27 | 19.63 | -1.18 | 1.76 |
| ETC15 (Time 1) | 72.13 | 20.27 | -.83 | .73 |
| ETC15 (Time 2) | 74.64 | 18.39 | -.87 | .99 |
| ETC15 (Time 3) | 71.89 | 21.09 | -1.02 | 1.03 |
| ETC15 (Time 4) | 74.31 | 21.39 | -1.26 | 1.63 |
| ETC16 (Time 1) | 42.93 | 23.43 | -.03 | -.49 |
| ETC16 (Time 2) | 43.46 | 25.59 | .04 | -.79 |
| ETC16 (Time 3) | 49.85 | 26.75 | -.16 | -.86 |
| ETC16 (Time 4) | 55.01 | 27.41 | -.39 | -.76 |
| Team Cohesion (Time 1) | 5.73 | 1.23 | -.82 | 1.26 |
| Team Cohesion (Time 2) | 5.96 | 1.32 | -.90 | 1.54 |
| Team Cohesion (Time 3) | 6.15 | 1.19 | -.90 | 1.36 |
| Team Cohesion (Time 4) | 6.37 | 1.22 | -1.16 | 2.07 |
| Team Conflict (Time 1) | 1.88 | 1.24 | 1.97 | 4.18 |
| Team Conflict (Time 2) | 1.80 | 1.12 | 2.06 | 5.20 |
| Team Conflict (Time 3) | 1.88 | 1.27 | 2.00 | 3.99 |
| Team Conflict (Time 4) | 2.18 | 1.53 | 1.65 | 2.41 |

*Note*. Skewness and kurtosis values presented for ‘Team Conflict’ are prior to log transformation.

Appendix A

**Table 47**

*Study 3: Means, Standard Deviations, and Reliability Coefficients for all Measures and Subscales (Two Pages)*

| | *M* | *SD* | *Skew* | Kurtosis | α |
|---|---|---|---|---|---|
| Narcissism (NPI) | 11.03 | 5.87 | .57 | -.02 | .82 |
| Maladaptive Narcissism | .23 | .16 | .83 | .40 | .69 |
| Adaptive Narcissism | .33 | .19 | .46 | -.48 | .69 |
| Narcissistic Admiration | 3.74 | 1.09 | .18 | -.02 | .83 |
| Narcissistic Rivalry | 2.44 | 1.07 | .10 | .61 | .84 |
| Vulnerable Narcissism | 3.97 | 1.06 | .17 | -.11 | .76 |
| ETC_AL1_Encouragement | 5.33 | 1.31 | -.44 | .04 | .66 |
| ETC_AL2_Mind wanders | 4.77 | 1.70 | -.09 | -.84 | .81 |
| ETC_AL3_Summarising | 4.86 | 1.56 | -.32 | -.35 | .86 |
| ETC_Clarity | 5.58 | 1.49 | -.63 | -.25 | .74 |
| ETC_Adaptability | 6.05 | 1.37 | -.73 | .18 | .74 |
| ETC_Coping with stress | 4.58 | 1.57 | -.06 | -.53 | .71 |
| ETC_Conscientiousness | 5.64 | 1.36 | -.39 | -.12 | .66 |
| ETC_Leadership | 4.25 | 1.47 | -.02 | -.35 | .73 |
| ETC_Motivating others | 5.54 | 1.17 | -.30 | .22 | .61 |
| ETC_Dealing with conflict | 4.62 | 1.60 | -.25 | -.57 | .81 |
| ETC_Stability | 5.35 | 1.13 | -.18 | -.11 | .57 |
| ETC_Sharing information | 6.30 | 1.33 | -.72 | -.05 | .70 |
| ETC_Perspective-taking | 6.09 | 1.09 | -.43 | -.15 | .57 |
| ETC_Back-up behaviour | 5.68 | 1.13 | -.24 | -.12 | .53 |
| ETC_Team connectedness | 5.74 | 1.33 | -.63 | .29 | .76 |
| ETC_Readiness for teamwork | 4.87 | 1.53 | -.33 | -.45 | .72 |
| ETC_Positive outlook | 6.91 | 1.12 | -1.21 | .97 | .65 |
| ETC_Integrity | 9.91 | 1.09 | -1.24 | 1.12 | .74 |
| ETC_Patience with others | 5.38 | 1.71 | -.32 | -.73 | .83 |

| | | | | | |
|---|---|---|---|---|---|
| ETC_Trust | 5.99 | 1.21 | -.65 | .19 | .64 |
| ETC_Empathy | 6.51 | 1.33 | -1.05 | .69 | .77 |
| ETC Communication Competency | 5.14 | .99 | -.16 | .20 | .78 |
| ETC Intrapersonal Competency | 5.43 | 1.07 | -.27 | -.13 | .77 |
| ETC Management Competency | 4.94 | 1.03 | -.16 | .02 | .85 |
| ETC Interpersonal Competency | 6.03 | .88 | -.50 | .06 | .91 |
| Impression Management | 4.62 | 1.08 | .05 | -.19 | .69 |
| Team Cohesion | 6.55 | 1.39 | -1.22 | 1.12 | .97 |
| Team Conflict | 2.24 | 1.25 | 1.56 | 1.96 | .95 |
| Subjective Performance | 6.94 | 1.02 | -1.17 | .96 | .91 |
| Objective Team Performance | 67.12 | 4.18 | .45 | 1.12 | |
| Peer-Rated Team Performance | 3.87 | .37 | -4.53 | 22.37 | |

*Note.* NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies; AL = Active Listening.

**Table 48**

*Study 3: Correlations Between Narcissism, Teamwork Competencies, Team Processes, and Team Performance*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Narcissism (NPI) | - | | | | | | | | | | | | | | |
| 2. Adaptive Narcissism | .79*** | - | | | | | | | | | | | | | |
| 3. Maladaptive Narcissism | .86*** | .48*** | - | | | | | | | | | | | | |
| 4. Narcissistic Admiration | .63*** | .47*** | .47*** | - | | | | | | | | | | | |
| 5. Narcissistic Rivalry | .29*** | .08 | .35*** | .36*** | - | | | | | | | | | | |
| 6. Vulnerable Narcissism | .08 | -.04 | .16** | .09 | .49*** | - | | | | | | | | | |
| 7. ETC Communication | .13** | .23*** | .06 | .14** | -.19*** | -.24*** | - | | | | | | | | |
| 8. ETC Management | .39*** | .47*** | .27*** | .31*** | -.03 | -.16** | .62*** | - | | | | | | | |
| 9. ETC Intrapersonal | .04 | .16** | -.04 | .02 | -.33*** | -.37*** | .51*** | .39*** | - | | | | | | |
| 10. ETC Interpersonal | -.22*** | -.13** | -.20*** | -.09 | -.47*** | -.34*** | .47*** | .21*** | .44*** | - | | | | | |
| 11. Impression Manage | -.25*** | -.05 | -.34*** | -.18*** | -.47*** | -.27*** | .09 | -.03 | .17** | .24*** | - | | | | |
| 12. Team Cohesion | -.07 | -.03 | -.05 | -.01 | -.24*** | -.18*** | .36*** | .27*** | .29*** | .57*** | .02 | - | | | |
| 13. Team Conflict | .10 | .06 | .07 | .09 | .22*** | .14** | -.25*** | -.03 | -.21*** | -.49*** | -.13* | -.54*** | - | | |
| 14. Sub. Performance | -.06 | -.03 | -.04 | -.06 | -.25*** | -.16** | .27*** | .11* | .30*** | .56*** | -.01 | .63*** | -.50*** | - | |
| 15. Obj. Performance | .13* | .14** | .14** | .09 | .03 | .03 | -.02 | .02 | -.02 | -.02 | .01 | -.08 | -.01 | -.07 | - |
| 16. Peer-Rated Perform | -.08 | -.05 | -.08 | .04 | -.07 | -.13** | .21*** | .21*** | .22*** | .18* | .07 | .31*** | -.07 | .08 | -.04 |

*Note*. NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies. N = 387.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 49**

*Study 3: Correlations Between Narcissism Measures and Teamwork Competencies Subscales*

| Variable | Narcissism (NPI) | Adaptive Narcissism | Maladaptive Narcissism | Narcissistic Admiration | Narcissistic Rivalry | Vulnerable Narcissism |
|---|---|---|---|---|---|---|
| AL_1_Encourage | .21*** | .27*** | .13* | .20*** | -.04 | -.10* |
| AL2_Mind wanders | -.05 | .08 | -.12* | .01 | -.25*** | -.25*** |
| AL3_Summarising | .11 | .14** | .11* | .10* | .04 | -.03 |
| Clarity | .11* | .14** | .08 | .07 | -.22*** | -.23*** |
| Adaptability | -.06 | .01 | -.06 | -.06 | -.36*** | -.29*** |
| Coping with stress | .12* | .18** | .04 | .05 | -.13* | -.33*** |
| Conscientiousness | .03 | .17** | -.08 | .05 | -.26*** | -.21*** |
| Leadership | .42*** | .48*** | .29*** | .29*** | .10 | -.05 |
| Motivating others | .16** | .25*** | .09 | .15** | -.16** | -.27*** |
| Dealing with conflict | .40*** | .44*** | .30*** | .31*** | .06 | -.06 |
| Stability | .16** | .20*** | .09 | .19*** | -.15** | -.16** |
| Sharing information | -.06 | .003 | -.08 | .00 | -.31*** | -.29*** |
| Perspective-taking | -.15** | -.03 | -.14** | -.09 | -.38*** | -.26*** |
| Back-up behaviour | -.07 | -.001 | -.08 | -.01 | -.29*** | -.19*** |
| Team connectedness | .02 | .03 | .03 | .10 | -.15** | -.13* |
| Ready for teamwork | -.15** | -.14** | -.11* | -.10* | -.34*** | -.29*** |
| Positive outlook | -.09 | -.06 | -.10 | -.02 | -.26*** | -.18*** |
| Integrity | -.33*** | -.23*** | -.29*** | -.23*** | -.46*** | -.21*** |
| Patience with others | -.24*** | -.18*** | -.21*** | -.10 | -.33*** | -.24*** |
| Trust | -.18** | -.18** | -.13** | -.09 | -.27*** | -.18*** |
| Empathy | -.20*** | -.08 | -.22*** | -.08 | -.39*** | -.26*** |

*Note*. NPI = Narcissistic Personality Inventory; ETC = Enhanced Teamwork Competencies; AL = Active Listening. ***$p < .001$, **$p < .01$, *$p < .05$

Appendix A

**Table 50**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Narcissism (NPI) on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0011 | -.0041 | .0070 |
| | Management | .0152 | .0042 | .0272 |
| | Intrapersonal | -.0004 | -.0040 | .0031 |
| | Interpersonal | -.0215 | -.0377 | -.0072 |
| | TOTAL | -.0157 | -.0404 | .0089 |
| | DIRECT | -.0101 | -.0327 | .0125 |
| | | $R^2$ = .37, $F$(8, 368) = 27.25, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0042 | -.0110 | .0005 |
| | Management | .0141 | .0026 | .0263 |
| | Intrapersonal | .0002 | -.0026 | .0034 |
| | Interpersonal | .0168 | .0054 | .0293 |
| | TOTAL | .0140 | -.0078 | .0358 |
| | DIRECT | -.0129 | -.0348 | .0089 |
| | | $R^2$ = .26, $F$(8, 368) = 16.42, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0004 | -.0038 | .0046 |
| | Management | -.0045 | -.0129 | .0035 |
| | Intrapersonal | .0016 | -.0005 | .0048 |
| | Interpersonal | -.0155 | -.0271 | -.0049 |
| | TOTAL | -.0128 | -.0305 | .0050 |
| | DIRECT | .0052 | -.0115 | .0220 |
| | | $R^2$ = .36, $F$(8, 368) = 25.66, $p$ < .01 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.0022 | -.0221 | .0159 |
| | Management | .0011 | -.0380 | .0397 |
| | Intrapersonal | -.0010 | -.0118 | .0098 |
| | Interpersonal | -.0008 | -.0151 | .0138 |
| | TOTAL | .0855* | .0137 | .1573 |
| | DIRECT | .0884* | .0065 | .1704 |
| | | $R^2$ = .09, $F$(8, 362) = 4.31, $p$ < .001 | | |

*Note.* Model (No. 4) controls for gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 50 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Peer-Rated Perform | Communication | .0005 | -.0004 | .0018 |
| | Management | .0048 | .0011 | .0086 |
| | Intrapersonal | .0007 | -.0005 | .0025 |
| | Interpersonal | .0005 | -.0006 | .0021 |
| | TOTAL | -.0035 | -.0094 | .0024 |
| | DIRECT | -.0100** | -.0165 | -.0035 |
| | | $R^2$ = .12, $F$(8, 362) = 6.10, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.0058 | -.0157 | .0030 |
| | Team Conflict | -.0024 | -.0071 | .0017 |
| | TOTAL | -.0128 | -.0305 | .0050 |
| | DIRECT | -.0045 | -.0180 | .0090 |
| | | $R^2$ = .46, $F$(6, 370) = 52.53, $p$ < .001 | | |
| Model G | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0030 | -.0149 | .0039 |
| | Team Conflict | .0050 | -.0030 | .0192 |
| | TOTAL | .0855* | .0137 | .1573 |
| | DIRECT | .0836* | .0116 | .1555 |
| | | $R^2$ = .09, $F$(6, 364) = 6.26, $p$ < .001 | | |
| Model H | | Indirect Effects | | |
| Peer-Rated Perform | Team Cohesion | .0006 | -.0005 | .0020 |
| | Team Conflict | -.00015 | -.0042 | .0008 |
| | TOTAL | -.0035 | -.0094 | .0024 |
| | DIRECT | -.0025 | -.0082 | .0031 |
| | | $R^2$ = .14, $F$(6, 364) = 10.11, $p$ < .001 | | |

*Note.* Model (No. 4) controls for gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 51**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Adaptive Narcissism on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0480 | -.1790 | .2899 |
| | Management | .5077 | .1191 | .9572 |
| | Intrapersonal | -.0207 | -.2212 | .1658 |
| | Interpersonal | -.3970 | -.8300 | .0350 |
| | TOTAL | -.1415 | -.9894 | .7064 |
| | DIRECT | -.2794 | -1.050 | .4912 |
| | | $R^2$ = .37, $F$(9, 367) = 24.13, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.1781 | -.4438 | .0227 |
| | Management | .4928 | .0969 | .8981 |
| | Intrapersonal | .0147 | -.1562 | .2019 |
| | Interpersonal | .3130 | -.0313 | .6731 |
| | TOTAL | .4395 | -.3109 | 1.1898 |
| | DIRECT | -.2030 | -.9482 | .5422 |
| | | $R^2$ = .26, $F$(9, 367) = 14.73, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0150 | -.1668 | .2000 |
| | Management | -.1672 | -.4481 | .1130 |
| | Intrapersonal | .1059 | -.0160 | .2613 |
| | Interpersonal | -.2894 | -.6172 | .0319 |
| | TOTAL | -.2082 | -.8184 | .4019 |
| | DIRECT | .1275 | -.4430 | .6980 |
| | | $R^2$ = .36, $F$(9, 367) = 22.83, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.1196 | -.9615 | .6030 |
| | Management | -.1599 | -1.5061 | 1.1235 |
| | Intrapersonal | -.0740 | -.7082 | .4949 |
| | Interpersonal | -.0426 | -.3699 | .2735 |
| | TOTAL | 1.6308 | -.8470 | 4.1085 |
| | DIRECT | 2.0269 | -.7701 | 4.8239 |
| | | $R^2$ = .09, $F$(9, 361) = 4.20, $p$ < .001 | | |

*Note.* Model (No. 4) controls for maladaptive narcissism, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 51 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Peer-Rated Perform | Communication | .0257 | -.0145 | .0759 |
| | Management | .1710 | .0416 | .3179 |
| | Intrapersonal | .0467 | -.0279 | .1281 |
| | Interpersonal | .0125 | -.0120 | .0556 |
| | TOTAL | -.0126 | -.2175 | .1924 |
| | DIRECT | -.2685* | -.4902 | -.0468 |
| | | $R^2$ = .12, $F$(9, 361) = 5.66, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.0527 | -.3743 | .2566 |
| | Team Conflict | -.0757 | -.2275 | .0455 |
| | TOTAL | -.2082 | -.8184 | .4019 |
| | DIRECT | -.0798 | -.5428 | .3832 |
| | | $R^2$ = .46, $F$(7, 369) = 44.91, $p$ < .001 | | |
| Model G | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | .1120 | -.2522 | .6849 |
| | Team Conflict | -.1462 | -1.077 | .4298 |
| | TOTAL | 1.294 | -2.251 | 4.839 |
| | DIRECT | 1.328 | -2.194 | 4.851 |
| | | $R^2$ = .04, $F$(7, 363) = 2.13, $p$ = .04 | | |
| Model H | | Indirect Effects | | |
| Peer-Rated Perform | Team Cohesion | .0195 | -.0094 | .0708 |
| | Team Conflict | -.0187 | -.1058 | .0586 |
| | TOTAL | -.0126 | -.2175 | .1924 |
| | DIRECT | -.0134 | -.2083 | .1816 |
| | | $R^2$ = .14, $F$(7, 363) = 8.68, $p$ < .001 | | |

*Note.* Model (No. 4) controls for maladaptive narcissism, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 52**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Maladaptive Narcissism (NPI) on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0021 | -.0797 | .0796 |
| | Management | .0807 | -.0745 | .2755 |
| | Intrapersonal | .0090 | -.0896 | .1366 |
| | Interpersonal | -.3626 | -.9890 | .2158 |
| | TOTAL | -.2658 | -1.3440 | .8124 |
| | DIRECT | .0091 | -.8646 | .8829 |
| | | $R^2$ = .37, $F$(9, 367) = 24.13, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0077 | -.1190 | .1357 |
| | Management | .0783 | -.7079 | .2840 |
| | Intrapersonal | -.0064 | -.1294 | .0865 |
| | Interpersonal | .2858 | -.1623 | .7700 |
| | TOTAL | -.1256 | -1.0798 | .8286 |
| | DIRECT | -.4910 | -1.3360 | .3539 |
| | | $R^2$ = 26, $F$(9, 367) = 14.73, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | -.0006 | -.0523 | .0652 |
| | Management | -.0266 | -.1318 | .0352 |
| | Intrapersonal | -.0461 | -.1596 | .0298 |
| | Interpersonal | -.2643 | -.7278 | .1503 |
| | TOTAL | -.1535 | -.9294 | .6224 |
| | DIRECT | .1842 | -.4627 | .8310 |
| | | $R^2$ = .36, $F$(9, 367) = 22.83, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | .0004 | -.2517 | .2712 |
| | Management | -.0300 | -.3786 | .3125 |
| | Intrapersonal | .0300 | -.2607 | .4005 |
| | Interpersonal | -.0349 | -.3613 | .2520 |
| | TOTAL | 2.509 | -.6261 | 5.644 |
| | DIRECT | 2.543 | -.6319 | 5.719 |
| | | $R^2$ = .09, $F$(9, 361) = 4.20, $p$ < .001 | | |

*Note.* Model (No. 4) controls for adaptive narcissism, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 52 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Peer-Rated Perform | Communication | -.0001 | -.0207 | .0216 |
| | Management | .0321 | -.0273 | .0986 |
| | Intrapersonal | -.0189 | -.0813 | .0213 |
| | Interpersonal | .0102 | -.0156 | .0512 |
| | TOTAL | -.1266 | -.3860 | .1328 |
| | DIRECT | -.1500 | -.4017 | .1018 |
| | | $R^2$ = .12, $F$(9, 361) = 5.66, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.0989 | -.5567 | .3275 |
| | Team Conflict | .0216 | -.1504 | .2078 |
| | TOTAL | -.1535 | -.9294 | .6224 |
| | DIRECT | -.0762 | -.6643 | .5119 |
| | | $R^2$ = .46, $F$(7, 369) = 44.91, $p$ < .001 | | |
| Model G | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0510 | -.1614 | .0322 |
| | Team Conflict | .1443 | -.0191 | .3488 |
| | TOTAL | .0039 | -.4730 | .4808 |
| | DIRECT | -.0894 | -.5828 | .4040 |
| | | $R^2$ = .09, $F$(7, 362) = 5.18, $p$ < .001 | | |
| Model H | | Indirect Effects | | |
| Peer-Rated Perform | Team Cohesion | .0087 | -.0001 | .0224 |
| | Team Conflict | -.0392 | -.0722 | -.0138 |
| | TOTAL | -.0133 | -.0525 | .0260 |
| | DIRECT | .0172 | -.0214 | .0559 |
| | | $R^2$ = .38, $F$(7, 362) = 8.77, $p$ < .001 | | |

*Note.* Model (No. 4) controls for adaptive narcissism, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 53**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Admiration on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | .0079 | -.0271 | .0451 |
| | Management | .0687 | .0168 | .1268 |
| | Intrapersonal | -.0041 | -.0277 | .0228 |
| | Interpersonal | .0601 | -.0193 | .1411 |
| | TOTAL | .1073 | -.0261 | .2407 |
| | DIRECT | -.0253 | -.1436 | .0930 |
| | | $R^2$ = .37, $F$(9, 366) = 24.05, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | -.0289 | -.0704 | .0042 |
| | Management | .0530 | -.0004 | .1125 |
| | Intrapersonal | .0007 | -.0227 | .0248 |
| | Interpersonal | -.0463 | -.1177 | .0118 |
| | TOTAL | .0168 | -.1039 | .1376 |
| | DIRECT | .0383 | -.0764 | .1530 |
| | | $R^2$ = .26, $F$(9, 366) = 14.44, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | .0031 | -.0269 | .0319 |
| | Management | -.0137 | -.0541 | .0229 |
| | Intrapersonal | .0126 | -.0024 | .0335 |
| | Interpersonal | .0417 | -.0126 | .0986 |
| | TOTAL | .0202 | -.0758 | .1161 |
| | DIRECT | -.0235 | -.1111 | .0641 |
| | | $R^2$ = .36, $F$(9, 366) = 22.76, $p$ < .01 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | -.0149 | -.1560 | .1093 |
| | Management | .0344 | -.1538 | .2318 |
| | Intrapersonal | -.0033 | -.0852 | .0765 |
| | Interpersonal | -.0086 | -.0751 | .0451 |
| | TOTAL | .4002 | -.0026 | .8030 |
| | DIRECT | .3927 | -.0385 | .8240 |
| | | $R^2$ = .08, $F$(9, 360) = 3.62, $p$ = .002 | | |

*Note.* Model (No. 4) controls for narcissistic rivalry, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 53 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Peer-Rated Perform | Communication | .0036 | -.0034 | .0119 |
| | Management | .0147 | -.0009 | .0339 |
| | Intrapersonal | .0057 | -.0044 | .0202 |
| | Interpersonal | .0001 | -.0044 | .0048 |
| | TOTAL | .0216 | -.0116 | .0548 |
| | DIRECT | -.0025 | -.0371 | .0320 |
| | | $R^2$ = .09, $F$(9, 360) = 4.31, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | .0383 | -.0139 | .0940 |
| | Team Conflict | -.0028 | -.0283 | .0227 |
| | TOTAL | .0202 | -.0758 | .1161 |
| | DIRECT | -.0153 | -.0902 | .0596 |
| | | $R^2$ = .47, $F$(7, 368) = 46.56, $p$ < .001 | | |
| Model G | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0030 | -.0588 | .0408 |
| | Team Conflict | -.0380 | -.1305 | .0135 |
| | TOTAL | .4002 | -.0026 | .8030 |
| | DIRECT | .4411* | .0399 | .8454 |
| | | $R^2$ = .09, $F$(7, 362) = 5.18, $p$ < .001 | | |
| Model H | | Indirect Effects | | |
| Peer-Rated Perform | Team Cohesion | .0005 | -.0065 | .0076 |
| | Team Conflict | .0103 | -.0031 | .0301 |
| | TOTAL | .0216 | -.0116 | .0548 |
| | DIRECT | .0108 | -.0209 | .0424 |
| | | $R^2$ = .14, $F$(7, 362) = 8.77, $p$ < .001 | | |

*Note.* Model (No. 4) controls for narcissistic rivalry, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 54**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Rivalry on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0092 | -.0535 | .0356 |
| | Management | -.0377 | -.0811 | -.0071 |
| | Intrapersonal | .0101 | -.0507 | .0702 |
| | Interpersonal | -.3408 | -.4517 | -.2343 |
| | TOTAL | -.4105*** | -.5679 | -.2530 |
| | DIRECT | -.0328 | -.1777 | .1121 |
| | | $R^2$ = .37, $F$(9, 366) = 24.05, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0338 | -.0057 | .0789 |
| | Management | -.0291 | -.0693 | -.0003 |
| | Intrapersonal | -.0018 | -.0553 | .0534 |
| | Interpersonal | .2625 | .1646 | .3643 |
| | TOTAL | .2083** | .0658 | .3508 |
| | DIRECT | -.0570 | -.1974 | .0834 |
| | | $R^2$ = .26, $F$(9, 366) = 14.44, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | -.0037 | -.0367 | .0318 |
| | Management | .0075 | -.0134 | .0342 |
| | Intrapersonal | -.0312 | -.0739 | .0086 |
| | Interpersonal | -.2364 | -.3155 | -.1652 |
| | TOTAL | -.2915*** | -.4048 | -.1782 |
| | DIRECT | -.0278 | -.1350 | .0795 |
| | | $R^2$ = .36, $F$(9, 366) = 22.76, $p$ < .01 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | .0171 | -.1245 | .1733 |
| | Management | -.0191 | -.1415 | .0988 |
| | Intrapersonal | .0080 | -.1687 | .1903 |
| | Interpersonal | .0439 | -.1817 | .2839 |
| | TOTAL | .0039 | -.4730 | .4808 |
| | DIRECT | -.0455 | -.5786 | .4877 |
| | | $R^2$ = .08, $F$(9, 360) = 3.62, $p$ = .002 | | |

*Note.* Model (No. 4) controls for narcissistic admiration, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 54 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Peer-Rated Perform | Communication | -.0042 | -.0143 | .0039 |
| | Management | -.0084 | -.0238 | .0005 |
| | Intrapersonal | -.0136 | -.0394 | .0101 |
| | Interpersonal | -.0007 | -.0190 | .0174 |
| | TOTAL | -.0133 | -.0525 | .0260 |
| | DIRECT | .0137 | -.0290 | .0564 |
| | | $R^2$ = .09, $F$(9, 360) = 4.31, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.1466 | -.2267 | -.0778 |
| | Team Conflict | -.0351 | -.0748 | -.0060 |
| | TOTAL | -.2915*** | -.4048 | -.1782 |
| | DIRECT | -.1098* | -.2008 | -.0188 |
| | | $R^2$ = .29, $F$(6, 368) = 6.36, $p$ < .001 | | |
| Model G | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0510 | -.1614 | .0322 |
| | Team Conflict | .1443 | -.0191 | .3488 |
| | TOTAL | .0039 | -.4730 | .4808 |
| | DIRECT | -.0894 | -.5828 | .4040 |
| | | $R^2$ = .08, $F$(5, 364) = 6.52, $p$ < .001 | | |
| Model H | | Indirect Effects | | |
| Peer-Rated Perform | Team Cohesion | -.0392 | -.0725 | -.0142 |
| | Team Conflict | .0087 | -.0001 | .0222 |
| | TOTAL | -.0133 | -.0525 | .0260 |
| | DIRECT | .0172 | -.0214 | .0559 |
| | | $R^2$ = .14, $F$(7, 362) = 8.77, $p$ < .001 | | |

*Note.* Model (No. 4) controls for narcissistic admiration, gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

Appendix A

**Table 55**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Vulnerable Narcissism on Team Processes and Team Performance through Teamwork Competencies (Two Pages)*

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | Indirect Effects | | |
| Team Cohesion | Communication | -.0075 | -.0483 | .0304 |
| | Management | -.0333 | -.0727 | -.0045 |
| | Intrapersonal | .0068 | -.0510 | .0626 |
| | Interpersonal | -.2150 | -.3046 | -.1368 |
| | TOTAL | -.2389** | -.3754 | -.1024 |
| | DIRECT | .0100 | -.1104 | .1304 |
| | | $R^2$ = .37, $F$(4, 372) = 17.79, $p$ < .001 | | |
| Model B | | Indirect Effects | | |
| Team Conflict | Communication | .0300 | -.0049 | .0705 |
| | Management | -.0290 | -.0672 | -.0018 |
| | Intrapersonal | -.0020 | -.0553 | .0509 |
| | Interpersonal | .1592 | .0953 | .2358 |
| | TOTAL | .1349* | .0129 | .2570 |
| | DIRECT | -.0233 | -.1400 | .0934 |
| | | $R^2$ = .26, $F$(8, 368) = 16.21, $p$ < .001 | | |
| Model C | | Indirect Effects | | |
| Sub. Performance | Communication | -.0028 | -.0311 | .0279 |
| | Management | .0088 | -.0099 | .0326 |
| | Intrapersonal | -.0324 | -.0742 | .0063 |
| | Interpersonal | -.1495 | -.2105 | -.0959 |
| | TOTAL | -.1726** | -.2709 | -.0743 |
| | DIRECT | .0033 | -.0859 | .0925 |
| | | $R^2$ = .36, $F$(8, 368) = 25.59, $p$ < .001 | | |
| Model D | | Indirect Effects | | |
| Obj. Performance | Communication | .0146 | -.1037 | .1534 |
| | Management | -.0416 | -.1491 | .0556 |
| | Intrapersonal | .0132 | -.1660 | .1892 |
| | Interpersonal | .0318 | -.0966 | .1675 |
| | TOTAL | .0321 | -.3734 | .4377 |
| | DIRECT | .0141 | -.4261 | .4544 |
| | | $R^2$ = .08, $F$(8, 362) = 3.70, $p$ < .001 | | |

*Note.* Model (No. 4) controls for gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 55 (cont.)**

| | | | Bootstrapping | |
|---|---|---|---|---|
| | | | BC 95% CI | |
| Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model E | | Indirect Effects | | |
| Peer-Rated Perform | Communication | -.0037 | -.0188 | .0031 |
| | Management | -.0075 | -.0193 | -.0004 |
| | Intrapersonal | -.0114 | -.0379 | .0128 |
| | Interpersonal | .0015 | -.0098 | .0123 |
| | TOTAL | -.0332* | -.0661 | -.0001 |
| | DIRECT | -.0121 | -.0471 | .0230 |
| | | $R^2$ = .09, $F$(8, 362) = 4.89, $p$ < .001 | | |
| Model F | | Indirect Effects | | |
| Sub. Performance | Team Cohesion | -.0873 | -.1440 | -.0344 |
| | Team Conflict | -.0232 | -.0487 | -.0030 |
| | TOTAL | -.1726** | -.2709 | -.0743 |
| | DIRECT | -.0621 | -.1386 | .0143 |
| | | $R^2$ = .28, $F$(5, 368) = 7.72, $p$ < .001 | | |
| Model G | | Indirect Effects | | |
| Obj. Performance | Team Cohesion | -.0267 | -.1044 | .0215 |
| | Team Conflict | .0759 | -.0148 | .2045 |
| | TOTAL | .0321 | -.3734 | .4377 |
| | DIRECT | -.0170 | -.4285 | .3945 |
| | | $R^2$ = .08, $F$(6, 364) = 5.32, $p$ < .001 | | |
| Model H | | Indirect Effects | | |
| Peer-Rated Perform | Team Cohesion | .0054 | .0002 | .0137 |
| | Team Conflict | -.0212 | -.0417 | -.0063 |
| | TOTAL | -.0332* | -.0663 | -.0001 |
| | DIRECT | -.0173 | -.0493 | .0147 |
| | | $R^2$ = .14, $F$(6, 364) = 10.18, $p$ < .001 | | |

*Note.* Model (No. 4) controls for gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. Sub = subjective; Obj = objective. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

Appendix A

**Table 56**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Narcissism (NPI) on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0000 | -.0039 | .0040 |
| | Management | - | -.0097 | -.0177 | -.0028 |
| | Intrapersonal | - | .0018 | -.0003 | .0053 |
| | Interpersonal | - | -.0081 | -.0153 | -.0023 |
| | Cohesion | - | -.0035 | -.0110 | .0045 |
| | Communication | Cohesion | .0004 | -.0013 | .0025 |
| | Management | Cohesion | .0053 | .0015 | .0096 |
| | Intrapersonal | Cohesion | -.0001 | -.0015 | .0010 |
| | Interpersonal | Cohesion | -.0074 | -.0138 | -.0022 |
| | TOTAL | | -.0128 | -.0305 | .0050 |
| | DIRECT | | .0088 | -.0061 | .0236 |
| | | | $R^2$ = .49, $F$(9, 367) = 40.51, $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0006 | -.0050 | .0036 |
| | Management | - | -.0012 | -.0090 | .0064 |
| | Intrapersonal | - | .0017 | -.0002 | .0049 |
| | Interpersonal | - | -.0116 | -.0213 | -.0035 |
| | Conflict | - | .0030 | -.0027 | .0097 |
| | Communication | Conflict | .0010 | -.0002 | .0026 |
| | Management | Conflict | -.0033 | -.0066 | -.0005 |
| | Intrapersonal | Conflict | -.0001 | -.0008 | .0007 |
| | Interpersonal | Conflict | -.0039 | -.0076 | -.0011 |
| | TOTAL | | -.0128 | -.0305 | .0050 |
| | DIRECT | | .0022 | -.0138 | .0182 |
| | | | $R^2$ = .42, $F$(9, 367) = 29.36, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 56 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0018 | -.0222 | .0163 |
| | Management | - | .0048 | -.0348 | .0451 |
| | Intrapersonal | - | -.0011 | -.0123 | .0096 |
| | Interpersonal | - | -.0065 | -.0260 | .0112 |
| | Cohesion | - | .0029 | -.0038 | .0148 |
| | Communication | Cohesion | -.0004 | -.0032 | .0013 |
| | Management | Cohesion | -.0037 | -.0115 | .0015 |
| | Intrapersonal | Cohesion | .0001 | -.0011 | .0012 |
| | Interpersonal | Cohesion | .0057 | -.0022 | .0164 |
| | TOTAL | | .0855* | .0137 | .1573 |
| | DIRECT | | .0855* | .0035 | .1675 |
| | | | $R^2$ = .09, $F$(9, 361) = 4.07, $p$ < .001 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0025 | -.0220 | .0153 |
| | Management | - | .0021 | -.0364 | .0421 |
| | Intrapersonal | - | -.0010 | -.0116 | .0099 |
| | Interpersonal | - | .0004 | -.0151 | .0165 |
| | Conflict | - | .0010 | -.0057 | .0081 |
| | Communication | Conflict | .0003 | -.0014 | .0025 |
| | Management | Conflict | -.0010 | -.0069 | .0042 |
| | Intrapersonal | Conflict | -.0000 | -.0006 | .0006 |
| | Interpersonal | Conflict | -.0012 | -.0072 | .0048 |
| | TOTAL | | .0855* | .0137 | .1573 |
| | DIRECT | | .0875* | .0052 | .1697 |
| | | | $R^2$ = .09, $F$(9, 361) = 3.84, $p$ < .01 | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, and impression management. Sub = subjective Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 56 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model E | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | .0004 | -.0005 | .0015 |
| | Management | - | .0037 | .0003 | .0075 |
| | Intrapersonal | - | .0007 | -.0004 | .0023 |
| | Interpersonal | - | .0022 | .0003 | .0048 |
| | Cohesion | - | -.0009 | -.0031 | .0008 |
| | Communication | Cohesion | .0001 | -.0003 | .0007 |
| | Management | Cohesion | .0011 | .0002 | .0024 |
| | Intrapersonal | Cohesion | .0000 | -.0003 | .0003 |
| | Interpersonal | Cohesion | -.0016 | -.0032 | -.0004 |
| | TOTAL | | -.0035 | -.0094 | .0024 |
| | DIRECT | | -.0092** | -.0154 | -.0029 |
| | | | $R^2$ = .18, $F$(9, 361) = 9.08, $p$ < .001 | | |
| Model F | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | .0005 | -.0004 | .0017 |
| | Management | - | .0049 | .0012 | .0086 |
| | Intrapersonal | - | .0007 | -.0004 | .0024 |
| | Interpersonal | - | .0007 | -.0008 | .0024 |
| | Conflict | - | .0001 | -.0005 | .0008 |
| | Communication | Conflict | .0000 | -.0001 | .0002 |
| | Management | Conflict | -.0001 | -.0006 | .0004 |
| | Intrapersonal | Conflict | .0000 | -.0001 | .0000 |
| | Interpersonal | Conflict | -.0001 | -.0007 | .0004 |
| | TOTAL | | -.0035 | -.0094 | .0024 |
| | DIRECT | | -.0101* | -.0166 | -.0036 |
| | | | $R^2$ = .35, $F$(9, 361) = 5.45, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, and impression management. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.

***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 57**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Adaptive Narcissism on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0016 | -.1669 | .1573 |
| | Management | - | -.3430 | -.6204 | -.0840 |
| | Intrapersonal | - | .1131 | -.0002 | .2636 |
| | Interpersonal | - | -.1519 | -.3578 | .0158 |
| | Cohesion | - | -.0967 | -.3578 | .1856 |
| | Communication | Cohesion | .0166 | -.0614 | .1000 |
| | Management | Cohesion | .1758 | .0411 | .3290 |
| | Intrapersonal | Cohesion | -.0072 | -.0842 | .0549 |
| | Interpersonal | Cohesion | -.1375 | -.2996 | .0153 |
| | TOTAL | | -.2082 | -.8184 | .4019 |
| | DIRECT | | .2242 | -.2811 | .7296 |
| | | $R^2$ = .50, $F$(10, 366) = 36.47, $p$ < .001 | | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0267 | -.2135 | .1351 |
| | Management | - | -.0518 | -.3249 | .2163 |
| | Intrapersonal | - | .1094 | -.0029 | .2535 |
| | Interpersonal | - | -.2161 | -.4851 | .0188 |
| | Conflict | - | .0475 | -.1346 | .2366 |
| | Communication | Conflict | .0417 | -.0059 | .1061 |
| | Management | Conflict | -.1154 | -.2285 | -.0179 |
| | Intrapersonal | Conflict | -.0034 | -.0473 | .0396 |
| | Interpersonal | Conflict | -.0733 | -.1708 | .0064 |
| | TOTAL | | -.2082 | -.8184 | .4019 |
| | DIRECT | | .0799 | -.4642 | .6241 |
| | | $R^2$ = .42, $F$(10, 366) = 26.38, $p$ < .001 | | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, maladaptive narcissism, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 57 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.1016 | -.9422 | .6460 |
| | Management | - | -.0361 | -1.404 | 1.315 |
| | Intrapersonal | - | -.0787 | -.7069 | .5181 |
| | Interpersonal | - | -.1520 | -.6220 | .1950 |
| | Cohesion | - | .0842 | -.1963 | .3980 |
| | Communication | Cohesion | -.0180 | -.1283 | .0525 |
| | Management | Cohesion | -.1238 | -.3823 | .0534 |
| | Intrapersonal | Cohesion | .0047 | -.0713 | .0805 |
| | Interpersonal | Cohesion | .1094 | -.0545 | .3789 |
| | TOTAL | | 1.630 | -.8470 | 4.1085 |
| | DIRECT | | 1.942 | -.8527 | 4.730 |
| | | | $R^2$ = .10, $F$(10, 360) = 3.99, $p$ < .001 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.1297 | -.9724 | .6051 |
| | Management | - | -.1326 | -1.462 | 1.176 |
| | Intrapersonal | - | -.0733 | -.7085 | .5143 |
| | Interpersonal | - | -.0242 | -.3576 | .2984 |
| | Conflict | - | .0095 | -.1449 | .1742 |
| | Communication | Conflict | .0101 | -.0631 | .0942 |
| | Management | Conflict | -.0273 | -.2151 | .1441 |
| | Intrapersonal | Conflict | -.0007 | -.0368 | .0336 |
| | Interpersonal | Conflict | -.0184 | -.1484 | .1059 |
| | TOTAL | | 1.630 | -.8470 | 4.1085 |
| | DIRECT | | 2.017 | -.7840 | 4.818 |
| | | | $R^2$ = .09, $F$(10, 360) = 3.78, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, maladaptive narcissism, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 57 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model E | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | .0205 | -.0184 | .0664 |
| | Management | - | .1353 | .0150 | .2798 |
| | Intrapersonal | - | .0480 | -.0235 | .1211 |
| | Interpersonal | - | .0441 | -.0034 | .1214 |
| | Cohesion | - | -.0243 | -.1078 | .0339 |
| | Communication | Cohesion | .0052 | -.0118 | .0263 |
| | Management | Cohesion | .0357 | .0049 | .0834 |
| | Intrapersonal | Cohesion | -.0013 | -.0156 | .0161 |
| | Interpersonal | Cohesion | -.0316 | -.0757 | .0022 |
| | TOTAL | | -.0126 | -.2175 | .1924 |
| | DIRECT | | -.2442* | -.4578 | -.0305 |
| | | | $R^2$ = .19, $F$(10, 360) = 8.44, $p$ < .001 | | |
| Model F | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | .0241 | -.0177 | .0732 |
| | Management | - | .1753 | .0504 | .3229 |
| | Intrapersonal | - | .0468 | -.0295 | .1303 |
| | Interpersonal | - | .0154 | -.0146 | .0656 |
| | Conflict | - | .0015 | -.0127 | .0201 |
| | Communication | Conflict | .0016 | -.0047 | .0102 |
| | Management | Conflict | -.0043 | -.0204 | .0131 |
| | Intrapersonal | Conflict | -.0001 | -.0050 | .0029 |
| | Interpersonal | Conflict | -.0029 | -.0170 | .0084 |
| | TOTAL | | -.0126 | -.2175 | .1924 |
| | DIRECT | | -.2700* | -.4920 | -.0480 |
| | | | $R^2$ = .12, $F$(10, 360) = 5.12, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, maladaptive narcissism, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

Appendix A

**Table 58**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Maladaptive Narcissism on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0001 | -.0474 | .0591 |
| | Management | - | -.0545 | -.1750 | .0491 |
| | Intrapersonal | - | -.0493 | -.1744 | .0279 |
| | Interpersonal | - | -.1388 | -.3764 | .0834 |
| | Cohesion | - | .0032 | -.3123 | .3173 |
| | Communication | Cohesion | -.0007 | -.0270 | .0290 |
| | Management | Cohesion | .0279 | -.0282 | .0919 |
| | Intrapersonal | Cohesion | .0031 | -.0272 | .0485 |
| | Interpersonal | Cohesion | -.1255 | -.3523 | .0719 |
| | TOTAL | | -.1535 | -.9294 | .6224 |
| | DIRECT | | .1810 | -.3916 | .7536 |
| | | | $R^2$ = .50, $F$(10, 366) = 36.47, $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0012 | -.0472 | .0669 |
| | Management | - | -.0082 | -.0810 | .0489 |
| | Intrapersonal | - | -.0476 | -.1675 | .0266 |
| | Interpersonal | - | -.1974 | -.5334 | .0972 |
| | Conflict | - | .1150 | -.0792 | .3571 |
| | Communication | Conflict | -.0018 | -.0338 | .0276 |
| | Management | Conflict | -.0183 | -.0698 | .0189 |
| | Intrapersonal | Conflict | .0015 | -.0223 | .0286 |
| | Interpersonal | Conflict | -.0669 | -.1944 | .0368 |
| | TOTAL | | -.1535 | -.9294 | .6224 |
| | DIRECT | | .0692 | -.5487 | .6870 |
| | | | $R^2$ = .42, $F$(10, 366) = 26.38, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, adaptive narcissism, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 58 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0004 | -.2313 | .2557 |
| | Management | - | -.0068 | -.3314 | .3856 |
| | Intrapersonal | - | .0319 | -.2540 | .3952 |
| | Interpersonal | - | -.1243 | -.6449 | .1981 |
| | Cohesion | - | -.0054 | -.3055 | .3670 |
| | Communication | Cohesion | .0001 | -.0274 | .0277 |
| | Management | Cohesion | -.0232 | -.1030 | .0217 |
| | Intrapersonal | Cohesion | -.0019 | -.0425 | .0307 |
| | Interpersonal | Cohesion | .0894 | -.0808 | .3823 |
| | TOTAL | | 2.5091 | -.6261 | 5.644 |
| | DIRECT | | 2.549 | -.6219 | 5.712 |
| | | $R^2$ = .10, $F$(10, 360) = 26.38, $p$ < .001 | | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0004 | -.2510 | .2591 |
| | Management | - | -.0249 | -.3579 | .3476 |
| | Intrapersonal | - | .0297 | -.2452 | .3981 |
| | Interpersonal | - | -.0198 | -.3652 | .2822 |
| | Conflict | - | .0296 | -.2013 | .2903 |
| | Communication | Conflict | .0000 | -.0205 | .0244 |
| | Management | Conflict | -.0051 | -.0606 | .0314 |
| | Intrapersonal | Conflict | .0003 | -.0174 | .01394 |
| | Interpersonal | Conflict | -.0151 | -.1490 | .1051 |
| | TOTAL | | 2.5091 | -.6261 | 5.644 |
| | DIRECT | | 2.514 | .1216 | -.6716 |
| | | $R^2$ = .09, $F$(10, 360) = 3.78, $p$ < .001 | | | |

*Note.* Model (No. 80) controls for gender, cohort, adaptive narcissism, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 58 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model E | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | -.0001 | -.0188 | .0188 |
| | Management | - | .0254 | -.0210 | .0820 |
| | Intrapersonal | - | -.0194 | -.0763 | .0173 |
| | Interpersonal | - | .0361 | -.0295 | .1162 |
| | Cohesion | - | .0016 | -.0733 | .0784 |
| | Communication | Cohesion | .0000 | -.0065 | .0077 |
| | Management | Cohesion | .0067 | -0047 | .0254 |
| | Intrapersonal | Cohesion | .0005 | -.0076 | .0089 |
| | Interpersonal | Cohesion | -.0258 | -.0784 | .0207 |
| | TOTAL | | -.1266 | -.3860 | .1328 |
| | DIRECT | | -.1515 | -.3939 | .0908 |
| | | | $R^2$ = .19, $F$(10, 360) = 8.44, $p$ < .001 | | |
| Model F | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | -.0001 | -.0208 | .0220 |
| | Management | - | .0329 | -.0248 | .1010 |
| | Intrapersonal | - | -.0189 | -.0800 | .0206 |
| | Interpersonal | - | .0126 | -.0201 | .0602 |
| | Conflict | - | .0047 | -.0183 | .0328 |
| | Communication | Conflict | .0000 | -.0024 | .0025 |
| | Management | Conflict | -.0008 | -.0059 | .0028 |
| | Intrapersonal | Conflict | .0000 | -.0015 | .0029 |
| | Interpersonal | Conflict | -.0024 | -.0185 | .0092 |
| | TOTAL | | -.1266 | -.3860 | .1328 |
| | DIRECT | | -.1546 | -.4071 | .0978 |
| | | | $R^2$ = .12, $F$(10, 360) = 5.12, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, adaptive narcissism, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 59**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Admiration on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0004 | -.0276 | .0259 |
| | Management | - | -.0374 | -.0762 | -.0050 |
| | Intrapersonal | - | .0140 | -.0003 | .0335 |
| | Interpersonal | - | .0210 | -.0059 | .0542 |
| | Cohesion | - | -.0087 | -.0510 | .0340 |
| | Communication | Cohesion | .0027 | -.0095 | .0165 |
| | Management | Cohesion | .0236 | .0061 | .0453 |
| | Intrapersonal | Cohesion | -.0014 | -.0103 | .0077 |
| | Interpersonal | Cohesion | .0207 | -.0063 | .0506 |
| | TOTAL | | .0202 | -.0758 | .1161 |
| | DIRECT | | -.0148 | -.0925 | .0629 |
| | | $R^2$ = .50, $F$(10, 365) = 36.07 $p$ < .001 | | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0037 | -.0328 | .0236 |
| | Management | - | -.0012 | -.0394 | .0332 |
| | Intrapersonal | - | .0128 | -.0016 | .0323 |
| | Interpersonal | - | .0308 | -.0077 | .0720 |
| | Conflict | - | -.0090 | -.0397 | .0230 |
| | Communication | Conflict | .0068 | -.0012 | .0169 |
| | Management | Conflict | -.0125 | -.0285 | .0002 |
| | Intrapersonal | Conflict | -.0002 | -.0054 | .0059 |
| | Interpersonal | Conflict | .0109 | -.0029 | .0287 |
| | TOTAL | | .0202 | -.0758 | .1161 |
| | DIRECT | | -.0145 | -.0979 | .0690 |
| | | $R^2$ = .42, $F$(10, 365) = 26.45, $p$ < .001 | | | |

*Note.* Model (No. 80) controls for gender, cohort, narcissistic rivalry, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 59 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0118 | -.1503 | .1117 |
| | Management | - | .0517 | -.1367 | .2408 |
| | Intrapersonal | - | -.0044 | -.0860 | .0766 |
| | Interpersonal | - | .0107 | -.0553 | .0899 |
| | Cohesion | - | .0077 | -.0328 | .0608 |
| | Communication | Cohesion | -.0031 | -.0230 | .0092 |
| | Management | Cohesion | -.0174 | -.0545 | .0062 |
| | Intrapersonal | Cohesion | .0011 | -.0094 | .0104 |
| | Interpersonal | Cohesion | -.0193 | -.0660 | .0081 |
| | TOTAL | | .4002 | -.0026 | .8030 |
| | DIRECT | | .3850 | -.0457 | .8157 |
| | | | $R^2$ = .09, $F$(10, 359) = 3.49, $p$ = .002 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | -.0182 | -.1626 | .1050 |
| | Management | - | .0400 | -.1514 | .2291 |
| | Intrapersonal | - | -.0033 | -.0789 | .0748 |
| | Interpersonal | - | -.0145 | -.0831 | .0384 |
| | Conflict | - | -.0047 | -.0444 | .0183 |
| | Communication | Conflict | .0032 | -.0077 | .0182 |
| | Management | Conflict | -.0057 | -.0296 | .0127 |
| | Intrapersonal | Conflict | .0000 | -.0050 | .0052 |
| | Interpersonal | Conflict | .0059 | -.0142 | .0307 |
| | TOTAL | | .4002 | -.0026 | .8030 |
| | DIRECT | | .3974 | -.0345 | .8294 |
| | | | $R^2$ = .08, $F$(10, 359) = 3.28, $p$ < .01 | | |

*Note.* Model (No. 80) controls for gender, cohort, narcissistic rivalry, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 59 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model E | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | .0027 | -.0042 | .0103 |
| | Management | - | .0096 | -.0059 | .0289 |
| | Intrapersonal | - | .0060 | -.0036 | .0190 |
| | Interpersonal | - | -.0054 | -.0164 | .0007 |
| | Cohesion | - | -.0022 | -.0126 | .0082 |
| | Communication | Cohesion | .0009 | -.0022 | .0048 |
| | Management | Cohesion | .0050 | .0006 | .0117 |
| | Intrapersonal | Cohesion | -.0003 | -.0021 | .0026 |
| | Interpersonal | Cohesion | .0056 | -.0006 | .0139 |
| | TOTAL | | .0216 | -.0116 | .0548 |
| | DIRECT | | -.0003 | -.0335 | .0329 |
| | | | $R^2$ = .17, $F$(10, 359) = 7.24, $p$ < .001 | | |
| Model F | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | .0035 | -.0035 | .0122 |
| | Management | - | .0149 | -.0001 | .0338 |
| | Intrapersonal | - | .0057 | -.0042 | .0200 |
| | Interpersonal | - | -.0001 | -.0065 | .0057 |
| | Conflict | - | -.0002 | -.0040 | .0025 |
| | Communication | Conflict | .0001 | -.0011 | .0015 |
| | Management | Conflict | -.0003 | -.0022 | .0021 |
| | Intrapersonal | Conflict | .0000 | -.0006 | .0001 |
| | Interpersonal | Conflict | .0003 | -.0019 | .0030 |
| | TOTAL | | .0216 | -.0116 | .0548 |
| | DIRECT | | -.0023 | -.0369 | .0323 |
| | | | $R^2$ = .09, $F$(10, 359) = 3.88, $p$ = .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, narcissistic rivalry, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

Appendix A

**Table 60**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Narcissistic Rivalry on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0005 | -.0315 | .0306 |
| | Management | - | .0205 | .0017 | .0501 |
| | Intrapersonal | - | -.0347 | -.0744 | .0010 |
| | Interpersonal | - | -.1192 | -.1825 | -.0583 |
| | Cohesion | - | -.0113 | -.0691 | .0466 |
| | Communication | Cohesion | -.0032 | -.0182 | .0117 |
| | Management | Cohesion | -.0130 | -.0284 | -.0023 |
| | Intrapersonal | Cohesion | .0035 | -.0158 | .0254 |
| | Interpersonal | Cohesion | -.1172 | -.1743 | -.0715 |
| | TOTAL | | -.2915*** | -.4048 | -.1782 |
| | DIRECT | | -.0165 | -.1117 | .0787 |
| | | | $R^2$ = .37, $F$(9, 366) = 24.05 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0043 | -.0269 | .0391 |
| | Management | - | .0007 | -.0197 | .0243 |
| | Intrapersonal | - | -.0316 | -.0702 | .0032 |
| | Interpersonal | - | -.1744 | -.2451 | -.1094 |
| | Conflict | - | .0135 | -.0295 | .0542 |
| | Communication | Conflict | -.0080 | -.0188 | .0011 |
| | Management | Conflict | .0069 | .0001 | .0180 |
| | Intrapersonal | Conflict | .0004 | -.0141 | .0128 |
| | Interpersonal | Conflict | -.0620 | -.1013 | -.0327 |
| | TOTAL | | -.2915*** | -.4048 | -.1782 |
| | DIRECT | | -.0412 | -.1435 | .0610 |
| | | | $R^2$ = .42, $F$(10, 365) = 26.45, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, narcissistic admiration, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 60 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0135 | -.1313 | .1733 |
| | Management | - | -.0296 | -.1555 | .0808 |
| | Intrapersonal | - | .0106 | -.1719 | .1860 |
| | Interpersonal | - | -.0544 | -.3341 | .2331 |
| | Cohesion | - | .0087 | -.0414 | .0874 |
| | Communication | Cohesion | .0036 | -.0109 | .0250 |
| | Management | Cohesion | .0100 | -.0037 | .0336 |
| | Intrapersonal | Cohesion | -.0026 | -.0259 | .0207 |
| | Interpersonal | Cohesion | .0984 | -.0396 | .2349 |
| | TOTAL | | .0039 | -.4730 | .4808 |
| | DIRECT | | -.0542 | -.5866 | .4783 |
| | | | $R^2$ = .09, $F$(10, 359) = 3.49, $p$ = .002 | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0209 | -.1261 | .1818 |
| | Management | - | -.0229 | -.1471 | .0905 |
| | Intrapersonal | - | .0079 | -.1640 | .1842 |
| | Interpersonal | - | .0738 | -.1702 | .3226 |
| | Conflict | - | .0070 | -.0276 | .0570 |
| | Communication | Conflict | -.0037 | -.0202 | .0093 |
| | Management | Conflict | .0033 | -.0074 | .0184 |
| | Intrapersonal | Conflict | .0001 | -.0119 | .0122 |
| | Interpersonal | Conflict | -.0298 | -.1188 | .0653 |
| | TOTAL | | .0039 | -.4730 | .4808 |
| | DIRECT | | -.0525 | -.5868 | .4817 |
| | | | $R^2$ = .08, $F$(10, 359) = 3.28, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, narcissistic admiration, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 60 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model E | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | -.0031 | -.1211 | .0046 |
| | Management | - | -.0055 | -.0198 | .0036 |
| | Intrapersonal | - | -.0144 | -.0375 | .0090 |
| | Interpersonal | - | .0277 | .0005 | .0556 |
| | Cohesion | - | -.0025 | -.0170 | .0119 |
| | Communication | Cohesion | -.0010 | -.0054 | .0025 |
| | Management | Cohesion | -.0029 | -.0076 | -.0003 |
| | Intrapersonal | Cohesion | .0007 | -.0053 | .0050 |
| | Interpersonal | Cohesion | -.0284 | -.0479 | -.0120 |
| | TOTAL | | -.0133 | -.0525 | .0260 |
| | DIRECT | | .0162 | -.0249 | .0572 |
| | | | $R^2$ = .17, $F$(10, 359) = 7.21, $p$ < .001 | | |
| Model F | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | -.0040 | -.0136 | .0040 |
| | Management | - | -.0085 | -.0231 | .0004 |
| | Intrapersonal | - | -.0137 | -.0386 | .0103 |
| | Interpersonal | - | .0007 | -.0237 | .0243 |
| | Conflict | - | .0003 | -.0039 | .0043 |
| | Communication | Conflict | -.0002 | -.0017 | .0013 |
| | Management | Conflict | .0001 | -.0014 | .0013 |
| | Intrapersonal | Conflict | .0000 | -.0009 | .0015 |
| | Interpersonal | Conflict | -.0014 | -.0113 | .0085 |
| | TOTAL | | -.0133 | -.0525 | .0260 |
| | DIRECT | | .0133 | -.0295 | .0562 |
| | | | $R^2$ = .10, $F$(10, 359) = 3.88, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, narcissistic admiration, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 61**

*Study 3: Direct, Indirect, and Total Effects of Individual-Level Vulnerable Narcissism on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Sub. Performance | Communication | - | -.0002 | -.0266 | .0283 |
| | Management | - | .0202 | .0021 | .0463 |
| | Intrapersonal | - | -.0347 | -.0750 | -.0001 |
| | Interpersonal | - | -.0754 | -.1198 | -.0367 |
| | Cohesion | - | .0035 | -.0412 | .0487 |
| | Communication | Cohesion | -.0026 | -.0163 | .0100 |
| | Management | Cohesion | -.0115 | -.0258 | -.0013 |
| | Intrapersonal | Cohesion | .0023 | -.0174 | .0235 |
| | Interpersonal | Cohesion | -.0741 | -.1146 | -.0417 |
| | TOTAL | | -.1726** | -.2709 | -.0743 |
| | DIRECT | | -.0001 | -.0792 | .0789 |
| | | | $R^2$ = .50, $F$(9, 367) = 40.22 $p$ < .001 | | |
| Model B | | | Indirect Effects | | |
| Sub. Performance | Communication | - | .0043 | -.0221 | .0346 |
| | Management | - | .0019 | -.0163 | .0232 |
| | Intrapersonal | - | -.0328 | -.0711 | .0029 |
| | Interpersonal | - | -.1120 | -.1664 | -.0655 |
| | Conflict | - | .0055 | -.0226 | .0347 |
| | Communication | Conflict | -.0071 | -.0168 | .0011 |
| | Management | Conflict | .0068 | .0005 | .0164 |
| | Intrapersonal | Conflict | .0005 | -.0131 | .0126 |
| | Interpersonal | Conflict | -.0375 | -.0610 | -.0191 |
| | TOTAL | | -.1726** | -.2709 | -.0743 |
| | DIRECT | | -.0022 | -.0871 | .0828 |
| | | | $R^2$ = .42, $F$(9, 367) = 29.35, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, and group size, impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 61 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model C | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0116 | -.1064 | .1431 |
| | Management | - | -.0503 | -.1637 | .0466 |
| | Intrapersonal | - | .0150 | -.1662 | .1912 |
| | Interpersonal | - | -.0303 | -.1995 | .1326 |
| | Cohesion | - | -.0026 | -.0531 | .0472 |
| | Communication | Cohesion | .0030 | -.0086 | .0210 |
| | Management | Cohesion | .0087 | -.0031 | .0297 |
| | Intrapersonal | Cohesion | -.0017 | -.0220 | .0221 |
| | Interpersonal | Cohesion | .0621 | -.0217 | .1560 |
| | TOTAL | | .0321 | -.3734 | .4377 |
| | DIRECT | | .0167 | -.4228 | .4562 |
| | | | $R^2 = .09$, $F(9, 361) = 3.56$, $p < .001$ | | |
| Model D | | | Indirect Effects | | |
| Obj. Performance | Communication | - | .0175 | -.1072 | .1497 |
| | Management | - | -.0445 | -.1507 | .0509 |
| | Intrapersonal | - | .0132 | -.1717 | .1866 |
| | Interpersonal | - | .0477 | -.0927 | .1980 |
| | Conflict | - | .0033 | -.0238 | .0319 |
| | Communication | Conflict | -.0029 | -.0173 | .0074 |
| | Management | Conflict | .0029 | -.0073 | .0173 |
| | Intrapersonal | Conflict | .0000 | -.0122 | .0119 |
| | Interpersonal | Conflict | -.0159 | -.0721 | .0388 |
| | TOTAL | | .0321 | -.3734 | .4377 |
| | DIRECT | | .0108 | -.4301 | .4517 |
| | | | $R^2 = .08$, $F(9, 361) = 3.31$, $p < .001$ | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 61 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Dependent Variable | Mediator One | Mediator Two | Point Estimate | Lower | Upper |
| Model E | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | -.0029 | -.0105 | .0036 |
| | Management | - | -.0050 | -.0159 | .0014 |
| | Intrapersonal | - | -.0119 | -.0366 | .0114 |
| | Interpersonal | - | .0187 | .0022 | .0382 |
| | Cohesion | - | .0007 | -.0093 | .0132 |
| | Communication | Cohesion | -.0008 | -.0046 | .0023 |
| | Management | Cohesion | -.0024 | -.0064 | -.0002 |
| | Intrapersonal | Cohesion | .0005 | -.0059 | .0046 |
| | Interpersonal | Cohesion | -.0173 | -.0298 | -.0068 |
| | TOTAL | | -.0332* | -.0663 | -.0001 |
| | DIRECT | | -.0128 | -.0465 | .0209 |
| | | | $R^2$ = .17, $F$(9, 361) = 8.06, $p$ < .001 | | |
| Model F | | | Indirect Effects | | |
| Peer-Rated Perform | Communication | - | -.0035 | -.0114 | .0033 |
| | Management | - | -.0076 | -.0189 | -.0006 |
| | Intrapersonal | - | -.0114 | -.0382 | .0129 |
| | Interpersonal | - | .0024 | -.0122 | .0166 |
| | Conflict | - | .0002 | -.0024 | .0027 |
| | Communication | Conflict | -.0002 | -.0014 | .0011 |
| | Management | Conflict | .0002 | -.0012 | .0012 |
| | Intrapersonal | Conflict | .0000 | -.0008 | .0014 |
| | Interpersonal | Conflict | -.0009 | -.0066 | .0047 |
| | TOTAL | | -.0332* | -.0663 | -.0001 |
| | DIRECT | | -.0123 | -.0474 | .0228 |
| | | | $R^2$ = .10, $F$(9, 361) = 4.35, $p$ < .001 | | |

*Note.* Model (No. 80) controls for gender, cohort, group size, and impression management. Sub = subjective; Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 62**

*Study 3: Correlations Between Narcissism and Team Processes across Time*

| Variable | Narcissism (NPI) | Adaptive Narcissism | Maladaptive Narcissism | Narcissistic Admiration | Narcissistic Rivalry | Vulnerable Narcissism |
|---|---|---|---|---|---|---|
| Cohesion – Time 1 | -.12* | -.01 | -.16** | -.08 | -.20*** | -.24*** |
| Cohesion – Time 2 | -.03 | -.003 | -.03 | .002 | -.14** | -.16** |
| Cohesion – Time 3 | -.13** | -.08 | -.10 | -.13* | -.25*** | -.21*** |
| Cohesion – Time 4 | -.06 | -.04 | -.03 | -.007 | -.15** | -.14** |
| Conflict – Time 1 | .14** | .04 | .14** | .10* | .21*** | .22*** |
| Conflict – Time 2 | .07 | .03 | .05 | .04 | .13* | .09 |
| Conflict – Time 3 | .06 | .03 | .03 | .04 | .17** | .18*** |
| Conflict – Time 4 | .15** | .12* | .12* | .11* | .19*** | .17** |

*Note.* NPI = Narcissistic Personality Inventory; $N$ = 362-385.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 63**

*Study 3: Hierarchical Multiple Regressions Predicting Longitudinal Team Processes from Individual-Level Narcissism (Three Pages)*

| | | Team Cohesion – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .01 | | | | | | .02 |
| Step 1 | Gender | .19 | .18 | .06 | 1.06 | .288 | | .18 | .18 | .05 | 1.01 | .311 | |
| | Year | .05 | .15 | .02 | .32 | .753 | | .08 | .15 | .03 | .50 | .618 | |
| | Group Size | -.01 | .06 | -.01 | -.08 | .935 | | -.01 | .06 | -.01 | -.22 | .830 | |
| | BIDR | .09 | .06 | .08 | 1.45 | .149 | | .06 | .06 | .05 | .97 | .332 | |
| Step 2 | Narcissism | | | | | | | -.02 | .01 | -.11 | -1.97 | .049 | |

| | | Team Cohesion – Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .01 |
| Step 1 | Gender | .09 | .16 | .03 | .59 | .557 | | .09 | .162 | .03 | .58 | .562 | |
| | Year | .16 | .14 | .072 | 1.18 | .238 | | .17 | .139 | .07 | 1.20 | .230 | |
| | Group Size | -.05 | .06 | -.05 | -.83 | .406 | | -.05 | .06 | -.05 | -.85 | .396 | |
| | BIDR | .08 | .06 | .08 | 1.42 | .158 | | .08 | .06 | .07 | 1.32 | .189 | |
| Step 2 | Narcissism | | | | | | | -.003 | .01 | -.02 | -.30 | .767 | |

| | | Team Cohesion - Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .25 | .17 | .08 | 1.48 | .141 | | .24 | .17 | .08 | 1.42 | .156 | |
| | Year | .10 | .15 | .04 | .69 | .493 | | .13 | .15 | .06 | .91 | .361 | |
| | Group Size | .03 | .06 | .03 | .47 | .636 | | .02 | .06 | .02 | .33 | .740 | |
| | BIDR | .04 | .06 | .04 | .70 | .484 | | .01 | .06 | .01 | .12 | .905 | |
| Step 2 | Narcissism | | | | | | | -.03 | .01 | -.13 | -2.50 | .013 | |

*Note*. Model controls for gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 63 (cont.)**

| | | Team Cohesion – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .01 | | | | | | .02 |
| Step 1 | Gender | .33 | .18 | .10 | 1.83 | .068 | | .32 | .18 | .09 | 1.80 | .072 | |
| | Year | -.17 | .15 | -.07 | -1.10 | .271 | | -.15 | .15 | -.06 | -.99 | .319 | |
| | Group Size | .05 | .06 | .05 | .78 | .438 | | .04 | .06 | .04 | .70 | .482 | |
| | BIDR | -.02 | .06 | -.02 | -.39 | .693 | | -.04 | .06 | -.04 | -.64 | .524 | |
| Step 2 | Narcissism | | | | | | | -.01 | .01 | -.06 | -1.09 | .275 | |

| | | Team Conflict – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .03 |
| Step 1 | Gender | -.14 | .18 | -.04 | -.78 | .438 | | -.13 | .18 | -.04 | -.73 | .469 | |
| | Year | .11 | .15 | .04 | .72 | .474 | | .08 | .15 | .03 | .52 | .601 | |
| | Group Size | -.06 | .06 | -.06 | -1.01 | .311 | | -.05 | .06 | -.05 | -.88 | .381 | |
| | BIDR | -.13 | .06 | -.11 | -2.16 | .031 | | -.10 | .06 | -.09 | -1.65 | .100 | |
| Step 2 | Narcissism | | | | | | | .02 | .01 | .11 | 2.06 | .040 | |

| | | Team Conflict - Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | -.21 | .16 | -.07 | -1.31 | .190 | | -.21 | .16 | -.07 | -1.29 | .196 | |
| | Year | .11 | .14 | .05 | .78 | .433 | | .09 | .14 | .04 | .71 | .481 | |
| | Group Size | -.12 | .06 | -.13 | -2.15 | .032 | | -.12 | .06 | -.13 | -2.09 | .037 | |
| | BIDR | -.09 | .05 | -.09 | -1.68 | .092 | | -.08 | .06 | -.08 | -1.48 | .141 | |
| Step 2 | Narcissism | | | | | | | .008 | .01 | .04 | .79 | .430 | |

*Note*. Model controls for gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 63 (cont.)**

| | | Team Conflict – Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | -.27 | .18 | -.08 | -1.50 | .134 | | -.27 | .18 | -.08 | -1.49 | .137 | |
| | Year | .28 | .15 | .11 | 1.84 | .067 | | .27 | .15 | .11 | 1.79 | .074 | |
| | Group Size | -.15 | .06 | -.15 | -.242 | .016 | | -.15 | .06 | -.14 | -2.39 | .017 | |
| | BIDR | -.13 | .06 | -.11 | -2.07 | .039 | | -.12 | .06 | -.10 | -1.92 | .056 | |
| Step 2 | Narcissism | | | | | | | .005 | .01 | .02 | .44 | .662 | |

| | | Team Conflict – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .06 | | | | | | .07 |
| Step 1 | Gender | -.43 | .22 | -.10 | -1.99 | .047 | | -.42 | .22 | -.10 | -1.96 | .051 | |
| | Year | .53 | .18 | .12 | 1.92 | .056 | | .322 | .18 | .11 | 1.75 | .080 | |
| | Group Size | -.05 | .07 | -.04 | -.72 | .470 | | -.04 | .07 | -.04 | -.61 | .544 | |
| | BIDR | -.25 | .07 | -.18 | -3.45 | .001 | | -.22 | .07 | -.16 | -2.96 | .003 | |
| Step 2 | Narcissism | | | | | | | .02 | .01 | .09 | 1.77 | .078 | |

*Note*. Model controls for gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

Appendix A

**Table 64**

*Study 3: Hierarchical Multiple Regressions Predicting Longitudinal Team Processes from Individual-Level Adaptive Narcissism (Three Pages)*

| | | Team Cohesion – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .16 | .18 | .05 | .93 | .354 | | .15 | .18 | .04 | .83 | .406 | |
| | Year | .09 | .15 | .04 | .59 | .557 | | .08 | .15 | .03 | .50 | .615 | |
| | Group Size | -.01 | .06 | -.01 | -.18 | .861 | | -.006 | .06 | -.006 | -.09 | .926 | |
| | BIDR | .03 | .06 | .03 | .54 | .592 | | .02 | .06 | .02 | .36 | .717 | |
| | Maladaptive | -1.13 | .42 | -.15 | -2.67 | .008 | | -1.41 | .49 | -.18 | -2.89 | .004 | |
| Step 2 | Adaptive | | | | | | | .44 | .39 | .07 | 1.14 | .257 | |

| | | Team Cohesion – Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .01 |
| Step 1 | Gender | .09 | .16 | .03 | .57 | .565 | | .09 | .16 | .03 | .58 | .562 | |
| | Year | .17 | .14 | .07 | 1.19 | .233 | | .17 | .14 | .07 | 1.19 | .232 | |
| | Group Size | -.05 | .06 | -.05 | -.84 | .403 | | -.05 | .06 | -.05 | -.84 | .401 | |
| | BIDR | .08 | .06 | .07 | 1.28 | .201 | | .08 | .06 | .07 | 1.28 | .201 | |
| | Maladaptive | -.08 | .39 | -.01 | -.21 | .837 | | -.06 | .45 | -.008 | -.13 | .897 | |
| Step 2 | Adaptive | | | | | | | -.03 | .36 | -.006 | -.09 | .923 | |

| | | Team Cohesion - Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .02 | | | | | | .02 |
| Step 1 | Gender | .24 | .17 | .07 | 1.39 | .164 | | .25 | .17 | .08 | 1.46 | .146 | |
| | Year | .13 | .15 | .05 | .86 | .393 | | .14 | .15 | .06 | .92 | .356 | |
| | Group Size | .02 | .06 | .02 | .41 | .680 | | .02 | .06 | .02 | .37 | .713 | |
| | BIDR | .008 | .06 | .007 | .13 | .897 | | .02 | .06 | .02 | .27 | .787 | |
| | Maladaptive | -.70 | .41 | -.09 | -1.69 | .092 | | -.46 | .48 | -.06 | -.97 | .331 | |
| Step 2 | Adaptive | | | | | | | -.36 | .38 | -.06 | -.97 | .336 | |

*Note*. Model controls for maladaptive narcissism, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 64 (cont.)**

| | | Team Cohesion – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .01 | | | | | | .02 |
| Step 1 | Gender | .32 | .18 | .09 | 1.80 | .072 | | .33 | .18 | .09 | 1.85 | .65 | |
| | Year | -.16 | .15 | -.07 | -1.05 | .295 | | -.15 | .15 | -.06 | -1.01 | .318 | |
| | Group Size | .05 | .06 | .05 | .76 | .450 | | .04 | .06 | .04 | .71 | .476 | |
| | BIDR | -.03 | .06 | -.03 | -.51 | .608 | | -.03 | .06 | -.02 | -.41 | .685 | |
| | Maladaptive | -.18 | .43 | -.02 | -.43 | .667 | | -.01 | .49 | -.002 | -.03 | .977 | |
| Step 2 | Adaptive | | | | | | | -.26 | .39 | -.04 | -.68 | .500 | |

| | | Team Conflict – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | -.12 | .18 | -.04 | -.68 | .499 | | -.12 | .18 | -.03 | -.65 | .516 | |
| | Year | .08 | .15 | .03 | .52 | .600 | | .08 | .15 | .03 | .54 | .587 | |
| | Group Size | -.06 | .06 | -.06 | -.95 | .342 | | -.06 | .06 | -.06 | -.97 | .333 | |
| | BIDR | -.09 | .06 | -.08 | -1.46 | .146 | | -.09 | .06 | -.08 | -1.39 | .163 | |
| | Maladaptive | .80 | .43 | .10 | 1.88 | .060 | | .87 | .49 | .11 | 1.78 | .076 | |
| Step 2 | Adaptive | | | | | | | -.11 | .39 | -.02 | -.29 | .771 | |

| | | Team Conflict - Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .01 | | | | | | .01 |
| Step 1 | Gender | .09 | .16 | .03 | .58 | .565 | | .09 | .16 | .03 | .8 | .562 | |
| | Year | .17 | .14 | .07 | 1.19 | .233 | | .17 | .14 | .07 | 1.19 | .232 | |
| | Group Size | -.05 | .06 | -.05 | -.84 | .403 | | -.05 | .06 | -.05 | -.84 | .401 | |
| | BIDR | .08 | .06 | .07 | 1.28 | .201 | | .08 | .06 | .07 | 1.28 | .201 | |
| | Maladaptive | -.08 | .39 | -.01 | -.21 | .837 | | -.06 | .45 | -.008 | -.13 | .897 | |
| Step 2 | Adaptive | | | | | | | -.03 | .36 | -.006 | -.09 | .923 | |

*Note*. Model controls for maladaptive narcissism, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 64 (cont.)**

| | | Team Conflict – Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | -.28 | .18 | -.08 | -1.53 | .128 | | -.28 | .18 | -.08 | -1.56 | .118 | |
| | Year | .29 | .15 | .11 | 1.89 | .060 | | .28 | .15 | .11 | 1.83 | .068 | |
| | Group Size | -.15 | .06 | -.15 | -2.44 | .015 | | -.15 | .06 | -.15 | -2.41 | .017 | |
| | BIDR | -.14 | .06 | -.12 | -2.14 | .033 | | -.14 | .07 | -.12 | -2.21 | .028 | |
| | Maladaptive | -.24 | .43 | -.03 | -.56 | .579 | | -.41 | .50 | -.05 | -.81 | .419 | |
| Step 2 | Adaptive | | | | | | | .26 | .40 | .04 | .66 | .513 | |

| | | Team Conflict – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .06 | | | | | | .07 |
| Step 1 | Gender | -.43 | .22 | -.10 | -1.96 | .051 | | -.46 | .22 | -.11 | -2.13 | .034 | |
| | Year | .34 | .18 | .11 | 1.84 | .067 | | .32 | .18 | .10 | 1.71 | .088 | |
| | Group Size | -.05 | .07 | -.04 | .70 | .488 | | -.04 | .07 | -.03 | -.58 | .563 | |
| | BIDR | -.24 | .08 | -.17 | -3.06 | .002 | | -.26 | .08 | -.19 | -3.33 | .001 | |
| | Maladaptive | .33 | .52 | .03 | .63 | .531 | | -.27 | .60 | -.03 | -.45 | .650 | |
| Step 2 | Adaptive | | | | | | | .93 | .47 | .12 | 1.95 | .051 | |

*Note*. Model controls for maladaptive narcissism, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 65**

*Study 3: Hierarchical Multiple Regressions Predicting Longitudinal Team Processes from Individual-Level Maladaptive Narcissism (Three Pages)*

| | | Team Cohesion – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .19 | .18 | .06 | 1.08 | .283 | | .15 | .18 | .04 | .83 | .406 | |
| | Year | .05 | .15 | .02 | .35 | .726 | | .08 | .15 | .03 | .51 | .615 | |
| | Group Size | -.006 | .06 | -.007 | -.11 | .914 | | -.006 | .06 | -.006 | -.09 | .926 | |
| | BIDR | .09 | .06 | .08 | 1.44 | .152 | | .02 | .06 | .02 | .36 | .717 | |
| | Adaptive | -.11 | .34 | -.02 | -.34 | .736 | | .44 | .39 | .07 | 1.14 | .257 | |
| Step 2 | Maladaptive | | | | | | | -1.41 | .49 | -.18 | -2.89 | .004 | |

| | | Team Cohesion – Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .01 |
| Step 1 | Gender | .09 | .16 | .03 | .60 | .552 | | .09 | .16 | .03 | .58 | .562 | |
| | Year | .17 | .14 | .07 | 1.19 | .234 | | .17 | .14 | .07 | 1.20 | .232 | |
| | Group Size | -.05 | .06 | -.05 | -.84 | .400 | | -.05 | .06 | -.05 | -.84 | .401 | |
| | BIDR | .08 | .06 | .08 | 1.41 | .160 | | .08 | .06 | .07 | 1.28 | .201 | |
| | Adaptive | -.06 | .31 | -.01 | -.19 | .852 | | -.03 | .36 | -.006 | -.09 | .923 | |
| Step 2 | Maladaptive | | | | | | | -.06 | .45 | -.008 | -.13 | .897 | |

| | | Team Cohesion - Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .02 | | | | | | .02 |
| Step 1 | Gender | .26 | .17 | .08 | 1.54 | .126 | | .25 | .17 | .08 | 1.55 | .146 | |
| | Year | .13 | .15 | .05 | .88 | .382 | | .14 | .15 | .06 | .93 | .356 | |
| | Group Size | .02 | .06 | .02 | .38 | .706 | | .02 | .06 | .02 | .37 | .713 | |
| | BIDR | .04 | .06 | .03 | .65 | .518 | | .02 | .06 | .02 | .27 | .787 | |
| | Adaptive | -.55 | .33 | -.09 | -1.68 | .093 | | -.36 | .38 | -.06 | -.96 | .336 | |
| Step 2 | Maladaptive | | | | | | | -.46 | .48 | -.06 | -.97 | .331 | |

*Note*. Model controls for adaptive narcissism, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 65 (cont.)**

| | | Team Cohesion – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .02 | | | | | | .02 |
| Step 1 | Gender | .33 | .18 | .09 | 1.87 | .063 | | .33 | .18 | .09 | 1.85 | .065 | |
| | Year | -.15 | .15 | -.06 | -1.01 | .315 | | -.15 | .115 | -.06 | -1.01 | .318 | |
| | Group Size | .04 | .06 | .04 | .72 | .475 | | .04 | .06 | .04 | .71 | .476 | |
| | BIDR | -.03 | .06 | -.02 | -.42 | .673 | | -.03 | .06 | -.02 | .41 | .685 | |
| | Adaptive | -.27 | .34 | -.04 | -.80 | .424 | | -.26 | .39 | -.04 | .68 | .500 | |
| Step 2 | Maladaptive | | | | | | | -.01 | .50 | -.002 | -.03 | .977 | |

| | | Team Conflict – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .03 |
| Step 1 | Gender | -.14 | .18 | -.04 | -.81 | .421 | | -.12 | .18 | -.03 | -.65 | .516 | |
| | Year | .09 | .15 | .04 | .63 | .526 | | .08 | .15 | .03 | .54 | .587 | |
| | Group Size | -.06 | .06 | -.06 | -.96 | .340 | | -.06 | .06 | -.06 | -.97 | .333 | |
| | BIDR | -.13 | .06 | -.11 | -2.14 | .033 | | -.09 | .06 | -.08 | -1.39 | .163 | |
| | Adaptive | .23 | .34 | .04 | .68 | .499 | | -.11 | .39 | -.02 | -.29 | .771 | |
| Step 2 | Maladaptive | | | | | | | .87 | .49 | .11 | 1.78 | .076 | |

| | | Team Conflict - Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | -.21 | .16 | -.07 | -1.34 | .183 | | -.21 | .16 | -.07 | -1.34 | .182 | |
| | Year | .09 | .14 | .04 | .73 | .468 | | .10 | .14 | .04 | .73 | .465 | |
| | Group Size | -.12 | .06 | -.13 | -2.11 | .036 | | -.12 | .06 | -.13 | -2.11 | .036 | |
| | BIDR | -.09 | .05 | -.09 | -1.67 | .095 | | -.09 | .06 | -.09 | -1.61 | .108 | |
| | Adaptive | .14 | .30 | .03 | .47 | .637 | | .16 | .35 | .03 | .47 | .642 | |
| Step 2 | Maladaptive | | | | | | | -.05 | .44 | -.007 | -.12 | .909 | |

*Note*. Model controls for adaptive narcissism, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 65 (cont.)**

| | | Team Conflict – Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | -.27 | .18 | -.08 | -1.51 | .132 | | -.28 | .18 | -.08 | -1.57 | .118 | |
| | Year | .28 | .15 | .11 | 1.79 | .074 | | .28 | .15 | .11 | 1.83 | .068 | |
| | Group Size | -.15 | .06 | -.14 | -2.40 | .017 | | -.15 | .06 | -.15 | -2.41 | .017 | |
| | BIDR | -.13 | .06 | -.11 | -2.06 | .040 | | -.14 | .07 | -.12 | -2.21 | .028 | |
| | Adaptive | .09 | .34 | .02 | .29 | .775 | | .26 | .40 | .04 | .66 | .513 | |
| Step 2 | Maladaptive | | | | | | | -.41 | .50 | -.05 | -.81 | .419 | |

| | | Team Conflict – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .07 | | | | | | .07 |
| Step 1 | Gender | -.45 | .22 | -.11 | -2.10 | .037 | | -.46 | .22 | -.11 | -2.13 | .034 | |
| | Year | .31 | .18 | .10 | 1.69 | .092 | | .32 | .18 | .10 | 1.71 | .088 | |
| | Group Size | -.04 | .07 | -.03 | -.58 | .565 | | -.04 | .07 | -.03 | -.58 | .563 | |
| | BIDR | -.25 | .07 | -.18 | -3.39 | .001 | | -.26 | .08 | -.19 | -3.33 | .001 | |
| | Adaptive | .82 | .41 | .10 | 2.02 | .044 | | .93 | .47 | .12 | 1.97 | .050 | |
| Step 2 | Maladaptive | | | | | | | -.27 | .60 | -.03 | -.45 | .650 | |

*Note*. Model controls for adaptive narcissism, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

Appendix A

**Table 66**

*Study 3: Hierarchical Multiple Regressions Predicting Longitudinal Team Processes from Individual-Level Narcissistic Admiration (Three Pages)*

| | | Team Cohesion – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | .19 | .18 | .06 | 1.07 | .284 | | .18 | .18 | .05 | .99 | .318 | |
| | Year | .05 | .15 | .02 | .30 | .765 | | .04 | .15 | .02 | .29 | .774 | |
| | Group Size | -.006 | .06 | -.006 | -.09 | .925 | | -.008 | .06 | -.008 | -.13 | .894 | |
| | BIDR | .09 | .06 | .08 | 1.43 | .153 | | .07 | .06 | ..07 | 1.20 | .231 | |
| | Rivalry | -.03 | .07 | -.02 | -.39 | .699 | | -.24 | .07 | -.21 | -3.28 | .001 | |
| Step 2 | Admiration | | | | | | | -.008 | .06 | -.007 | -1.27 | .899 | |

| | | Team Cohesion – Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .02 | | | | | | .03 |
| Step 1 | Gender | .10 | .16 | .03 | .62 | .535 | | .10 | .16 | .03 | .63 | .527 | |
| | Year | .16 | .14 | .07 | 1.14 | .254 | | .16 | .14 | .07 | 1.14 | .254 | |
| | Group Size | -.05 | .06 | -.05 | -.87 | .385 | | -.05 | .06 | -.05 | -.86 | .392 | |
| | BIDR | .08 | .06 | .08 | 1.42 | .156 | | .08 | .06 | .08 | 1.44 | .152 | |
| | Rivalry | -.15 | .06 | -.14 | -2.34 | .020 | | -.17 | .07 | -.16 | -2.54 | .011 | |
| Step 2 | Admiration | | | | | | | .06 | .06 | .06 | 1.03 | .306 | |

| | | Team Cohesion - Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .07 | | | | | | .07 |
| Step 1 | Gender | .25 | .17 | .08 | 1.48 | .141 | | .23 | .17 | .07 | 1.34 | .181 | |
| | Year | .09 | .15 | .04 | .68 | .495 | | .09 | .15 | .04 | .66 | .512 | |
| | Group Size | .03 | .06 | .03 | .47 | .639 | | .03 | .06 | .03 | .43 | .668 | |
| | BIDR | .04 | .06 | .04 | .69 | .486 | | .02 | .06 | .02 | .31 | .754 | |
| | Rivalry | -.11 | .06 | -.10 | -1.72 | .086 | | -.31 | .07 | -.27 | -4.33 | < .001 | |
| Step 2 | Admiration | | | | | | | -.04 | .06 | -.74 | -.774 | .459 | |

*Note*. Model controls for narcissistic rivalry, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 66 (cont.)**

| | | Team Cohesion – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | .32 | .18 | .09 | 1.81 | .070 | | .32 | .18 | .09 | 1.81 | .072 | |
| | Year | -.16 | .15 | -.07 | -1.09 | .278 | | -.16 | .15 | -.07 | 1.08 | .279 | |
| | Group Size | .05 | .06 | .05 | .79 | .430 | | .05 | .06 | .05 | .79 | .431 | |
| | BIDR | -.02 | .06 | -.02 | -.39 | .699 | | -.02 | .06 | -.02 | -.38 | .703 | |
| | Rivalry | -.21 | .07 | -.18 | -2.94 | .003 | | -.23 | .07 | -.20 | -3.10 | .002 | |
| Step 2 | Admiration | | | | | | | .06 | .06 | .06 | .99 | .325 | |

| | | Team Conflict – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .05 | | | | | | .05 |
| Step 1 | Gender | -.13 | .18 | -.04 | -.75 | .456 | | -.12 | .18 | -.03 | -.65 | .515 | |
| | Year | .10 | .15 | .04 | .68 | .494 | | .11 | .15 | .04 | .70 | .484 | |
| | Group Size | -.06 | .06 | -.06 | -1.04 | .299 | | -.06 | .06 | -.06 | -.99 | .322 | |
| | BIDR | -.13 | .06 | -.11 | -2.15 | .032 | | -.11 | .06 | -.09 | -1.85 | .065 | |
| | Rivalry | -.22 | .07 | .19 | 3.19 | .002 | | .21 | .07 | .18 | 2.82 | .005 | |
| Step 2 | Admiration | | | | | | | .04 | .06 | .03 | .60 | .547 | |

| | | Team Conflict - Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | -.21 | .16 | -.07 | -1.33 | .184 | | -.21 | .16 | -.07 | -1.31 | .191 | |
| | Year | .11 | .14 | .05 | .80 | .422 | | .11 | .14 | .05 | .81 | .421 | |
| | Group Size | -.12 | .06 | -.13 | -2.12 | .035 | | -.12 | .06 | -.13 | -2.10 | .036 | |
| | BIDR | -.09 | .05 | -.09 | -1.69 | .091 | | -.09 | .06 | -.09 | -1.63 | .104 | |
| | Rivalry | .09 | .06 | .09 | 1.49 | .135 | | .09 | .07 | .09 | 1.49 | .137 | |
| Step 2 | Admiration | | | | | | | -.01 | .06 | -.01 | -.23 | .820 | |

*Note*. Model controls for narcissistic rivalry, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 66 (cont.)**

| | | Team Conflict – Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .05 | | | | | | .05 |
| Step 1 | Gender | -.27 | .18 | -.08 | -1.49 | .137 | | -.27 | .18 | -.08 | -1.48 | .141 | |
| | Year | .28 | .15 | .11 | 1.83 | .069 | | .28 | .15 | .11 | 1.82 | .069 | |
| | Group Size | -.15 | .06 | -.15 | -2.43 | .016 | | -.15 | .06 | -.15 | -2.42 | .016 | |
| | BIDR | -.13 | .06 | -.11 | -2.08 | .039 | | -.13 | .06 | -.11 | -2.02 | .044 | |
| | Rivalry | .15 | .07 | .13 | 2.10 | .036 | | .17 | .08 | .14 | 2.18 | .030 | |
| Step 2 | Admiration | | | | | | | -.04 | .06 | -.03 | -.61 | .545 | |

| | | Team Conflict – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .07 | | | | | | .07 |
| Step 1 | Gender | -.43 | .22 | -.10 | -1.98 | .048 | | -.41 | .22 | -.09 | -1.87 | .062 | |
| | Year | .35 | .18 | .11 | 1.90 | .058 | | .35 | .18 | .12 | 1.92 | .056 | |
| | Group Size | -.05 | .07 | -.04 | -.73 | .464 | | -.05 | .07 | -.04 | -.70 | .485 | |
| | BIDR | -.25 | .07 | -.18 | -3.448 | .001 | | -.23 | .07 | -.17 | -3.15 | .002 | |
| | Rivalry | .15 | .09 | .10 | 1.69 | .092 | | .12 | .09 | .08 | 1.30 | .194 | |
| Step 2 | Admiration | | | | | | | .07 | .08 | .05 | .939 | .348 | |

*Note*. Model controls for narcissistic rivalry, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 67**

*Study 3: Hierarchical Multiple Regressions Predicting Longitudinal Team Processes from Individual-Level Narcissistic Rivalry (Three Pages)*

| | | Team Cohesion – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .01 | | | | | | .04 |
| Step 1 | Gender | .19 | .18 | .06 | 1.07 | .284 | | .07 | .18 | .02 | .38 | .706 | |
| | Year | .05 | .15 | .02 | .30 | .765 | | .04 | .15 | .02 | .28 | .778 | |
| | Group Size | -.006 | .06 | -.006 | -.09 | .925 | | -.008 | .06 | -.008 | -.14 | .888 | |
| | BIDR | .09 | .06 | .08 | 1.43 | .153 | | -.03 | .07 | -.02 | -.39 | .699 | |
| | Admiration | -.07 | .06 | -.07 | -1.22 | .223 | | -.008 | .06 | -.007 | -.13 | .899 | |
| Step 2 | Rivalry | | | | | | | -.24 | .07 | -.21 | -3.27 | .001 | |

| | | Team Cohesion – Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .10 | .16 | .03 | .62 | .535 | | .02 | .16 | .01 | .15 | .889 | |
| | Year | .16 | .14 | .07 | 1.14 | .254 | | .16 | .14 | .07 | 1.16 | .244 | |
| | Group Size | -.05 | .06 | -.05 | -.87 | .385 | | -.05 | .06 | -.06 | -.93 | .377 | |
| | BIDR | .08 | .06 | .08 | 1.42 | .156 | | .01 | .06 | .01 | .16 | .877 | |
| | Admiration | .01 | .06 | .01 | .23 | .818 | | .06 | .06 | .06 | 1.03 | .306 | |
| Step 2 | Rivalry | | | | | | | -.17 | .06 | -.16 | -2.54 | .011 | |

| | | Team Cohesion - Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .03 | | | | | | .07 |
| Step 1 | Gender | .25 | .17 | .08 | 1.48 | .141 | | .09 | .17 | .03 | .52 | .604 | |
| | Year | .09 | .15 | .04 | .68 | .495 | | .09 | .14 | .04 | .66 | .509 | |
| | Group Size | .03 | .06 | .03 | .47 | .639 | | .02 | .06 | .02 | .38 | .708 | |
| | BIDR | .04 | .06 | .04 | .69 | .486 | | -.11 | .06 | -.10 | -1.72 | .086 | |
| | Admiration | -.13 | .06 | -.12 | -2.21 | .027 | | -.04 | .06 | -.04 | -.74 | .459 | |
| Step 2 | Rivalry | | | | | | | -.31 | .07 | -.27 | -4.34 | < .001 | |

*Note*. Model controls for narcissistic admiration, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 67 (cont.)**

| | | Team Cohesion – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .01 | | | | | | .04 |
| Step 1 | Gender | .32 | .18 | .09 | 1.81 | .070 | | .21 | .18 | .06 | 1.19 | .235 | |
| | Year | -.16 | .15 | -.07 | -1.09 | .278 | | -.16 | .15 | -.07 | -1.11 | .269 | |
| | Group Size | .05 | .06 | .05 | .79 | .430 | | .04 | .06 | .04 | .72 | .471 | |
| | BIDR | -.02 | .06 | -.02 | -.39 | .699 | | -.12 | .07 | -.11 | -1.78 | .076 | |
| | Admiration | -.02 | .06 | -.02 | -.38 | .703 | | .06 | .06 | .06 | .98 | .325 | |
| Step 2 | Rivalry | | | | | | | -.23 | .07 | -.20 | -3.10 | .002 | |

| | | Team Conflict – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .03 | | | | | | .05 |
| Step 1 | Gender | -.12 | .18 | -.03 | -.65 | .515 | | -.02 | .18 | -.006 | -.12 | .911 | |
| | Year | .11 | .15 | .04 | .70 | .484 | | .11 | .15 | .04 | .72 | .475 | |
| | Group Size | -.06 | .06 | -.06 | -.99 | .322 | | -.06 | .06 | -.06 | -.99 | .321 | |
| | BIDR | -.11 | .06 | -.09 | -1.85 | .065 | | -.03 | .07 | -.02 | -.40 | .688 | |
| | Admiration | .09 | .06 | .08 | 1.57 | .117 | | .04 | .06 | .03 | .60 | .547 | |
| Step 2 | Rivalry | | | | | | | .21 | .07 | .18 | 2.84 | .005 | |

| | | Team Conflict - Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | -.21 | .16 | -.07 | -1.31 | .191 | | -.16 | .16 | -.05 | -1.00 | .316 | |
| | Year | .11 | .14 | .05 | .81 | .421 | | .11 | .14 | .05 | .79 | .426 | |
| | Group Size | -.12 | .06 | -.13 | -2.11 | .036 | | -12 | .06 | -.13 | -2.09 | .037 | |
| | BIDR | -.09 | .06 | -.09 | -1.62 | .104 | | -.05 | .06 | -.05 | -.79 | .430 | |
| | Admiration | .01 | .05 | .01 | .26 | .797 | | -.01 | .06 | -.01 | -.23 | .820 | |
| Step 2 | Rivalry | | | | | | | .09 | .07 | .09 | 1.49 | .137 | |

*Note*. Model controls for narcissistic admiration, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 67 (cont.)**

| | | Team Conflict – Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .04 | | | | | | .05 |
| Step 1 | Gender | -.27 | .18 | -.08 | -1.48 | .140 | | -.19 | .18 | -.06 | -1.04 | .298 | |
| | Year | .28 | .15 | .11 | 1.85 | .069 | | .28 | .15 | .11 | 1.84 | .066 | |
| | Group Size | -.15 | .06 | -.15 | -2.42 | .016 | | -.15 | .06 | -.14 | -2.39 | .017 | |
| | BIDR | -.13 | .06 | -.11 | -2.05 | .044 | | -.06 | .07 | -.05 | -.80 | .425 | |
| | Admiration | .007 | .06 | .006 | .11 | .915 | | -.04 | .06 | -.03 | -.60 | .545 | |
| Step 2 | Rivalry | | | | | | | .17 | .08 | .14 | 2.18 | .030 | |

| | | Team Conflict – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .07 | | | | | | .07 |
| Step 1 | Gender | -.41 | .22 | -.09 | -1.87 | .062 | | -.35 | .22 | -.08 | -1.56 | .113 | |
| | Year | .35 | .18 | .12 | 1.92 | .056 | | .35 | .18 | .12 | 1.92 | .055 | |
| | Group Size | -.05 | .07 | -.04 | -.70 | .485 | | -.05 | .07 | -.04 | -.68 | .500 | |
| | BIDR | -.23 | .07 | -.17 | -3.15 | .002 | | -.18 | .08 | -.13 | -2.19 | .029 | |
| | Admiration | .11 | .07 | .08 | 1.43 | .153 | | .07 | .08 | .05 | .94 | .348 | |
| Step 2 | Rivalry | | | | | | | .12 | .09 | .08 | 1.30 | .194 | |

*Note*. Model controls for narcissistic admiration, gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

Appendix A

**Table 68**

*Study 3: Hierarchical Multiple Regressions Predicting Longitudinal Team Processes from Individual-Level Vulnerable Narcissism (Three Pages)*

| | | Team Cohesion – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .01 | | | | | | .06 |
| Step 1 | Gender | .19 | .18 | .06 | 1.06 | .288 | | .16 | .17 | .05 | .95 | .343 | |
| | Year | .05 | .15 | .02 | .32 | .753 | | .11 | .15 | .05 | .76 | .446 | |
| | Group Size | -.005 | .06 | -.005 | -.08 | .935 | | -.01 | .06 | -.01 | -.22 | .824 | |
| | BIDR | .09 | .06 | .08 | 1.45 | .149 | | .02 | .06 | .02 | .28 | .781 | |
| Step 2 | Narcissism | | | | | | | -.27 | .06 | -.24 | -4.48 | < .001 | |

| | | Team Cohesion – Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .09 | .16 | .03 | .58 | .557 | | .08 | .16 | .03 | .52 | .60 | |
| | Year | .16 | .14 | .07 | 1.18 | .238 | | .20 | .14 | .09 | 1.47 | .14 | |
| | Group Size | -.05 | .06 | -.05 | -.83 | .406 | | -.05 | .06 | -..05 | -.86 | .39 | |
| | BIDR | .08 | .06 | .08 | 1.41 | .158 | | .03 | .06 | .03 | .52 | .61 | |
| Step 2 | Narcissism | | | | | | | -.18 | .06 | -.17 | -3.06 | .002 | |

| | | Team Cohesion - Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .01 | | | | | | .05 |
| Step 1 | Gender | .25 | .17 | .08 | 1.48 | .141 | | .23 | .17 | .07 | 1.39 | .166 | |
| | Year | .10 | .15 | .04 | .68 | .493 | | .15 | .14 | .06 | 1.07 | .284 | |
| | Group Size | .03 | .06 | .03 | .47 | .636 | | .02 | .06 | .02 | .32 | .749 | |
| | BIDR | .04 | .06 | .04 | .70 | .484 | | -.02 | .06 | -.02 | -.33 | .743 | |
| Step 2 | Narcissism | | | | | | | -.24 | .06 | -.21 | -3.99 | < .001 | |

*Note*. Model controls for gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 68 (cont.)**

| | | Team Cohesion – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .01 | | | | | | .03 |
| Step 1 | Gender | .33 | .18 | .09 | 1.83 | .068 | | .31 | .18 | .09 | 1.75 | .081 | |
| | Year | -.17 | .15 | -.07 | -1.10 | .271 | | -.13 | .15 | -.05 | -.85 | .397 | |
| | Group Size | .05 | .06 | .05 | .78 | .438 | | .04 | .06 | .04 | .66 | .507 | |
| | BIDR | -.02 | .06 | -.02 | -.39 | .693 | | -.07 | .06 | -.06 | -1.12 | .267 | |
| Step 2 | Narcissism | | | | | | | -.17 | .06 | -.15 | -2.65 | .008 | |

| | | Team Conflict – Time 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .06 |
| Step 1 | Gender | -.14 | .18 | -.04 | -.78 | .438 | | -.12 | .17 | -.03 | -.67 | .503 | |
| | Year | .11 | .15 | .04 | .72 | .474 | | .05 | .15 | .02 | .35 | .726 | |
| | Group Size | -.06 | .06 | -.06 | -1.01 | .311 | | -.05 | .06 | -.05 | -.91 | .361 | |
| | BIDR | -.13 | .06 | -.11 | -2.16 | .031 | | -.07 | .06 | -.06 | -1.14 | .255 | |
| Step 2 | Narcissism | | | | | | | .24 | .06 | .20 | 3.80 | < .001 | |

| | | Team Conflict - Time 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | -.21 | .16 | -.07 | -1.31 | .190 | | -.20 | .16 | -.07 | -1.28 | .201 | |
| | Year | .11 | .14 | .05 | .79 | .433 | | .09 | .14 | .04 | .66 | .513 | |
| | Group Size | -.12 | .06 | -.13 | -2.15 | .032 | | -.12 | .06 | -.13 | -2.15 | .032 | |
| | BIDR | -.09 | .05 | -.09 | -1.68 | .092 | | -.07 | .06 | -.07 | -1.24 | .217 | |
| Step 2 | Narcissism | | | | | | | .08 | .06 | .08 | 1.38 | .168 | |

*Note*. Model controls for gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 68 (cont.)**

| | | Team Conflict – Time 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .04 | | | | | | .06 |
| Step 1 | Gender | -.27 | .18 | -.08 | -1.50 | .134 | | -.26 | .18 | -.07 | -1.43 | .152 | |
| | Year | .28 | .15 | .11 | 1.84 | .067 | | .24 | .15 | .09 | 1.58 | .114 | |
| | Group Size | -.15 | .06 | -.15 | -2.42 | .016 | | -.14 | .06 | -.14 | -2.33 | .020 | |
| | BIDR | .13 | .06 | -.11 | -2.07 | .039 | | -.08 | .06 | -..07 | -1.29 | .195 | |
| Step 2 | Narcissism | | | | | | | .18 | .06 | .15 | 2.83 | .005 | |

| | | Team Conflict – Time 4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .06 | | | | | | .07 |
| Step 1 | Gender | -.43 | .22 | -.10 | -1.99 | .047 | | -.42 | .22 | -.09 | -1.93 | .055 | |
| | Year | .35 | .18 | .12 | 1.92 | .056 | | .31 | .18 | .10 | 1.72 | .087 | |
| | Group Size | -.05 | .07 | -.04 | -.73 | .470 | | -.05 | .07 | -.04 | -.63 | .527 | |
| | BIDR | -.25 | .07 | -.18 | -3.45 | .001 | | -.21 | .08 | -.15 | -2.76 | .006 | |
| Step 2 | Narcissism | | | | | | | .16 | .08 | .11 | 2.08 | .038 | |

*Note*. Model controls for gender, year, group size, and impression management (BIDR). B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 69**

*Study 3: Correlations Between Team-Level Narcissism Measures Team Processes, and Team Performance*

| Variable | Team-Level Cohesion | Team-Level Conflict | Objective Team Performance | Peer-rated Performance |
|---|---|---|---|---|
| Average Narcissism (NPI) | -.34*** | .23*** | .39*** | -.13* |
| Average Adaptive Narcissism | -.24*** | .12* | .49*** | -.13* |
| Average Maladaptive Narcissism | -.21*** | .08 | .36*** | -.10 |
| Average Narcissistic Admiration | -.15** | .14** | .29*** | -.06 |
| Average Narcissistic Rivalry | -.15** | .14** | .29*** | -.06 |
| Average Vulnerable Narcissism | -.21*** | .16** | .07 | -.08 |
| Percentage Narcissism (NPI) | -.34*** | .07 | .42*** | -.10* |
| Percentage Adaptive Narcissism | -.14** | .13* | .30*** | -.004 |
| Percentage Maladaptive | -.15** | .01 | .30*** | -.07 |
| Percentage Narcissistic Admiration | -.28*** | .27*** | .27*** | -.09 |
| Percentage Narcissistic Rivalry | -.07 | .10 | -.09 | -.05 |
| Percentage Vulnerable Narcissism | -.14** | .14** | -.03 | -.01 |
| Team-Level Cohesion | - | .23*** | -.14** | .23*** |
| Team-Level Conflict | - | - | -.01 | -.18** |

*Note*. NPI = Narcissistic Personality Inventory; Average values = aggregate data; Percentage = split median values.
***$p < .001$, **$p < .01$, *$p < .05$

Appendix A

**Table 70**

*Study 3: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level (NPI) Narcissism (Three Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .02 | | | | | | .12 |
| Step 1 | Gender | .18 | .11 | .08 | 1.64 | .10 | | .07 | .11 | .03 | .68 | .49 | |
| | Year | -.16 | .09 | -.10 | -1.74 | .08 | | .07 | .10 | .04 | .74 | .461 | |
| | Group Size | .01 | .04 | .01 | .21 | .83 | | -.03 | .04 | -.05 | -.81 | .421 | |
| Step 2 | Average Narcissism | | | | | | | -.14 | .02 | -.35 | -6.55 | < .001 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .04 | | | | | | .08 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.24 | .22 | | -.06 | .10 | -.03 | -.63 | .531 | |
| | Year | .21 | .09 | .14 | 2.44 | .02 | | .08 | .09 | .05 | .83 | .401 | |
| | Group Size | -.12 | .03 | -.20 | -3.46 | .001 | | -.10 | .03 | -.17 | -2.86 | .004 | |
| Step 2 | Average Narcissism | | | | | | | .08 | .02 | .21 | 3.97 | < .001 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .14 | | | | | | .27 |
| Step 1 | Gender | -.30 | .55 | -.03 | -.54 | .59 | | .40 | .51 | .04 | .79 | .431 | |
| | Year | 1.07 | .47 | .13 | 2.29 | .02 | | -.34 | .46 | -.04 | -.74 | .469 | |
| | Group Size | .98 | .19 | .29 | 5.26 | < .001 | | 1.20 | .18 | .36 | 6.88 | < .001 | |
| Step 2 | Average Narcissism | | | | | | | .85 | .10 | .39 | 8.20 | < .001 | |

*Note*. Model controls for gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 70 (cont.)**

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.43 | .153 | | .06 | .05 | .06 | 1.20 | .23 | |
| | Year | -.12 | .04 | -.16 | -2.74 | .007 | | -.10 | .05 | -.13 | -2.07 | .039 | |
| | Group Size | .01 | .02 | .04 | .70 | .483 | | .10 | .02 | .03 | .50 | .62 | |
| Step 2 | Average Narcissism | | | | | | | -.01 | .01 | -.07 | -1.27 | .20 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .12 |
| Step 1 | Gender | .18 | .11 | .08 | 1.64 | .102 | | .10 | .11 | .05 | .92 | .356 | |
| | Year | -.16 | .09 | -.10 | -1.74 | .082 | | -.03 | .09 | -.02 | -.32 | .750 | |
| | Group Size | .10 | .04 | .01 | .21 | .83 | | .02 | .04 | .03 | .49 | .622 | |
| Step 2 | Percentage Narcissism | | | | | | | -.02 | .002 | -.34 | -6.82 | < .001 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.24 | .216 | | -.11 | .10 | -.06 | -1.09 | .279 | |
| | Year | .21 | .09 | .14 | 2.44 | .015 | | .18 | .09 | .13 | 2.11 | .035 | |
| | Group Size | -.12 | .03 | -.20 | -3.46 | .001 | | -.12 | .03 | -.21 | -3.51 | < .001 | |
| Step 2 | Percentage Narcissism | | | | | | | .01 | .01 | .07 | 1.25 | .21 | |

*Note*. Model controls for gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 70 (cont.)**

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .14 | | | | | | .27 |
| Step 1 | Gender | -.30 | .55 | -.03 | -.54 | .587 | | .23 | .51 | .02 | .45 | .650 | |
| | Year | 1.07 | .47 | .13 | 2.29 | .023 | | .29 | .44 | .04 | .66 | .508 | |
| | Group Size | .99 | .19 | .29 | 5.26 | < .001 | | .93 | .17 | .28 | 5.38 | < .001 | |
| Step 2 | Percentage Narcissism | | | | | | | .10 | .01 | .37 | 7.99 | < .001 | |

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.43 | .153 | | .07 | .05 | .07 | 1.31 | .192 | |
| | Year | -.12 | .04 | -.16 | -2.74 | .007 | | -.11 | .04 | -.15 | -2.48 | .014 | |
| | Group Size | .01 | .02 | .04 | .70 | .483 | | .01 | .02 | .04 | .74 | .462 | |
| Step 2 | Percentage Narcissism | | | | | | | -.001 | .001 | -.05 | -.88 | .38 | |

*Note*. Model controls for gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 71**

*Study 3: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Adaptive Narcissism (Three Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .05 | | | | | | .07 |
| Step 1 | Gender | .12 | .11 | .06 | 1.12 | .265 | | .12 | .11 | .06 | 1.11 | .268 | |
| | Year | -.03 | .10 | -.02 | -.27 | .79 | | .04 | .10 | .03 | .43 | .671 | |
| | Group Size | -.01 | .04 | -.01 | -.06 | .95 | | -.02 | .04 | -.03 | -.50 | .615 | |
| | Mal Narc | -2.53 | .69 | -.20 | -3.66 | < .001 | | -1.41 | .78 | -.11 | -1.79 | .074 | |
| Step 2 | Average Adap Narc | | | | | | | -2.64 | .89 | -.18 | -2.97 | .003 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | -.11 | .10 | -.05 | -1.06 | .291 | | -.11 | .10 | -.05 | -1.05 | .29 | |
| | Year | .17 | .09 | .12 | 1.83 | .068 | | .14 | .09 | .10 | 1.52 | .13 | |
| | Group Size | -.12 | .03 | -.20 | -3.37 | .001 | | -.11 | .03 | -.19 | -3.16 | .002 | |
| | Mal Narc | .73 | .63 | .06 | 1.16 | .25 | | .34 | .72 | .03 | .48 | .63 | |
| Step 2 | Average Adap Narc | | | | | | | .91 | .82 | .07 | 1.11 | .27 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .22 | | | | | | .37 |
| Step 1 | Gender | .23 | .53 | .02 | .43 | .667 | | .25 | .48 | .02 | .52 | .602 | |
| | Year | -.08 | .48 | -.01 | -.17 | .863 | | -1.02 | .44 | -.12 | -2.30 | .022 | |
| | Group Size | 1.07 | .18 | .32 | 5.96 | < .001 | | 1.29 | .16 | .38 | 7.88 | < .001 | |
| | Mal Narc | 21.2 | 3.32 | .32 | 6.40 | < .001 | | 5.75 | 3.43 | .09 | 1.68 | .095 | |
| Step 2 | Average Adap Narc | | | | | | | 35.92 | 3.87 | .48 | 9.29 | < .001 | |

*Note*. Model controls for maladaptive narcissism, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 71 (cont.)**

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.33 | .185 | | .07 | .05 | .07 | 1.32 | .187 | |
| | Year | -.11 | .05 | -.15 | -2.32 | .021 | | -.09 | .05 | -.13 | -1.98 | .048 | |
| | Group Size | .01 | .02 | .04 | .66 | .510 | | .01 | .02 | .03 | .48 | .634 | |
| | Mal Narc | -.18 | .32 | -.03 | -.57 | .572 | | .04 | .37 | .01 | .10 | .917 | |
| Step 2 | Average Adap Narc | | | | | | | -.51 | .41 | -.08 | -1.23 | .220 | |

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .03 | | | | | | .05 |
| Step 1 | Gender | .15 | .11 | .07 | 1.37 | .171 | | .15 | .11 | .07 | 1.38 | .169 | |
| | Year | -.11 | .10 | -.07 | -1.20 | .234 | | -.06 | .10 | -.04 | -.62 | .538 | |
| | Group Size | .01 | .04 | .02 | .32 | .75 | | -.01 | .04 | -.01 | -.11 | .916 | |
| | Mal Narc | -.01 | .01 | -.13 | -2.45 | .015 | | -.01 | .01 | -.12 | -2.22 | .027 | |
| Step 2 | Percentage Adap Narc | | | | | | | -.01 | .01 | -.12 | -2.33 | .021 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .04 | | | | | | .05 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.22 | .224 | | -.12 | .10 | -.06 | -1.22 | .222 | |
| | Year | .21 | .09 | .14 | 2.36 | .019 | | .17 | .09 | .12 | 1.86 | .063 | |
| | Group Size | -.12 | .03 | -.20 | -3.46 | .001 | | -.11 | .04 | -.18 | -3.08 | .002 | |
| | Mal Narc | .00 | .01 | .01 | .10 | .922 | | .00 | .01 | -.01 | -.08 | .937 | |
| Step 2 | Percentage Adap Narc | | | | | | | .01 | .01 | .10 | 1.85 | .065 | |

*Note*. Model controls for maladaptive narcissism, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 71 (cont.)**

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .19 | | | | | | .27 |
| Step 1 | Gender | .01 | .54 | .01 | .03 | .980 | | .02 | .51 | .01 | .04 | .969 | |
| | Year | .59 | .46 | .07 | 1.27 | .205 | | -.10 | .45 | -.01 | -.22 | .826 | |
| | Group Size | .95 | .18 | .21 | 5.17 | < .001 | | 1.15 | .18 | .34 | 6.53 | < .001 | |
| | Mal Narc | .06 | .01 | .23 | 4.75 | < .001 | | .05 | .01 | .20 | 4.38 | < .001 | |
| Step 2 | Percentage Adap Narc | | | | | | | .10 | .02 | .30 | 6.43 | < .001 | |

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.38 | .167 | | .07 | .05 | .07 | 1.38 | .167 | |
| | Year | -.11 | .04 | -.16 | -2.60 | .010 | | -.12 | .05 | -.17 | -2.67 | .008 | |
| | Group Size | .01 | .02 | .04 | .72 | .475 | | .01 | .02 | .05 | .81 | .416 | |
| | Mal Narc | .00 | .01 | -.02 | -.30 | .76 | | .00 | .01 | -.02 | -.36 | .719 | |
| Step 2 | Percentage Adap Narc | | | | | | | .00 | .01 | .03 | .61 | .55 | |

*Note*. Model controls for maladaptive narcissism, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

Appendix A

**Table 72**

*Study 3: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Maladaptive Narcissism (Three Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .06 | | | | | | .07 |
| Step 1 | Gender | .15 | .11 | .07 | 1.34 | .182 | | .12 | .11 | .06 | 1.11 | .268 | |
| | Year | .01 | .10 | .00 | .05 | .957 | | .04 | .10 | .03 | .43 | .671 | |
| | Group Size | -.02 | .04 | -.03 | -.51 | .608 | | -.02 | .04 | -.03 | -.50 | .615 | |
| | Adap Narc | -3.41 | .78 | -.24 | -4.37 | < .001 | | -2.64 | .89 | -.18 | -2.97 | .003 | |
| Step 2 | Average Mal Narc | | | | | | | -1.41 | .78 | -.11 | -1.80 | .074 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .04 | | | | | | .04 |
| Step 1 | Gender | -.11 | .10 | -.06 | -1.12 | .263 | | -.11 | .10 | -.05 | -1.05 | .294 | |
| | Year | .15 | .09 | .11 | 1.66 | .098 | | .14 | .09 | .10 | 1.52 | .129 | |
| | Group Size | -.11 | .03 | -.19 | -3.16 | .002 | | -.11 | .03 | -.19 | -3.16 | .002 | |
| | Adap Narc | 1.10 | .72 | .08 | 1.54 | .125 | | .91 | .82 | .07 | 1.11 | .267 | |
| Step 2 | Average Mal Narc | | | | | | | .34 | .72 | .03 | .48 | .633 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .37 | | | | | | .37 |
| Step 1 | Gender | .14 | .47 | .01 | .30 | .765 | | .25 | .48 | .02 | .52 | .602 | |
| | Year | -.86 | .43 | -.10 | -1.99 | .047 | | -1.02 | .44 | -.12 | -2.30 | .022 | |
| | Group Size | 1.29 | .16 | .38 | 7.88 | < .001 | | 1.29 | .16 | .38 | 7.88 | < .001 | |
| | Adap Narc | 39.0 | 3.39 | .52 | 11.52 | < .001 | | 35.92 | 3.87 | .48 | 9.28 | < .001 | |
| Step 2 | Average Mal Narc | | | | | | | 5.75 | 3.43 | .09 | 1.67 | .095 | |

*Note*. Model controls for adaptive narcissism, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 72 (cont.)**

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.32 | .187 | | .07 | .05 | .07 | 1.32 | .187 | |
| | Year | -.09 | .05 | -.13 | -2.01 | .046 | | -.09 | .05 | -.13 | -1.98 | .048 | |
| | Group Size | .01 | .02 | .03 | .48 | .633 | | .01 | .02 | .03 | .48 | .634 | |
| | Adap Narc | -.49 | .36 | -.08 | -1.35 | .177 | | -.51 | .41 | -.08 | -1.23 | .220 | |
| Step 2 | Average Mal Narc | | | | | | | .04 | .37 | .01 | .10 | .92 | |

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .03 | | | | | | .05 |
| Step 1 | Gender | .18 | .11 | .08 | 1.62 | .106 | | .15 | .11 | .07 | 1.38 | .169 | |
| | Year | -.10 | .09 | -.06 | -1.04 | .301 | | -.06 | .01 | -.04 | -.62 | .538 | |
| | Group Size | -.01 | .04 | -.01 | -.24 | .814 | | -.01 | .04 | -.01 | -.11 | .916 | |
| | Adap Narc | -.01 | .01 | -.13 | -2.54 | .012 | | -.01 | .00 | -.12 | -2.33 | .021 | |
| Step 2 | Percentage Mal Narc | | | | | | | -.01 | .002 | -.12 | -2.22 | .027 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .05 | | | | | | .05 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.22 | .222 | | -.12 | .10 | -.06 | -1.22 | .222 | |
| | Year | .17 | .09 | .11 | 1.89 | .060 | | .17 | .09 | .12 | 1.87 | .063 | |
| | Group Size | -.11 | .03 | -.18 | -3.09 | .002 | | -.11 | .04 | -.18 | -3.08 | .002 | |
| | Adap Narc | .01 | .00 | .10 | 1.86 | .064 | | .01 | .00 | .10 | 1.85 | .065 | |
| Step 2 | Percentage Mal Narc | | | | | | | .00 | .00 | -.01 | -.08 | .937 | |

*Note*. Model controls for adaptive narcissism, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 72 (cont.)**

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .23 | | | | | | .27 |
| Step 1 | Gender | -.25 | .52 | -.02 | -.48 | .629 | | .02 | .51 | .00 | .04 | .969 | |
| | Year | .27 | .46 | .03 | .59 | .554 | | -.10 | .45 | -.01 | -.22 | .826 | |
| | Group Size | 1.20 | .18 | .36 | 6.67 | < .001 | | 1.15 | .18 | .34 | 6.53 | < .001 | |
| | Adap Narc | .11 | .02 | .32 | 6.71 | < .001 | | .10 | .02 | .30 | 6.43 | < .001 | |
| Step 2 | Percentage Mal Narc | | | | | | | .05 | .01 | .20 | 4.34 | < .001 | |
| | | Peer-Rated Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.44 | .151 | | .07 | .05 | .07 | 1.38 | .167 | |
| | Year | -.12 | .04 | -.17 | -2.79 | .006 | | -.12 | .05 | -.17 | -2.67 | .008 | |
| | Group Size | .01 | .02 | .05 | .79 | .429 | | .01 | .02 | .05 | .81 | .416 | |
| | Adap Narc | .01 | .01 | .03 | .58 | .565 | | .01 | .01 | .03 | .61 | .55 | |
| Step 2 | Percentage Mal Narc | | | | | | | .00 | .01 | -.02 | -.36 | .719 | |

*Note*. Model controls for adaptive narcissism, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 73**

*Study 3: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level (Average and Percentage) Narcissistic Admiration (Three Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .08 | | | | | | .08 |
| Step 1 | Gender | .14 | .11 | .07 | 1.31 | .189 | | .13 | .11 | .06 | 1.20 | .232 | |
| | Year | -.06 | .09 | -.04 | -.67 | .502 | | -.07 | .09 | -.04 | -.70 | .486 | |
| | Group Size | -.01 | .04 | -.02 | -.37 | .710 | | -.01 | .04 | -.02 | -.38 | .705 | |
| | Rivalry | -.56 | .11 | -.26 | -5.14 | < .001 | | -.52 | .11 | -.24 | -4.50 | < .001 | |
| Step 2 | Average Admiration | | | | | | | -.13 | .11 | -.06 | -1.20 | .23 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .09 | | | | | | .10 |
| Step 1 | Gender | -.09 | .10 | -.05 | -.92 | .36 | | -.08 | .10 | -.04 | -.82 | .41 | |
| | Year | .12 | .08 | .08 | 1.43 | .153 | | .12 | .08 | .08 | 1.45 | .147 | |
| | Group Size | -.10 | .03 | -.17 | -2.98 | .003 | | -.10 | .03 | -.17 | -2.98 | .003 | |
| | Rivalry | .48 | .10 | .24 | 4.86 | < .001 | | .44 | .10 | .23 | 4.27 | < .001 | |
| Step 2 | Average Admiration | | | | | | | .10 | .09 | .06 | 1.06 | .290 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .14 | | | | | | .23 |
| Step 1 | Gender | -.27 | .55 | -.02 | -.50 | .620 | | .06 | .53 | .01 | .11 | .915 | |
| | Year | 1.01 | .48 | .12 | 2.12 | .035 | | 1.07 | .45 | .13 | 2.39 | .018 | |
| | Group Size | .10 | .19 | .30 | 5.29 | < .001 | | 1.00 | .18 | .30 | 5.62 | < .001 | |
| | Rivalry | .31 | .57 | .03 | .55 | .586 | | -.85 | .56 | -.07 | -1.52 | .131 | |
| Step 2 | Average Admiration | | | | | | | 3.51 | .52 | .32 | 6.75 | < .001 | |

*Note*. Model controls for narcissistic rivalry, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 73 (cont.)**

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.33 | .186 | | .07 | .05 | .07 | 1.31 | .190 | |
| | Year | -.11 | .04 | -.15 | -2.40 | .017 | | -.11 | .04 | -.14 | -2.40 | .017 | |
| | Group Size | .01 | .02 | .03 | .55 | .584 | | .01 | .02 | .03 | .55 | .584 | |
| | Rivalry | -.07 | .05 | -.07 | -1.31 | .190 | | -.07 | .05 | -.07 | -1.23 | .22 | |
| Step 2 | Average Admiration | | | | | | | -.01 | .05 | -.01 | -.06 | .96 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .10 |
| Step 1 | Gender | .18 | .11 | .08 | 1.62 | .106 | | .12 | .11 | .06 | 1.14 | .26 | |
| | Year | -.15 | .09 | -.09 | -1.56 | .120 | | -.15 | .09 | -.09 | -1.62 | .11 | |
| | Group Size | -.01 | .04 | -.01 | -.11 | .909 | | -.04 | .04 | -.07 | -1.11 | .269 | |
| | Rivalry | -.01 | .00 | -.07 | -1.39 | .167 | | -.01 | .00 | -.05 | -.91 | .363 | |
| Step 2 | Percentage Admiration | | | | | | | -.01 | .00 | -.30 | -5.85 | < .001 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .04 | | | | | | .10 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.22 | .222 | | -.08 | .09 | -.04 | -.80 | .42 | |
| | Year | .20 | .09 | .14 | 2.28 | .023 | | .12 | .08 | .13 | 2.34 | .020 | |
| | Group Size | -.11 | .04 | -.19 | -3.11 | .002 | | -.08 | .03 | -.14 | -2.33 | .020 | |
| | Rivalry | .01 | .00 | .06 | 1.13 | .260 | | .01 | .00 | .04 | .72 | .474 | |
| Step 2 | Percentage Admiration | | | | | | | .01 | .00 | .25 | 4.86 | < .001 | |

*Note*. Model controls for narcissistic rivalry, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 73 (cont.)**

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .14 | | | | | | .27 |
| Step 1 | Gender | -.30 | .55 | -.03 | -.55 | .581 | | .09 | .51 | .01 | .19 | .852 | |
| | Year | 1.10 | .47 | .13 | 2.35 | .019 | | 1.12 | .43 | .13 | 2.58 | .010 | |
| | Group Size | .96 | .19 | .29 | 4.97 | < .001 | | 1.21 | .18 | .36 | 6.72 | < .001 | |
| | Rivalry | -.01 | .01 | -.03 | -.64 | .521 | | -.02 | .01 | -.06 | -1.38 | .168 | |
| Step 2 | Percentage Admiration | | | | | | | .08 | .01 | .38 | 8.30 | < .001 | |

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .03 | | | | | | .04 |
| Step 1 | Gender | .07 | .05 | .07 | 1.41 | .158 | | .06 | .05 | .07 | 1.27 | .208 | |
| | Year | -.11 | .04 | -.15 | -2.56 | .010 | | -.11 | .04 | -.15 | -2.59 | .010 | |
| | Group Size | .01 | .02 | .03 | .42 | .676 | | .01 | .02 | .01 | .15 | .879 | |
| | Rivalry | -.01 | .00 | -.06 | -1.14 | .256 | | -.01 | .00 | -.05 | -1.01 | .315 | |
| Step 2 | Percentage Admiration | | | | | | | -.00 | .00 | -.08 | -1.57 | .118 | |

*Note*. Model controls for narcissistic rivalry, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

Appendix A

**Table 74**

*Study 3: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level (Average and Percentage) Narcissistic Rivalry (Three Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .03 | | | | | | .08 |
| Step 1 | Gender | .15 | .11 | .07 | 1.34 | .181 | | .13 | .11 | .06 | 1.20 | .232 | |
| | Year | -.15 | .09 | -.10 | -1.62 | .106 | | -.07 | .09 | -.04 | -.70 | .486 | |
| | Group Size | .01 | .04 | .01 | .10 | .919 | | -.01 | .04 | -.02 | -.38 | .705 | |
| | Admiration | -.29 | .11 | -.14 | -2.71 | .007 | | -.13 | .11 | -.06 | -1.20 | .230 | |
| Step 2 | Average Rivalry | | | | | | | -.52 | .12 | -.24 | -4.49 | < .001 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .05 | | | | | | .10 |
| Step 1 | Gender | -.10 | .10 | -.05 | -.96 | .336 | | -.08 | .10 | -.04 | -.82 | .414 | |
| | Year | .20 | .08 | .14 | 2.34 | .020 | | .12 | .08 | .08 | 1.45 | .147 | |
| | Group Size | -.11 | .03 | -.20 | -3.38 | .001 | | -.10 | .03 | -.17 | -2.98 | .003 | |
| | Admiration | .24 | .09 | .13 | 2.49 | .013 | | .10 | .10 | .06 | 1.06 | .290 | |
| Step 2 | Average Rivalry | | | | | | | .44 | .10 | .23 | 4.27 | < .001 | |
| | | Objective Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .23 | | | | | | .23 |
| Step 1 | Gender | .09 | .52 | .01 | .18 | .858 | | .06 | .53 | .01 | .11 | .915 | |
| | Year | .94 | .44 | .11 | 2.12 | .035 | | 1.08 | .45 | .13 | 2.39 | .018 | |
| | Group Size | 1.03 | .18 | .31 | 5.80 | < .001 | | 1.00 | .18 | .30 | 5.62 | < .001 | |
| | Admiration | 3.27 | .50 | .30 | 6.59 | < .001 | | 3.51 | .52 | .32 | 6.75 | < .001 | |
| Step 2 | Average Rivalry | | | | | | | -.85 | .56 | -.07 | -1.51 | .131 | |

*Note*. Model controls for narcissistic admiration, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 74 (cont.)**

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.37 | .171 | | .07 | .05 | .07 | 1.31 | .190 | |
| | Year | -.12 | .04 | -.16 | -2.71 | .007 | | -.11 | .04 | -.15 | -2.40 | .017 | |
| | Group Size | .01 | .02 | .04 | .68 | .494 | | .01 | .02 | .03 | .55 | .584 | |
| | Admiration | -.02 | .05 | -.02 | -.46 | .651 | | -.01 | .05 | -.01 | -.06 | .955 | |
| Step 2 | Average Rivalry | | | | | | | -.07 | .05 | -.07 | -1.23 | .219 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .10 | | | | | | .10 |
| Step 1 | Gender | .12 | .11 | .06 | 1.15 | .253 | | .12 | .11 | .06 | 1.14 | .255 | |
| | Year | -.16 | .09 | -.10 | -1.74 | .082 | | -.15 | .09 | -.09 | -1.62 | .112 | |
| | Group Size | -.04 | .04 | -.05 | -.94 | .350 | | -.04 | .04 | -.07 | -1.11 | .269 | |
| | Admiration | -.01 | .00 | -.300 | -5.96 | < .001 | | -.01 | .00 | -.30 | -5.85 | < .001 | |
| Step 2 | Percentage Rivalry | | | | | | | -.00 | .00 | -.05 | -.91 | .363 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .10 | | | | | | .10 |
| Step 1 | Gender | -.08 | .10 | -.04 | -.81 | .420 | | -.08 | .10 | -.04 | -.80 | .422 | |
| | Year | .20 | .08 | .14 | 2.45 | .015 | | .20 | .08 | .13 | 2.34 | .020 | |
| | Group Size | -.09 | .03 | -.15 | -2.54 | .011 | | -.08 | .03 | -.14 | -2.33 | .020 | |
| | Admiration | .01 | .00 | .25 | 4.95 | < .001 | | .01 | .00 | .25 | 4.86 | < .001 | |
| Step 2 | Percentage Rivalry | | | | | | | .00 | .00 | .04 | .72 | .474 | |

*Note*. Model controls for narcissistic admiration, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 74 (cont.)**

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .27 | | | | | | .27 |
| Step 1 | Gender | .10 | .51 | .01 | .20 | .843 | | .10 | .51 | .01 | .19 | .852 | |
| | Year | 1.04 | .43 | .12 | 2.43 | .016 | | 1.11 | .43 | .13 | 2.58 | .010 | |
| | Group Size | 1.26 | .18 | .38 | 7.17 | < .001 | | 1.21 | .18 | .36 | 6.71 | < .001 | |
| | Admiration | .08 | .01 | .37 | 8.20 | < .001 | | .08 | .01 | .38 | 8.30 | < .001 | |
| Step 2 | Percentage Rivalry | | | | | | | -.02 | .01 | -.06 | -1.38 | .17 | |
| | | Peer-Rated Performance | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .03 | | | | | | .04 |
| Step 1 | Gender | .06 | .05 | .07 | 1.27 | .205 | | .06 | .05 | .07 | 1.26 | .208 | |
| | Year | -.12 | .04 | -.16 | -2.73 | .007 | | -.11 | .04 | -.15 | -2.59 | .010 | |
| | Group Size | .01 | .02 | .02 | .38 | .706 | | .00 | .02 | .01 | .15 | .879 | |
| | Admiration | -.00 | .00 | -.09 | -1.66 | .099 | | -.00 | .00 | -.08 | -1.57 | .118 | |
| Step 2 | Percentage Rivalry | | | | | | | -.00 | .00 | -.05 | -1.01 | .315 | |

*Note*. Model controls for narcissistic admiration, gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 75**

*Study 3: Hierarchical Multiple Regressions Predicting Team Processes and Performance from Team-Level Vulnerable Narcissism (Three Pages)*

| | | Team-Level Cohesion | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model A | | | | | | | .02 | | | | | | .05 |
| Step 1 | Gender | .18 | .11 | .08 | 1.64 | .102 | | .17 | .11 | .08 | 1.57 | .118 | |
| | Year | -.16 | .09 | -.10 | -1.74 | .082 | | -.04 | .10 | -.02 | -.38 | .707 | |
| | Group Size | .01 | .04 | .01 | .21 | .831 | | -.01 | .04 | -.01 | -.25 | .802 | |
| Step 2 | Average Vuln Narc | | | | | | | -.39 | .10 | -.21 | -3.88 | < .001 | |

| | | Team-Level Conflict | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model B | | | | | | | .04 | | | | | | .06 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.24 | .216 | | -.12 | .10 | -.06 | -1.18 | .240 | |
| | Year | .21 | .09 | .14 | 2.44 | .015 | | .13 | .09 | .09 | 1.40 | .162 | |
| | Group Size | -.12 | .03 | -.20 | -3.46 | .001 | | -.11 | .03 | -.18 | -3.14 | .002 | |
| Step 2 | Average Vuln Narc | | | | | | | .25 | .09 | .15 | 2.75 | .006 | |

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model C | | | | | | | .14 | | | | | | .14 |
| Step 1 | Gender | -.30 | .55 | -.03 | -.54 | .587 | | -.29 | .55 | -.03 | -.53 | .598 | |
| | Year | 1.06 | .47 | .13 | 2.28 | .023 | | 1.01 | .49 | .12 | 2.05 | .041 | |
| | Group Size | .99 | .19 | .29 | 5.26 | < .001 | | .10 | .19 | .30 | 5.25 | < .001 | |
| Step 2 | Average Vuln Narc | | | | | | | .16 | .50 | .02 | .31 | .755 | |

*Note*. Model controls for gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 75 (cont.)**

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model D | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.43 | .153 | | .07 | .05 | .07 | 1.39 | .165 | |
| | Year | -.12 | .04 | -.16 | -2.74 | .007 | | -.10 | .05 | -.14 | -2.27 | .024 | |
| | Group Size | .01 | .02 | .04 | .70 | .483 | | .01 | .02 | .04 | .583 | .561 | |
| Step 2 | Average Vuln Narc | | | | | | | -.04 | .05 | -.05 | -.90 | .372 | |
| | | Team-Level Cohesion | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model E | | | | | | | .02 | | | | | | .03 |
| Step 1 | Gender | .18 | .11 | .08 | 1.64 | .102 | | .18 | .11 | .08 | 1.63 | .104 | |
| | Year | -.16 | .09 | -.10 | -1.74 | .082 | | -.09 | .10 | -.06 | -.92 | .358 | |
| | Group Size | .01 | .04 | .01 | .21 | .831 | | .01 | .04 | .01 | .15 | .883 | |
| Step 2 | Percentage Vuln Narc | | | | | | | -.01 | .00 | -.12 | -2.28 | .023 | |
| | | Team-Level Conflict | | | | | | | | | | | |
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model F | | | | | | | .04 | | | | | | .06 |
| Step 1 | Gender | -.12 | .10 | -.06 | -1.24 | .216 | | -.12 | .10 | -.06 | -1.23 | .220 | |
| | Year | .21 | .09 | .14 | 2.44 | .015 | | .13 | .09 | .09 | 1.41 | .158 | |
| | Group Size | -.12 | .03 | -.20 | -3.46 | .001 | | -.12 | .03 | -.20 | -3.41 | .001 | |
| Step 2 | Percentage Vuln Narc | | | | | | | .01 | .00 | .15 | 2.84 | .005 | |

*Note*. Model controls for gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 75 (cont.)**

| | | Objective Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model G | | | | | | | .14 | | | | | | .16 |
| Step 1 | Gender | -.30 | .55 | -.03 | -.54 | .587 | | -.33 | .54 | -.03 | -.61 | .545 | |
| | Year | 1.07 | .47 | .13 | 2.29 | .023 | | 1.51 | .49 | .18 | 3.09 | .002 | |
| | Group Size | .99 | .19 | .29 | .53 | < .001 | | .97 | .19 | .29 | 5.20 | < .001 | |
| Step 2 | Percentage Vuln Narc | | | | | | | -.03 | .01 | -.14 | -2.78 | .006 | |

| | | Peer-Rated Performance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model 1 | | | | | | Model 2 | | | | | |
| | Predictors | B | *SE* | β | *t* | *p* | $R^2$ | B | *SE* | β | *t* | *p* | $R^2$ |
| Model H | | | | | | | .03 | | | | | | .03 |
| Step 1 | Gender | .07 | .05 | .07 | 1.43 | .153 | | .07 | .05 | .07 | 1.44 | .150 | |
| | Year | -.12 | .04 | -.16 | -2.74 | .007 | | -.13 | .05 | -.18 | -2.78 | .006 | |
| | Group Size | .01 | .02 | .04 | .702 | .483 | | .01 | .02 | .04 | .73 | .468 | |
| Step 2 | Percentage Vuln Narc | | | | | | | .00 | .00 | .03 | .60 | .550 | |

*Note*. Model controls for gender, year, and group size. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

Appendix A

**Table 76**

*Study 3: Regressions Predicting Team Performance from Team-Level Cohesion and Conflict*

| | Objective Performance | | | | | | |
|---|---|---|---|---|---|---|---|
| | Predictor | *B* | *SE* | *β* | *t* | *p* | $R^2$ |
| Model A | | | | | | | .02 |
| | Cohesion | -.76 | .27 | -.15 | -2.86 | .004 | |
| Model B | | | | | | | .01 |
| | Conflict | -.03 | .29 | -.01 | -.11 | .911 | |
| | Peer-Rated Performance | | | | | | |
| | Predictor | *B* | *SE* | *β* | *t* | *p* | $R^2$ |
| Model C | | | | | | | .05 |
| | Cohesion | .11 | .02 | .23 | 4.48 | < .001 | |
| Model D | | | | | | | .03 |
| | Conflict | -.09 | .03 | -.18 | -3.51 | .001 | |

*Note*. B = estimated values of unstandardised regression coefficients, *SE* = standard error, β = population values of regression coefficients, *t* = t-test statistic value, *p* = probability, $R^2$ = variability in outcome accounted for by the predictor.

**Table 77**

*Study 3: Direct, Indirect, and Total Effects of Team-Level Narcissism Measures (Average) on Objective Team Performance through Team Cohesion and Team Conflict (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Average Narcissism (NPI) | Obj. Perform | Team Cohesion | .0552 | -.0188 | .1254 |
| | | Team Conflict | -.0417 | -.0847 | -.0033 |
| | | TOTAL | .8536*** | .6488 | 1.058 |
| | | DIRECT | .8401*** | .6248 | 1.055 |
| | | $R^2$ = .27, $F$(6, 371) = 23.43, $p$ < .001 | | | |
| Model B | | | Indirect Effects | | |
| Average Narcissism (NPI) | Peer-Rated Perform | Team Cohesion | -.0109 | -.0240 | -.0099 |
| | | Team Conflict | -.0023 | -.0066 | .0016 |
| | | TOTAL | -.0132 | -.0335 | .0072 |
| | | DIRECT | .0001 | -.0209 | .0211 |
| | | $R^2$ = .07, $F$(6, 370) = 4.88, $p$ < .001 | | | |
| Model C | | | Indirect Effects | | |
| Average Adaptive Narcissism | Obj. Perform | Team Cohesion | .6048 | -.9125 | 1.819 |
| | | Team Conflict | -.1752 | -.9139 | .3262 |
| | | TOTAL | 35.91*** | 28.30 | 43.53 |
| | | DIRECT | 35.49*** | 27.77 | 43.21 |
| | | $R^2$ = .37, $F$(7, 370) = 31.14, $p$ < .001 | | | |
| Model D | | | Indirect Effects | | |
| Average Adaptive Narcissism | Peer-Rated Perform | Team Cohesion | -.1939 | -.4814 | -.0097 |
| | | Team Conflict | -.0254 | -.1216 | .0205 |
| | | TOTAL | -.5087 | -1.322 | .3049 |
| | | DIRECT | -.2894 | -1.096 | .5178 |
| | | $R^2$ = .07, $F$(7, 369) = 4.25, $p$ < .001 | | | |
| Model E | | | Indirect Effects | | |
| Average Maladaptive Narcissism | Obj. Perform | Team Cohesion | .3177 | -.4407 | 1.1728 |
| | | Team Conflict | -.0698 | -.6676 | .2656 |
| | | TOTAL | 5.752 | -.9980 | 12.50 |
| | | DIRECT | 5.504 | -1.291 | 12.30 |
| | | $R^2$ = .37, $F$(7, 370) = 31.14, $p$ < .001 | | | |

*Note.* Model (No. 4) controls for gender, year, group size, and the other forms of narcissism (where necessary). Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 77 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model F | | | Indirect Effects | | |
| Average | Peer-Rated Perform | Team Cohesion | -.1018 | -.3100 | .0027 |
| Maladaptive | | Team Conflict | -.0107 | -.0629 | .0419 |
| Narcissism | | TOTAL | .0382 | -.6838 | .7601 |
| | | DIRECT | .1507 | -.5600 | .8613 |
| | | $R^2$ = .07, $F$(7, 369) = 4.25, $p$ < .001 | | | |
| Model G | | | Indirect Effects | | |
| Average | Obj. Perform | Team Cohesion | .1158 | -.0590 | .3648 |
| Narcissistic | | Team Conflict | -.0667 | -.2025 | .0322 |
| Admiration | | TOTAL | 3.513*** | 2.490 | 4.536 |
| | | DIRECT | 3.464*** | 2.447 | 4.480 |
| | | $R^2$ = .25, $F$(3, 370) = 17.69, $p$ < .001 | | | |
| Model H | | | Indirect Effects | | |
| Average | Peer-Rated Perform | Team Cohesion | -.0096 | -.0336 | .0057 |
| Narcissistic | | Team Conflict | -.0029 | -.0148 | .0038 |
| Admiration | | TOTAL | -.0028 | -.1021 | .0964 |
| | | DIRECT | .0097 | -.0878 | .1071 |
| | | $R^2$ = .07, $F$(7, 369) = 4.19, $p$ < .001 | | | |
| Model I | | | Indirect Effects | | |
| Average | Obj. Perform | Team Cohesion | .4771 | .1214 | .8888 |
| Narcissistic | | Team Conflict | -.2885 | -.5796 | -.0583 |
| Rivalry | | TOTAL | -.8510 | -1.955 | .2536 |
| | | DIRECT | -1.039 | -2.166 | .0869 |
| | | $R^2$ = .25, $F$(7, 370) = 17.69, $p$ < .001 | | | |
| Model J | | | Indirect Effects | | |
| Average | Peer-Rated Perform | Team Cohesion | -.0395 | -.0950 | .0010 |
| Narcissistic | | Team Conflict | -.0131 | -.0435 | .0137 |
| Rivalry | | TOTAL | -.0670 | -.1742 | .0401 |
| | | DIRECT | -.0145 | -.1225 | .0936 |
| | | $R^2$ = .07, $F$(7, 369) = 4.19, $p$ = .002 | | | |

*Note.* Model (No. 4) controls for gender, year, group size, and the other form of narcissism. Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 77 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model K | | | Indirect Effects | | |
| Average | Obj. Perform | Team Cohesion | .3774 | .1187 | .7160 |
| Vulnerable | | Team Conflict | -.1406 | -.3306 | -.0154 |
| Narcissism | | TOTAL | .1576 | -.8364 | 1.151 |
| | | DIRECT | -.0792 | -1.081 | .9227 |
| | | $R^2$ = .16, $F$(6, 371) = 11.77, $p$ < .001 | | | |
| Model L | | | Indirect Effects | | |
| Average | Peer-Rated Perform | Team Cohesion | -.0290 | -.0720 | .0013 |
| Vulnerable | | Team Conflict | -.0072 | -.0215 | .0066 |
| Narcissism | | TOTAL | -.0415 | -.1326 | .0497 |
| | | DIRECT | -.0052 | -.0960 | .0856 |
| | | $R^2$ = .07, $F$(6, 370) = 4.88, $p$ < .001 | | | |

*Note.* Model (No. 4) controls for gender, year, group size, and the other form of narcissism. Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

Appendix A

**Table 78**

*Study 3: Direct, Indirect, and Total Effects of Team-Level Narcissism Measures (Percentage) on Objective Team Performance through Team Cohesion and Team Conflict (Three Pages)*

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model A | | | Indirect Effects | | |
| Percentage Narcissism (NPI) | Obj. Perform | Team Cohesion | .0007 | -.0071 | .0088 |
| | | Team Conflict | .0001 | -.0014 | .0014 |
| | | TOTAL | .0950*** | .0716 | .1183 |
| | | DIRECT | .0942*** | .0688 | .1196 |
| | | $R^2$ = .27, $F$(6, 371) = 22.29, $p$ < .001 | | | |
| Model B | | | Indirect Effects | | |
| Percentage Narcissism (NPI) | Peer-Rated Perform | Team Cohesion | -.0014 | -.0029 | -.0002 |
| | | Team Conflict | -.0001 | -.0003 | .0000 |
| | | TOTAL | -.0010 | -.0033 | .0013 |
| | | DIRECT | .0004 | -.0021 | .0029 |
| | | $R^2$ = .07, $F$(6, 370) = 4.90, $p$ < .001 | | | |
| Model C | | | Indirect Effects | | |
| Percentage Adaptive Narcissism | Obj. Perform | Team Cohesion | .0052 | -.0001 | .0124 |
| | | Team Conflict | -.0029 | -.0081 | .0004 |
| | | TOTAL | .1027*** | .0713 | .1341 |
| | | DIRECT | .1003*** | .0688 | .1319 |
| | | $R^2$ = .28, $F$(7, 370) = 20.23, $p$ < .001 | | | |
| Model D | | | Indirect Effects | | |
| Percentage Adaptive Narcissism | Peer-Rated Perform | Team Cohesion | -.0007 | -.0019 | .0000 |
| | | Team Conflict | -.0002 | -.0007 | .0001 |
| | | TOTAL | .0010 | -.0022 | .0041 |
| | | DIRECT | .0018 | -.0012 | .0049 |
| | | $R^2$ = .08, $F$(7, 369) = 4.38, $p$ < .001 | | | |
| Model E | | | Indirect Effects | | |
| Percentage Maladaptive Narcissism | Obj. Perform | Team Cohesion | .0033 | .0002 | .0081 |
| | | Team Conflict | .0002 | -.0016 | .0018 |
| | | TOTAL | .0490*** | .0270 | .0710 |
| | | DIRECT | .0456** | .0233 | .0678 |
| | | $R^2$ = .28, $F$(7, 370) = 20.23, $p$ < .001 | | | |

*Note.* Model (No. 4) controls for gender, year, group size, and the other form of narcissism. Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 78 (cont.)**

| | | | | Bootstrapping BC 95% CI | |
|---|---|---|---|---|---|
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model F | | | Indirect Effects | | |
| Percentage Maladaptive Narcissism | Peer-Rated Perform | Team Cohesion | -.0004 | -.0012 | .0000 |
| | | Team Conflict | .0000 | -.0001 | .0002 |
| | | TOTAL | -.0004 | -.0026 | .0018 |
| | | DIRECT | .0000 | -.0022 | .0022 |
| | | $R^2$ = .08, $F$(7, 369) = 4.38, $p$ = .001 | | | |
| Model G | | | Indirect Effects | | |
| Percentage Narcissistic Admiration | Obj. Perform | Team Cohesion | .0073 | .0016 | .0132 |
| | | Team Conflict | -.0073 | -.0121 | -.0029 |
| | | TOTAL | .0838*** | .0639 | .1036 |
| | | DIRECT | .0837*** | .0631 | .1043 |
| | | $R^2$ = .28, $F$(3, 370) = 21.02, $p$ < .001 | | | |
| Model H | | | Indirect Effects | | |
| Percentage Narcissistic Admiration | Peer-Rated Perform | Team Cohesion | -.0009 | -.0020 | .0000 |
| | | Team Conflict | -.0003 | -.0008 | .0003 |
| | | TOTAL | -.0016 | -.0035 | .0004 |
| | | DIRECT | -.0004 | -.0024 | .0016 |
| | | $R^2$ = .08, $F$(7, 369) = 4.31, $p$ = .001 | | | |
| Model I | | | Indirect Effects | | |
| Percentage Narcissistic Rivalry | Obj. Perform | Team Cohesion | .0014 | -.0018 | .0055 |
| | | Team Conflict | -.0014 | -.0060 | .0018 |
| | | TOTAL | -.0169 | -.0409 | .0071 |
| | | DIRECT | -.0169 | -.0408 | .0071 |
| | | $R^2$ = .28, $F$(7, 370) = 21.02, $p$ < .001 | | | |
| Model J | | | Indirect Effects | | |
| Percentage Narcissistic Rivalry | Peer-Rated Perform | Team Cohesion | -.0002 | -.0008 | .0002 |
| | | Team Conflict | -.0001 | -.0003 | .0001 |
| | | TOTAL | -.0012 | -.0036 | .0012 |
| | | DIRECT | -.0010 | -.0033 | .0013 |
| | | $R^2$ = .08, $F$(7, 369) = 4.31, $p$ = .001 | | | |

*Note.* Model (No. 4) controls for gender, year, group size, and the other form of narcissism. Obj = objective. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.
***$p$ < .001, **$p$ < .01, *$p$ < .05

**Table 78 (cont.)**

| | | | | Bootstrapping | |
|---|---|---|---|---|---|
| | | | | BC 95% CI | |
| Independent Variable | Dependent Variable | Mediators | Point Estimate | Lower | Upper |
| Model K | | | Indirect Effects | | |
| Percentage | Obj. Perform | Team Cohesion | .0052 | .0018 | .0094 |
| Vulnerable | | Team Conflict | -.0027 | -.0062 | .0001 |
| Narcissism | | TOTAL | -.0305* | -.0522 | -.0089 |
| | | DIRECT | -.0330* | -.0546 | -.0114 |
| | | $R^2$ = .18, $F$(6, 371) = 13.55, $p$ < .001 | | | |
| Model L | | | Indirect Effects | | |
| Percentage | Peer-Rated Perform | Team Cohesion | -.0004 | -.0010 | .0000 |
| Vulnerable | | Team Conflict | -.0002 | -.0006 | .0001 |
| Narcissism | | TOTAL | .0006 | -.0014 | .0026 |
| | | DIRECT | .0012 | -.0008 | .0032 |
| | | $R^2$ = .08, $F$(6, 370) = 5.14, $p$ < .001 | | | |

*Note.* Model (No. 4) controls for gender, year, group size, and the other form of narcissism. BC is percentile bootstrap confidence; 5000 bootstrap samples. For the indirect effect tests, significant mediation is evidence by confidence intervals that do not include zero. Unstandardised betas are reported.

**Table 79**

*Study 3: Round-Robin Analyses for Interpersonal Measures across all Time Points*

| | Perceiver | Target | Error | Perceiver | Target | Error | Perceiver | Target | Error | Perceiver | Target | Error |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Time 1 | | | Time 2 | | | Time 3 | | | Time 4 | |
| **Confident** | .15(7.90)* | .39(16.34)* | .47(6.65)* | .21(10.30)* | .35(14.45)* | .44(6.04)* | .22(9.79)* | .37(16.15)* | .41(5.87)* | .26(11.21)* | .34(15.07)* | .39(5.63)* |
| **Supportive** | .31(8.90)* | .13(4.73)* | .56(5.39)* | .36(11.19)* | .11(4.89)* | .54(5.88)* | .36(10.64)* | .12(5.64)* | .52(5.59)* | .39(11.60)* | .14(6.17)* | .47(5.54)* |
| **Arrogant** | .33(13.38)* | .14(8.42)* | .52(8.04)* | .34(14.56)* | .12(8.58)* | .54(8.41)* | .37(15.94)* | .10(8.23)* | .53(7.93)* | .40(17.17)* | .12(9.81)* | .47(7.61)* |
| **Competent** | .45(9.81)* | .10(2.95)* | .47(3.80)* | .50(11.71)* | .08(2.86)* | .42(3.53)* | .52(11.35)* | .08(2.98)* | .41(3.32)* | .55(13.06)* | .09(3.35)* | .36(3.23)* |
| **Aggressive** | .44(10.78)* | .09(5.39)* | .47(4.51)* | .47(11.20)* | .07(4.64)* | .47(4.82)* | .48(12.54)* | .06(4.77)* | .46(4.78)* | .49(14.04)* | .09(6.03)* | .43(5.19)* |
| **Likeable** | .32(8.52)* | .12(4.72)* | .56(5.29)* | .34(9.64)* | .12(5.66)* | .54(5.67)* | .36(9.11)* | .13(5.45)* | .52(4.97)* | .40(10.15)* | .17(6.95)* | .44(4.25)* |
| **Creative** | .32(8.12)* | .15(5.80)* | .54(4.94)* | .44(13.15)* | .08(3.85)* | .48(5.03)* | .47(14.03)* | .08(3.60)* | .45(4.90)* | .51(15.84)* | .09(4.53)* | .39(4.53)* |
| **Trustworthy** | .38(9.39)* | .09(3.87)* | .53(4.82)* | .49(11.55)* | .08(3.40)* | 44(4.05)* | .50(13.30)* | .07(3.50)* | .42(4.09)* | .46(12.80)* | .09(4.64)* | .44(5.54)* |
| **Empathic** | .39(9.78)* | .08(3.36)* | .53(4.59)* | .44(11.82)* | .07(3.60)* | .48(4.70)* | .46(11.70)* | .07(3.69)* | .47(4.39)* | .49(12.99)* | .11(5.21)* | .39(4.09)* |
| **Hardworking** | .35(9.29)* | .17(6.18)* | .48(4.67)* | .39(9.90)* | .18(5.78)* | .44(4.42)* | .37(9.57)* | .16(5.45)* | .47(4.64)* | .36(1.16)* | .22(8.39)* | .42(4.47)* |
| **Leader** | .21(11.56)* | .28(13.99)* | .51(31.77)* | .29(15.91)* | .27(15.11)* | .44(7.80)* | .29(15.48)* | .28(15.63)* | .43(7.93)* | .31(17.41)* | .31(18.32)* | .38(7.67)* |

*Note.* The values in brackets are standard error values. *$p < .001$

**Table 80**

*Study 3: Assumed Similarity and Self-Other Agreement Correlations for Interpersonal Round-Robin Analyses*

| | Time One | | Time Two | | Time Three | | Time Four | |
|---|---|---|---|---|---|---|---|---|
| | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement |
| **Confident** | .03 | .43*** | .13** | .45*** | .24*** | .51*** | .26*** | .48*** |
| **Supportive** | .38*** | .15** | .45*** | .10 | .52*** | .22*** | .55*** | .17** |
| **Arrogant** | .45*** | .21*** | .54*** | .15** | .58*** | .13* | .59*** | .15** |
| **Competent** | .31*** | .13* | .42*** | .13* | .43*** | .07 | .51*** | .14* |
| **Aggressive** | .36*** | .19** | .57*** | .20*** | .66*** | .16** | .70*** | .11* |
| **Likeable** | .18** | .15** | .37*** | .14** | .40*** | .19** | .46*** | .18** |
| **Creative** | .16** | .21*** | .32*** | .15** | .38*** | .16** | .47*** | .17** |
| **Trustworthy** | .30*** | .07 | .45*** | .02 | .36*** | .03 | .44*** | .06 |
| **Empathic** | .27*** | .18** | .46*** | .07 | .48*** | .11* | .53*** | .09 |
| **Hardworking** | .23*** | .15** | .34*** | .21*** | .35*** | .23*** | .44*** | .19*** |
| **Good Leader** | .07 | .39*** | .13* | .35*** | .23*** | .41*** | .25*** | .43*** |

*Note*. ***$p < .001$, **$p < .01$, *$p < .05$

**Table 81**

*Study 3: Round-Robin Analyses for Enhanced Teamwork Competencies Measures across all Time Points*

| | Perceiver | Target | Error | Perceiver | Target | Error | Perceiver | Target | Error | Perceiver | Target | Error |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Time 1 | | | Time 2 | | | Time 3 | | | Time 4 | |
| **ETC1** | .23(10.47)* | .24(10.59)* | .53(7.43)* | .29(12.02)* | .24(10.46)* | .46(6.08)* | .31(12.33)* | .24(10.96)* | .45(6.36)* | .33(12.83)* | .27(12.89)* | .41(5.74)* |
| **ETC2** | .29(13.91)* | .19(10.35)* | .51(8.21)* | .43(21.74)* | .14(8.01)* | .44(7.53)* | .43(21.54)* | .14(9.31)* | .43(7.81)* | .46(22.59)* | .15(9.52)* | .39(6.74)* |
| **ETC3** | .44(10.18)* | .09(3.51)* | .47(4.09)* | .47(12.05)* | .08(3.49)* | .46(4.55)* | .50(13.41)* | .08(3.59)* | .42(4.67)* | .43(12.86)* | .14(6.87)* | .44(5.33)* |
| **ETC4** | .34(15.33)* | .13(8.55)* | .53(8.03)* | .36(16.61)* | .14(10.19)* | .50(8.47)* | .37(18.28)* | .14(9.38)* | .49(8.58)* | .38(19.48)* | .16(11.85)* | .46(8.87)* |
| **ETC5** | .40(14.57)* | .11(5.89)* | .49(6.34)* | .50(21.58)* | .09(6.04)* | .40(6.23)* | .50(22.31)* | .11(6.75)* | .39(6.20)* | .51(22.31)* | .13(7.23)* | .36(5.70)* |
| **ETC6** | .40(11.86)* | .06(4.22)* | .54(5.62)* | .31(11.31)* | .19(8.18)* | .51(6.15)* | .31(10.01)* | .21(8.18)* | .48(5.38)* | .35(11.15)* | .23(9.54)* | .42(4.71)* |
| **ETC7** | .40(11.86)* | .06(4.21)* | .53(5.62)* | .46(14.80)* | .07(4.99)* | .47(6.30)* | .50(14.72)* | .07(3.97)* | .43(4.88)* | .47(14.81)* | .09(4.77)* | .44(5.57)* |
| **ETC8** | .37(14.49)* | .10(6.08)* | .53(7.22)* | .47(21.41)* | .07(5.27)* | .46(7.24)* | .45(19.59)* | .11(6.38)* | .44(6.45)* | .43(18.70)* | .14(9.01)* | .43(7.09)* |
| **ETC9** | .37(9.30)* | .11(4.72)* | .52(4.79)* | .39(8.72)* | .15(5.67)* | .45(4.03)* | .43(9.37)* | .16(5.92)* | .41(3.50)* | .44(9.62)* | .17(6.20)* | .39(3.48)* |
| **ETC10** | .34(10.84)* | .13(5.66)* | .53(5.64)* | .40(10.38)* | .13(4.65)* | .48(4.86)* | .42(10.32)* | .13(5.10)* | .46(4.30)* | .39(10.72)* | .18(7.33)* | .43(4.59)* |
| **ETC11** | .41(13.67)* | .09(6.24)* | .50(7.01)* | .44(15.36)* | .09(7.81)* | .47(7.08)* | .47(15.76)* | .11(8.13)* | .43(6.01)* | .45(18.63)* | .09(8.15)* | .46(7.42)* |
| **ETC12** | .50(18.16)* | .04(3.83)* | .46(6.77)* | .58(21.69)* | .01(2.67) | .42(5.92)* | .60(2.84)* | .01(2.57)* | .38(5.63)* | .56(29.85)* | .04(5.15)* | .40(7.84)* |
| **ETC13** | .31(10.17)* | .14(5.73)* | .55(5.84)* | .34(11.31)* | .14(5.78)* | .51(6.03)* | .41(11.42)* | .15(5.92)* | .44(4.44)* | .39(10.91)* | .19(7.63)* | .43(4.49)* |
| **ETC14** | .30(10.93)* | .20(8.51)* | .49(5.94)* | .37(12.66)* | .16(7.04)* | .47(6.22)* | .40(12.76)* | .18(6.75)* | .42(4.61)* | .36(11.39)* | .22(10.15)* | .42(5.23)* |
| **ETC15** | .32(12.03)* | .20(8.85)* | .48(6.23)* | .41(12.79)* | .14(6.37)* | .45(5.34)* | .41(11.85)* | .16(5.74)* | .43(4.51)* | .34(9.96)* | .23(10.20)* | .43(4.87)* |
| **ETC16** | .51(22.97)* | .06(4.95)* | .43(7.00)* | .65(34.82)* | .05(4.74)* | .31(6.51)* | .65(37.86)* | .06(6.25)* | .29(6.95)* | .61(37.70)* | .09(8.62)* | .30(7.05)* |

*Note.* The values in brackets are standard error values. *$p < .001$

**Table 82**

*Study 3: Assumed Similarity and Self-Other Agreement Correlations for Teamwork Round-Robin Analyses*

| | Time One | | Time Two | | Time Three | | Time Four | |
|---|---|---|---|---|---|---|---|---|
| | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement | Assumed Similarity | Self-Other Agreement |
| **ETC1** | .12* | .42*** | .25*** | .37*** | .28*** | .36*** | .28*** | .28*** |
| **ETC2** | .40*** | .42**** | .52*** | .24*** | .26*** | .12* | .30*** | .14* |
| **ETC3** | .30*** | .09 | .34*** | .16** | -.10 | -.20*** | -.19*** | -.10 |
| **ETC4** | .19*** | .25*** | .38*** | .40*** | -.09 | .05 | -.08 | .02 |
| **ETC5** | .43*** | .22*** | .55*** | .15** | .28*** | .24*** | .26*** | .26*** |
| **ETC6** | .27*** | .30*** | .30*** | .33*** | .50*** | .03 | .50*** | .08 |
| **ETC7** | .44*** | .07 | .57*** | .10 | .42*** | .21*** | .36*** | .09 |
| **ETC8** | .41*** | .25** | .47*** | .13* | .35*** | .08 | .38*** | .19** |
| **ETC9** | .51*** | .13* | .53*** | .16** | .48*** | .26*** | .46*** | .21*** |
| **ETC10** | .31*** | .18** | .44*** | .12* | -.26*** | .07 | -.32*** | .05 |
| **ETC11** | .47*** | .06 | .59*** | .12* | .55*** | .04 | .55*** | -.05 |
| **ETC12** | .55*** | .09 | .68*** | .04 | -.06 | .03 | -.09 | -.06 |
| **ETC13** | .23*** | .25*** | .25*** | .18*** | .33*** | .20*** | .35*** | .22*** |
| **ETC14** | .33*** | .30*** | .43*** | .23*** | .43*** | .12* | .40*** | .24*** |
| **ETC15** | .31*** | .33*** | .44*** | .27*** | .10 | .09 | .01 | .11 |
| **ETC16** | .51*** | .12* | .68*** | .08 | .26*** | .20*** | .26*** | .35*** |

*Note*. ***$p < .001$, **$p < .01$, *$p < .05$

**Table 83**

*Study 3: Partial Correlations Between Narcissism and Interpersonal Ratings (Four Pages)*

| | NPI | | | | Adaptive | | | | Maladaptive | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **Confident** | | | | | | | | | | | | |
| Target | .36*** | .38*** | .42*** | .42*** | .39*** | .40*** | .43*** | .42*** | .27*** | .29*** | .31** | .34*** |
| Self-Enhance | .30*** | .21*** | .09 | .13* | .23*** | .19*** | .08 | .08 | .19*** | .11* | .04 | .07 |
| Self-Perception | .51*** | .43*** | .38*** | .39*** | .48*** | .45*** | .39*** | .37*** | .34*** | .27*** | .25*** | .29*** |
| **Supportive** | | | | | | | | | | | | |
| Target | .08 | .08 | .14* | .06 | .14* | .11* | .15** | .09 | .01 | .02 | .06 | .003 |
| Self-Enhance | .11* | .09 | .10 | .12* | .11* | .09 | .06 | .08 | .06 | .10 | .08 | .11* |
| Self-Perception | .13* | .17** | .19*** | .15** | .16** | .19*** | .17** | .15** | .05 | .14** | .13* | .13* |
| **Arrogant** | | | | | | | | | | | | |
| Target | .20*** | .22*** | .21*** | .21*** | .22*** | .25*** | .22*** | .24*** | .18*** | .20*** | .19*** | .19*** |
| Self-Enhance | .01 | .002 | -.006 | -.09 | .004 | -.04 | .00 | -.09 | .02 | .007 | -.04 | -.06 |
| Self-Perception | .17** | .15** | .15** | .06 | .09 | .07 | .09 | .008 | .20*** | .19*** | .17** | .12* |
| **Competent** | | | | | | | | | | | | |
| Target | .07 | .09 | .08 | .04 | .15** | .18*** | .15** | .10 | -.01 | .01 | .003 | -.006 |
| Self-Enhance | .27*** | .18*** | .16** | .25*** | .24*** | .11* | .12* | .18** | .19*** | .15** | .15** | .22*** |
| Self-Perception | .26*** | .18*** | .16** | .18*** | .26*** | .18*** | .18** | .18** | .16** | .13* | .11* | .13* |
| **Aggressive** | | | | | | | | | | | | |
| Target | .16** | .17** | .15** | .17** | .18*** | .19*** | .21*** | .25*** | .17** | .17** | .14* | .14** |
| Self-Enhance | .15** | .14** | .04 | .05 | .10 | .09 | .002 | -.03 | .14** | .15** | .08 | .08 |
| Self-Perception | .21*** | .20*** | .10 | .13* | .13* | .13* | .04 | .06 | .24*** | .24*** | .17** | .17** |
| **Likeable** | | | | | | | | | | | | |
| Target | .09 | .02 | .11 | .05 | .05 | -.003 | .05 | .009 | .05 | -.005 | .06 | .02 |
| Self-Enhance | .27*** | .27*** | .21*** | .24*** | .17** | .20*** | .17** | .17** | .23*** | .22*** | .17** | .22*** |
| Self-Perception | .33*** | .28*** | .27*** | .28*** | .22*** | .22*** | .22*** | .19*** | .25*** | .20*** | .21*** | .24*** |
| **Creative** | | | | | | | | | | | | |
| Target | .13* | .08 | .14* | .11* | .16** | .13* | .17** | .09 | .07 | .03 | .06 | .05 |
| Self-Enhance | .21*** | .12* | .15** | .14* | .14* | .08 | .09 | .12* | .18** | .09 | .11* | .13* |
| Self-Perception | .25*** | .14* | .17** | .18** | .20*** | .13* | .15 | .15** | .18*** | .09 | .11* | .15** |
| **Trustworthy** | | | | | | | | | | | | |
| Target | -.003 | -.09 | -.00 | .01 | .04 | -.05 | .03 | .02 | -.07 | -.13* | -.04 | -.01 |
| Self-Enhance | .05 | .11* | .15** | .11* | .05 | .07 | .13* | .13* | .05 | .15** | .14* | .11* |
| Self-Perception | .02 | .08 | .13* | .09 | .06 | .08 | .14* | .14** | -.02 | .07 | .11* | .08 |

**Table 83 (cont.)**

| | NPI | | | | Adaptive | | | | Maladaptive | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **Empathic** | | | | | | | | | | | | |
| Target | -.05 | -.12* | .04 | -.09 | .02 | -.08 | .04 | -.03 | -.11* | -.16** | -.02 | -.14* |
| Self-Enhance | .09 | .11* | .08 | .02 | .11* | .09 | .07 | .01 | .05 | .09 | .05 | .02 |
| Self-Perception | .02 | .04 | .06 | -.01 | .08 | .08 | .07 | .02 | -.04 | -.003 | .02 | -.02 |
| **Hardworking** | | | | | | | | | | | | |
| Target | .03 | .004 | .005 | .02 | .11* | .09 | .07 | .07 | -.06 | -.06 | -.06 | -.08 |
| Self-Enhance | .15** | .07 | .21*** | .21*** | .17** | .07 | .20*** | .19*** | .10 | .04 | .14* | .15** |
| Self-Perception | .16** | .05 | .18*** | .16** | 23*** | .10 | .20*** | .20*** | .09 | .009 | .10 | .08 |
| **Leader** | | | | | | | | | | | | |
| Target | .29*** | .27*** | .34*** | .28*** | .32*** | .32*** | .38*** | .34*** | .19*** | .18** | .24*** | .20*** |
| Self-Enhance | .31*** | .27*** | .24*** | .21*** | .35*** | .29*** | .24*** | .18*** | .21*** | .18*** | .19*** | .16** |
| Self-Perception | .43*** | .42*** | .40*** | .36*** | .51*** | .50*** | .45*** | .39*** | .28*** | .26*** | .28*** | .26*** |

**Figure 83 (cont.)**

| | Narcissistic Admiration | | | | Narcissistic Rivalry | | | | Vulnerable Narcissism | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **Confident** | | | | | | | | | | | | |
| Target | .18*** | .23*** | .29*** | .26*** | .04 | -.002 | -.01 | .04 | -.07 | -.05 | -.11* | -.04 |
| Self-Enhance | .33*** | .30*** | .14** | .21*** | .07 | .12* | .06 | .15** | -.03 | -.07 | -.003 | .02 |
| Self-Perception | .45*** | .42*** | .31*** | .35*** | .03 | .02 | -.06 | .04 | -.13* | -.17** | -.17** | -.12* |
| **Supportive** | | | | | | | | | | | | |
| Target | .07 | .14* | .15** | .09 | -.12* | -.09 | -.11* | -.12* | -.05 | -.05 | -.12* | -.12* |
| Self-Enhance | .11* | .02 | .10 | .07 | .01 | -.03 | .05 | .04 | -.003 | -.01 | .02 | .04 |
| Self-Perception | .12* | .13* | .18** | .14* | -.20*** | -.23*** | -.16** | -.19*** | -.15** | -.16 | -.18*** | -.16*** |
| **Arrogant** | | | | | | | | | | | | |
| Target | .08 | .06 | .06 | .08 | .11* | .07 | .06 | .12* | -.01 | .01 | -.03 | .05 |
| Self-Enhance | .06 | .09 | .13* | -.01 | .04 | .09 | -.01 | -.04 | -.04 | .07 | -.02 | -.06 |
| Self-Perception | .16** | .13* | .15** | .05 | .31*** | .34*** | .25*** | .23*** | .17** | .26*** | .17** | .20*** |
| **Competent** | | | | | | | | | | | | |
| Target | .12* | .12* | .17** | .07 | -.05 | -.09 | -.04 | -.05 | -.03 | -.07 | -.08 | -.08 |
| Self-Enhance | .21*** | .15** | .13* | .16** | .15** | .14* | .08 | .13* | .07 | .04 | -.08 | -.03 |
| Self-Perception | .22**** | .15** | .15** | .14* | -.02 | -.08 | -.10 | -.08 | -.02 | -.10 | -.18** | -.14** |
| **Aggressive** | | | | | | | | | | | | |
| Target | .07 | -.03 | .02 | .03 | .06 | .03 | .07 | .07 | -.03 | .02 | .03 | -.01 |
| Self-Enhance | .09 | .12* | .04 | .01 | .17** | .17** | .14* | .03 | .05 | .08 | .06 | -.02 |
| Self-Perception | .15** | .09 | .05 | .02 | .32*** | .32*** | .29*** | .24*** | .16** | .21*** | .21*** | .15** |
| **Likeable** | | | | | | | | | | | | |
| Target | .09 | .12* | .14** | .08 | -.09 | -.09 | -.08 | -.11 | -.10 | -.07 | -.12* | -.12* |
| Self-Enhance | .35*** | .31*** | .23*** | .22*** | .21*** | .14** | .15** | .19*** | .12* | .04 | .04 | .08 |
| Self-Perception | .39*** | .36*** | .29*** | .28**** | .05 | -.03 | -.03 | -.02 | -.05 | -.09 | -.13* | -.12* |
| **Creative** | | | | | | | | | | | | |
| Target | .06 | .10 | .12 | .09 | -.01 | -.07 | -.11* | -.05 | -.03 | -.002 | -.05 | -.02 |
| Self-Enhance | .24*** | .17** | .23*** | .17** | .04 | .006 | .06 | .08 | .05 | .001 | -.01 | .01 |
| Self-Perception | .26*** | .19*** | .24*** | .22*** | -.01 | -.08 | -.07 | -.05 | -.003 | -.05 | -.09 | -.08 |
| **Trustworthy** | | | | | | | | | | | | |
| Target | .02 | .03 | .04 | .04 | -.11* | -.17** | -.11* | -.12* | -.07 | -.09 | -.08 | -.14* |
| Self-Enhance | .05 | .02 | .09 | .02 | -.03 | .05 | .07 | .08 | .03 | .01 | .01 | .05 |
| Self-Perception | .02 | .04 | .09 | .05 | -.22*** | -.17** | -.14* | -.14* | -.15** | -.16** | -.18** | -.15** |

**Table 83 (cont.)**

| | Narcissistic Admiration | | | | Narcissistic Rivalry | | | | Vulnerable Narcissism | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **Empathic** | | | | | | | | | | | | |
| Target | -.05 | -.01 | .06 | -.02 | -.19*** | -.21*** | -.15** | -.19*** | -.08 | -.11* | -.08 | -.11* |
| Self-Enhance | .13* | .12* | .10 | .02 | -.09 | -.009 | .01 | .04 | .006 | .07 | .04 | .02 |
| Self-Perception | .06 | .09 | .07 | .04 | -.26*** | -.25*** | -.23*** | -.18*** | -.12* | -.08 | -.16** | -.15** |
| **Hardworking** | | | | | | | | | | | | |
| Target | .05 | .07 | .13* | .07 | -.10 | -.14* | -.07 | -.07 | -.05 | .01 | -.04 | -.08 |
| Self-Enhance | .09 | .10 | .14* | .09 | -.007 | .04 | -.01 | .004 | .06 | -.001 | -.08 | .04 |
| Self-Perception | .07 | .07 | .16* | .11* | -.19*** | -.16** | -.18** | -.18*** | -.09 | -.12* | -.19*** | -.13* |
| **Leader** | | | | | | | | | | | | |
| Target | .15** | .18*** | .24*** | .19*** | .05 | -.03 | .005 | .02 | -.03 | -.06 | -.10 | -.07 |
| Self-Enhance | .29*** | .21*** | .16** | .19*** | .07 | .11* | .09 | .15** | .009 | .04 | .04 | .03 |
| Self-Perception | .36*** | .30*** | .28*** | .29*** | .06 | .04 | -.009 | .07 | -.09 | -.09 | -.14** | -.10 |

*Note.* NPI = Narcissistic Personality Inventory; T1 = Time One; T2 = Time Two.
***$p < .001$, **$p < .01$, *$p < .05$

**Table 84**

*Study 3: Partial Correlations Between Narcissism and Teamwork Ratings (Four Pages)*

| | NPI | | | | Adaptive | | | | Maladaptive | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **ETC1** | | | | | | | | | | | | |
| Target | .19*** | .19*** | .26*** | .18** | .26*** | .28*** | .34*** | .25*** | .12* | .09 | .16** | .10 |
| Self-Enhance | .16** | .08 | .08 | .21*** | .16** | .06 | .07 | .18*** | .14* | .07 | .05 | .18** |
| Self-Perception | .26*** | .20*** | .24*** | .30*** | .30*** | .25*** | .28*** | .32*** | .20*** | .15** | .16** | .24*** |
| **ETC2** | | | | | | | | | | | | |
| Target | .27*** | .22*** | .26*** | .20*** | .33*** | .28*** | .31*** | .26*** | .18*** | .13* | .17* | .14* |
| Self-Enhance | .09 | .13* | .08 | .04 | .13* | .04 | .02 | .03 | .03 | .15** | .09 | .02 |
| Self-Perception | .18** | .22*** | .25*** | .23*** | .26*** | .22*** | .25*** | .30** | .08 | .19*** | .19*** | .16** |
| **ETC3** | | | | | | | | | | | | |
| Target | .11* | .05 | .12* | .13* | .18** | .15** | .17** | .20*** | .01 | -.03 | .03 | .04 |
| Self-Enhance | .28*** | .21*** | -.04 | -.07 | .22*** | .18*** | -.09 | -.18*** | .28*** | .18** | .02 | .03 |
| Self-Perception | .29*** | .22*** | -.04 | -.05 | .25*** | .22*** | -.10 | -.15** | .27*** | .16** | .02 | .03 |
| **ETC4** | | | | | | | | | | | | |
| Target | .09 | .14** | .09 | .06 | .01 | 04 | .007 | -.009 | .15** | .19*** | .17** | .13* |
| Self-Enhance | -.02 | .02 | -.01 | .09 | -.10 | -.08 | .11* | .16** | .04 | .09 | -.12* | .03 |
| Self-Perception | .07 | .14* | .12* | .24*** | -.06 | -.04 | .16** | .24*** | .16** | .23*** | .05 | .21*** |
| **ETC5** | | | | | | | | | | | | |
| Target | .20*** | .18*** | .14** | .15** | .27*** | .22*** | .21*** | .19*** | .09 | .11 | .06 | .11* |
| Self-Enhance | .11 | .08 | .08 | .08 | .07 | .07 | .007 | .006 | .09 | .05 | .09 | .09 |
| Self-Perception | .15** | .16** | .18** | .24*** | .18*** | .22*** | .16** | .21*** | .09 | .09 | .14* | .22*** |
| **ETC6** | | | | | | | | | | | | |
| Target | .19*** | .22*** | .25*** | .19*** | .26*** | .27*** | .32*** | .24*** | .14** | .14** | .14** | .13* |
| Self-Enhance | .10 | .03 | -.11* | -.001 | .07 | -.002 | -.15** | -.03 | .06 | .02 | -.05 | .04 |
| Self-Perception | .21*** | .19*** | .09 | .13* | .22*** | .17** | .07 | .13* | .14** | .16** | .09 | .14* |
| **ETC7** | | | | | | | | | | | | |
| Target | .02 | .03 | .12* | .04 | .06 | .07 | .12* | .07 | -.02 | -.007 | .06 | -.000 |
| Self-Enhance | .004 | .07 | .009 | .18*** | .02 | .03 | .05 | .19*** | -.00 | .06 | -.03 | .15** |
| Self-Perception | -.03 | .07 | .04 | .23*** | -.02 | .08 | .08 | .25*** | -.03 | .06 | -.004 | .19*** |
| **ETC8** | | | | | | | | | | | | |
| Target | .06 | .08 | .09 | .07 | .12* | .14* | .14* | .12* | .02 | .00 | .03 | -.00 |
| Self-Enhance | .04 | .08 | .08 | .01 | .04 | .05 | .001 | -.07 | .02 | .05 | .09 | .08 |
| Self-Perception | .04 | .09 | .14* | .09 | .08 | .14** | .10 | .07 | .001 | .02 | .10 | .12* |

**Table 84 (cont.)**

| | NPI | | | | Adaptive | | | | Maladaptive | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **ETC9** | | | | | | | | | | | | |
| Target | .12* | .08 | .13* | .13* | .12* | .06 | .11 | .10 | .04 | .04 | .07 | .09 |
| Self-Enhance | .11* | .08 | .11* | .17** | .08 | .05 | .10 | .17** | .12* | .10 | .10 | .14** |
| Self-Perception | .10 | .08 | .16** | .22*** | .09 | .04 | .13* | .21*** | .09 | .08 | .13* | .19*** |
| **ETC10** | | | | | | | | | | | | |
| Target | .11* | .06 | .10 | .05 | .12* | .11* | .14* | .09 | .04 | -.006 | .03 | -.00 |
| Self-Enhance | .15** | .19*** | -.01 | .05 | .12* | .12* | -.05 | -.04 | .16** | .18** | .02 | .11* |
| Self-Perception | .17** | .18*** | .02 | .07 | .15** | .17* | -.02 | -.02 | .16** | .14** | .04 | .13* |
| **ETC11** | | | | | | | | | | | | |
| Target | .12* | .14* | .03 | .17** | .09 | .15** | .04 | .18*** | .15** | .16** | .09 | .19*** |
| Self-Enhance | .02 | -.11* | -.10 | -.08 | -.04 | -.10 | -.08 | -.08 | .06 | -.07 | -.10 | -.11* |
| Self-Perception | .10 | .02 | -.01 | .11 | .005 | -.02 | -.06 | .04 | .15** | .07 | .04 | .09 |
| **ETC12** | | | | | | | | | | | | |
| Target | .11* | .13* | .07 | .04 | .10 | .07 | .003 | .006 | .12* | .16** | .10 | .09 |
| Self-Enhance | -.09 | -.09 | .12* | .06 | -.14* | -.05 | .15** | .12* | -.09 | -.09 | .05 | .02 |
| Self-Perception | .009 | .03 | .26*** | .26*** | -.09 | -.02 | .24*** | .27*** | .03 | .06 | .19*** | .22*** |
| **ETC13** | | | | | | | | | | | | |
| Target | .19*** | .22*** | .18*** | .17** | .25*** | .25*** | .23*** | .21*** | .12* | .15** | .11* | .10 |
| Self-Enhance | .17** | .15** | .02 | .07 | .11* | .12* | .02 | .07 | .14* | .11* | .00 | .06 |
| Self-Perception | .26*** | .29*** | .14** | .16** | .22*** | .28*** | .15** | .19*** | .20*** | .21*** | .09 | .11* |
| **ETC14** | | | | | | | | | | | | |
| Target | -.01 | .02 | .03 | .006 | .06 | .09 | .10 | .08 | -.08 | -.06 | -.03 | -.05 |
| Self-Enhance | .18*** | .09 | .09 | .15** | .13* | .06 | .05 | .06 | .19*** | .08 | .13* | .17** |
| Self-Perception | .14* | .08 | .13 | .15** | .14* | .12* | .15** | .12* | .12* | .03 | .11* | .14** |
| **ETC15** | | | | | | | | | | | | |
| Target | -.02 | -.02 | -.02 | -.008 | .03 | .07 | .06 | .06 | -.08 | -.08 | -.09 | -.07 |
| Self-Enhance | .20*** | .10 | .19*** | .22*** | .18*** | .06 | .19*** | .21*** | .20*** | .10 | .16** | .19*** |
| Self-Perception | .13* | .05 | .21*** | .24*** | .15** | .07 | .23*** | .25*** | .13* | .05 | .17** | .19*** |
| **ETC16** | | | | | | | | | | | | |
| Target | .08 | .08 | .14** | .17** | .14** | .16** | .24*** | .25*** | .008 | .01 | .07 | .09 |
| Self-Enhance | .10 | .04 | .07 | .008 | .13* | .03 | .05 | .002 | .05 | .01 | .08 | .02 |
| Self-Perception | .07 | .09 | .20*** | .22*** | .13* | .12* | .24*** | .25*** | .01 | .06 | .17** | .20*** |

**Table 84 (cont.)**

| | Narcissistic Admiration | | | | Narcissistic Rivalry | | | | Vulnerable Narcissism | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **ETC1** | | | | | | | | | | | | |
| Target | .09 | .13* | .19*** | .14** | -.01 | -.11* | -.08 | -.08 | -.08 | -.02 | -.10 | -.11* |
| Self-Enhance | .14** | .11* | .04 | .14** | .07 | .11* | .06 | .19*** | .001 | -.01 | -.06 | .05 |
| Self-Perception | .17** | .14** | .16** | .23*** | -.05 | -.07 | -.10 | .01 | -.15** | -.15** | -.23*** | -.13* |
| **ETC2** | | | | | | | | | | | | |
| Target | .18** | .15** | .18** | .16** | -.02 | -.05 | -.05 | -.05 | -.05 | -.04 | -.11* | -.13* |
| Self-Enhance | .12* | .12* | .05 | .04 | .07 | .04 | .04 | .05 | -.006 | -.02 | .03 | .03 |
| Self-Perception | .20*** | .18*** | .20*** | .19*** | -.03 | -.05 | -.05 | -.03 | -.14* | -.16** | -.16* | -.15** |
| **ETC3** | | | | | | | | | | | | |
| Target | .10 | .09 | .15** | .16** | -.04 | -.13* | -.03 | -.03 | -.08 | -.06 | -.07 | -.11* |
| Self-Enhance | .17** | .16** | -.07 | -.09 | .11* | .10 | .15** | .17** | -.09 | -.04 | .18** | .22*** |
| Self-Perception | .18** | .16** | -.07 | -.06 | .03 | -.02 | .09 | .13* | -.19*** | -.16** | .13* | .15** |
| **ETC4** | | | | | | | | | | | | |
| Target | .06 | .03 | -.05 | -.05 | .09 | .12* | .01 | .06 | .07 | .00 | .02 | .06 |
| Self-Enhance | -.06 | -.06 | .07 | .09 | .04 | .04 | -.17** | -.21*** | .00 | .09 | -.24*** | -.26*** |
| Self-Perception | .03 | .04 | .14* | .18** | .20*** | .22*** | -.08 | -.06 | .14* | .22*** | -.20*** | -.18*** |
| **ETC5** | | | | | | | | | | | | |
| Target | .13* | .15** | .14** | .14** | -.01 | -.07 | -.02 | -.06 | -.07 | -.03 | -.05 | -.09 |
| Self-Enhance | .16** | .07 | .07 | .05 | .11 | .09 | .09 | .05 | .07 | .09 | .06 | .04 |
| Self-Perception | .20*** | .16** | .18** | .20*** | .02 | -.009 | -.02 | -.03 | -.12* | -.08 | -.11* | -.13* |
| **ETC6** | | | | | | | | | | | | |
| Target | .08 | .14** | .20*** | .16** | -.01 | -.08 | -.05 | -.05 | -.03 | -.05 | -.11* | -.12* |
| Self-Enhance | .11* | .09 | -.04 | -.009 | .11* | .09 | .03 | -.008 | .03 | .05 | .08 | .06 |
| Self-Perception | .12* | .16** | .09 | .09 | -.02 | -.08 | -.12* | -.17** | -.07 | -.10 | -.13* | -.16** |
| **ETC7** | | | | | | | | | | | | |
| Target | .05 | .11* | .13* | .11 | -.03 | -.11 | -.05 | -.08 | -.03 | -.09 | -.08 | -.14* |
| Self-Enhance | -.009 | .06 | .05 | .16** | -.09 | .02 | -.02 | .09 | .03 | .11 | -.04 | .01 |
| Self-Perception | -.003 | .10 | .08 | .21*** | -.20** | -.17** | -.13* | -.04 | -.07 | -.09 | -.16** | -.14* |
| **ETC8** | | | | | | | | | | | | |
| Target | .05 | .10 | .12* | .12* | -.09 | -.09 | -.08 | -.01 | -.07 | -.06 | -.13* | -.13* |
| Self-Enhance | .09 | .11* | -.005 | -.04 | .05 | .09 | .02 | -.01 | .08 | .06 | .07 | .13* |
| Self-Perception | .09 | .17** | .08 | .08 | -.05 | -.04 | -.16** | -.12* | -.07 | -.13* | -.18** | -.09 |

**Table 84 (cont.)**

| | Narcissistic Admiration | | | | Narcissistic Rivalry | | | | Vulnerable Narcissism | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** | **T1** | **T2** | **T3** | **T4** |
| **ETC9** | | | | | | | | | | | | |
| Target | .09 | .13* | .14* | .13* | -.08 | -.06 | -.07 | -.06 | -.10 | -.06 | -.12* | -.10* |
| Self-Enhance | .09 | .04 | .06 | .13* | .06 | -.02 | -.003 | .08 | .11* | -.03 | .008 | .05 |
| Self-Perception | .05 | .04 | .11 | .17** | -.14* | -.20*** | -.20*** | -.10 | -.09 | -.17** | -.18** | -.13* |
| **ETC10** | | | | | | | | | | | | |
| Target | .06 | .14** | .14* | .09 | -.04 | -.02 | -.05 | -.07 | -.06 | -.04 | -.09 | -.11 |
| Self-Enhance | .14* | .10 | -.00 | .007 | .06 | -.03 | .24*** | .34*** | .01 | .02 | .21*** | .28*** |
| Self-Perception | .11* | .12* | .02 | .03 | -.09 | -.17** | .18*** | .30*** | -.12* | -.14* | .14* | .23*** |
| **ETC11** | | | | | | | | | | | | |
| Target | .03 | .00 | -.03 | .08 | .09 | .04 | .11 | .11* | .003 | .03 | .08 | .07 |
| Self-Enhance | -.06 | -.11* | -.006 | .07 | .14* | .14** | -.02 | -.02 | .12* | .11* | .08 | -.04 |
| Self-Perception | .02 | -.05 | .03 | .18*** | .29*** | .28*** | .19*** | .26*** | .21*** | .24*** | .11* | .14** |
| **ETC12** | | | | | | | | | | | | |
| Target | .05 | .02 | -.02 | .007 | .19*** | .09 | .04 | .04 | .06 | .02 | .04 | .05 |
| Self-Enhance | -.07 | -.09 | .10 | -.004 | -.03 | -.03 | -.16** | -.25*** | -.04 | -.04 | -.11* | -.27*** |
| Self-Perception | .03 | .006 | .21*** | .16** | .22*** | .20** | -.06 | -.08 | .12* | .11 | -.11* | -.18** |
| **ETC13** | | | | | | | | | | | | |
| Target | .12* | .17** | .18** | .17** | .008 | -.07 | -.05 | -.02 | -.08 | -.08 | -.09 | -.09 |
| Self-Enhance | .25*** | .19*** | .05 | .09 | .19*** | .18*** | .04 | .09 | .07 | .09 | .06 | .04 |
| Self-Perception | .28*** | .26*** | .12* | .15** | .07 | .03 | -.12* | -.05 | -.07 | -.07 | -.11* | -.14* |
| **ETC14** | | | | | | | | | | | | |
| Target | .00 | .07 | .12* | .09 | -.12* | -.10 | -.05 | -.05 | -.08 | -.05 | -.09 | -.14* |
| Self-Enhance | .17** | .15** | .003 | .05 | .09 | .04 | .04 | .06 | .05 | .02 | .05 | .11* |
| Self-Perception | .11* | .13* | .03 | .10 | -.09 | -.13* | -.16** | -.12* | -.11* | -.13* | -.13* | -.13* |
| **ETC15** | | | | | | | | | | | | |
| Target | .007 | .09 | .11* | .07 | -.11* | -.09 | -.08 | -.06 | -.03 | -.03 | -.08 | -.10 |
| Self-Enhance | .08 | .05 | .16** | .17** | .004 | .03 | .11* | .14* | -.02 | .09 | -.03 | .00 |
| Self-Perception | -000 | .02 | .18*** | .22*** | -.19*** | -.11 | -.01 | .03 | -.16** | -.09 | -.15** | -.12* |
| **ETC16** | | | | | | | | | | | | |
| Target | .06 | .14* | .14** | .16** | -.009 | -.02 | -.03 | .009 | -.06 | .02 | -.07 | -.04 |
| Self-Enhance | .12* | .03 | -.009 | -.04 | .16** | .06 | -.04 | -.05 | .13* | .01 | .02 | -.01 |
| Self-Perception | .17** | .10 | .13* | .15** | .12* | .03 | -.13* | -.09 | -.01 | -.11* | -.16** | -.17** |

**Table 85**

*Linear Mixed Effects of Narcissism (NPI) on Interpersonal Round-Robin Measures across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Competent | Narcissism | -.12 | .22 | -.55 | .583 |
| | Time | 1.34 | .12 | 11.39 | < .001 |
| | Narcissism*Time | .04 | .12 | .34 | .735 |
| Creative | Narcissism | .22 | .26 | .08 | .397 |
| | Time | 1.33 | .14 | 9.56 | < .001 |
| | Narcissism*Time | .06 | .14 | .49 | .624 |
| Arrogant | Narcissism | 1.08 | .29 | 3.62 | < .001 |
| | Time | -1.06 | .16 | -6.80 | < .001 |
| | Narcissism*Time | -.22 | .16 | -1.44 | .148 |
| Confident | Narcissism | .29 | .55 | .53 | .597 |
| | Time | 1.71 | .15 | 10.97 | < .001 |
| | Narcissism*Time | -.03 | .15 | -.24 | .813 |
| Hardworking | Narcissism | -.29 | .24 | -1.23 | .2147 |
| | Time | 1.31 | .13 | 10.38 | < .001 |
| | Narcissism*Time | .13 | .13 | 1.06 | .286 |
| Empathic | Narcissism | -.67 | .25 | -2.71 | .006 |
| | Time | 2.39 | .13 | 18.44 | < .001 |
| | Narcissism*Time | .26 | .13 | 1.98 | .046 |
| Supportive | Narcissism | -.30 | .25 | -1.19 | .231 |
| | Time | 1.29 | .13 | 9.85 | < .001 |
| | Narcissism*Time | .25 | .13 | 1.91 | .056 |
| Trustworthy | Narcissism | -.16 | .24 | -.66 | .512 |
| | Time | 1.33 | .13 | 10.24 | < .001 |
| | Narcissism*Time | -.02 | .13 | -.23 | .817 |
| Likeable | Narcissism | -.03 | .24 | -.12 | .897 |
| | Time | .98 | .12 | 7.81 | < .001 |
| | Narcissism*Time | .20 | .12 | 1.65 | .098 |
| Good Leader | Narcissism | -.69 | .68 | -1.02 | .308 |
| | Time | 1.63 | .17 | 9.64 | < .001 |
| | Narcissism*Time | .31 | .17 | 1.84 | .065 |
| Aggression | Narcissism | .04 | .02 | 2.08 | .037 |
| | Time | -.04 | .01 | -4.55 | < .001 |
| | Narcissism*Time | -.004 | .01 | -.44 | .656 |

*Note.* NPI = Narcissistic Personality Inventory.

**Table 86**

*Linear Mixed Effects of Narcissism (NPI) on Teamwork Round-Robin Measures across Time (Two Pages)*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| ETC1 – *Put in effort during team interactions* | Narcissism | -.26 | .28 | -.91 | .361 |
| | Time | 2.22 | .15 | 15.08 | < .001 |
| | Narcissism*Time | .29 | .15 | 2.00 | .046 |
| ETC2 – *Encouraged others to talk* | Narcissism | -.83 | .32 | -2.62 | .008 |
| | Time | 2.64 | .17 | 15.84 | < .001 |
| | Narcissism*Time | .72 | .16 | 4.34 | < .001 |
| ETC3 – *Worked well under pressure* | Narcissism | .31 | .29 | 1.07 | .281 |
| | Time | 1.13 | .15 | 7.52 | < .001 |
| | Narcissism*Time | -.25 | .15 | -1.69 | .090 |
| ETC4 – *Was sometimes disorganised* | Narcissism | 1.18 | .35 | 3.39 | < .001 |
| | Time | -2.82 | .18 | -15.44 | < .001 |
| | Narcissism*Time | .24 | .18 | 1.31 | .189 |
| ETC5 – *Motivated others to do well* | Narcissism | -1.35 | .37 | -3.65 | < .001 |
| | Time | -11.44 | .19 | -58.81 | < .001 |
| | Narcissism*Time | 1.07 | .19 | 5.50 | < .001 |
| ETC6 – *Shared ideas with others* | Narcissism | .09 | .26 | .36 | .717 |
| | Time | 1.51 | .13 | 11.05 | < .001 |
| | Narcissism*Time | .01 | .13 | .89 | .371 |
| ETC7 – *Saw things from others' POV* | Narcissism | -.52 | .27 | -1.94 | .052 |
| | Time | 3.12 | .14 | 22.14 | < .001 |
| | Narcissism*Time | .31 | .14 | 2.19 | .028 |
| ETC8 – *Devoted time to help others* | Narcissism | -.077 | .30 | -2.54 | .011 |
| | Time | 3.25 | .16 | 20.37 | < .001 |
| | Narcissism*Time | .421 | .16 | 2.65 | .008 |
| ETC9 – *Got along well with others in the team* | Narcissism | -.71 | .22 | -3.17 | .001 |
| | Time | .76 | .12 | 6.42 | < .001 |
| | Narcissism*Time | .41 | .12 | 3.47 | < .001 |
| ETC10 – *Was a good team player* | Narcissism | -.43 | .31 | -1.37 | .171 |
| | Time | -.96 | .16 | -5.87 | < .001 |
| | Narcissism*Time | .15 | .16 | .91 | .365 |
| ETC11 – *Behaved irritable/moody on occasions* | Narcissism | .92 | .29 | 3.17 | .001 |
| | Time | -.72 | .15 | -4.73 | < .001 |
| | Narcissism*Time | .17 | .15 | 1.14 | .254 |
| ETC12 – *Took advantage of other team members* | Narcissism | .12 | .35 | .33 | .742 |
| | Time | 2.61 | .18 | 14.03 | < .001 |
| | Narcissism*Time | 6.61 | .18 | 3.55 | < .001 |

**Table 86 (cont.)**

| | | | | | |
|---|---|---|---|---|---|
| ETC13 – *Tended to express ideas clearly* | Narcissism | .24 | .25 | .97 | .33 |
| | Time | 1.62 | .13 | 12.22 | < .001 |
| | Narcissism*Time | .05 | .13 | .42 | .670 |
| ETC14 – *A particularly reliable team member* | Narcissism | -.27 | .26 | -1.03 | .301 |
| | Time | 2.16 | .14 | 15.75 | < .001 |
| | Narcissism*Time | .25 | .14 | 1.82 | .069 |
| ETC15 – *Can be relied upon to do their share of work* | Narcissism | -.42 | .28 | -1.48 | .139 |
| | Time | .41 | .15 | 2.81 | .005 |
| | Narcissism*Time | .43 | .15 | 2.92 | .003 |
| ETC16 – *Tended to set goals for other team members* | Narcissism | -.91 | .37 | -2.42 | .015 |
| | Time | 4.28 | .19 | 21.90 | < .001 |
| | Narcissism*Time | 1.10 | .19 | 5.66 | < .001 |

*Note*. NPI = Narcissistic Personality Inventory; ETC = Items taken from the Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

**Table 87**

*Linear Mixed Effects of Adaptive Narcissism on Interpersonal Round-Robin Measures across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Competent | Narcissism | .06 | .22 | .305 | .76 |
| | Time | 1.34 | .12 | 11.40 | < .001 |
| | Narcissism*Time | .09 | .12 | .831 | .406 |
| Creative | Narcissism | .57 | .26 | 2.15 | .031 |
| | Time | 1.33 | .14 | 9.55 | < .001 |
| | Narcissism*Time | .009 | .14 | .007 | .994 |
| Arrogant | Narcissism | -.50 | .29 | -1.68 | .092 |
| | Time | -1.06 | .16 | -6.78 | < .001 |
| | Narcissism*Time | -.03 | .16 | .23 | .817 |
| Confident | Narcissism | .67 | .55 | 1.23 | .219 |
| | Time | 1.70 | .15 | 10.97 | < .001 |
| | Narcissism*Time | -.09 | .15 | -.64 | .520 |
| Hardworking | Narcissism | -.22 | .24 | -.91 | .364 |
| | Time | 1.30 | .13 | 10.39 | < .001 |
| | Narcissism*Time | .17 | .13 | 1.39 | .165 |
| Empathic | Narcissism | -.04 | .24 | -.19 | .846 |
| | Time | 2.39 | .13 | 18.43 | < .001 |
| | Narcissism*Time | .11 | .13 | .85 | .393 |
| Supportive | Narcissism | -.11 | .25 | -.45 | .651 |
| | Time | 1.29 | .13 | 9.84 | < .001 |
| | Narcissism*Time | .23 | .13 | 1.77 | .076 |
| Trustworthy | Narcissism | .17 | .24 | .71 | .48 |
| | Time | 1.32 | .13 | 10.24 | < .001 |
| | Narcissism*Time | -.02 | .13 | -.21 | .831 |
| Likeable | Narcissism | .35 | .24 | 1.50 | .134 |
| | Time | .98 | .12 | 7.80 | < .001 |
| | Narcissism*Time | .07 | .12 | .56 | .575 |
| Good Leader | Narcissism | .30 | .67 | .45 | .654 |
| | Time | 1.63 | .17 | 9.63 | < .001 |
| | Narcissism*Time | .17 | .17 | 1.05 | .294 |
| Aggression | Narcissism | -.01 | .02 | -.78 | .436 |
| | Time | -.04 | .01 | -4.56 | < .001 |
| | Narcissism*Time | -.009 | .01 | -.08 | .383 |

**Table 88**

*Linear Mixed Effects of Adaptive Narcissism on Teamwork Round-Robin Measures across Time (Two Pages)*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| ETC1 – *Put in effort during team interactions* | Narcissism | -.02 | .27 | -.08 | .935 |
| | Time | 2.22 | .14 | 15.07 | < .001 |
| | Narcissism*Time | .19 | .14 | 1.30 | .192 |
| ETC2 – *Encouraged others to talk* | Narcissism | -.04 | .31 | -.14 | .881 |
| | Time | 2.68 | .17 | 15.84 | < .001 |
| | Narcissism*Time | .61 | .17 | 3.72 | < .001 |
| ETC3 – *Worked well under pressure* | Narcissism | .27 | .28 | .95 | .341 |
| | Time | 1.13 | .15 | 7.52 | < .001 |
| | Narcissism*Time | -.29 | .15 | -1.92 | .054 |
| ETC4 – *Was sometimes disorganised* | Narcissism | .12 | .35 | .034 | .735 |
| | Time | -2.82 | .18 | -15.42 | < .001 |
| | Narcissism*Time | .11 | .18 | .63 | .528 |
| ETC5 – *Motivated others to do well* | Narcissism | .17 | .37 | .46 | .642 |
| | Time | -11.45 | .19 | -58.79 | < .001 |
| | Narcissism*Time | .27 | .19 | 1.39 | .166 |
| ETC6 – *Shared ideas with others* | Narcissism | .09 | .26 | .36 | .717 |
| | Time | 1.51 | .14 | 11.05 | < .001 |
| | Narcissism*Time | .12 | .14 | .89 | .369 |
| ETC7 – *Saw things from others' POV* | Narcissism | -.29 | .27 | -1.09 | .276 |
| | Time | 3.12 | .14 | 22.14 | < .001 |
| | Narcissism*Time | .24 | .14 | 1.73 | .083 |
| ETC8 – *Devoted time to help others* | Narcissism | -.01 | .30 | -.05 | .960 |
| | Time | 3.25 | .15 | 20.36 | < .001 |
| | Narcissism*Time | .25 | .15 | 1.58 | .113 |
| ETC9 – *Got along well with others in the team* | Narcissism | -.36 | .22 | -1.60 | .112 |
| | Time | .76 | .12 | 6.40 | < .001 |
| | Narcissism*Time | .22 | .12 | 1.84 | .065 |
| ETC10 – *Was a good team player* | Narcissism | -.10 | .31 | -.34 | .733 |
| | Time | -.96 | .16 | -5.88 | < .001 |
| | Narcissism*Time | .005 | .16 | .04 | .971 |
| ETC11 – *Behaved irritable/moody on occasions* | Narcissism | -.04 | .29 | -.16 | .875 |
| | Time | .72 | .15 | -4.72 | < .001 |
| | Narcissism*Time | .16 | .15 | 1.07 | .286 |
| ETC12 – *Took advantage of other team members* | Narcissism | -.72 | .35 | -2.04 | < .001 |
| | Time | 2.61 | .19 | 14.02 | < .001 |
| | Narcissism*Time | .72 | .19 | 3.88 | < .001 |

**Table 88 (cont.)**

| | | | | | |
|---|---|---|---|---|---|
| ETC13 – *Tended to express ideas clearly* | Narcissism | .14 | .25 | .57 | .568 |
| | Time | 1.62 | .13 | 12.22 | < .001 |
| | Narcissism*Time | .09 | .13 | .75 | .451 |
| ETC14 – *A particularly reliable team member* | Narcissism | .09 | .25 | .38 | .701 |
| | Time | 2.15 | .14 | 15.74 | < .001 |
| | Narcissism*Time | .17 | .14 | 1.22 | .222 |
| ETC15 – *Can be relied upon to do their share of work* | Narcissism | -.30 | .28 | -1.05 | .291 |
| | Time | .41 | .15 | 2.79 | .005 |
| | Narcissism*Time | .33 | .15 | 2.26 | .024 |
| ETC16 – *Tended to set goals for other team members* | Narcissism | -.34 | .37 | -.92 | .361 |
| | Time | 4.27 | .19 | 21.88 | < .001 |
| | Narcissism*Time | .84 | .19 | 4.31 | < .001 |

*Note*. ETC = Items taken from the Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

**Table 89**

*Linear Mixed Effects of Maladaptive Narcissism on Interpersonal Round-Robin Measures across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Competent | Narcissism | -.29 | .56 | -.52 | .606 |
| | Time | 1.22 | .09 | 12.49 | < .001 |
| | Narcissism*Time | -.02 | .09 | -.02 | .818 |
| Creative | Narcissism | -.04 | .26 | -.17 | .866 |
| | Time | 1.34 | .14 | 9.56 | < .001 |
| | Narcissism*Time | .11 | .14 | .79 | .425 |
| Arrogant | Narcissism | 1.85 | .30 | 6.15 | < .001 |
| | Time | -1.07 | .16 | -6.81 | < .001 |
| | Narcissism*Time | -.20 | .16 | -1.28 | .198 |
| Confident | Narcissism | -.06 | .55 | -.011 | .908 |
| | Time | 1.71 | .15 | 10.98 | < .001 |
| | Narcissism*Time | .06 | .15 | .39 | .694 |
| Hardworking | Narcissism | .12 | .24 | .53 | .599 |
| | Time | 1.31 | .12 | 10.37 | < .001 |
| | Narcissism*Time | .01 | .12 | .09 | .929 |
| Empathic | Narcissism | -.83 | .25 | -3.31 | < .001 |
| | Time | 2.39 | .13 | 18.45 | < .001 |
| | Narcissism*Time | .33 | .13 | 2.57 | .010 |
| Supportive | Narcissism | -.27 | .25 | -1.06 | .289 |
| | Time | 1.29 | .13 | 9.84 | < .001 |
| | Narcissism*Time | .29 | .13 | 2.24 | .025 |
| Trustworthy | Narcissism | -.32 | .24 | -1.28 | .201 |
| | Time | 1.32 | .13 | 10.24 | < .001 |
| | Narcissism*Time | .02 | .13 | .18 | .856 |
| Likeable | Narcissism | -.25 | .24 | -1.06 | .291 |
| | Time | .98 | .13 | 7.81 | < .001 |
| | Narcissism*Time | .26 | .13 | 2.09 | .036 |
| Good Leader | Narcissism | -1.06 | .68 | -1.54 | .123 |
| | Time | 1.63 | .17 | 9.64 | < .001 |
| | Narcissism*Time | .25 | .17 | 1.47 | .142 |
| Aggression | Narcissism | .08 | .02 | 3.96 | < .001 |
| | Time | -.04 | .01 | -4.56 | < .001 |
| | Narcissism*Time | .002 | .01 | .20 | .837 |

Appendix A

**Table 90**

*Linear Mixed Effects of Maladaptive Narcissism on Teamwork Round-Robin Measures across Time (Two Pages)*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| ETC1 – *Put in effort during team interactions* | Narcissism | .003 | .25 | .11 | .913 |
| | Time | 2.21 | .15 | 15.07 | < .001 |
| | Narcissism*Time | .22 | .15 | 1.55 | .122 |
| ETC2 – *Encouraged others to talk* | Narcissism | -.76 | .32 | -2.34 | .018 |
| | Time | 2.64 | .17 | 15.82 | < .001 |
| | Narcissism*Time | .61 | .17 | 3.70 | < .001 |
| ETC3 – *Worked well under pressure* | Narcissism | .36 | .29 | 1.25 | .211 |
| | Time | 1.13 | .15 | 7.52 | < .001 |
| | Narcissism*Time | -.21 | .15 | -1.41 | .161 |
| ETC4 – *Was sometimes disorganised* | Narcissism | 1.35 | .35 | 3.86 | < .001 |
| | Time | -2.82 | .18 | -15.46 | < .001 |
| | Narcissism*Time | .37 | .18 | 2.02 | < .001 |
| ETC5 – *Motivated others to do well* | Narcissism | -1.61 | .37 | -4.33 | < .001 |
| | Time | -11.44 | .19 | -58.83 | < .001 |
| | Narcissism*Time | 1.18 | .19 | 6.10 | < .001 |
| ETC6 – *Shared ideas with others* | Narcissism | .32 | .26 | 1.21 | .226 |
| | Time | 1.51 | .14 | 11.06 | < .001 |
| | Narcissism*Time | .15 | .14 | 1.12 | .264 |
| ETC7 – *Saw things from others' POV* | Narcissism | -.27 | .27 | -.99 | .324 |
| | Time | 3.12 | .14 | 22.14 | < .001 |
| | Narcissism*Time | .26 | .14 | 1.83 | .067 |
| ETC8 – *Devoted time to help others* | Narcissism | -.86 | .31 | -2.81 | .005 |
| | Time | 3.25 | .16 | 20.37 | < .001 |
| | Narcissism*Time | .44 | .16 | 2.79 | .005 |
| ETC9 – *Got along well with others in the team* | Narcissism | -.42 | .23 | -1.87 | .061 |
| | Time | .76 | .12 | 6.41 | < .001 |
| | Narcissism*Time | .35 | .12 | 2.98 | .002 |
| ETC10 – *Was a good team player* | Narcissism | -.29 | .31 | -.09 | .357 |
| | Time | -.96 | .16 | -5.87 | < .001 |
| | Narcissism*Time | .16 | .16 | .96 | .336 |
| ETC11 – *Behaved irritable/moody on occasions* | Narcissism | 1.18 | .29 | 4.03 | < .001 |
| | Time | -.72 | .15 | -4.73 | < .001 |
| | Narcissism*Time | .19 | .15 | 1.31 | .190 |
| ETC12 – *Took advantage of other team members* | Narcissism | 7.89 | .36 | 2.20 | .027 |
| | Time | 2.61 | .19 | 14.01 | < .001 |
| | Narcissism*Time | .42 | .19 | 2.27 | .023 |

**Table 90 (cont.)**

| | | | | | |
|---|---|---|---|---|---|
| ETC13 – *Tended to express ideas clearly* | Narcissism | .40 | .25 | 1.60 | .112 |
| | Time | 1.62 | .13 | 12.22 | < .001 |
| | Narcissism*Time | .02 | .13 | .16 | .871 |
| ETC14 – *A particularly reliable team member* | Narcissism | -.16 | .26 | -.59 | .553 |
| | Time | 2.16 | .14 | 15.74 | < .001 |
| | Narcissism*Time | .21 | .14 | 1.51 | .131 |
| ETC15 – *Can be relied upon to do their share of work* | Narcissism | .17 | .28 | .59 | .555 |
| | Time | .41 | .15 | 2.79 | .005 |
| | Narcissism*Time | .27 | .15 | 1.87 | .061 |
| ETC16 – *Tended to set goals for other team members* | Narcissism | -.05 | .37 | -1.41 | .158 |
| | Time | 4.27 | .19 | 21.88 | < .001 |
| | Narcissism*Time | .96 | .19 | 4.93 | < .001 |

*Note*. ETC = Items taken from the Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

Appendix A

**Table 91**

*Linear Mixed Effects of Narcissistic Admiration on Interpersonal Round-Robin Measures across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Competent | Narcissism | -.26 | .22 | -1.18 | .235 |
| | Time | .13 | .12 | 11.25 | < .001 |
| | Narcissism*Time | .04 | .12 | .41 | .681 |
| Creative | Narcissism | .46 | .26 | 1.72 | .084 |
| | Time | 1.33 | .14 | 9.55 | < .001 |
| | Narcissism*Time | .21 | .14 | 1.49 | .135 |
| Arrogant | Narcissism | 1.24 | .30 | 4.07 | < .001 |
| | Time | -1.08 | .16 | -6.88 | < .001 |
| | Narcissism*Time | -.44 | .16 | -2.79 | .005 |
| Confident | Narcissism | .44 | .55 | .81 | .419 |
| | Time | 1.70 | .16 | 10.94 | < .001 |
| | Narcissism*Time | -.10 | .16 | -.64 | .524 |
| Hardworking | Narcissism | -.86 | .24 | -3.53 | < .001 |
| | Time | 1.27 | .12 | 10.15 | < .001 |
| | Narcissism*Time | .34 | .13 | 2.71 | < .001 |
| Empathic | Narcissism | -.30 | .25 | -1.19 | .234 |
| | Time | 2.39 | .13 | 18.43 | < .001 |
| | Narcissism*Time | .08 | .13 | .65 | .516 |
| Supportive | Narcissism | .05 | .25 | .22 | .824 |
| | Time | 1.27 | .13 | 9.73 | < .001 |
| | Narcissism*Time | .16 | .13 | 1.22 | .224 |
| Trustworthy | Narcissism | -.11 | .25 | -.04 | .633 |
| | Time | 1.35 | .13 | 10.20 | < .001 |
| | Narcissism*Time | .09 | .13 | .70 | .481 |
| Likeable | Narcissism | -.07 | .24 | -.30 | .76 |
| | Time | -.97 | .13 | 7.74 | < .001 |
| | Narcissism*Time | .29 | .13 | 2.35 | .018 |
| Good Leader | Narcissism | -.27 | .68 | -.39 | .694 |
| | Time | 1.63 | .17 | 9.64 | < .001 |
| | Narcissism*Time | .38 | .17 | 2.23 | .025 |
| Aggression | Narcissism | .07 | .02 | 3.44 | < .001 |
| | Time | -.04 | .01 | -4.56 | < .001 |
| | Narcissism*Time | -.02 | .01 | -2.14 | .032 |

**Table 92**

*Linear Mixed Effects of Narcissistic Admiration on Teamwork Round-Robin Measures across Time (Two Pages)*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| ETC1 – *Put in effort during team interactions* | Narcissism | -.56 | .28 | -1.98 | .047 |
| | Time | 2.19 | .15 | 14.93 | < .001 |
| | Narcissism*Time | .40 | .15 | 2.68 | .007 |
| ETC2 – *Encouraged others to talk* | Narcissism | .31 | .32 | .95 | .339 |
| | Time | 2.60 | .17 | 15.63 | < .001 |
| | Narcissism*Time | .45 | .17 | 2.71 | .006 |
| ETC3 – *Worked well under pressure* | Narcissism | -.03 | .29 | -.10 | .918 |
| | Time | 1.12 | .15 | 7.44 | < .001 |
| | Narcissism*Time | .03 | .15 | .17 | .863 |
| ETC4 – *Was sometimes disorganised* | Narcissism | 1.32 | .35 | 3.74 | < .001 |
| | Time | -2.82 | .18 | -15.41 | < .001 |
| | Narcissism*Time | .12 | .18 | .66 | .507 |
| ETC5 – *Motivated others to do well* | Narcissism | .13 | .37 | .35 | .724 |
| | Time | -11.46 | .19 | -58.81 | < .001 |
| | Narcissism*Time | .44 | .19 | 2.24 | .024 |
| ETC6 – *Shared ideas with others* | Narcissism | -.17 | .26 | -.64 | .519 |
| | Time | 1.50 | .14 | 10.97 | < .001 |
| | Narcissism*Time | .16 | .14 | 1.16 | .244 |
| ETC7 – *Saw things from others' POV* | Narcissism | -.26 | .27 | .95 | .339 |
| | Time | 3.10 | .14 | 22.04 | < .001 |
| | Narcissism*Time | -.37 | .14 | .26 | .796 |
| ETC8 – *Devoted time to help others* | Narcissism | .30 | .31 | .97 | .331 |
| | Time | 3.23 | .16 | 20.23 | < .001 |
| | Narcissism*Time | .20 | .16 | 1.29 | .194 |
| ETC9 – *Got along well with others in the team* | Narcissism | -.09 | .23 | -4.12 | < .001 |
| | Time | .75 | .12 | 6.35 | < .001 |
| | Narcissism*Time | .41 | .12 | 3.41 | < .001 |
| ETC10 – *Was a good team player* | Narcissism | -.63 | .32 | -1.99 | .045 |
| | Time | -.96 | .16 | -5.86 | < .001 |
| | Narcissism*Time | .19 | .16 | 1.16 | .247 |
| ETC11 – *Behaved irritable/moody on occasions* | Narcissism | 1.08 | .29 | 3.66 | < .001 |
| | Time | -.72 | .15 | -4.76 | < .001 |
| | Narcissism*Time | .05 | .15 | .35 | .723 |
| ETC12 – *Took advantage of other team members* | Narcissism | .61 | .36 | 1.71 | .087 |
| | Time | 2.60 | .19 | 13.98 | < .001 |
| | Narcissism*Time | .58 | .19 | 3.11 | .001 |

**Table 92 (cont.)**

| | | | | | |
|---|---|---|---|---|---|
| ETC13 – *Tended to express ideas clearly* | Narcissism | .01 | .25 | .07 | .941 |
| | Time | 1.60 | .13 | 12.06 | < .001 |
| | Narcissism*Time | .05 | .13 | .37 | .711 |
| ETC14 – *A particularly reliable team member* | Narcissism | -.067 | .26 | -2.54 | .011 |
| | Time | 2.13 | .14 | 15.56 | < .001 |
| | Narcissism*Time | .23 | .14 | 1.69 | .091 |
| ETC15 – *Can be relied upon to do their share of work* | Narcissism | -1.26 | .28 | -4.39 | < .001 |
| | Time | .39 | .15 | 2.64 | .008 |
| | Narcissism*Time | .68 | .15 | 4.59 | < .001 |
| ETC16 – *Tended to set goals for other team members* | Narcissism | .84 | .37 | 2.22 | .026 |
| | Time | 4.23 | .19 | 21.66 | < .001 |
| | Narcissism*Time | .46 | .19 | 2.33 | .019 |

*Note*. ETC = Items taken from the Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

**Table 93**

*Linear Mixed Effects of Narcissistic Rivalry on Interpersonal Round-Robin Measures across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Competent | Narcissism | -2.11 | .22 | -9.51 | < .001 |
| | Time | 1.31 | .11 | 11.32 | < .001 |
| | Narcissism*Time | -.22 | .12 | -1.95 | .051 |
| Creative | Narcissism | -1.06 | .26 | -3.97 | < .001 |
| | Time | 1.33 | .14 | 9.56 | < .001 |
| | Narcissism*Time | -.37 | .14 | -2.72 | .006 |
| Arrogant | Narcissism | 4.08 | .29 | 13.80 | < .001 |
| | Time | -1.06 | .15 | -6.88 | < .001 |
| | Narcissism*Time | -.12 | .15 | -.81 | .419 |
| Confident | Narcissism | -1.35 | .26 | -5.16 | < .001 |
| | Time | 1.77 | .14 | 12.89 | < .001 |
| | Narcissism*Time | -.25 | .14 | -1.79 | .074 |
| Hardworking | Narcissism | -1.88 | .24 | -7.86 | < .001 |
| | Time | 1.27 | .12 | 10.16 | < .001 |
| | Narcissism*Time | -.15 | .12 | -1.24 | .214 |
| Empathic | Narcissism | -2.23 | .24 | -9.07 | < .001 |
| | Time | 2.38 | .13 | 18.53 | < .001 |
| | Narcissism*Time | -.06 | .13 | -.53 | .593 |
| Supportive | Narcissism | -2.25 | .25 | -9.03 | < .001 |
| | Time | 1.27 | .13 | 9.74 | < .001 |
| | Narcissism*Time | -.04 | .13 | -.33 | .743 |
| Trustworthy | Narcissism | -2.00 | .25 | -8.17 | < .001 |
| | Time | 1.32 | .13 | 10.23 | < .001 |
| | Narcissism*Time | -.19 | .13 | -1.51 | .133 |
| Likeable | Narcissism | -2.15 | .24 | -9.03 | < .001 |
| | Time | .96 | .12 | 7.72 | < .001 |
| | Narcissism*Time | .02 | .12 | .18 | .861 |
| Good Leader | Narcissism | -1.75 | .67 | -2.62 | < .001 |
| | Time | 1.63 | .17 | 9.63 | < .001 |
| | Narcissism*Time | -.18 | .17 | -1.06 | .288 |
| Aggression | Narcissism | .25 | .02 | 12.31 | < .001 |
| | Time | -.04 | .01 | -4.5 | < .001 |
| | Narcissism*Time | -.001 | .01 | -.13 | .895 |

**Table 94**

*Linear Mixed Effects of Narcissistic Rivalry on Teamwork Round-Robin Measures across Time (Two Pages)*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| ETC1 – *Put in effort during team interactions* | Narcissism | -1.90 | .28 | -6.79 | < .001 |
| | Time | 2.19 | .15 | 14.95 | < .001 |
| | Narcissism*Time | -.07 | .15 | -.05 | .591 |
| ETC2 – *Encouraged others to talk* | Narcissism | -1.66 | .32 | -5.23 | < .001 |
| | Time | 2.60 | .17 | 15.60 | < .001 |
| | Narcissism*Time | .17 | .17 | 1.00 | .315 |
| ETC3 – *Worked well under pressure* | Narcissism | -1.22 | .28 | -4.27 | < .001 |
| | Time | 1.11 | .15 | 7.42 | < .001 |
| | Narcissism*Time | -.02 | .15 | -.11 | .913 |
| ETC4 – *Was sometimes disorganised* | Narcissism | 2.67 | .35 | 7.72 | < .001 |
| | Time | -2.81 | .18 | -15.45 | < .001 |
| | Narcissism*Time | .36 | .18 | 2.04 | .041 |
| ETC5 – *Motivated others to do well* | Narcissism | -3.10 | .37 | -8.37 | < .001 |
| | Time | -11.49 | .19 | -59.09 | < .001 |
| | Narcissism*Time | 1.98 | .19 | 10.23 | < .001 |
| ETC6 – *Shared ideas with others* | Narcissism | -1.69 | .26 | -6.50 | < .001 |
| | Time | 1.50 | .14 | 10.97 | < .001 |
| | Narcissism*Time | -.09 | .14 | -.68 | .498 |
| ETC7 – *Saw things from others' POV* | Narcissism | -2.01 | .26 | -7.52 | < .001 |
| | Time | 3.09 | .14 | 22.11 | < .001 |
| | Narcissism*Time | -.006 | .14 | -.05 | .963 |
| ETC8 – *Devoted time to help others* | Narcissism | -1.67 | .30 | -5.48 | < .001 |
| | Time | 3.22 | .16 | 20.36 | < .001 |
| | Narcissism*Time | .006 | .16 | .04 | .967 |
| ETC9 – *Got along well with others in the team* | Narcissism | -2.41 | .22 | -10.76 | < .001 |
| | Time | .74 | .12 | 6.32 | < .001 |
| | Narcissism*Time | .06 | .12 | .53 | .598 |
| ETC10 – *Was a good team player* | Narcissism | -2.20 | .31 | -7.06 | < .001 |
| | Time | -.97 | .16 | -5.94 | < .001 |
| | Narcissism*Time | .23 | .16 | 1.39 | .164 |
| ETC11 – *Behaved irritable/moody on occasions* | Narcissism | 3.21 | .29 | 11.14 | < .001 |
| | Time | -.72 | .15 | -4.74 | < .001 |
| | Narcissism*Time | .26 | .15 | 1.76 | .078 |
| ETC12 – *Took advantage of other team members* | Narcissism | 2.83 | .35 | 8.01 | < .001 |
| | Time | 2.61 | .19 | 14.13 | < .001 |
| | Narcissism*Time | .27 | .19 | 1.48 | .139 |

**Table 94 (cont.)**

| | | | | | |
|---|---|---|---|---|---|
| ETC13 – *Tended to express ideas clearly* | Narcissism | -1.54 | .25 | -6.11 | < .001 |
| | Time | 1.59 | .13 | 12.09 | < .001 |
| | Narcissism*Time | -.25 | .13 | -1.95 | .050 |
| ETC14 – *A particularly reliable team member* | Narcissism | -1.91 | .26 | -7.36 | < .001 |
| | Time | 2.12 | .14 | 15.60 | < .001 |
| | Narcissism*Time | -.14 | .14 | -1.06 | .289 |
| ETC15 – *Can be relied upon to do their share of work* | Narcissism | -1.96 | .28 | -6.94 | < .001 |
| | Time | .38 | .15 | 2.56 | .009 |
| | Narcissism*Time | -.003 | .15 | -.002 | .998 |
| ETC16 – *Tended to set goals for other team members* | Narcissism | -.02 | .37 | -.67 | .502 |
| | Time | 4.23 | .19 | 21.62 | < .001 |
| | Narcissism*Time | -.15 | .19 | -.77 | .441 |

*Note*. ETC = Items taken from the Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

**Table 95**

*Linear Mixed Effects of Vulnerable Narcissism on Interpersonal Round-Robin Measures across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Competent | Narcissism | -1.14 | .22 | -5.04 | < .001 |
| | Time | 1.33 | .12 | 11.42 | < .001 |
| | Narcissism*Time | -.13 | .12 | -1.15 | .248 |
| Creative | Narcissism | -.75 | .27 | -2.79 | .005 |
| | Time | 1.33 | .14 | -9.56 | < .001 |
| | Narcissism*Time | -.34 | .14 | -2.45 | .014 |
| Arrogant | Narcissism | 3.83 | .29 | 12.81 | < .001 |
| | Time | -1.06 | .15 | -6.89 | < .001 |
| | Narcissism*Time | .10 | .15 | .656 | .512 |
| Confident | Narcissism | -1.27 | .26 | -4.79 | < .001 |
| | Time | 1.79 | .14 | 13.02 | < .001 |
| | Narcissism*Time | -.26 | .14 | -1.91 | .056 |
| Hardworking | Narcissism | -1.92 | .24 | -7.96 | < .001 |
| | Time | 1.30 | .12 | 10.44 | < .001 |
| | Narcissism*Time | .06 | .12 | .51 | .612 |
| Empathic | Narcissism | -1.91 | .25 | -7.66 | < .001 |
| | Time | 2.39 | .13 | 18.5 | < .001 |
| | Narcissism*Time | -.01 | .13 | -.12 | .908 |
| Supportive | Narcissism | -2.14 | .25 | -8.49 | < .001 |
| | Time | 1.29 | .13 | 9.89 | < .001 |
| | Narcissism*Time | .05 | .13 | .40 | .693 |
| Trustworthy | Narcissism | -2.13 | .25 | -8.56 | < .001 |
| | Time | 1.33 | .13 | 10.31 | < .001 |
| | Narcissism*Time | .004 | .13 | .03 | .972 |
| Likeable | Narcissism | -1.91 | .24 | -7.92 | < .001 |
| | Time | .98 | .12 | 7.84 | < .001 |
| | Narcissism*Time | .03 | .12 | .02 | .806 |
| Good Leader | Narcissism | -2.41 | .66 | -3.64 | < .001 |
| | Time | 1.63 | .17 | 9.62 | < .001 |
| | Narcissism*Time | -.06 | .17 | -.38 | .702 |
| Aggression | Narcissism | .22 | .05 | 3.99 | < .001 |
| | Time | -.04 | .007 | -6.39 | < .001 |
| | Narcissism*Time | -.01 | .007 | 1.66 | .097 |

**Table 96**

*Linear Mixed Effects of Vulnerable Narcissism on Teamwork Round-Robin Measures across Time (Two Pages)*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| ETC1 – *Put in effort during team interactions* | Narcissism | -2.25 | .28 | -7.94 | < .001 |
| | Time | 2.22 | .15 | 15.14 | < .001 |
| | Narcissism*Time | .10 | .15 | .71 | .477 |
| ETC2 – *Encouraged others to talk* | Narcissism | -2.45 | .32 | -7.78 | < .001 |
| | Time | 2.63 | .17 | 15.88 | < .001 |
| | Narcissism*Time | .06 | .16 | .37 | .711 |
| ETC3 – *Worked well under pressure* | Narcissism | -1.76 | .29 | -6.09 | < .001 |
| | Time | 1.13 | .15 | 7.56 | < .001 |
| | Narcissism*Time | .11 | .15 | .77 | .441 |
| ETC4 – *Was sometimes disorganised* | Narcissism | 2.57 | .35 | 7.31 | < .001 |
| | Time | -2.82 | .18 | -15.51 | < .001 |
| | Narcissism*Time | .06 | .18 | .36 | .716 |
| ETC5 – *Motivated others to do well* | Narcissism | -4.26 | .37 | -11.39 | < .001 |
| | Time | -11.44 | .19 | -59.05 | < .001 |
| | Narcissism*Time | 2.05 | .19 | 10.63 | < .001 |
| ETC6 – *Shared ideas with others* | Narcissism | -1.73 | .26 | -6.58 | < .001 |
| | Time | 1.51 | .14 | 11.09 | < .001 |
| | Narcissism*Time | -.13 | .14 | -.93 | .350 |
| ETC7 – *Saw things from others' POV* | Narcissism | -1.97 | .27 | -7.28 | < .001 |
| | Time | 3.12 | .14 | 22.23 | < .001 |
| | Narcissism*Time | 3.28 | .14 | .23 | .815 |
| ETC8 – *Devoted time to help others* | Narcissism | -2.75 | .31 | -8.95 | < .001 |
| | Time | 3.25 | .16 | 20.47 | < .001 |
| | Narcissism*Time | .24 | .16 | 1.55 | .122 |
| ETC9 – *Got along well with others in the team* | Narcissism | -2.09 | .23 | -9.22 | < .001 |
| | Time | .75 | .12 | 6.43 | < .001 |
| | Narcissism*Time | .07 | .12 | .59 | .554 |
| ETC10 – *Was a good team player* | Narcissism | -2.12 | .32 | -6.71 | < .001 |
| | Time | -.96 | .16 | -5.89 | < .001 |
| | Narcissism*Time | .28 | .16 | 1.72 | .085 |
| ETC11 – *Behaved irritable/moody on occasions* | Narcissism | 2.78 | .29 | 9.46 | < .001 |
| | Time | -.72 | .15 | -4.77 | < .001 |
| | Narcissism*Time | .15 | .15 | .975 | .329 |
| ETC12 – *Took advantage of other team members* | Narcissism | 2.42 | .35 | 6.75 | < .001 |
| | Time | 2.61 | .19 | 14.07 | < .001 |
| | Narcissism*Time | .28 | .19 | 1.50 | .132 |

**Table 96 (cont.)**

| | | | | | |
|---|---|---|---|---|---|
| ETC13 – *Tended to express ideas clearly* | Narcissism | -1.70 | .26 | -6.65 | < .001 |
| | Time | 1.62 | .13 | 12.28 | < .001 |
| | Narcissism*Time | -.133 | .13 | -1.01 | .311 |
| ETC14 – *A particularly reliable team member* | Narcissism | -2.18 | .26 | -8.28 | < .001 |
| | Time | 2.16 | .14 | 15.82 | < .001 |
| | Narcissism*Time | .13 | .14 | .93 | .352 |
| ETC15 – *Can be relied upon to do their share of work* | Narcissism | -2.21 | .28 | -7.76 | < .001 |
| | Time | .41 | .15 | 2.79 | .005 |
| | Narcissism*Time | .01 | .15 | .09 | .921 |
| ETC16 – *Set goals for other team members* | Narcissism | -2.78 | .37 | -7.38 | < .001 |
| | Time | 4.26 | .19 | 21.92 | < .001 |
| | Narcissism*Time | .12 | .19 | .63 | .526 |

*Note*. ETC = Items taken from the Enhanced Teamwork Competencies Scale (Cisek et al., 2010).

**Table 97**

*Linear Mixed Effects of Narcissism Measures on Significant Interactions (Six Pages)*

| Narcissism | Variable | Time | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|---|
| NPI | ETC1 – *Put in effort during team interactions* | Time 1 | -.51 | .35 | -1.48 | .141 |
| | | Time 2 | .21 | .33 | .65 | .517 |
| | | Time 3 | .40 | .35 | 1.15 | .248 |
| | | Time 4 | .47 | .33 | 1.44 | .151 |
| | ETC2 – *Encouraged others to talk* | Time 1 | -1.12 | .38 | -2.97 | .003 |
| | | Time 2 | .01 | .39 | .23 | .813 |
| | | Time 3 | .47 | .40 | 1.16 | .246 |
| | | Time 4 | 1.37 | .39 | 3.54 | < .001 |
| | ETC5 – *Motivated others to do well* | Time 1 | -.82 | .36 | -2.27 | .021 |
| | | Time 2 | .09 | .38 | .24 | .811 |
| | | Time 3 | .11 | .39 | .28 | .781 |
| | | Time 4 | 1.81 | .37 | 4.85 | < .001 |
| | ETC7 – *Saw things from others' POV* | Time 1 | -.61 | .33 | -1.85 | .064 |
| | | Time 2 | -.01 | .33 | -.01 | .890 |
| | | Time 3 | -.09 | .33 | -.27 | .781 |
| | | Time 4 | .37 | .31 | 1.19 | .231 |
| | ETC8 – *Devoted time to help others* | Time 1 | -.66 | .37 | -1.79 | .073 |
| | | Time 2 | -.23 | .38 | -.59 | .551 |
| | | Time 3 | -.30 | .37 | -.81 | .418 |
| | | Time 4 | .44 | .36 | 1.19 | .233 |
| | ETC9 – *Got along well with others in the team* | Time 1 | -.85 | .29 | -2.92 | .003 |
| | | Time 2 | -.27 | .27 | -1.02 | .312 |
| | | Time 3 | .16 | .28 | .57 | .566 |
| | | Time 4 | .47 | .27 | 1.71 | .087 |
| | ETC12 – *Took advantage of other team members* | Time 1 | .59 | .37 | 1.65 | .198 |
| | | Time 2 | .69 | .36 | 1.89 | .059 |
| | | Time 3 | 1.16 | .47 | 2.47 | .013 |
| | | Time 4 | 2.43 | .51 | 4.77 | < .001 |
| | ETC15 – *Can be relied upon to do their share of work* | Time 1 | -.37 | .34 | -1.12 | .265 |
| | | Time 2 | -.25 | .31 | -.80 | .426 |
| | | Time 3 | .51 | .37 | 1.39 | .166 |
| | | Time 4 | .75 | .36 | 2.11 | .035 |

**Table 97 (cont.)**

| Narcissism | Variable | Time | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|---|
| NPI | ETC16 – *Set goals for other team members* | Time 1 | -1.20 | .42 | -2.82 | .004 |
| | | Time 2 | .80 | .45 | 1.79 | .074 |
| | | Time 3 | 1.22 | .48 | 2.51 | .012 |
| | | Time 4 | 2.12 | .47 | 4.48 | < .001 |
| | Empathy | Time 1 | -.92 | .31 | -2.94 | .003 |
| | | Time 2 | .08 | .30 | -.26 | .796 |
| | | Time 3 | -.44 | .30 | -1.48 | .139 |
| | | Time 4 | .16 | .30 | .55 | .585 |
| Adaptive Narcissism | ETC2 – *Encouraged others to talk* | Time 1 | -.34 | .37 | -.90 | .367 |
| | | Time 2 | .89 | .39 | 2.27 | .023 |
| | | Time 3 | .95 | .39 | 2.41 | .016 |
| | | Time 4 | 1.91 | .38 | 5.01 | < .001 |
| | ETC12 – *Took advantage of other team members* | Time 1 | -.45 | .36 | -1.26 | .207 |
| | | Time 2 | -.01 | .36 | -.04 | .969 |
| | | Time 3 | .62 | .46 | 1.35 | .177 |
| | | Time 4 | 1.54 | .50 | 3.05 | .002 |
| | ETC15 – *Can be relied upon to do their share of work* | Time 1 | -.27 | .33 | -.80 | .421 |
| | | Time 2 | -.17 | .30 | -.58 | .562 |
| | | Time 3 | -.36 | .36 | 1.01 | .311 |
| | | Time 4 | .75 | .35 | 2.13 | .033 |
| | ETC16 – *Set goals for other team members* | Time 1 | -.66 | .42 | -1.58 | .115 |
| | | Time 2 | 1.12 | .44 | 2.54 | .011 |
| | | Time 3 | 1.22 | .47 | 2.57 | .010 |
| | | Time 4 | 1.92 | .47 | 4.12 | < .001 |
| Maladaptive Narcissism | ETC2 – *Encouraged others to talk* | Time 1 | -1.01 | .39 | -2.61 | .009 |
| | | Time 2 | .08 | .40 | .20 | .840 |
| | | Time 3 | .07 | .41 | .17 | .891 |
| | | Time 4 | 1.27 | .39 | 3.18 | .001 |
| | ETC4 – *Was sometimes disorganised* | Time 1 | 1.38 | .42 | 3.31 | < .001 |
| | | Time 2 | 2.04 | .41 | 4.94 | < .001 |
| | | Time 3 | 1.93 | .46 | 4.24 | < .001 |
| | | Time 4 | 2.60 | .43 | 6.01 | < .001 |

**Table 97 (cont.)**

| Narcissism | Variable | Time | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|---|
| Maladaptive Narcissism | ETC5 – *Motivated others to do well* | Time 1 | -.89 | .37 | -2.44 | .014 |
| | | Time 2 | -.19 | .39 | -.47 | .636 |
| | | Time 3 | -.09 | .39 | -.23 | .819 |
| | | Time 4 | 2.05 | .38 | 5.35 | < .001 |
| | ETC8 – *Devoted time to help others* | Time 1 | -.61 | .37 | -1.62 | .105 |
| | | Time 2 | -.56 | .39 | -1.43 | .152 |
| | | Time 3 | -.32 | .38 | -.84 | .401 |
| | | Time 4 | .49 | .38 | 1.31 | .191 |
| | ETC9 – *Got along well with others in the team* | Time 1 | -.53 | .30 | -1.79 | .072 |
| | | Time 2 | -.17 | .28 | -.63 | .528 |
| | | Time 3 | .34 | .28 | 1.19 | .234 |
| | | Time 4 | .60 | .28 | 2.13 | .031 |
| | ETC12 – *Took advantage of other team members* | Time 1 | 1.13 | .37 | 3.04 | .002 |
| | | Time 2 | 1.24 | .37 | 3.35 | < .001 |
| | | Time 3 | 1.48 | .48 | 3.08 | .002 |
| | | Time 4 | 2.29 | .52 | 4.39 | < .001 |
| | ETC16 – *Set goals for other team members* | Time 1 | -.84 | .43 | -1.93 | .053 |
| | | Time 2 | .96 | .46 | 2.09 | .037 |
| | | Time 3 | 1.04 | .50 | 2.09 | .036 |
| | | Time 4 | 2.27 | .49 | 4.66 | < .001 |
| | Empathy | Time 1 | -.99 | .32 | -3.13 | .001 |
| | | Time 2 | -.39 | .31 | -1.28 | .202 |
| | | Time 3 | -.34 | .31 | -1.09 | .275 |
| | | Time 4 | .20 | .31 | .67 | .505 |
| | Supportive | Time 1 | -.48 | .31 | -1.56 | .120 |
| | | Time 2 | .16 | .32 | .52 | .606 |
| | | Time 3 | .27 | .32 | .86 | .391 |
| | | Time 4 | .47 | .33 | 1.46 | .145 |
| | Likeable | Time 1 | -.35 | .31 | -1.12 | .265 |
| | | Time 2 | -.11 | .31 | -.37 | .715 |
| | | Time 3 | .38 | .30 | 1.26 | .208 |
| | | Time 4 | .48 | .30 | 1.60 | .109 |

**Table 97 (cont.)**

| Narcissism | Variable | Time | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|---|
| Narcissistic Admiration | ETC1 – *Put in effort during team interactions* | Time 1 | -.45 | .35 | -1.28 | .201 |
| | | Time 2 | -.49 | .33 | -1.49 | .137 |
| | | Time 3 | .47 | .35 | 1.35 | .179 |
| | | Time 4 | .55 | .33 | 1.63 | .102 |
| | ETC2 – *Encouraged others to talk* | Time 1 | .36 | .39 | .94 | .346 |
| | | Time 2 | .46 | .40 | 1.14 | .253 |
| | | Time 3 | 1.38 | .40 | 3.42 | < .001 |
| | | Time 4 | 1.63 | .39 | 4.09 | < .001 |
| | ETC5 – *Motivated others to do well* | Time 1 | .33 | .36 | .91 | .363 |
| | | Time 2 | .76 | .39 | 1.97 | .049 |
| | | Time 3 | .77 | .38 | 1.98 | .048 |
| | | Time 4 | 1.58 | .38 | 4.12 | < .001 |
| | ETC9 – *Got along well with others in the team* | Time 1 | -.94 | .30 | -3.14 | .001 |
| | | Time 2 | -.62 | .27 | -2.28 | .022 |
| | | Time 3 | -.07 | .28 | -.26 | .792 |
| | | Time 4 | .30 | .28 | 1.05 | .293 |
| | ETC12 – *Took advantage of other team members* | Time 1 | 1.06 | .37 | 2.84 | .004 |
| | | Time 2 | 1.10 | .37 | 3.00 | .003 |
| | | Time 3 | 1.21 | .47 | 2.55 | .011 |
| | | Time 4 | 2.73 | .52 | 5.23 | < .001 |
| | ETC15 – *Can be relied upon to do their share of work* | Time 1 | -.99 | .34 | -2.92 | .003 |
| | | Time 2 | -.96 | .31 | -3.08 | .002 |
| | | Time 3 | -.04 | .37 | -.11 | .912 |
| | | Time 4 | .89 | .36 | 2.47 | .014 |
| | ETC16 – *Set goals for other team members* | Time 1 | 1.01 | .43 | 2.33 | .019 |
| | | Time 2 | 1.15 | .46 | 2.52 | .012 |
| | | Time 3 | 1.79 | .49 | 3.66 | < .001 |
| | | Time 4 | 2.18 | .49 | 4.50 | < .001 |
| | Arrogant | Time 1 | 1.68 | .38 | 4.47 | < .001 |
| | | Time 2 | .37 | .38 | .98 | .324 |
| | | Time 3 | .33 | .38 | .90 | .908 |
| | | Time 4 | .30 | .38 | .78 | .44 |

**Table 97 (cont.)**

| Narcissism | Variable | Time | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|---|
| Narcissistic Admiration | Hardworking | Time 1 | -.88 | .31 | -2.85 | .004 |
| | | Time 2 | -.69 | .28 | -2.40 | .016 |
| | | Time 3 | -.13 | .30 | -.45 | .653 |
| | | Time 4 | .21 | .30 | .68 | .496 |
| | Likeable | Time 1 | -.22 | .31 | -.71 | .479 |
| | | Time 2 | .41 | .31 | 1.33 | .185 |
| | | Time 3 | .46 | .30 | 1.53 | .125 |
| | | Time 4 | .77 | .30 | 2.53 | .011 |
| | Leader | Time 1 | .24 | .37 | .64 | .521 |
| | | Time 2 | .08 | .38 | .23 | .822 |
| | | Time 3 | .44 | .39 | 1.12 | .261 |
| | | Time 4 | 1.24 | .39 | 3.12 | .002 |
| | Aggression | Time 1 | 1.26 | .33 | 3.85 | < .001 |
| | | Time 2 | .18 | .30 | .60 | .551 |
| | | Time 3 | -.04 | .34 | -.13 | .892 |
| | | Time 4 | -.01 | .32 | -.03 | .976 |
| Narcissistic Rivalry | ETC4 – *Was sometimes disorganised* | Time 1 | 2.77 | .41 | 6.73 | < .001 |
| | | Time 2 | 3.63 | .40 | 9.03 | < .001 |
| | | Time 3 | 2.38 | .45 | 5.25 | < .001 |
| | | Time 4 | 4.34 | .42 | 10.28 | < .001 |
| | ETC5 – *Motivated others to do well* | Time 1 | -1.60 | .36 | -.43 | < .001 |
| | | Time 2 | -1.07 | .38 | -2.81 | .004 |
| | | Time 3 | -2.04 | .39 | -5.24 | < .001 |
| | | Time 4 | 4.51 | .37 | 12.16 | < .001 |
| | Creative | Time 1 | -.99 | .32 | -3.10 | < .001 |
| | | Time 2 | -1.42 | .32 | -4.37 | < .001 |
| | | Time 3 | -2.14 | .34 | -6.28 | < .001 |
| | | Time 4 | -2.11 | .34 | -6.20 | < .001 |
| | Team Cohesion | Time 1 | -.87 | .25 | -3.46 | < .001 |
| | | Time 2 | -.60 | .24 | -2.48 | .013 |
| | | Time 3 | -1.29 | .25 | -5.20 | < .001 |
| | | Time 4 | .03 | .20 | .92 | .359 |

**Table 97 (cont.)**

| Narcissism | Variable | Time | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|---|
| Narcissistic Rivalry | Team Conflict | Time 1 | .42 | .11 | 3.81 | < .001 |
| | | Time 2 | .25 | .10 | 2.47 | .014 |
| | | Time 3 | .33 | .08 | 4.02 | < .001 |
| | | Time 4 | -.01 | .01 | -.56 | .577 |
| Vulnerable Narcissism | ETC5 – *Motivated others to do well* | Time 1 | -2.89 | .37 | -7.88 | < .001 |
| | | Time 2 | -2.41 | .39 | -6.16 | < .001 |
| | | Time 3 | -2.63 | .39 | -6.75 | < .001 |
| | | Time 4 | 3.38 | .38 | 8.85 | < .001 |
| | Creative | Time 1 | -.85 | .33 | -2.56 | .010 |
| | | Time 2 | -.99 | .33 | -2.98 | .002 |
| | | Time 3 | -1.51 | .35 | -4.41 | < .001 |
| | | Time 4 | -1.80 | .35 | -5.17 | < .001 |

*Note.* NPI = Narcissistic Personality Inventory

**Table 98**

*Linear Mixed Effects of Narcissism Measures on Teamwork Processes across Time*

| | | Estimate | SE | *t* | *p* |
|---|---|---|---|---|---|
| Narcissism: Cohesion | Narcissism | -.09 | .05 | -1.72 | .086 |
| | Time | .21 | .02 | 9.71 | < .001 |
| | Narcissism*Time | .007 | .02 | .35 | .726 |
| Narcissism: Conflict | Narcissism | .03 | .02 | 1.35 | .176 |
| | Time | .03 | .01 | 3.76 | < .001 |
| | Narcissism*Time | .009 | .01 | .88 | .375 |
| Adaptive Narc: Cohesion | Narcissism | -.008 | .05 | -.16 | .874 |
| | Time | .21 | .02 | 9.73 | < .001 |
| | Narcissism*Time | -.02 | .02 | -.88 | .376 |
| Adaptive Narc: Conflict | Narcissism | .004 | .02 | .20 | .839 |
| | Time | .03 | .01 | 3.76 | < .001 |
| | Narcissism*Time | .01 | .01 | 1.63 | .104 |
| Maladaptive Narc: Cohesion | Narcissism | -.002 | .005 | -.42 | .672 |
| | Time | .02 | .02 | 11.20 | < .001 |
| | Narcissism*Time | .001 | .01 | -.01 | .992 |
| Maladaptive Narc: Conflict | Narcissism | .02 | .02 | .81 | .424 |
| | Time | .04 | .01 | 3.76 | < .001 |
| | Narcissism*Time | .01 | .01 | 1.38 | .167 |
| Admiration: Cohesion | Narcissism | -.06 | .05 | -1.11 | .269 |
| | Time | .21 | .02 | 9.66 | < .001 |
| | Narcissism*Time | .009 | .02 | .41 | .680 |
| Admiration: Conflict | Narcissism | .03 | .02 | 1.46 | .145 |
| | Time | .03 | .01 | 3.71 | < .001 |
| | Narcissism*Time | .003 | .01 | .36 | .719 |
| Rivalry: Cohesion | Narcissism | -.64 | .22 | -2.96 | .003 |
| | Time | .21 | .02 | 9.84 | < .001 |
| | Narcissism*Time | .21 | .07 | 2.95 | .003 |
| Rivalry: Conflict | Narcissism | .27 | .09 | 2.79 | .005 |
| | Time | .03 | .01 | 3.45 | < .001 |
| | Narcissism*Time | -.09 | .03 | -2.83 | .005 |
| Vulnerable Narc: Cohesion | Narcissism | -.24 | .05 | -4.66 | < .001 |
| | Time | .21 | .02 | 9.76 | < .001 |
| | Narcissism*Time | .03 | .02 | 1.29 | .197 |
| Vulnerable Narc: Conflict | Narcissism | .08 | .02 | 3.61 | < .001 |
| | Time | .03 | .008 | 4.45 | < .001 |
| | Narcissism*Time | .002 | .008 | .28 | .776 |

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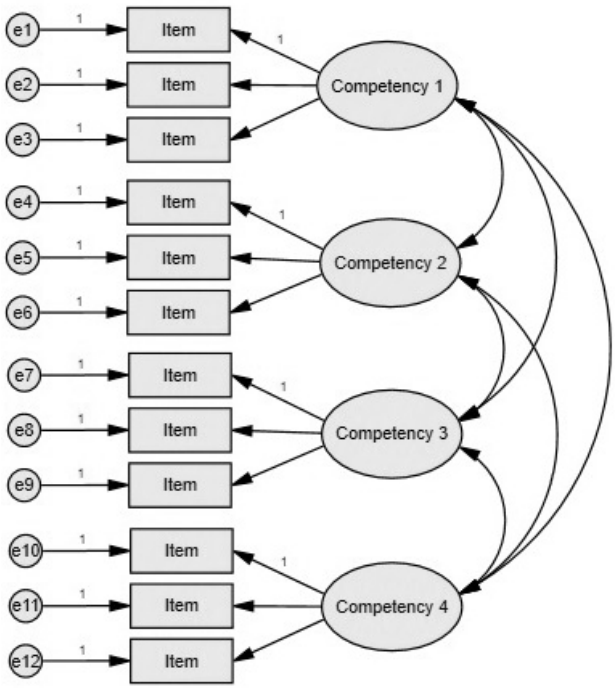
# Appendix B Figures

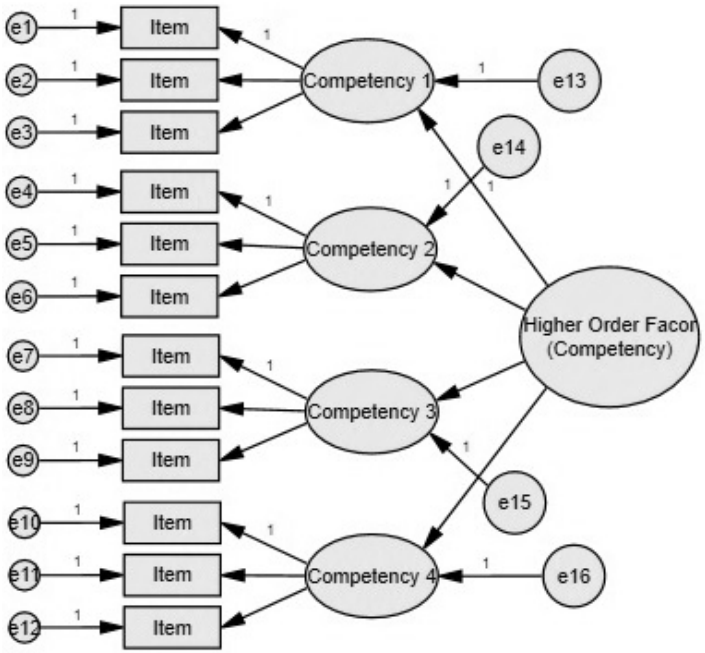
**Figure 1**

*Study 1: Conceptual Confirmatory Factor Analysis Models for Items Loading on the Enhanced Teamwork Competencies Scale*

(A)




(B)

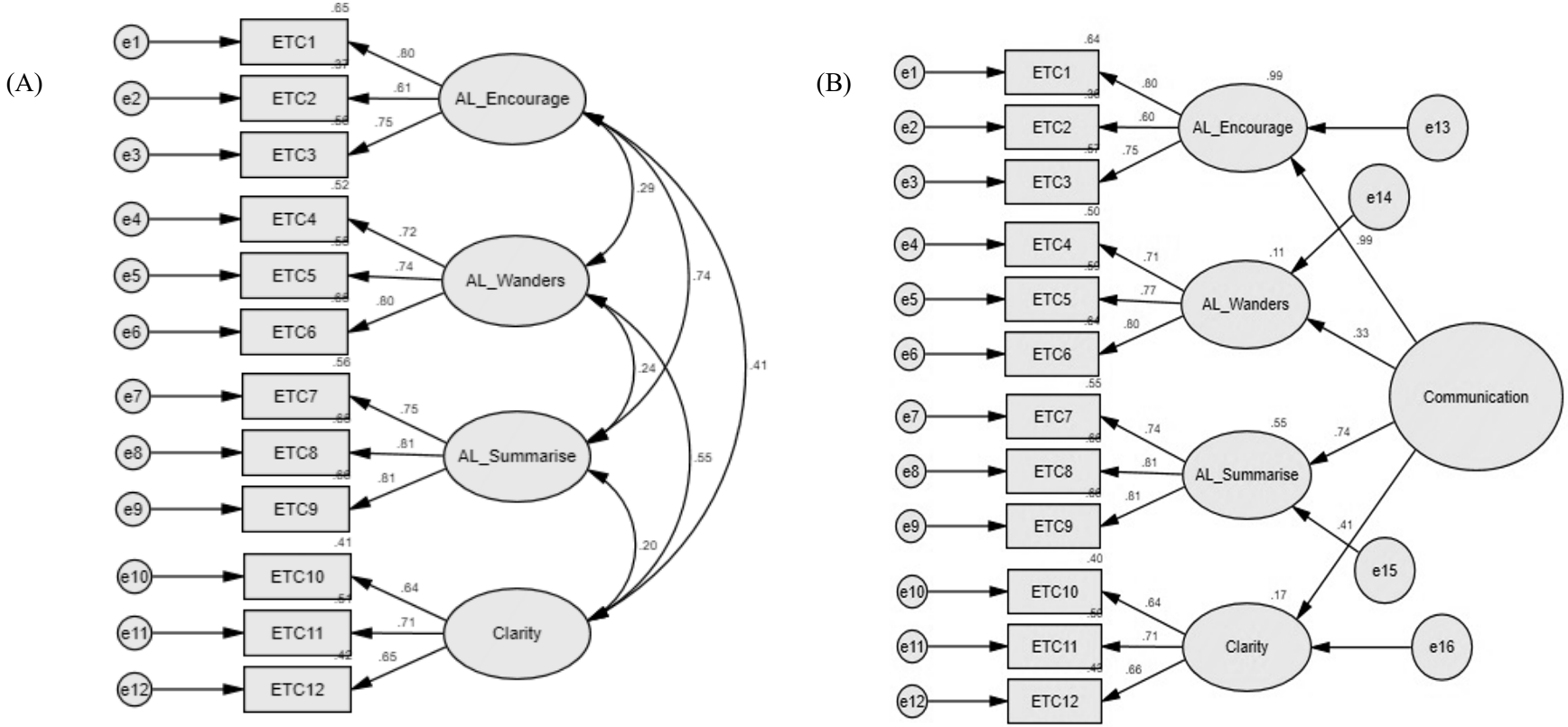



*Note.* Model A represents a model in which the competencies (derived from three items) are separate but covarying. Model B represents a model in which the competencies load onto a single higher-order factor.

Appendix B

**Figure 2**

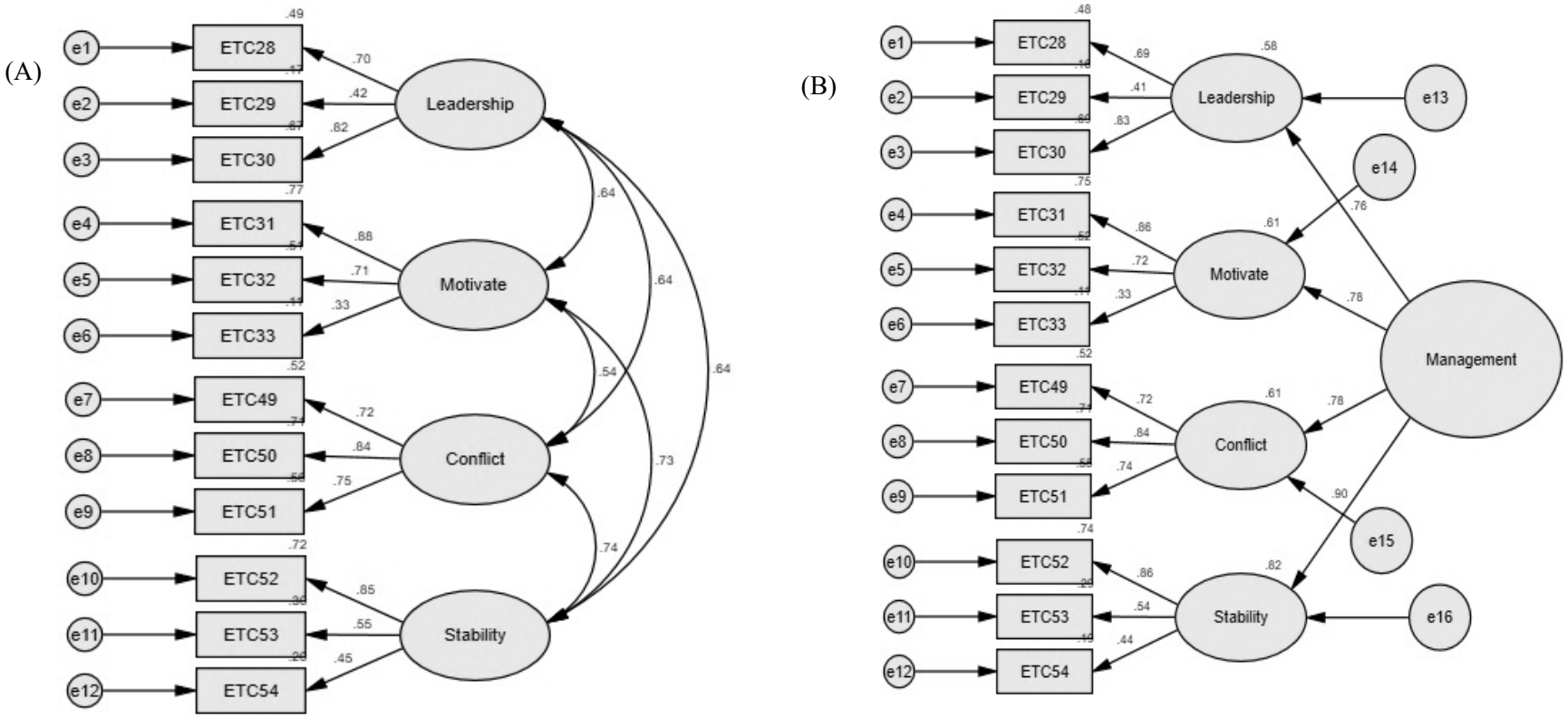
*Study 1: Confirmatory Factor Analysis Models for Items Loading on the ETC Communication Competency*




*Note.* Model A represents a model in which the competencies are separate but covarying. Model B represents a model in which the competencies load onto a single higher-order factor (e.g., Communication). ETC = Enhanced Teamwork Competencies; AL = Active Listening. Standardised betas are reported.

**Figure 3**

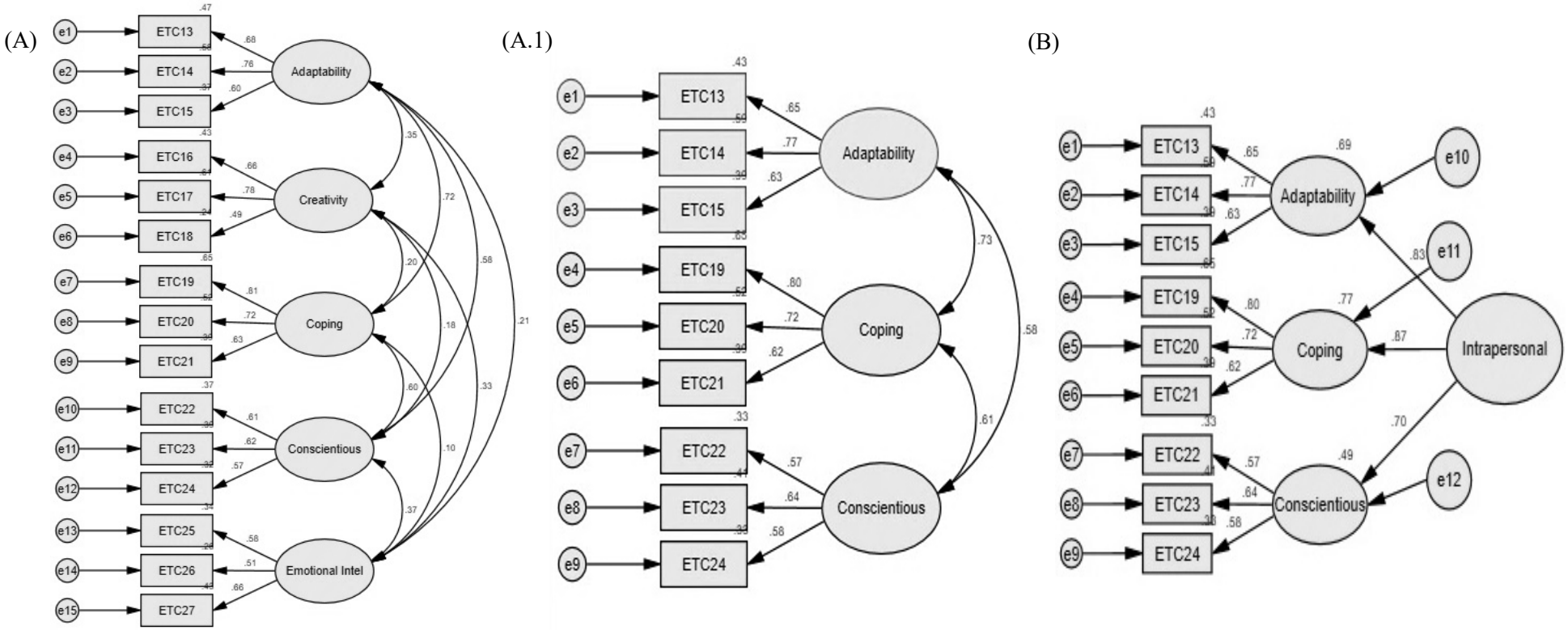
*Study 1: Confirmatory Factor Analysis models for items loading on the ETC Management Competency*




*Note.* Model A represents a model in which the competencies are separate but covarying. Model B represents a model in which the competencies load onto a single higher-order factor (e.g., Management). ETC = Enhanced Teamwork Competencies. Standardised betas are reported.

**Figure 4**

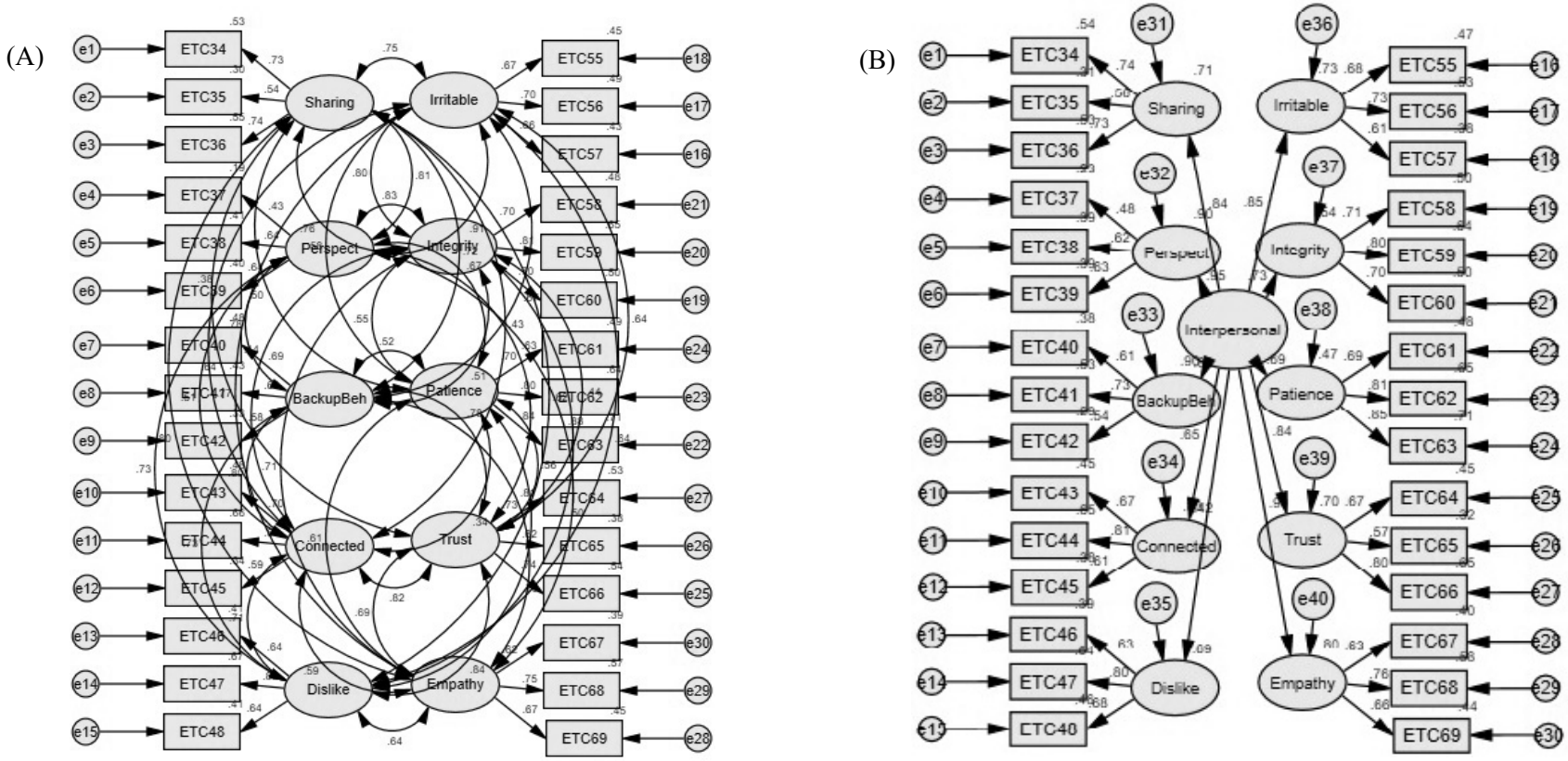
*Study 1: Confirmatory Factor Analysis models for items loading on the ETC Intrapersonal Competency*




*Note.* Model A represents a model in which the competencies are separate but covarying. Model A.1 represents a model without Creativity and Emotional Intelligence competencies. Model B represents a model in which the competencies load onto a single higher-order factor (e.g., Intrapersonal). ETC = Enhanced Teamwork Competencies. Standardised betas are reported.

**Figure 5**

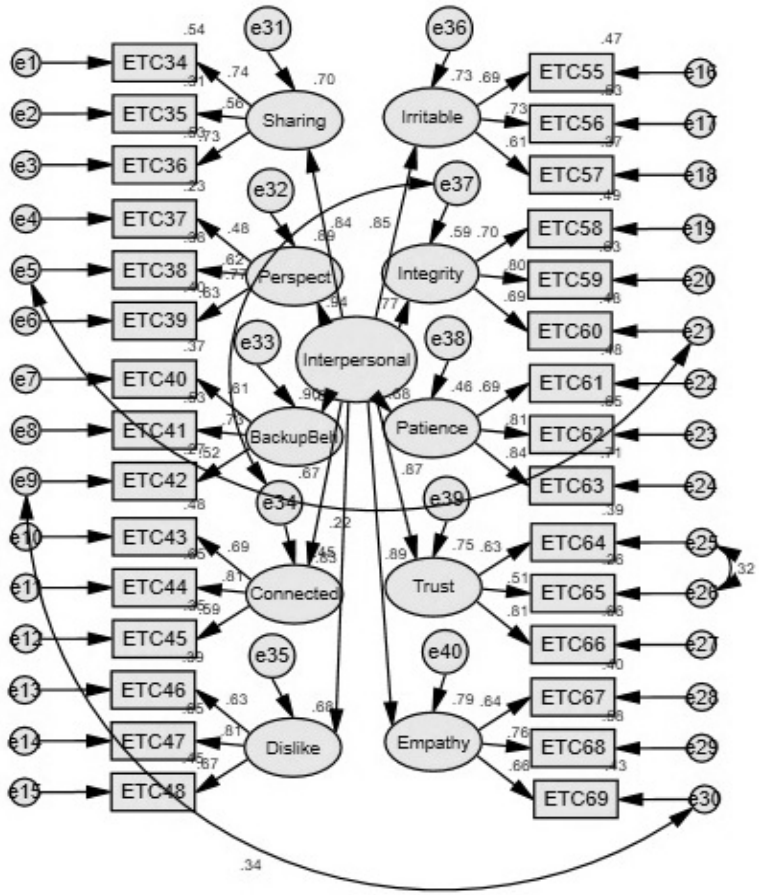
*Study 1: Confirmatory Factor Analysis models for items loading on the ETC Interpersonal Competency*




*Note.* Model A represents a model in which the competencies are separate but covarying. Model B represents a model in which the competencies load onto a single higher-order factor (e.g., Interpersonal). ETC = Enhanced Teamwork Competencies. Standardised betas are reported.

**Figure 5 (cont.)**

(B.1)




*Note.* Model B.1 represents a model in which the competencies load onto a single higher-order factor (e.g., Interpersonal) with four modification indices. ETC = Enhanced Teamwork Competencies. Standardised betas are reported.

**Figure 6**

*Study 1: Conceptual Path Models for the Effects of Narcissism on Team Processes and Team Performance via Teamwork Competencies*

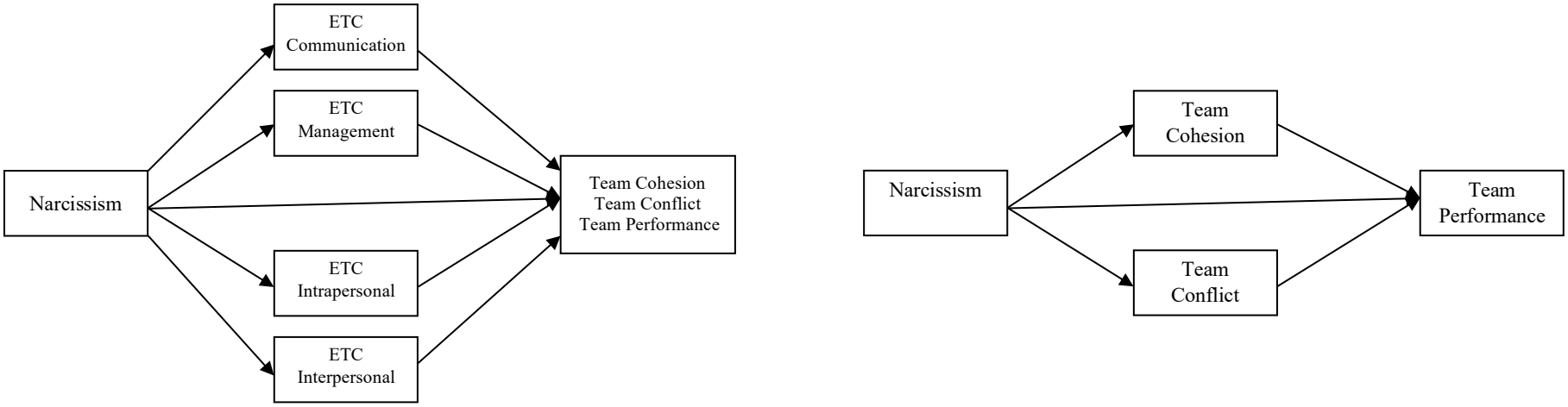
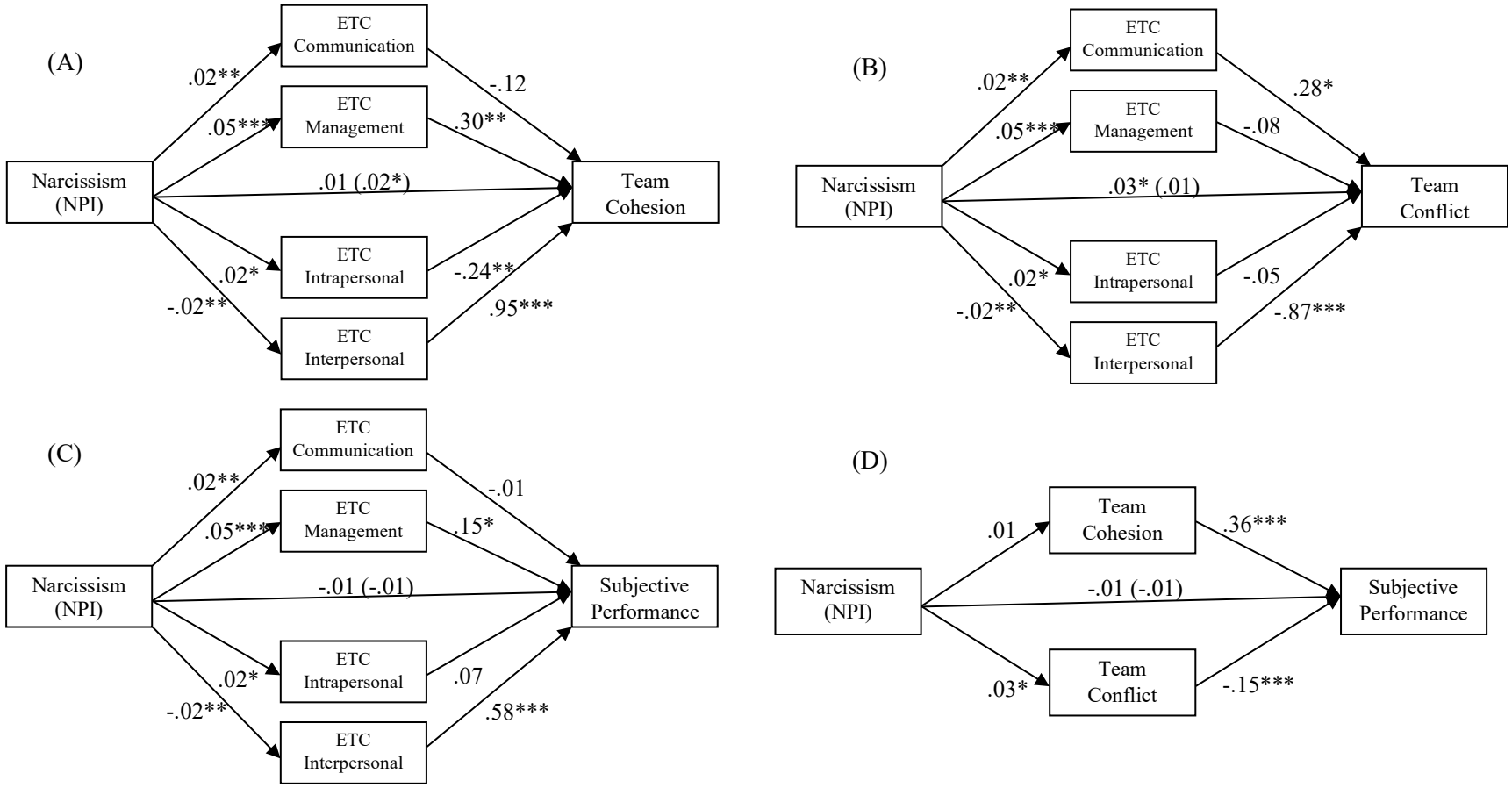


**Figure 7**

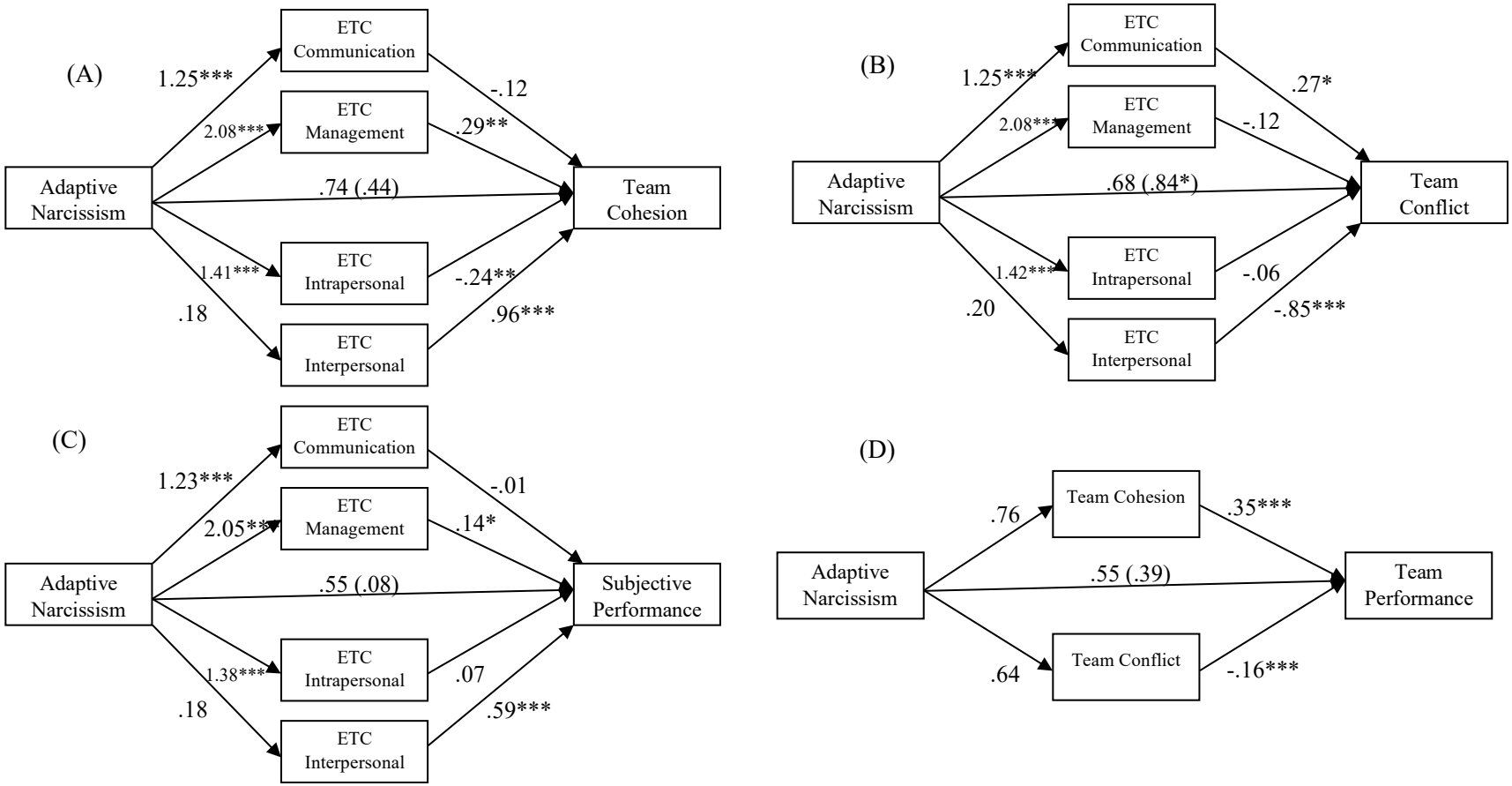
*Study 1: Path Models for the Effects of Narcissism (NPI) on Team Processes and Team Performance via Teamwork Competencies*




*Note.* Model (No. 4) controls for sample, gender, and impression management. The value in parentheses is the direct effect (c') of each model.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

**Figure 8**

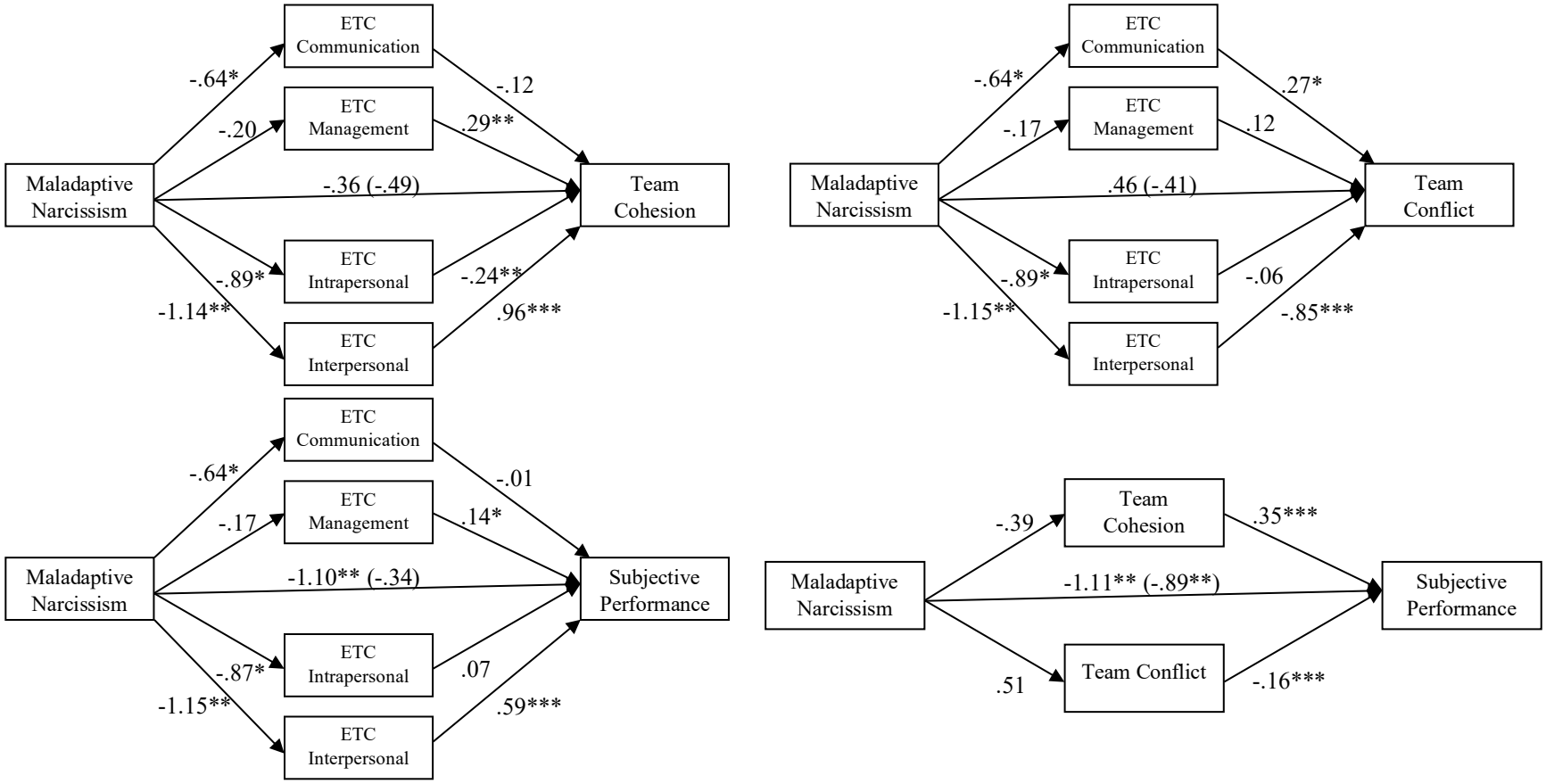
*Study 1: Path Models for the Effects of Adaptive Narcissism on Team Processes and Team Performance via Teamwork Competencies*




*Note.* Model (No. 4) controls for maladaptive narcissism, sample, gender, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 9**

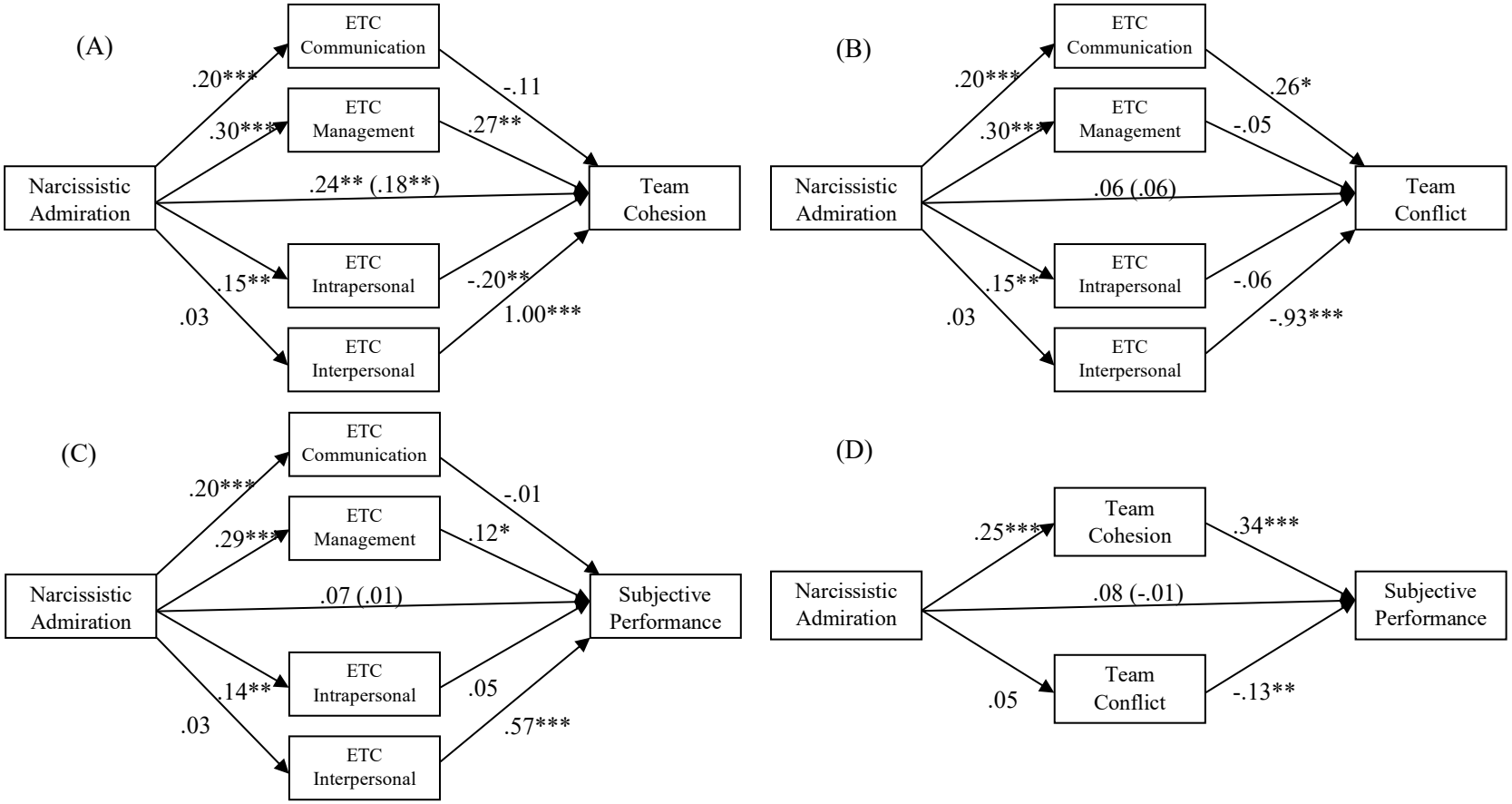
*Study 1: Path Models for the Effects of Maladaptive Narcissism on Team Processes and Team Performance via Teamwork Competencies*




*Note.* Model (No. 4) controls for adaptive narcissism, sample, gender, and impression management. The value in parentheses is the direct effect (c') of each model.
*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 10**

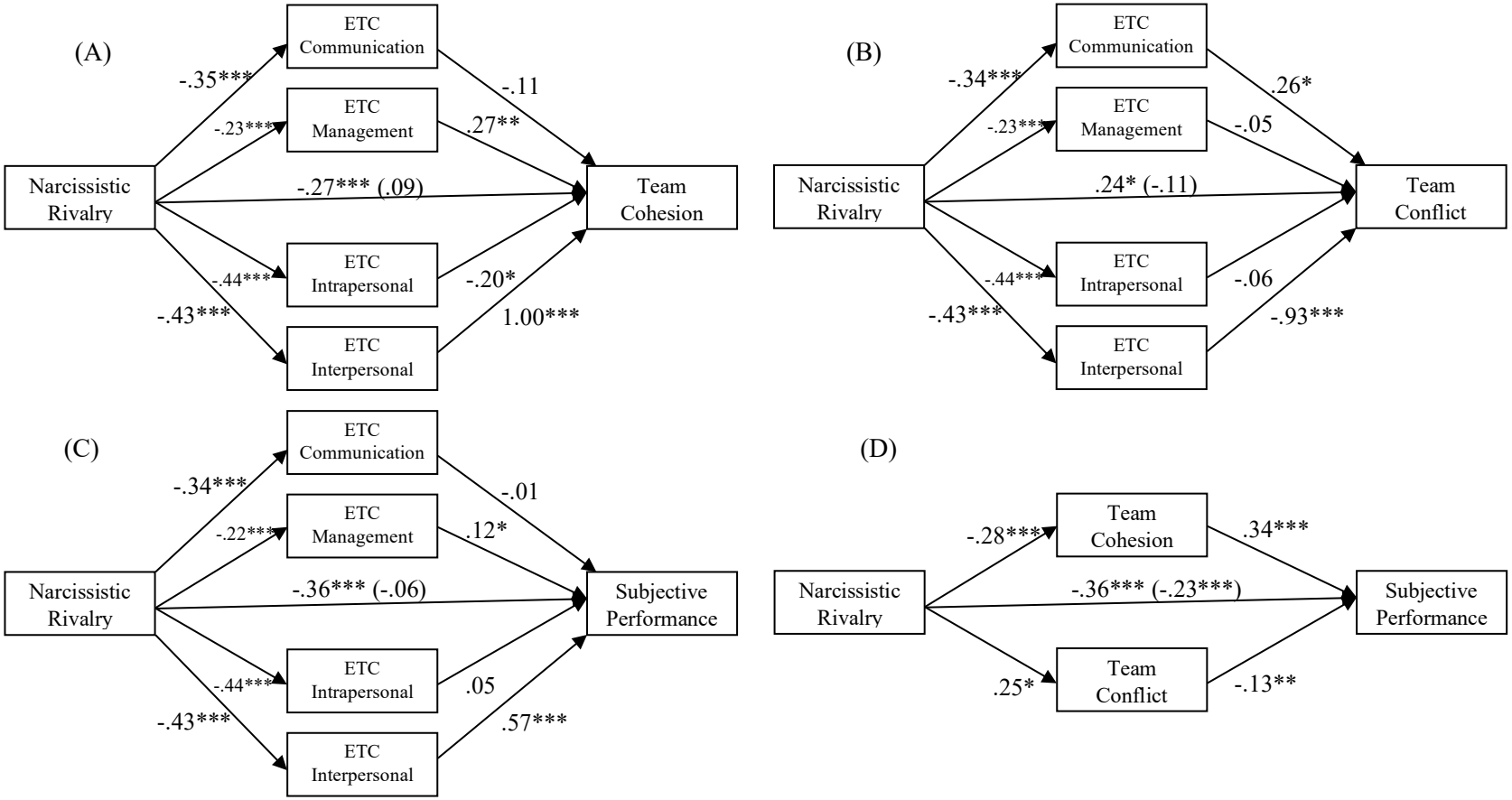
*Study 1: Path Models for the Effects of Narcissistic Admiration on Team Processes and Team Performance via Teamwork Competencies*




*Note.* Model (No. 4) controls for narcissistic rivalry, sample, gender, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 11**

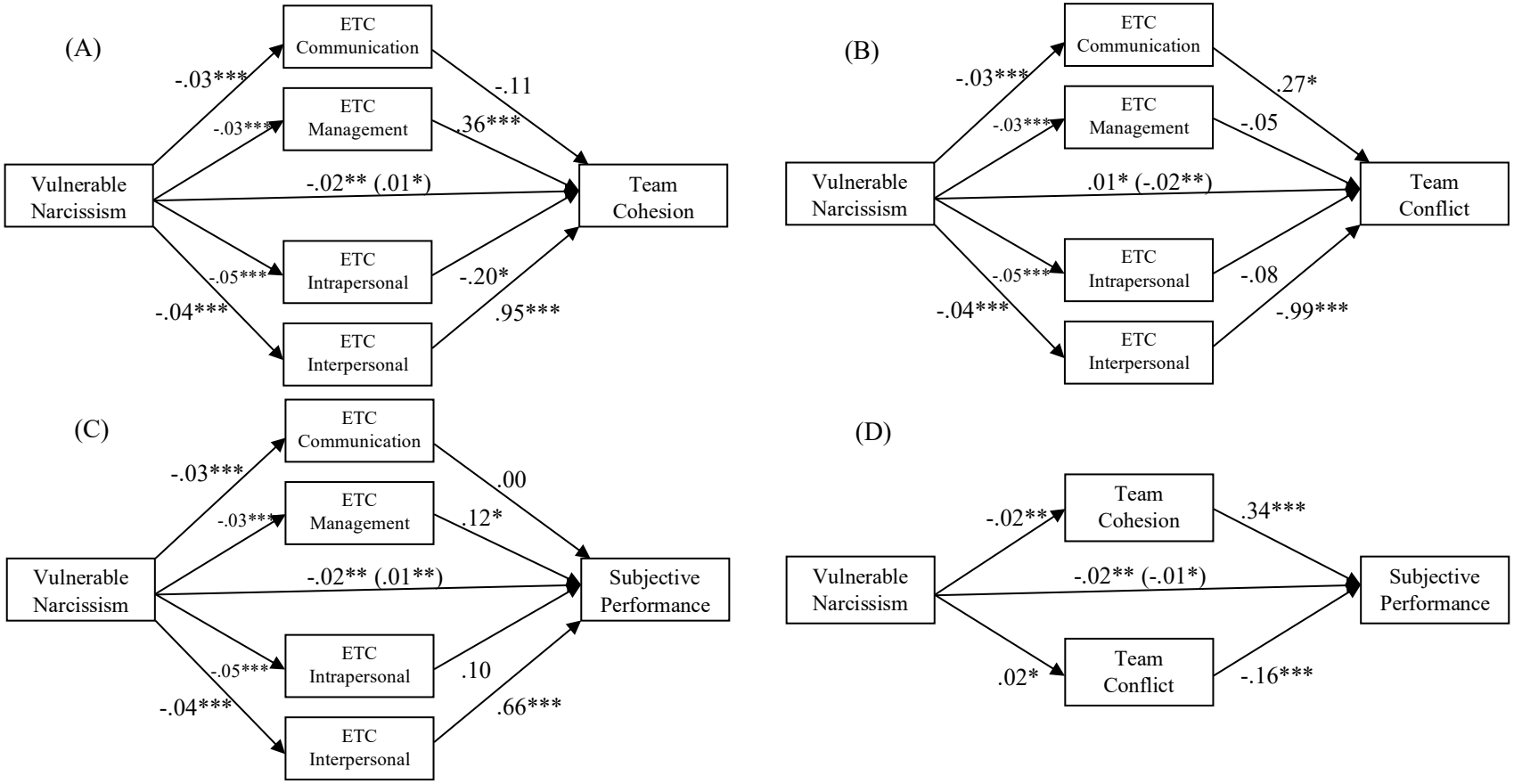
*Study 1: Path Models for the Effects of Narcissistic Rivalry on Team Processes and Team Performance via Teamwork Competencies*




*Note.* Model (No. 4) controls for narcissistic admiration, sample, gender, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 12**

*Study 1: Path Models for the Effects of Vulnerable Narcissism on Team Processes and Outcomes via Teamwork Competencies*




*Note.* Model (No. 4) controls for sample, gender, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 13**

*Study 1: Conceptual Path Model for the Effects of Narcissism on Team Performance via Teamwork Competencies and Team Processes*

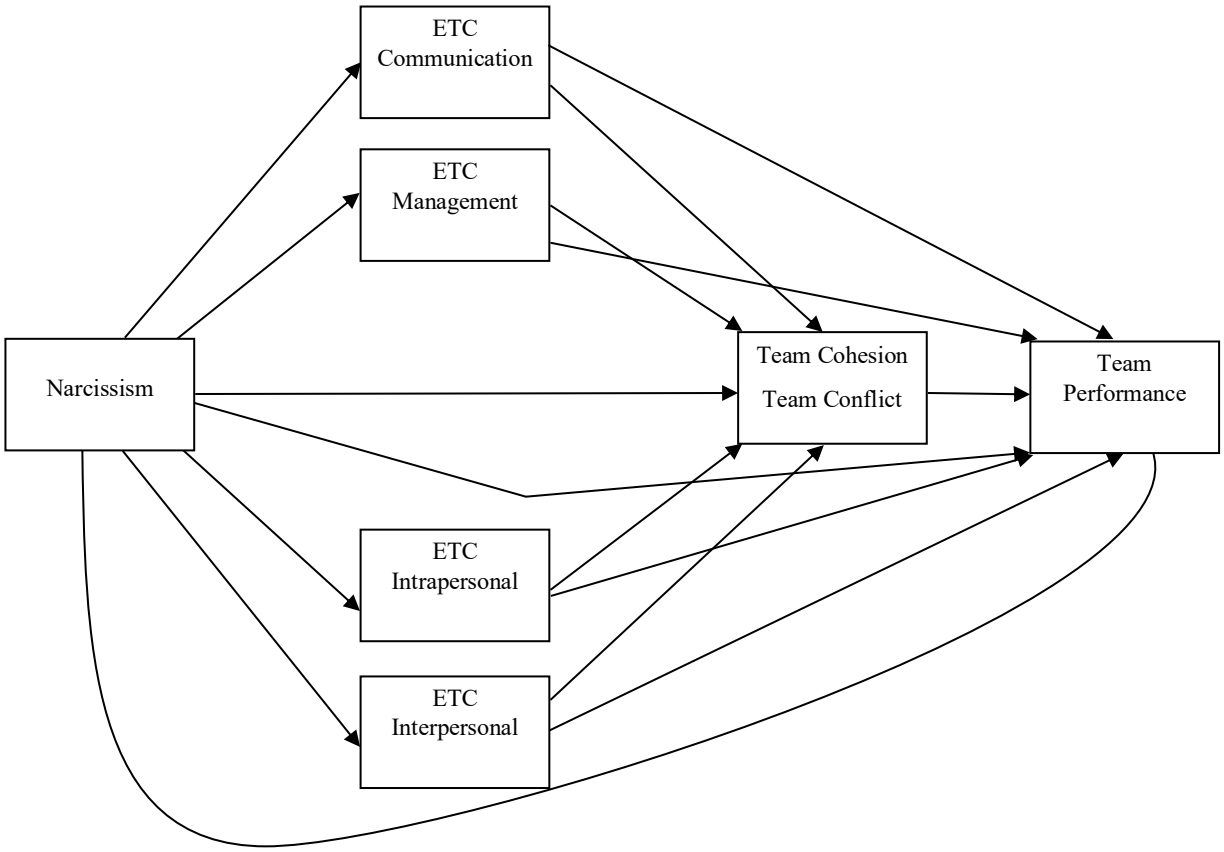
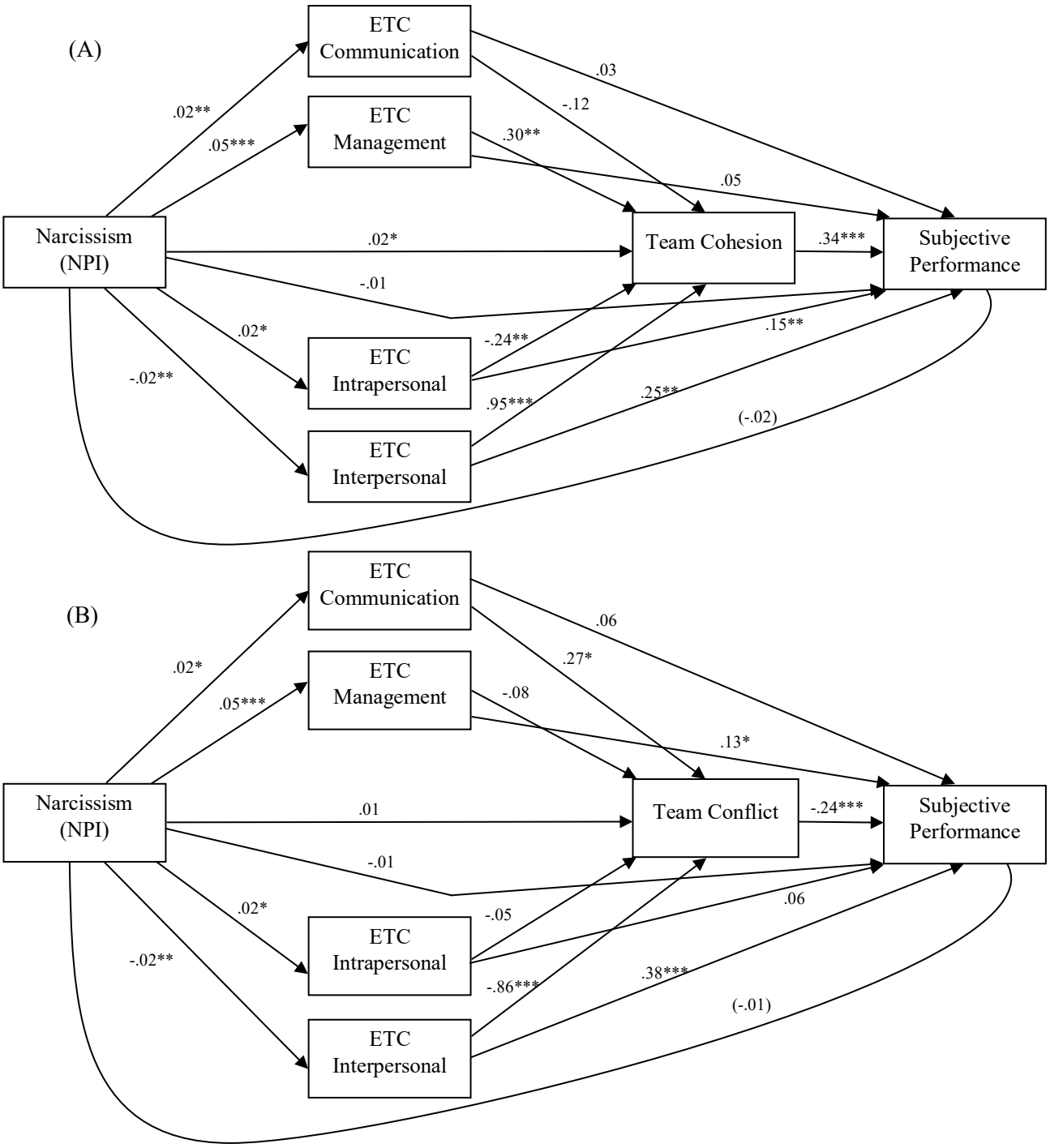


**Figure 14**

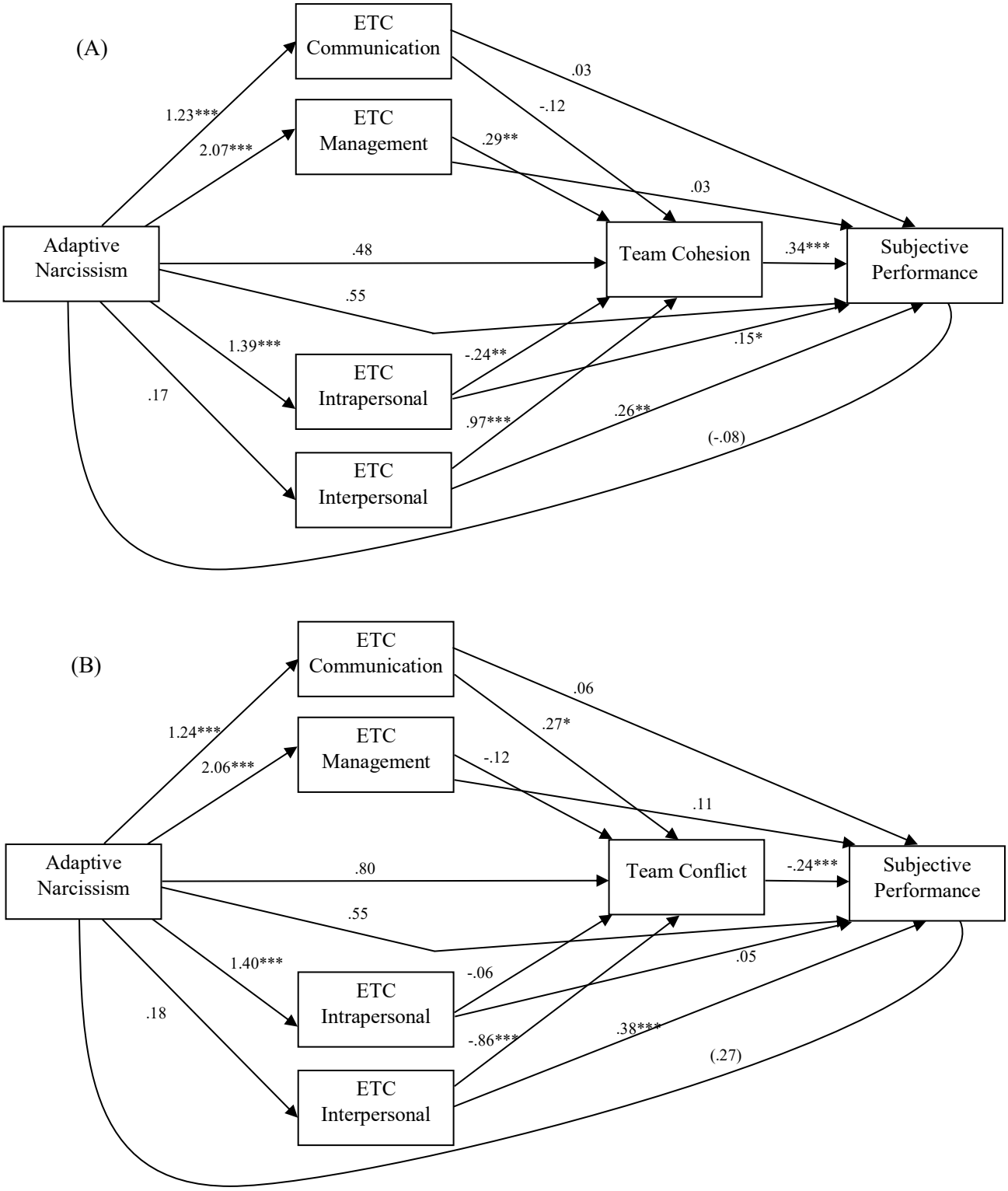
*Study 1: Path Models for the Effects of Narcissism (NPI) on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators*




*Note.* Models control for sample, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 15**

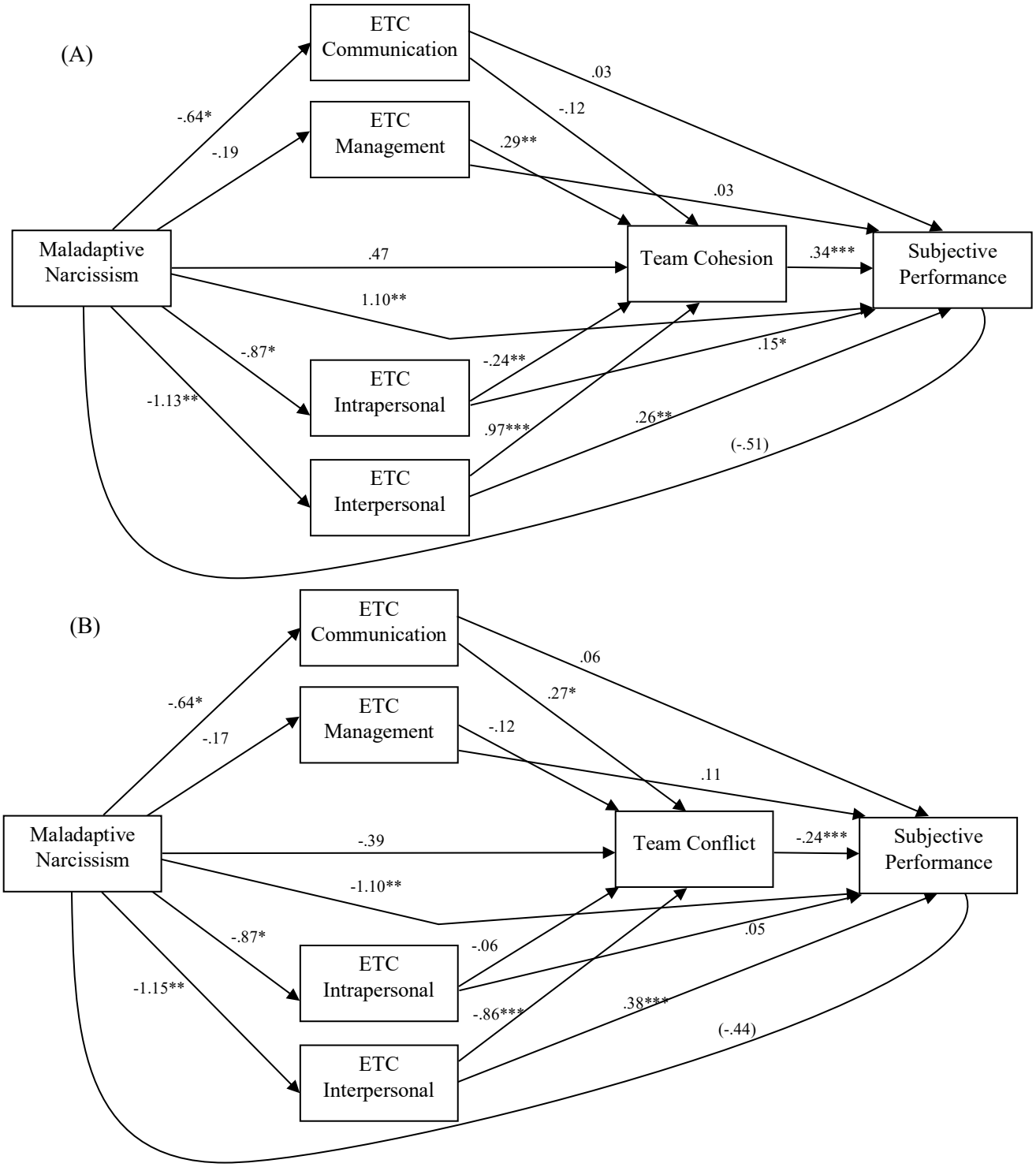
*Study 1: Path Models for the Effects of Adaptive Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators*




*Note.* Models control for maladaptive narcissism, sample, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 16**

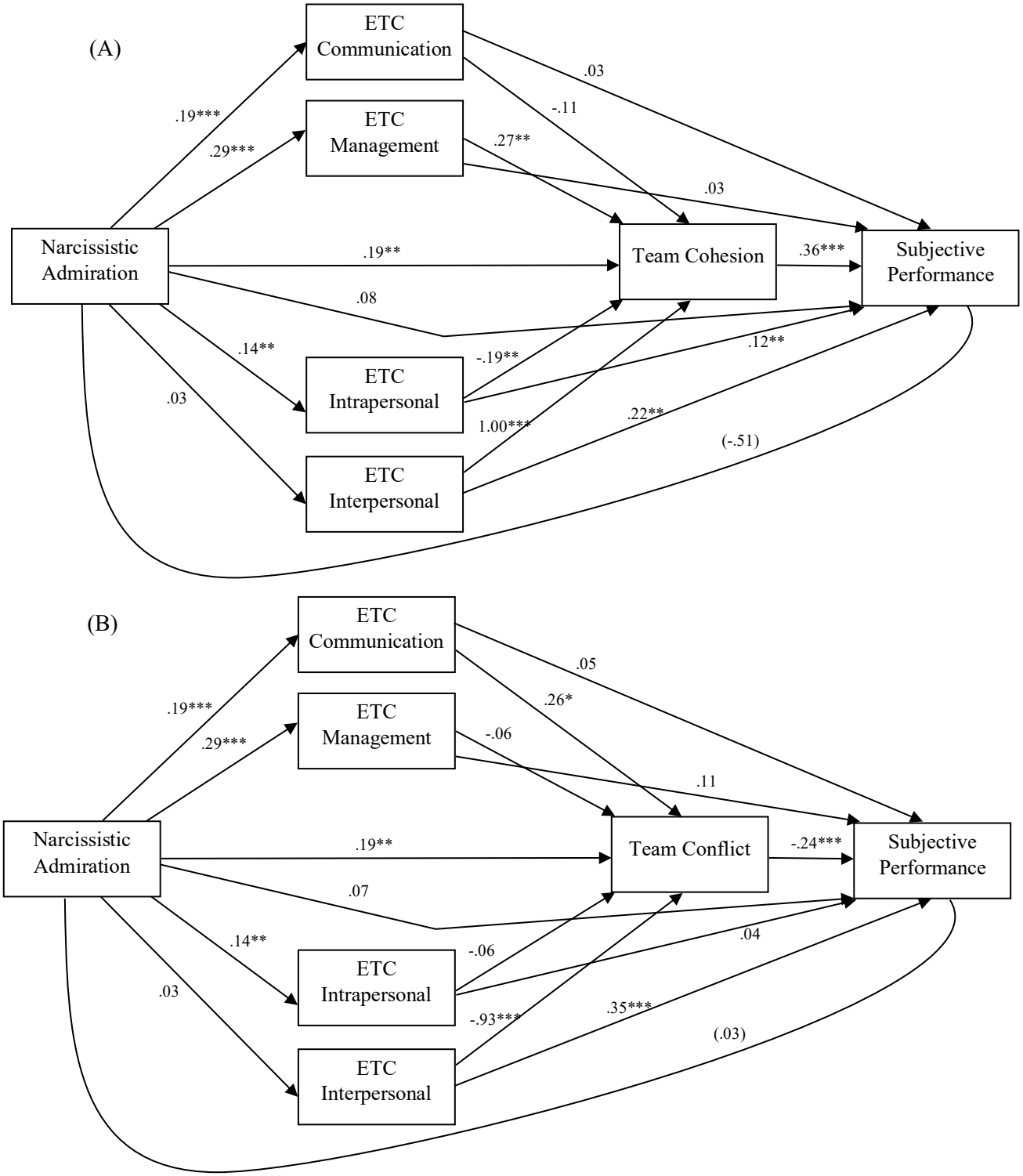
*Study 1: Path Models for the Effects of Maladaptive Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators*




*Note.* Models control for adaptive narcissism, sample, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 17**

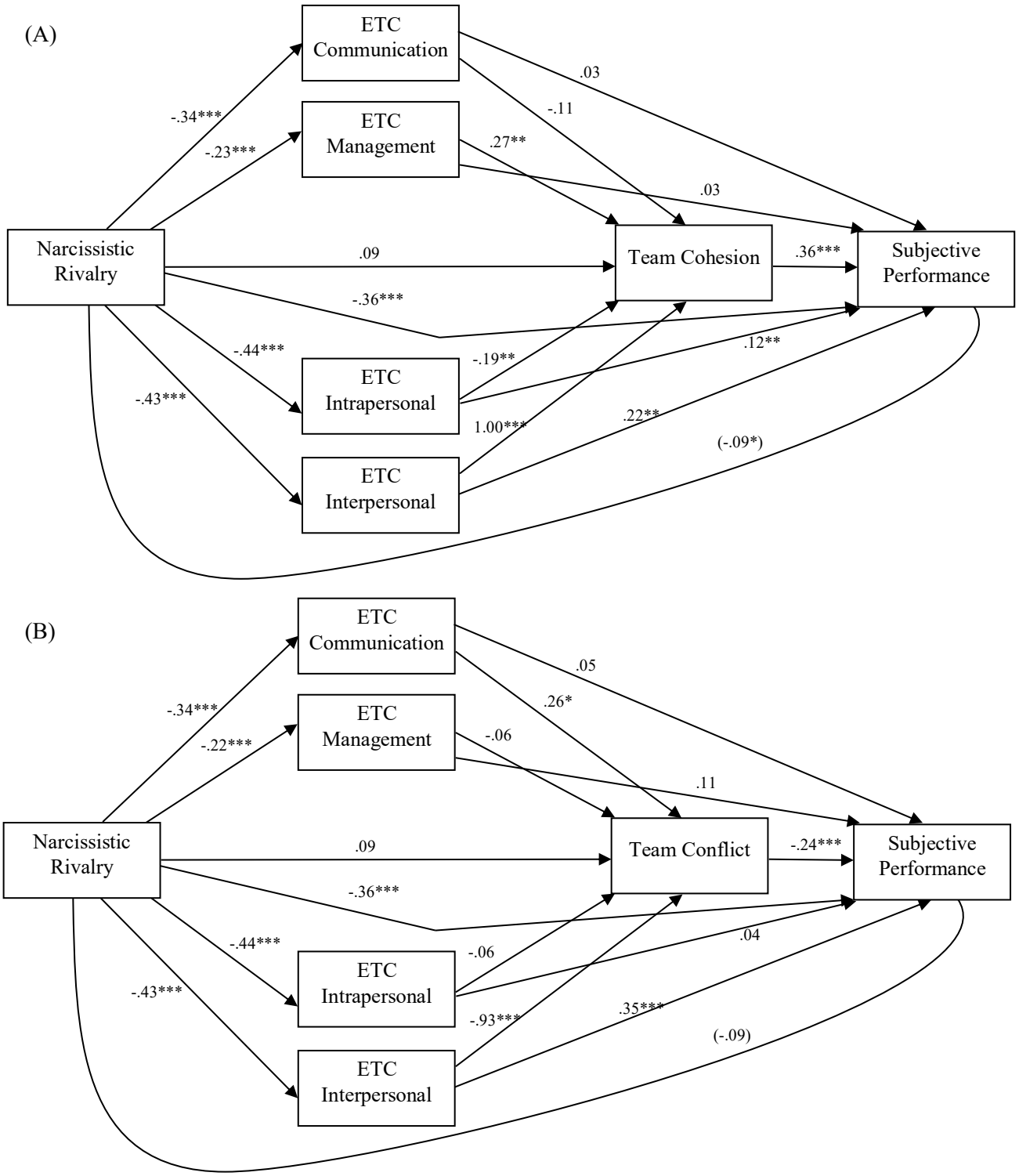
*Study 1: Path Models for the Effects of Narcissistic Admiration on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators*




*Note.* Models control for narcissistic rivalry, sample, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 18**

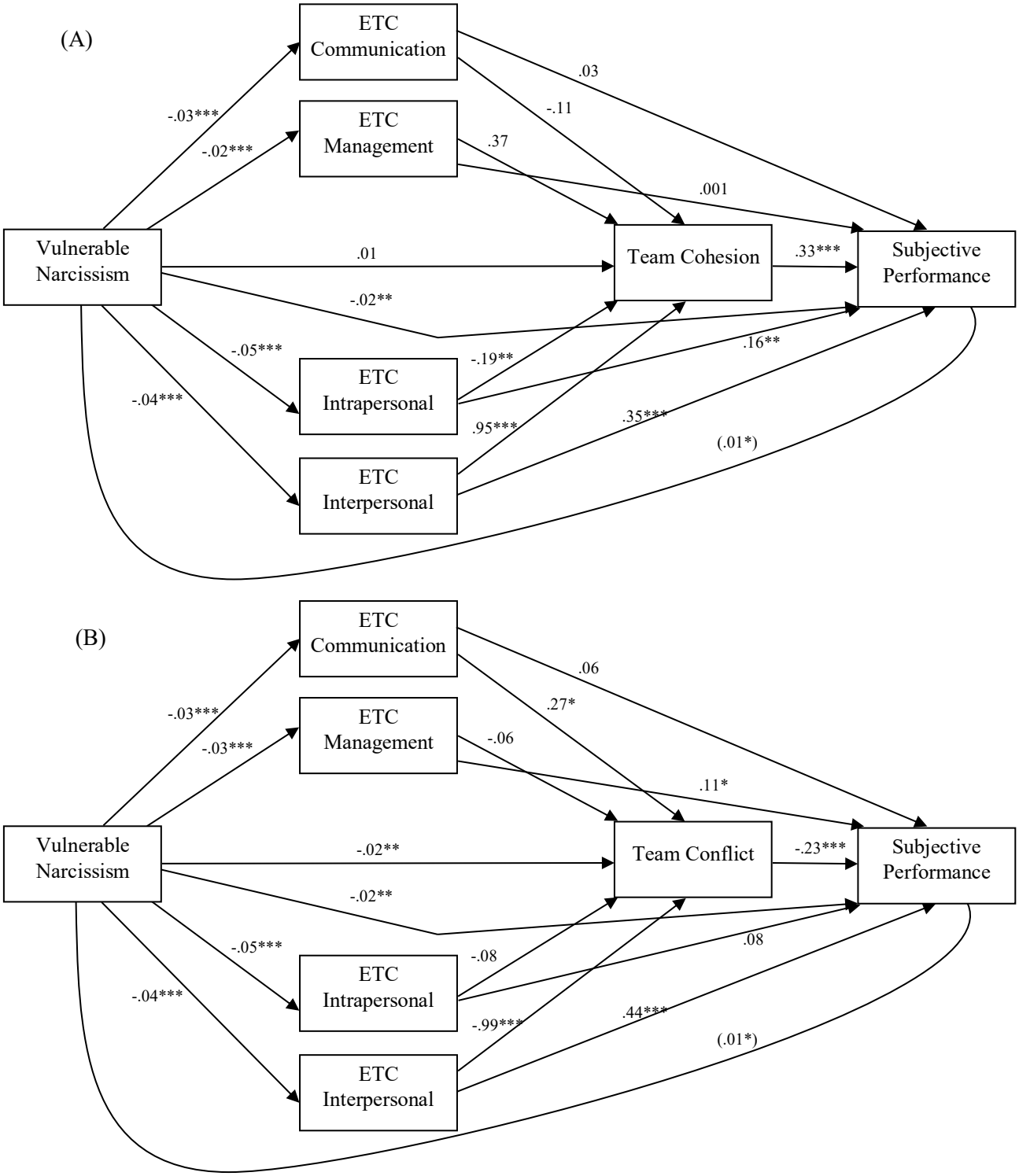
*Study 1: Path Models for the Effects of Narcissistic Rivalry on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators*




*Note.* Models control for narcissistic admiration, sample, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 19**

*Study 1: Path Models for the Effects of Vulnerable Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators*




*Note.* Models control for sample, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 20**

*Study 2: Conceptual Path Models for the Effects of Individual-Level Narcissism on Team Processes and Team Performance via Teamwork Competencies*

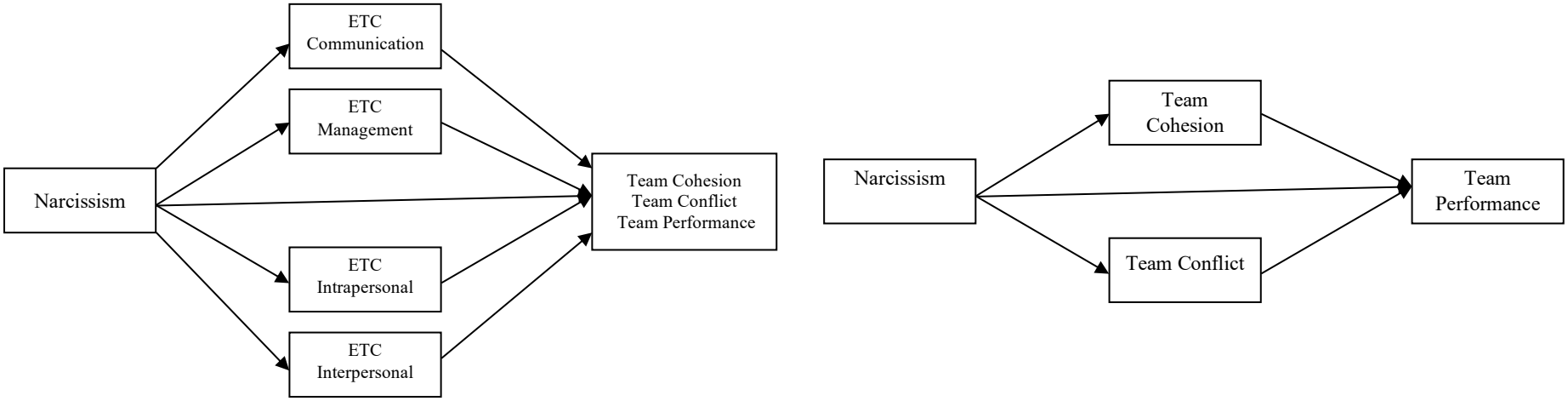
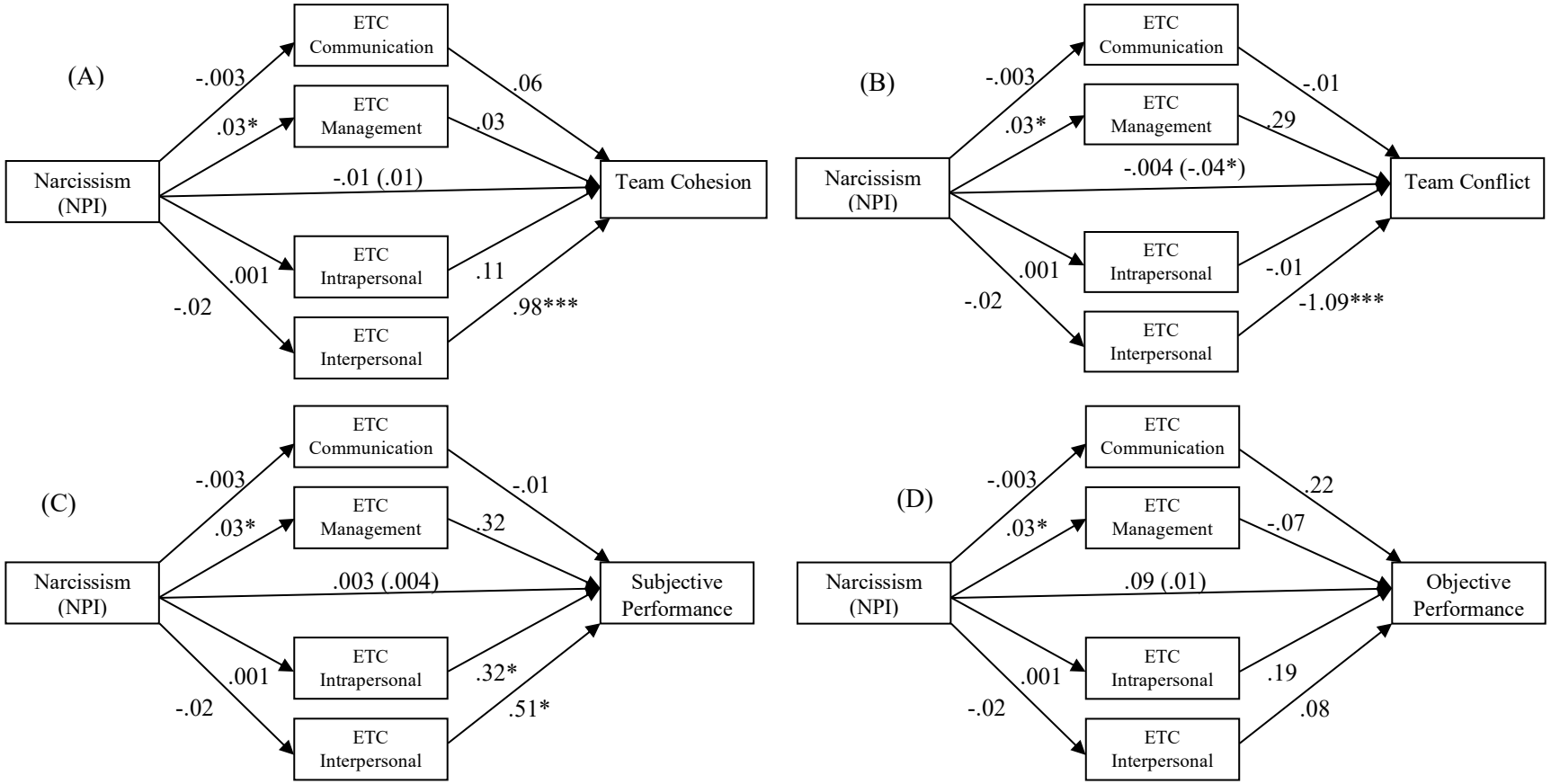


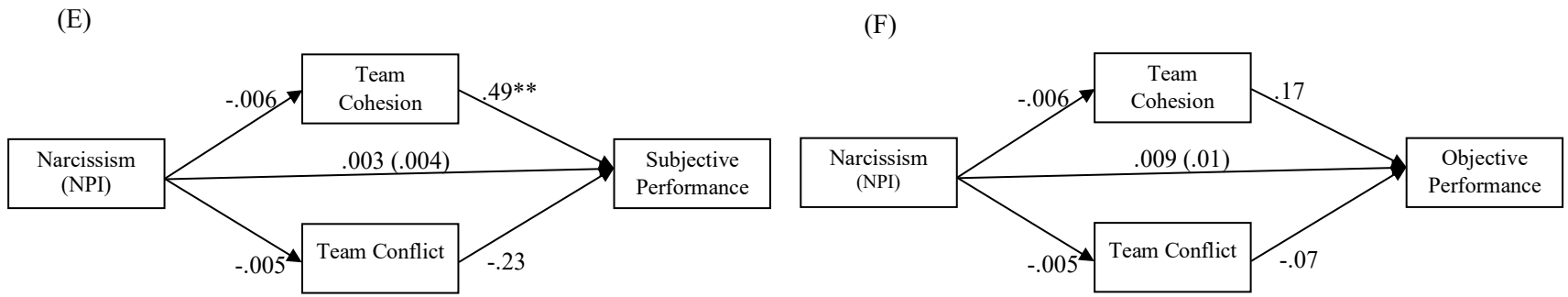
**Figure 21**

*Study 2: Path Models for the Effects of Individual-Level Narcissism (NPI) on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

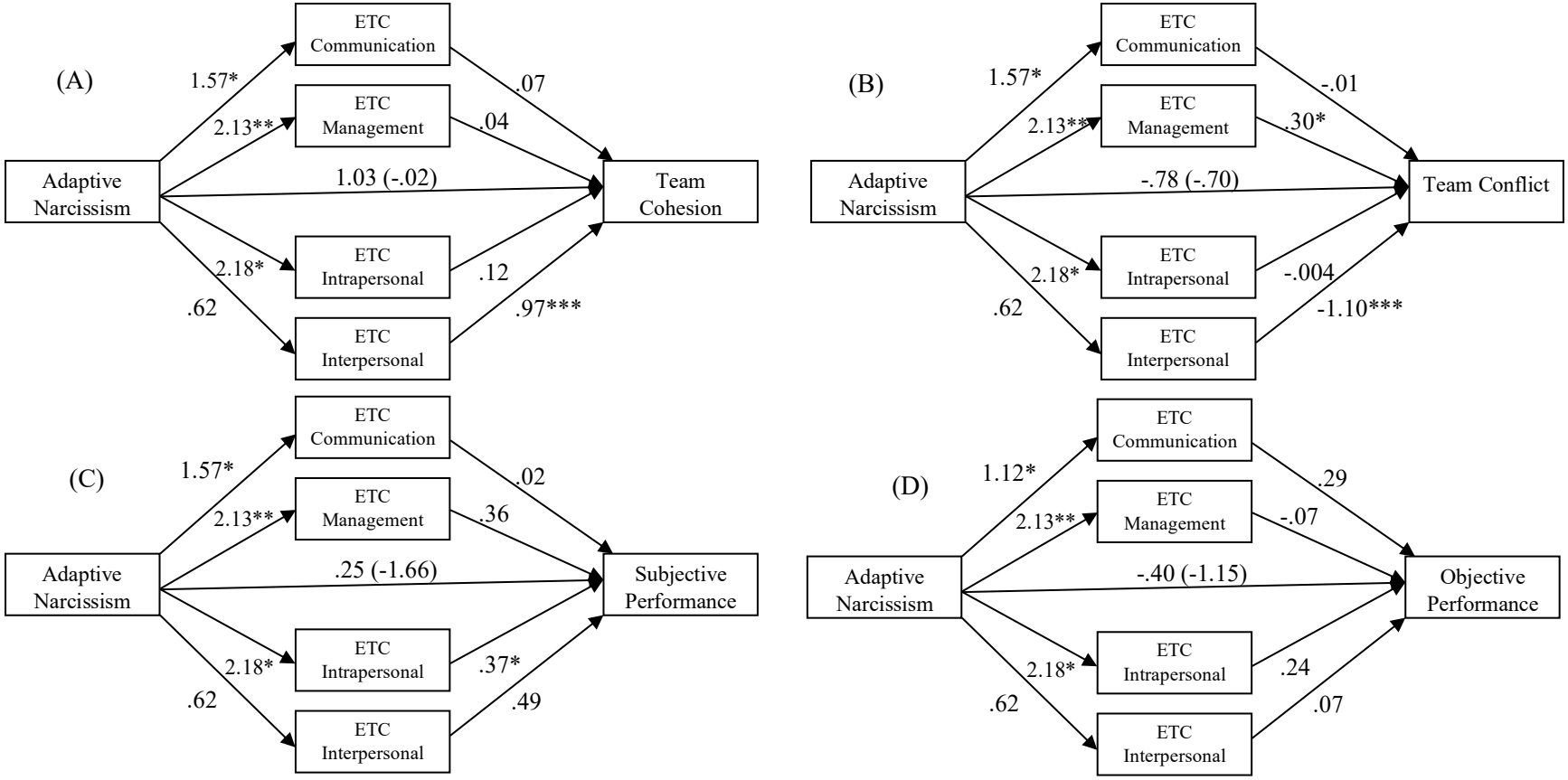
**Figure 21 (cont.)**




*Note.* Models control for gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

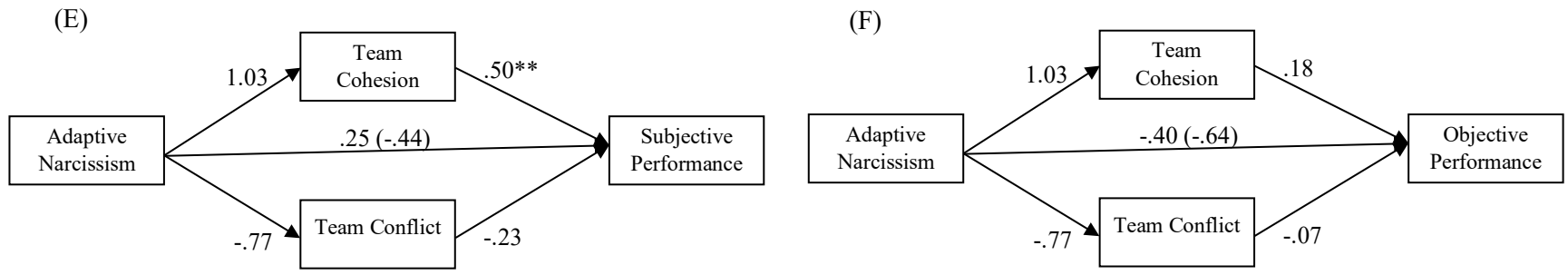
**Figure 22**

*Study 2: Path Models for the Effects of Individual-Level Adaptive Narcissism on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for maladaptive narcissism, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

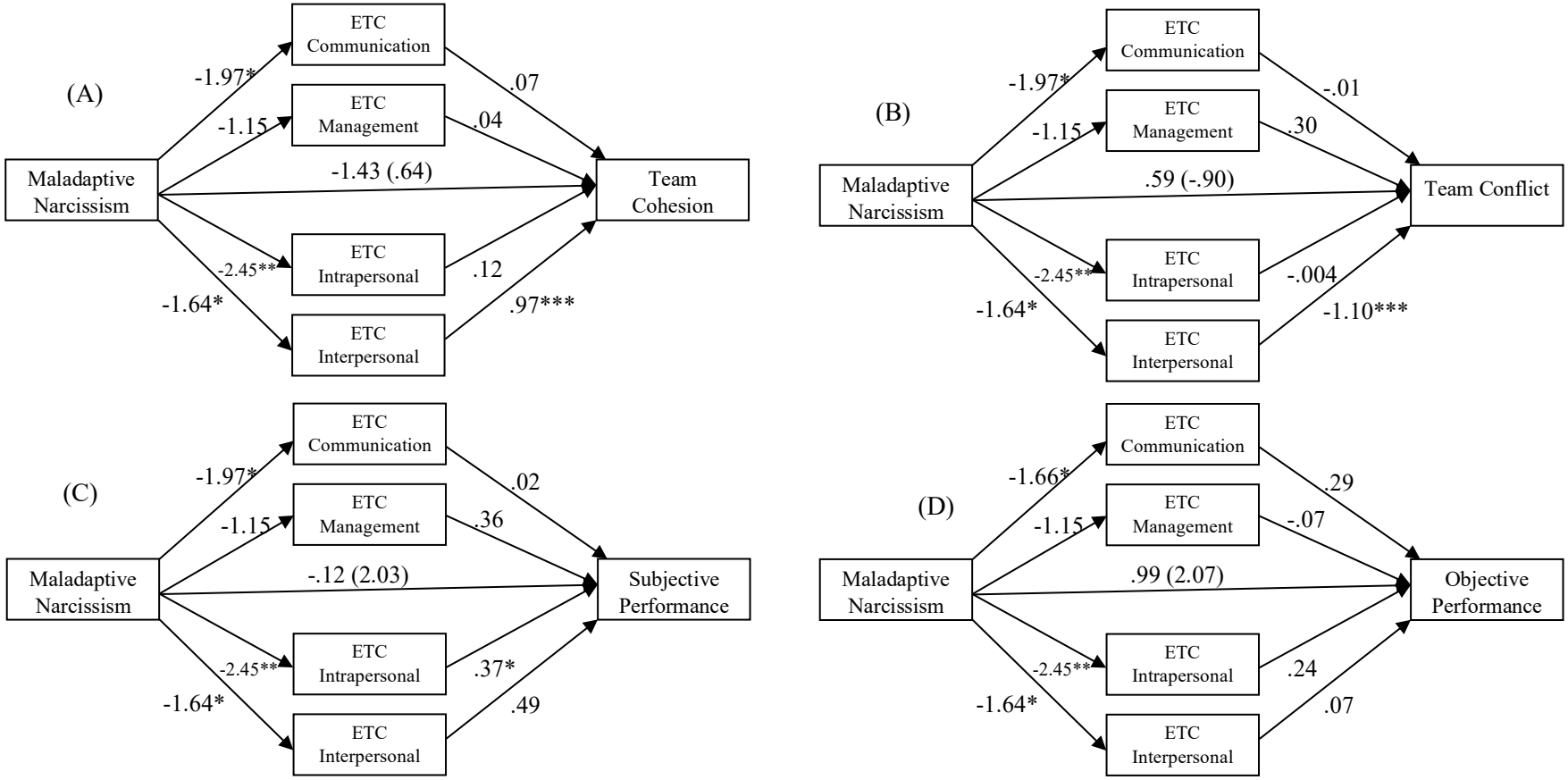
**Figure 22 (cont.)**




*Note.* Models control for maladaptive narcissism, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

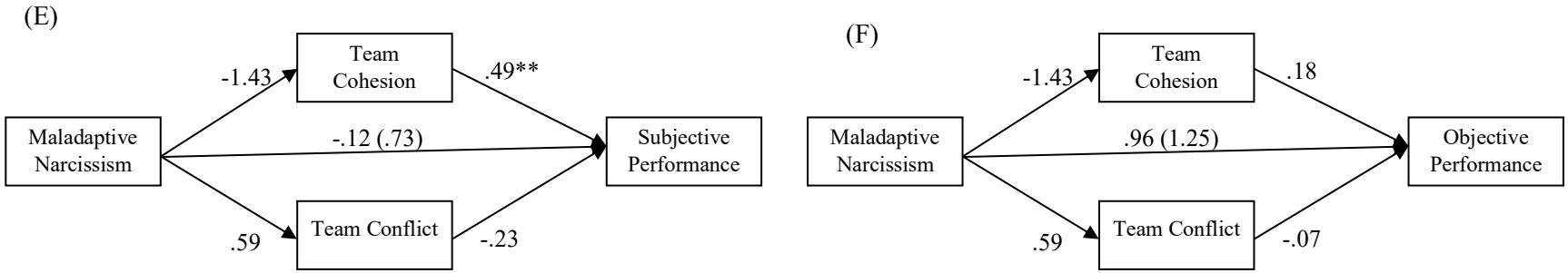
**Figure 23**

*Study 2: Path Models for the Effects of Individual-Level Maladaptive Narcissism on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for adaptive narcissism, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

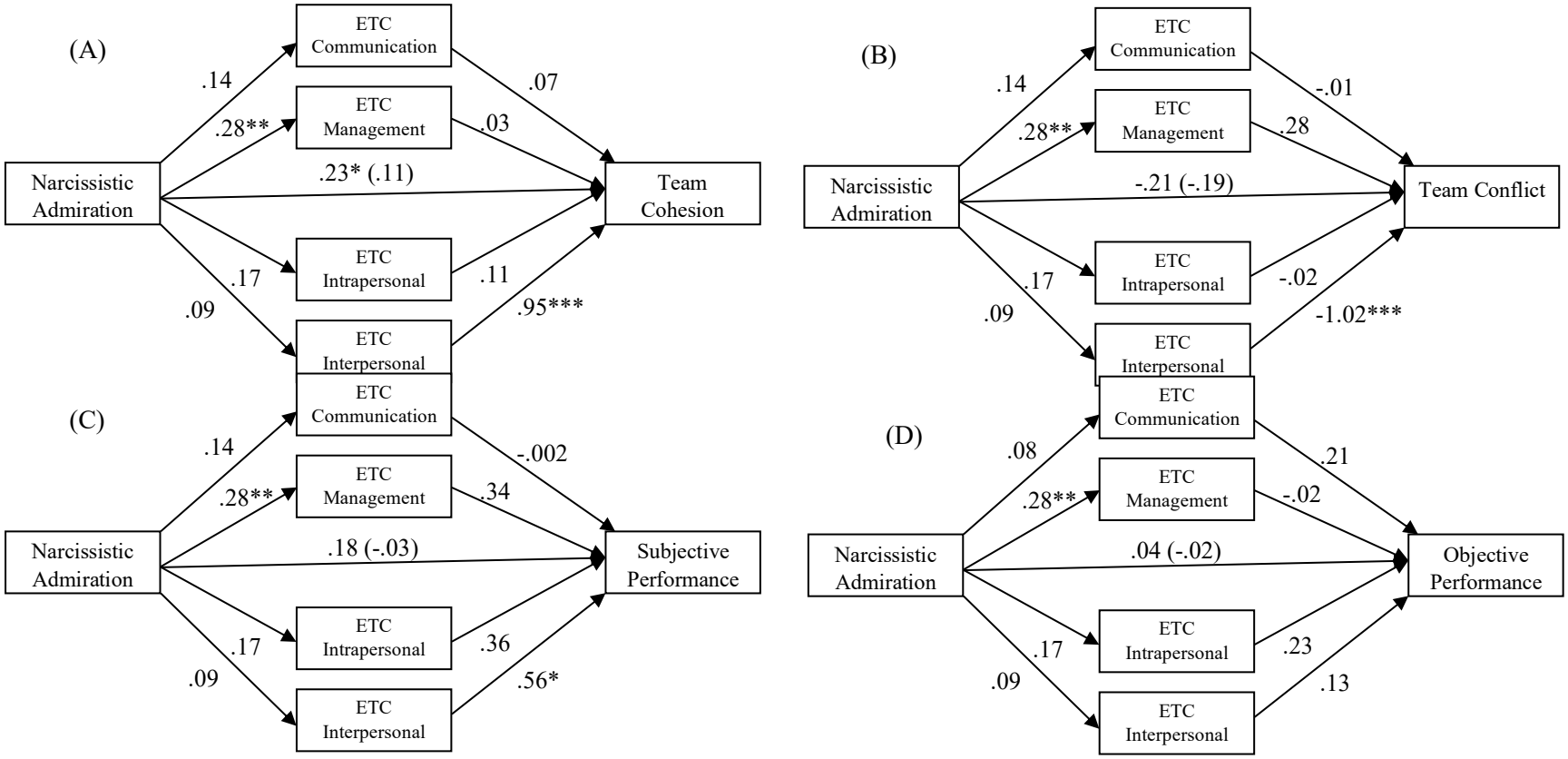
**Figure 23 (cont.)**




*Note.* Models control for adaptive narcissism, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

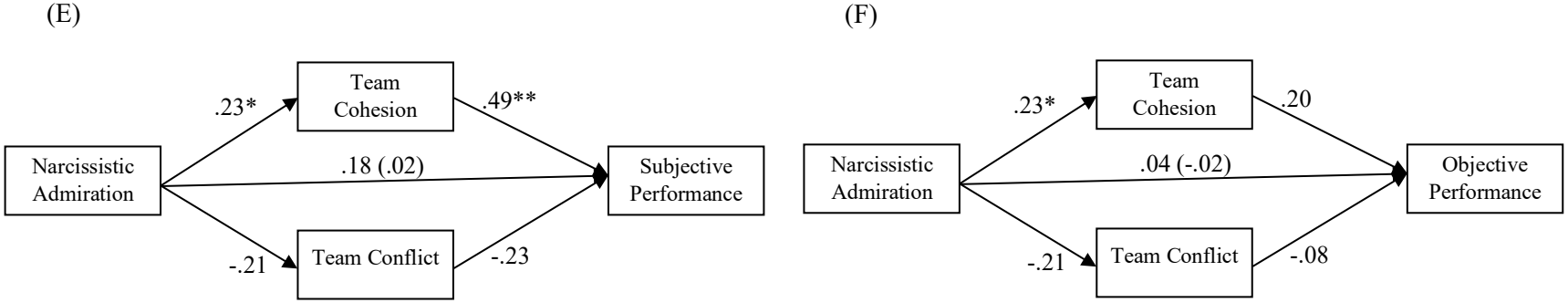
**Figure 24**

*Study 2: Path Models for the Effects of Individual-Level Narcissistic Admiration on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for narcissistic rivalry, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

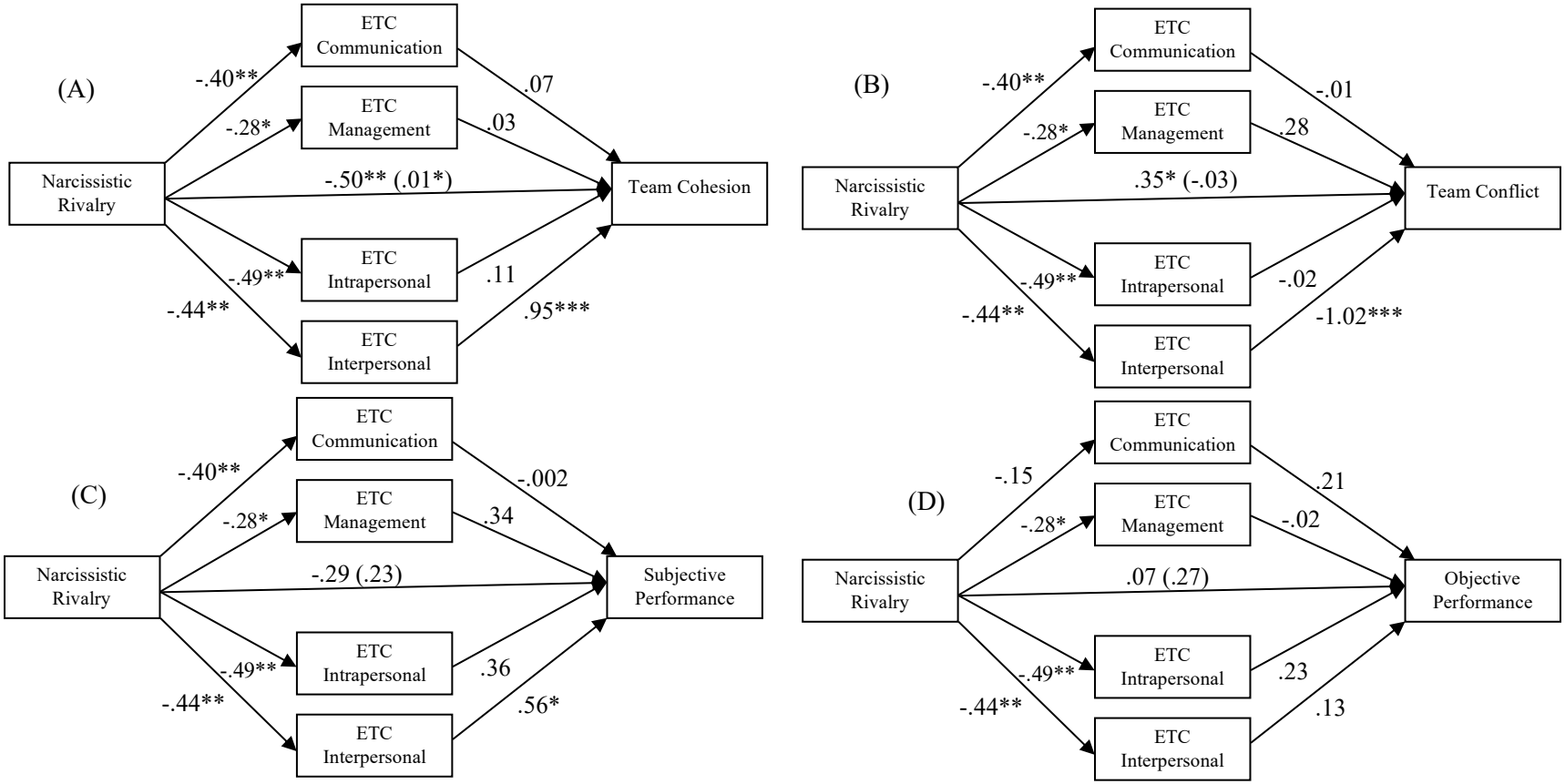
**Figure 24 (cont.)**




*Note.* Models control for narcissistic rivalry, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

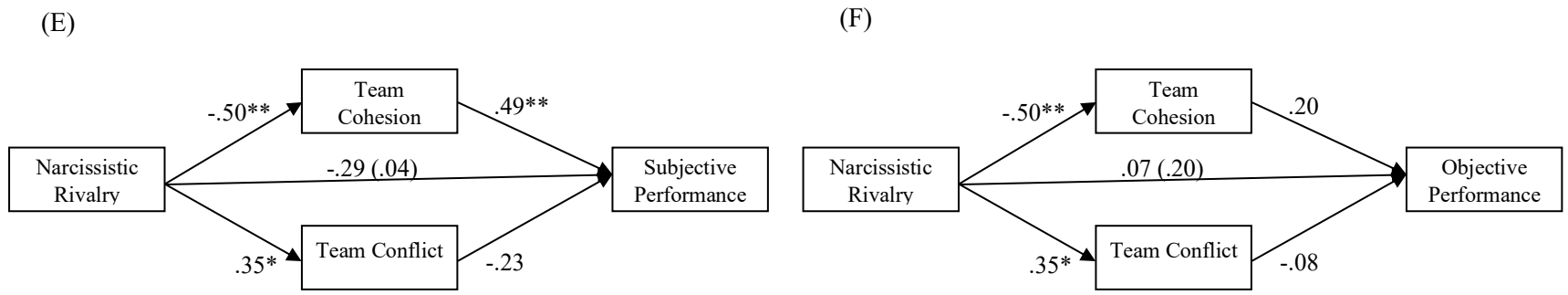
**Figure 25**

*Study 2: Path Models for the Effects of Individual-Level Narcissistic Rivalry on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for narcissistic admiration, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

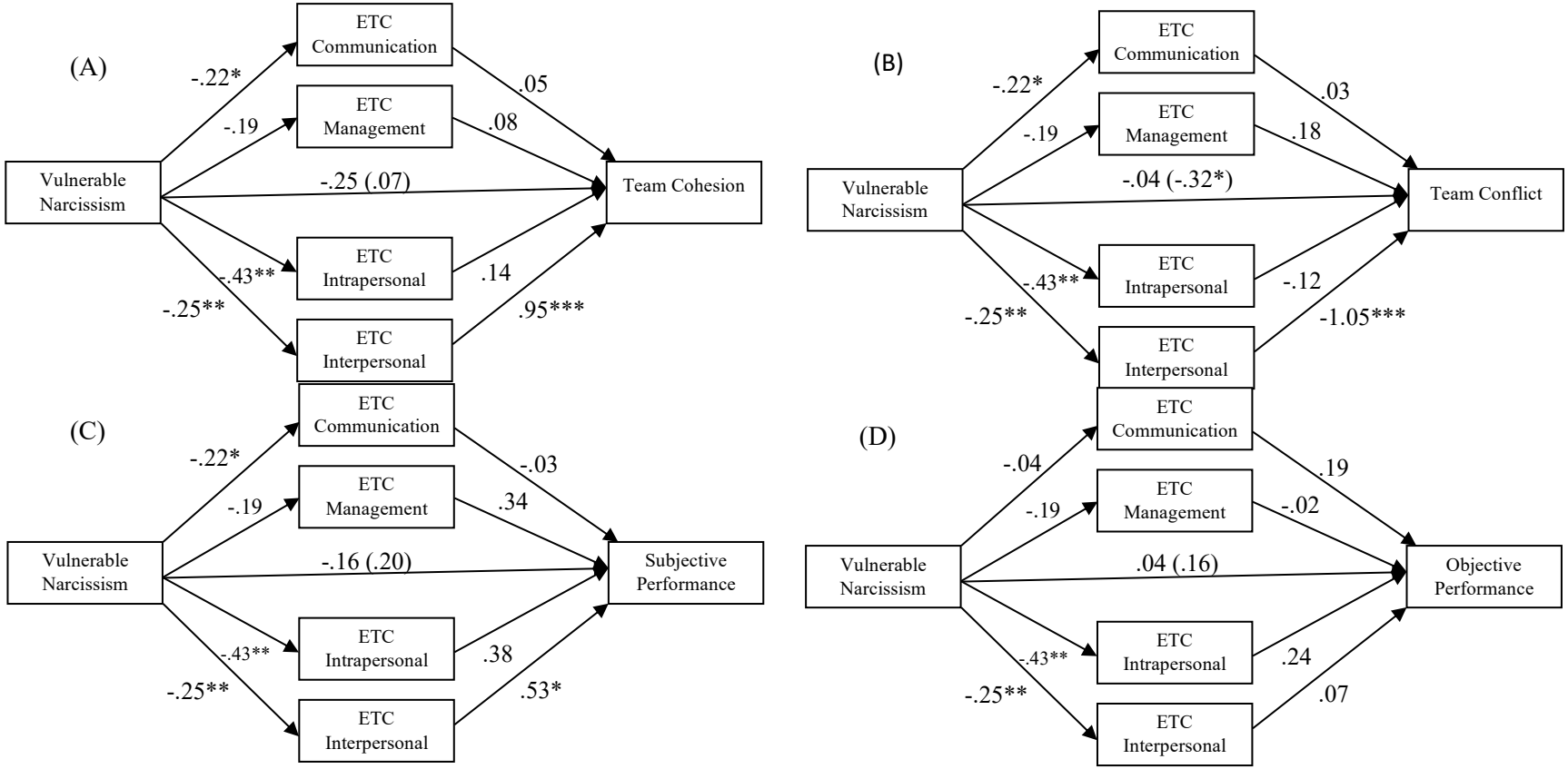
**Figure 25 (cont.)**




*Note.* Models control for narcissistic admiration, gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

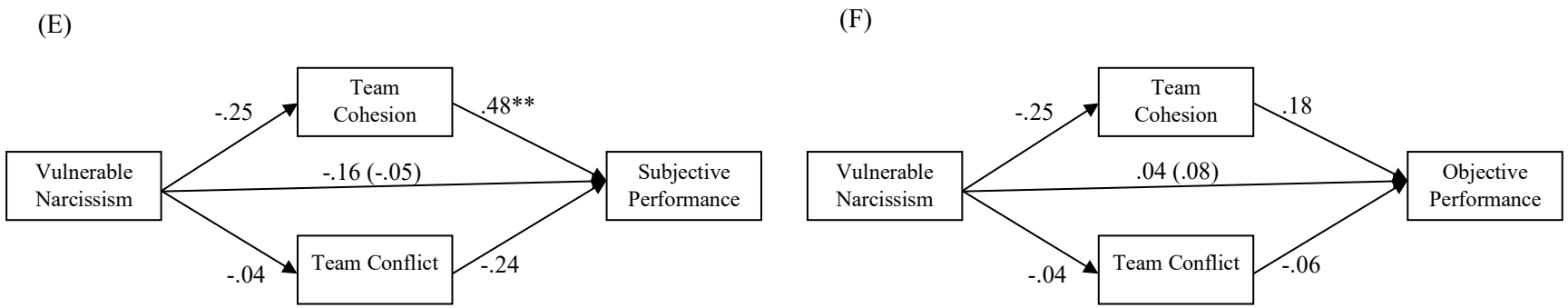
**Figure 26**

*Study 2: Path Models for the Effects of Individual-Level Vulnerable Narcissism on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 26 (cont.)**




*Note.* Models control for gender and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 27**

*Study 2: Conceptual Path Model for the Effects of Individual-Level Narcissism on Team Performance via Teamwork Competencies and Team Processes*

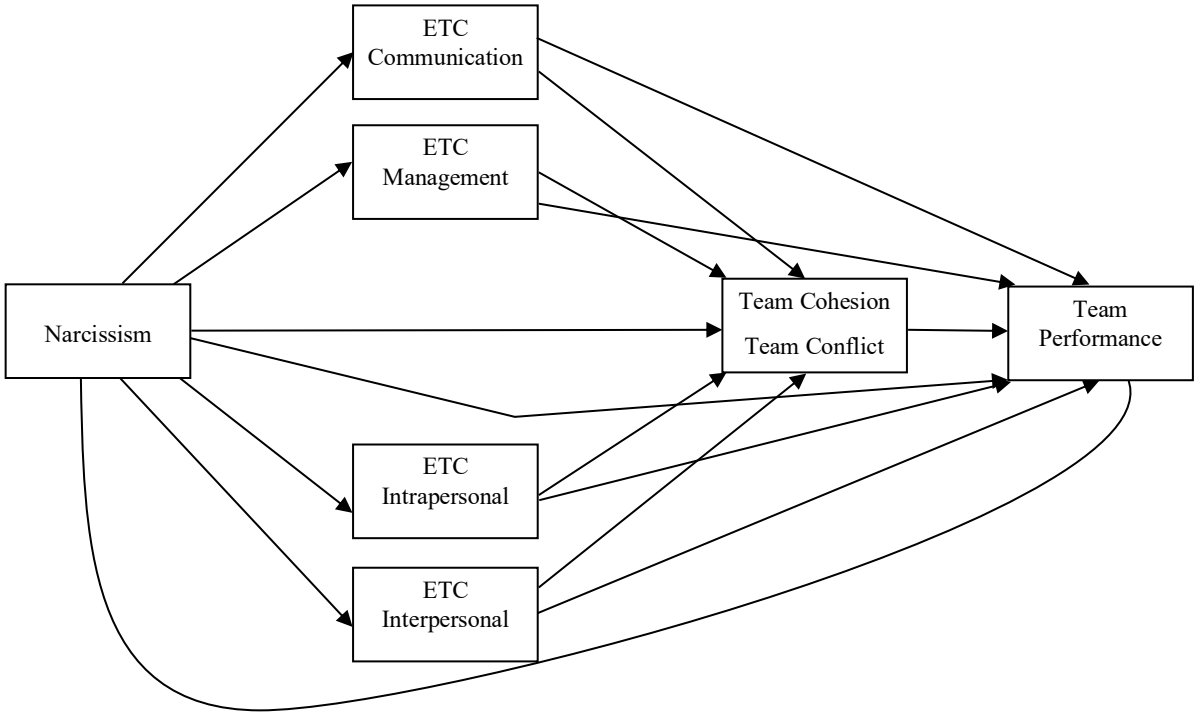
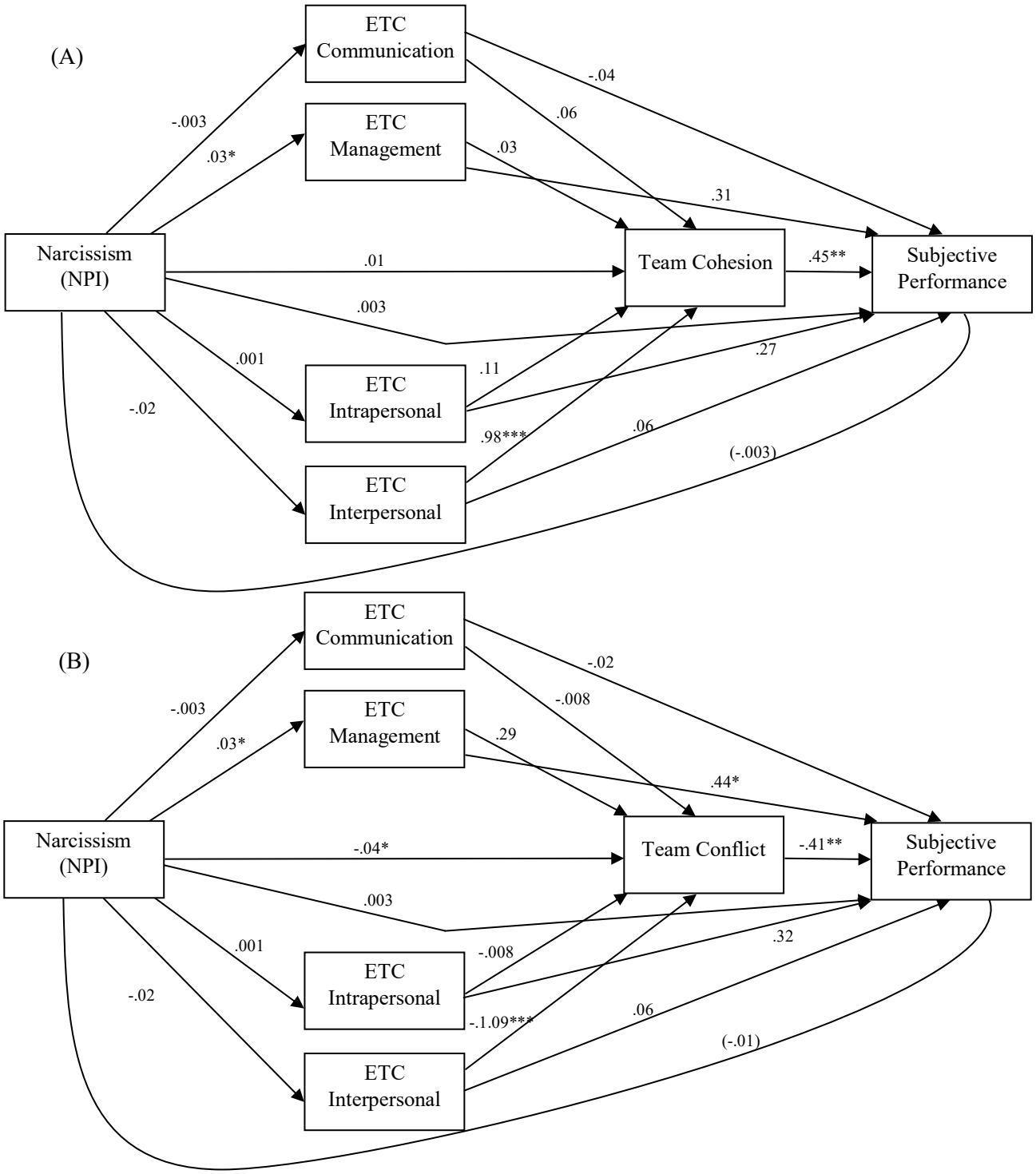


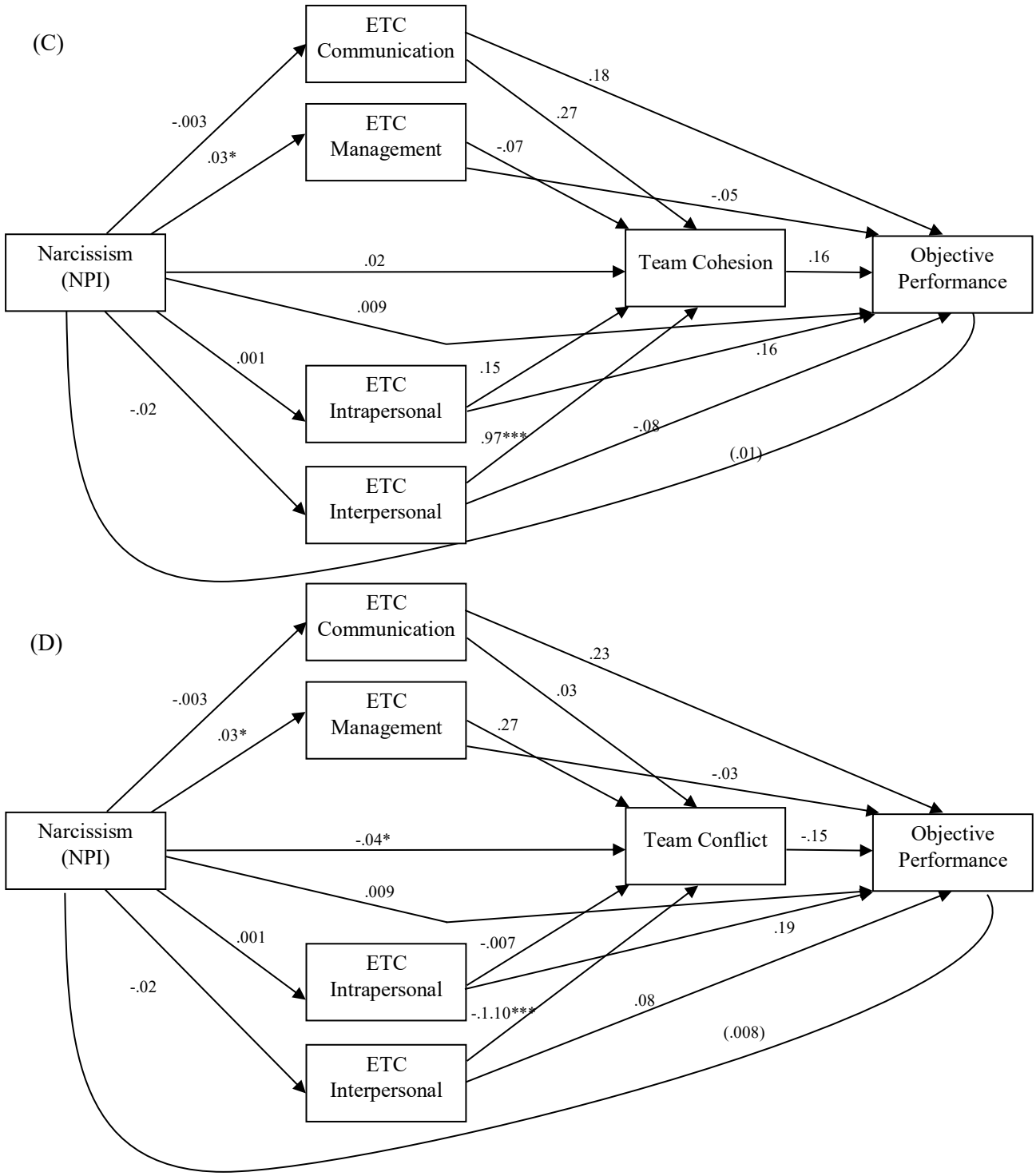
**Figure 28**

*Study 2: Path Models for the Effects of Individual-Level Narcissism (NPI) on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*




*Note.* Models control for gender and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

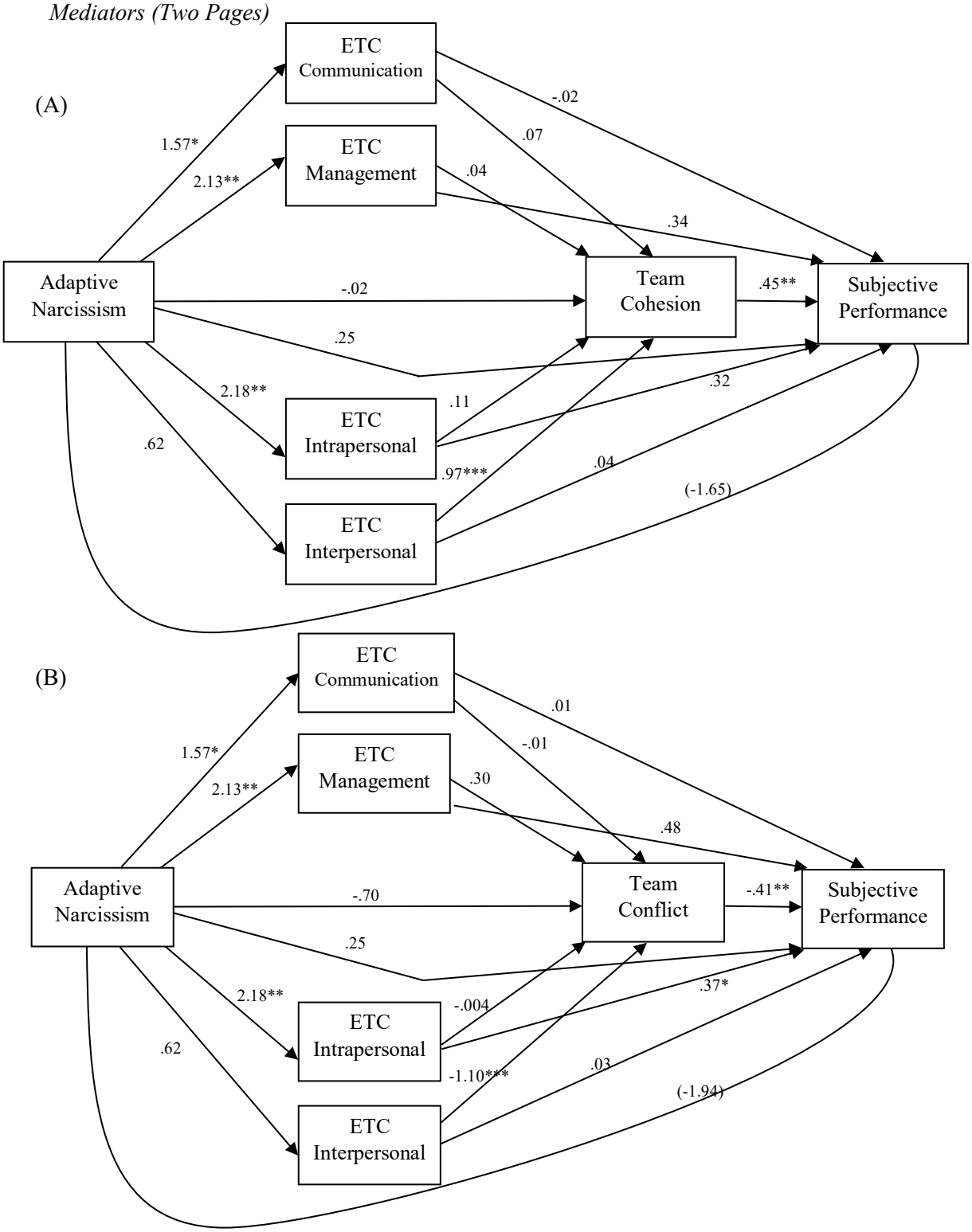
**Figure 28 (cont.)**




*Note.* Models control for gender and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

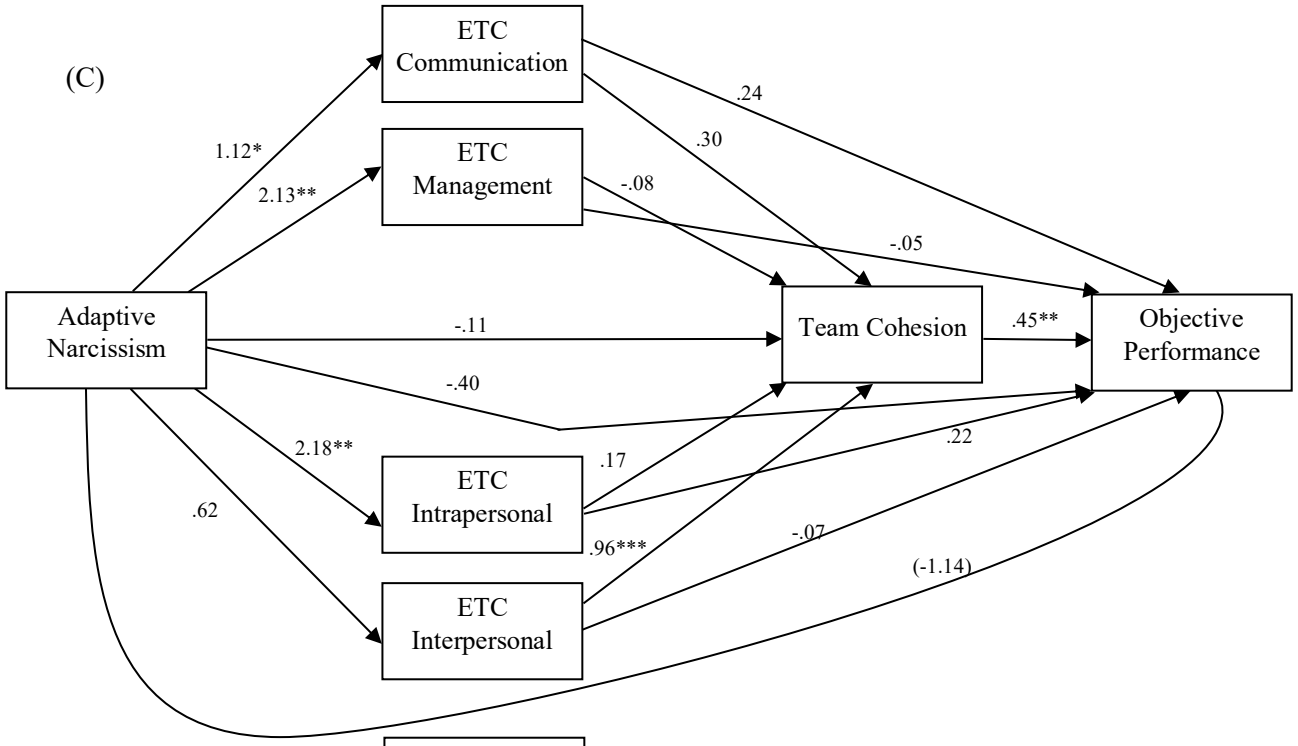
**Figure 29**

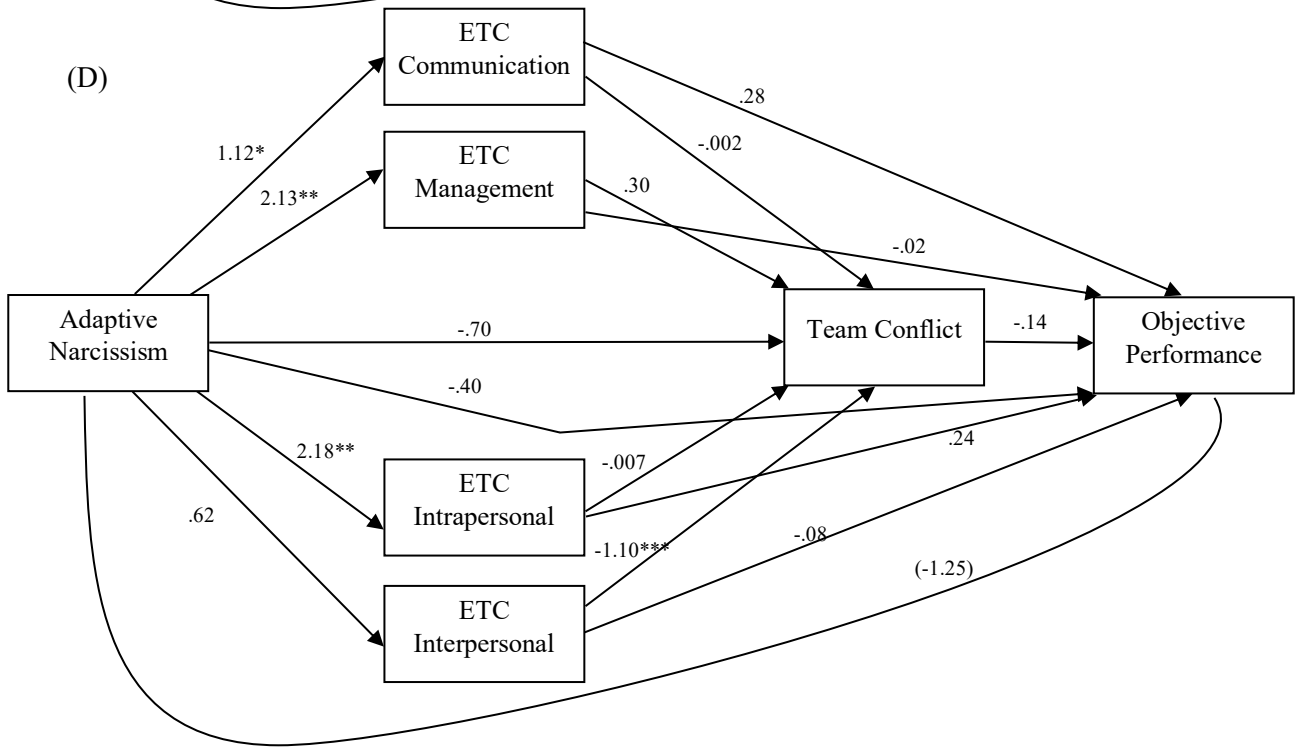
*Study 2: Path Models for the Effects of Individual-Level Adaptive Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*




*Note.* Models control for maladaptive narcissism, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 29 (cont.)**

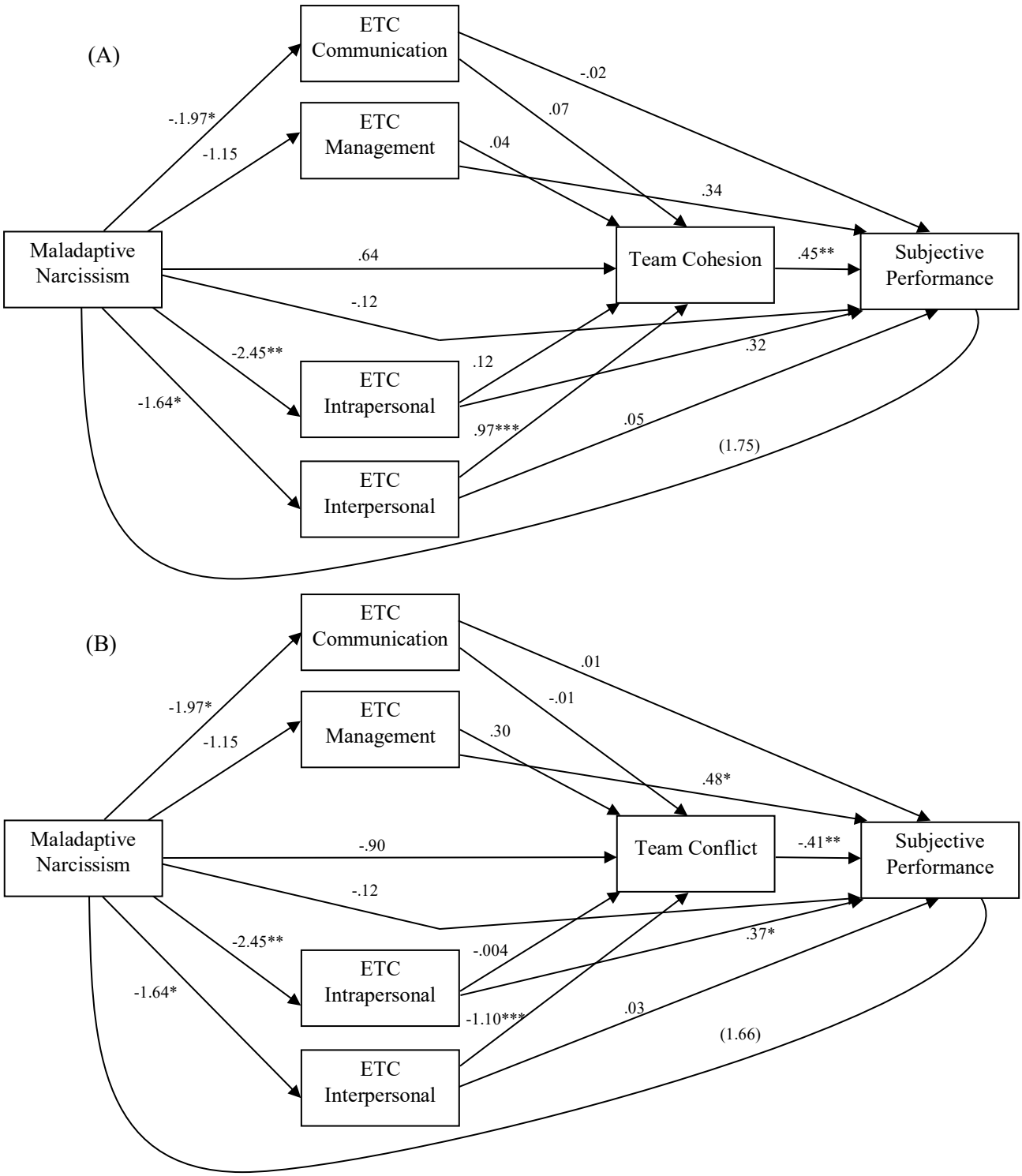



*Note.* Models control for maladaptive narcissism, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

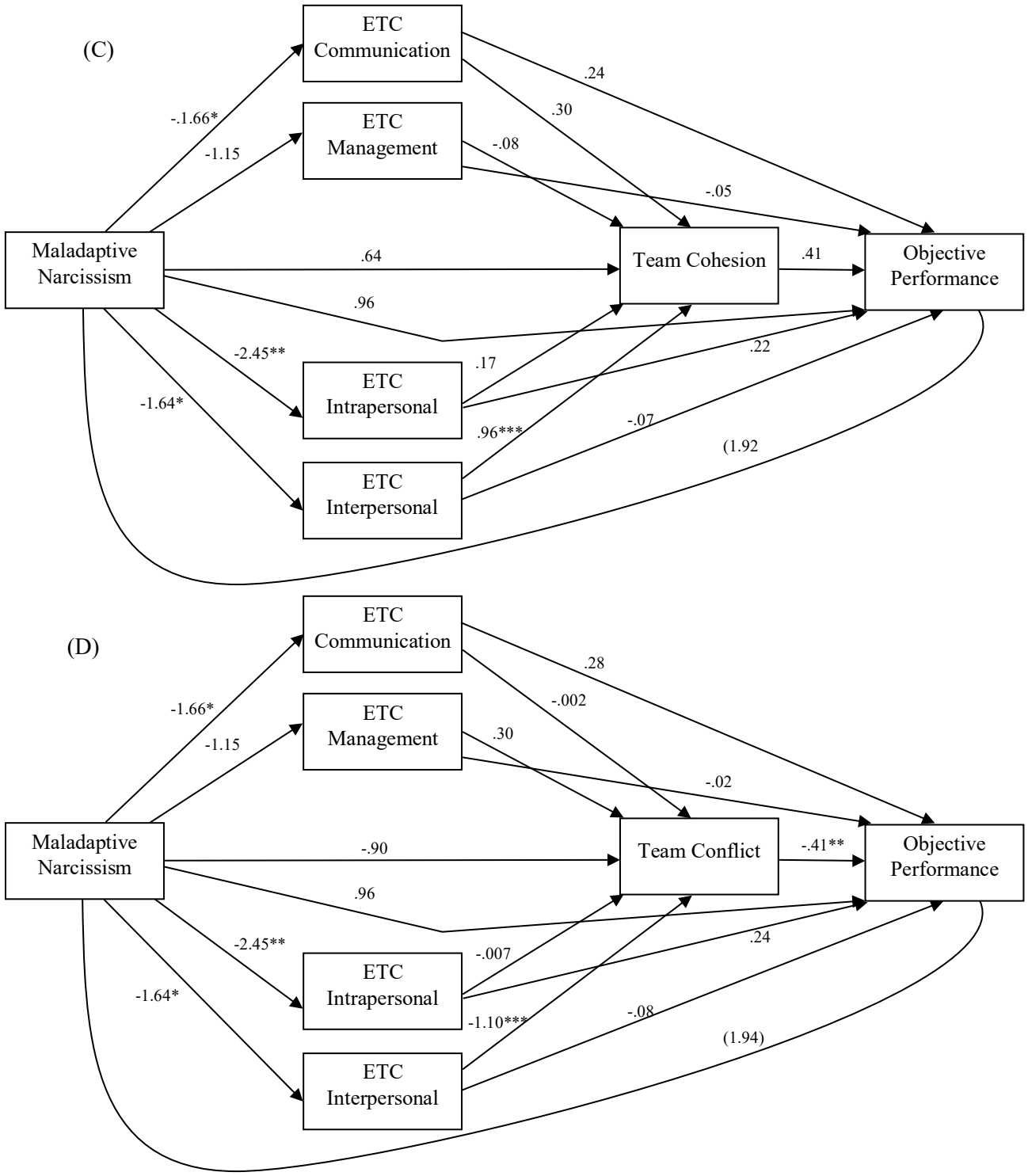
**Figure 30**

*Study 2: Path Models for the Effects of Individual-Level Maladaptive Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*




*Note.* Models control for adaptive narcissism, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

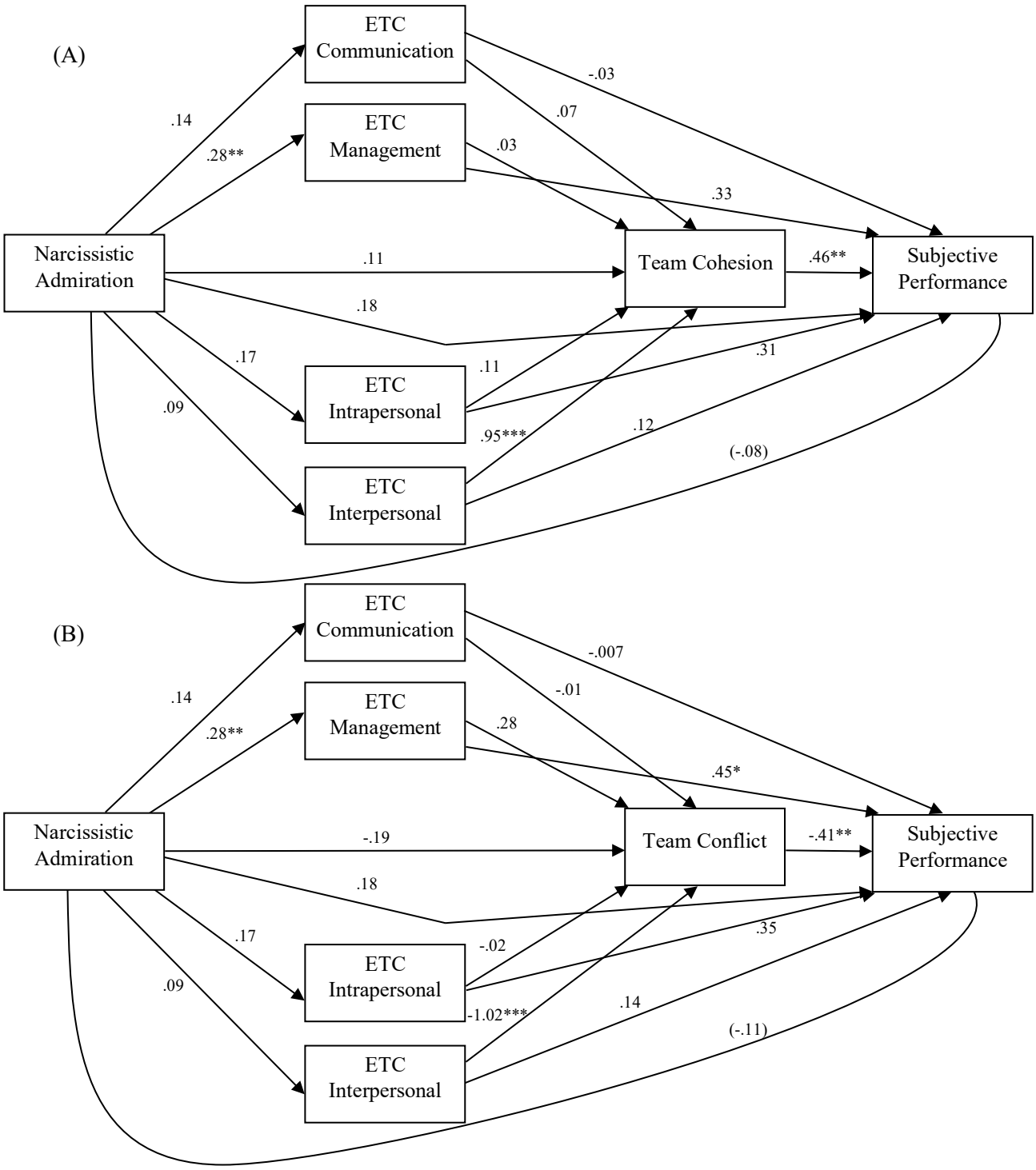
**Figure 30 (cont.)**




*Note.* Models control for adaptive narcissism, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

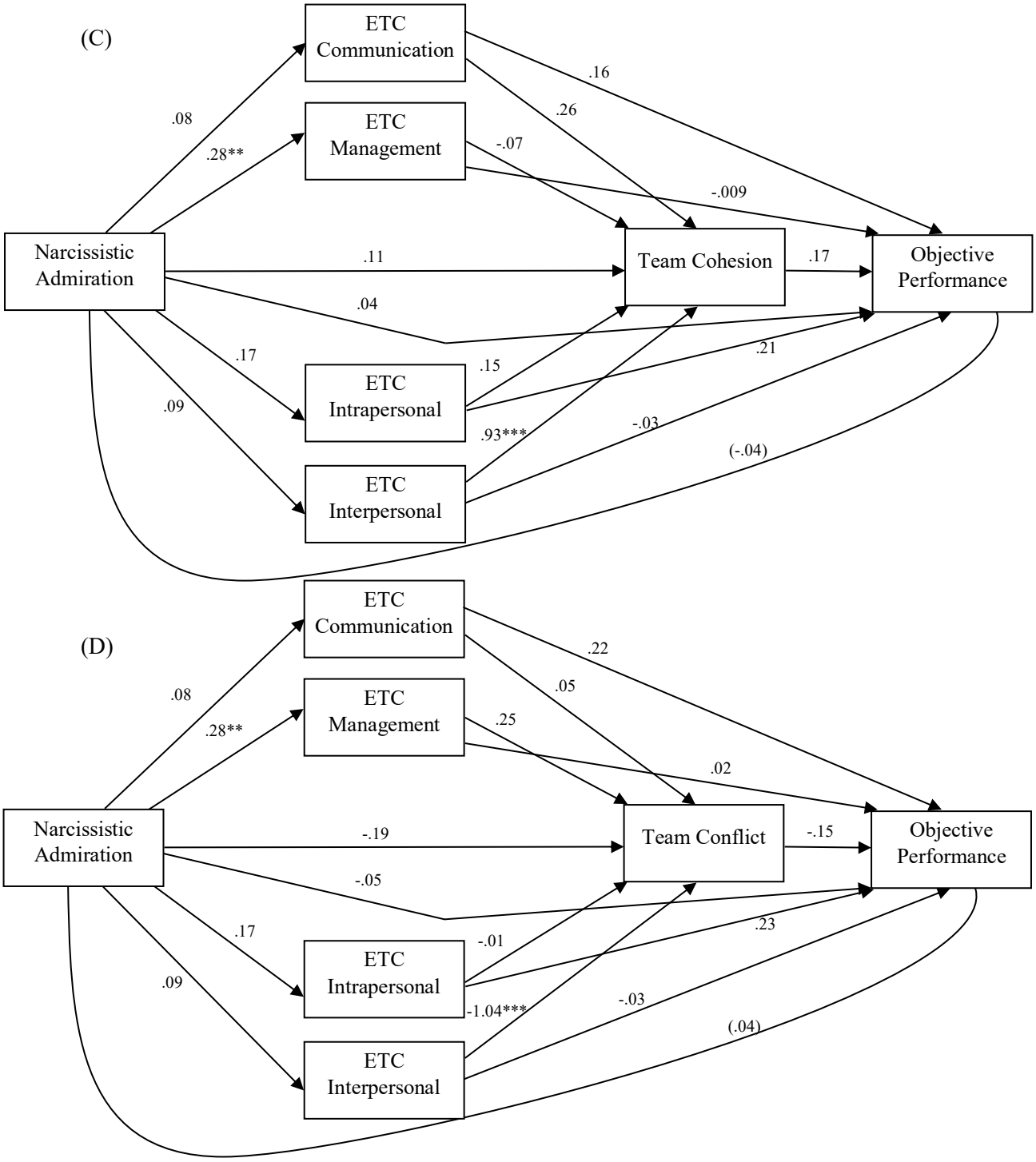
**Figure 31**

*Study 2: Path Models for the Effects of Individual-Level Narcissistic Admiration on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*




*Note.* Models control for narcissistic rivalry, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

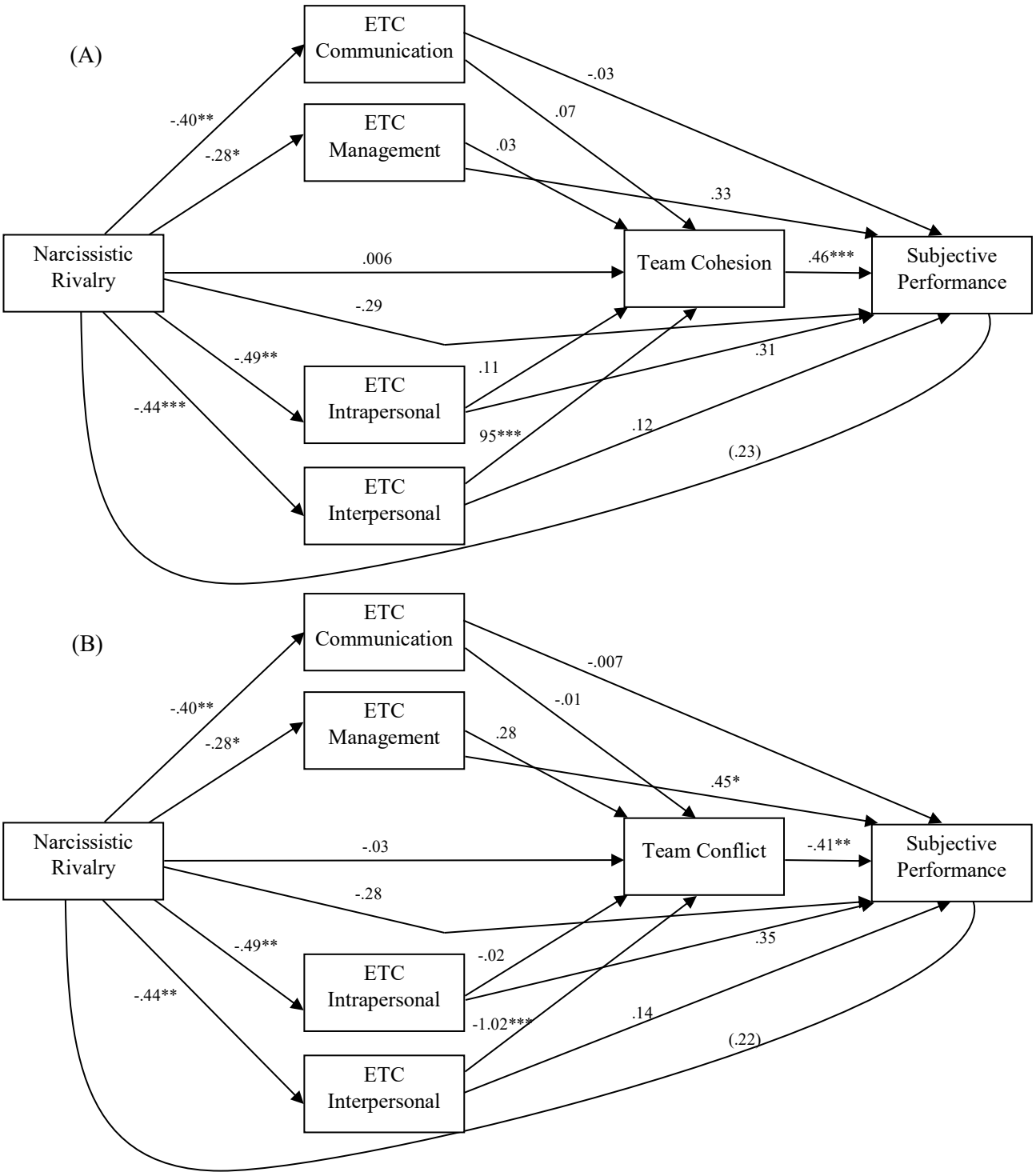
**Figure 31 (cont.)**




*Note.* Models control for narcissistic rivalry, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

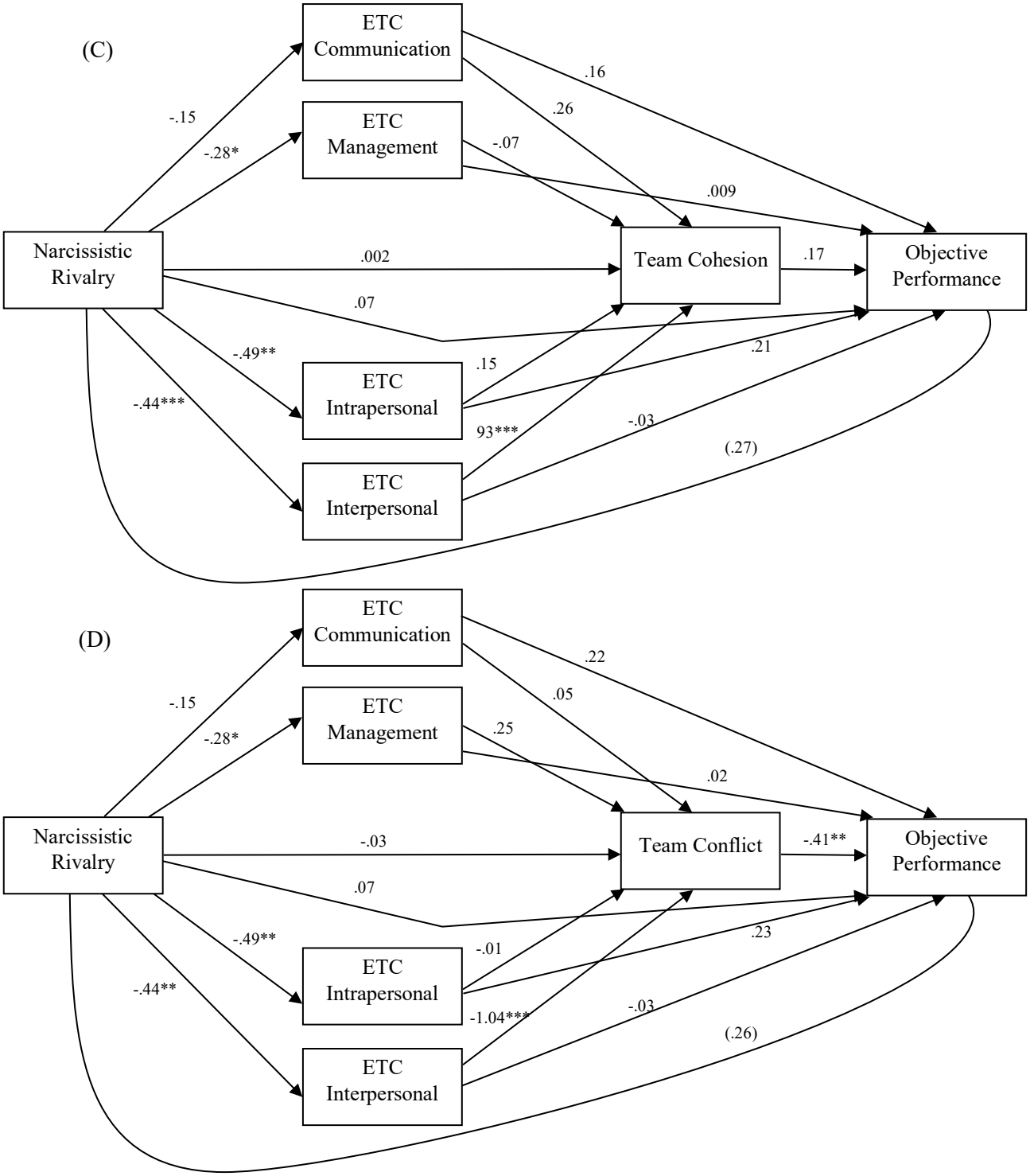
**Figure 32**

*Study 2: Path Models for the Effects of Individual-Level Narcissistic Rivalry on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*




*Note.* Models control for narcissistic admiration, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

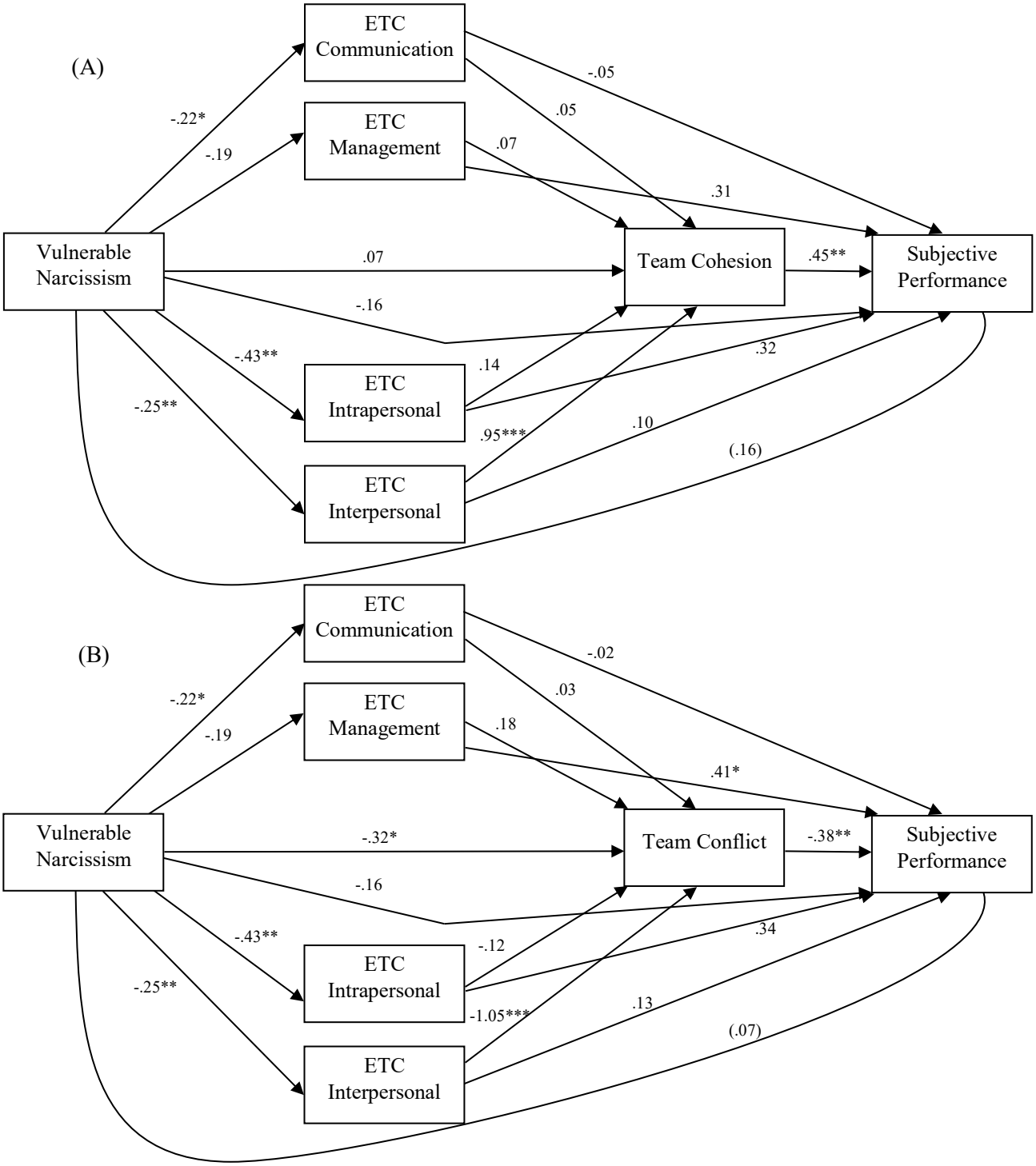
**Figure 32 (cont.)**




*Note.* Models control for narcissistic admiration, gender, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

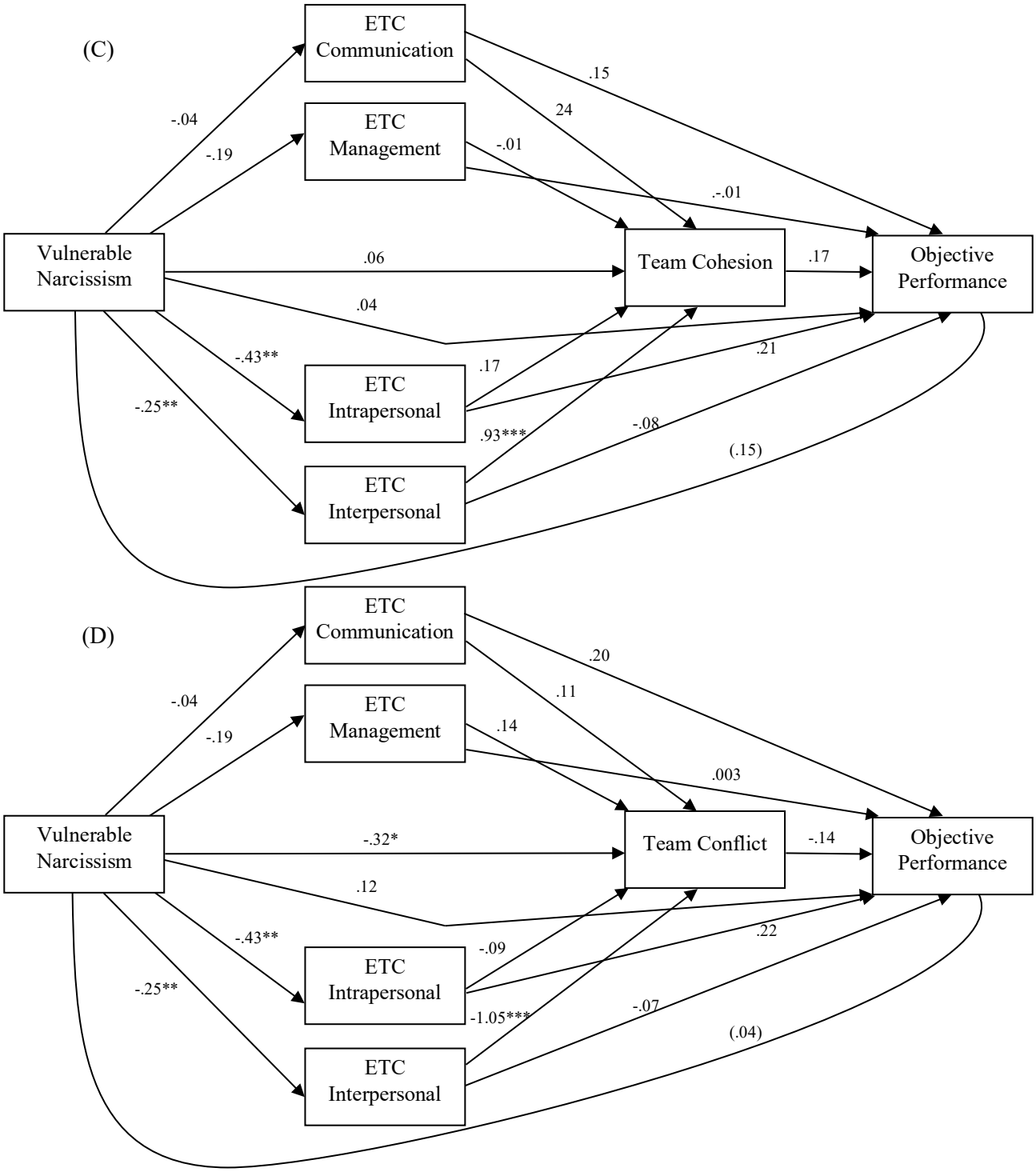
**Figure 33**

*Study 2: Path Models for the Effects of Individual-Level Vulnerable Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Two Pages)*




*Note.* Models control for gender and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

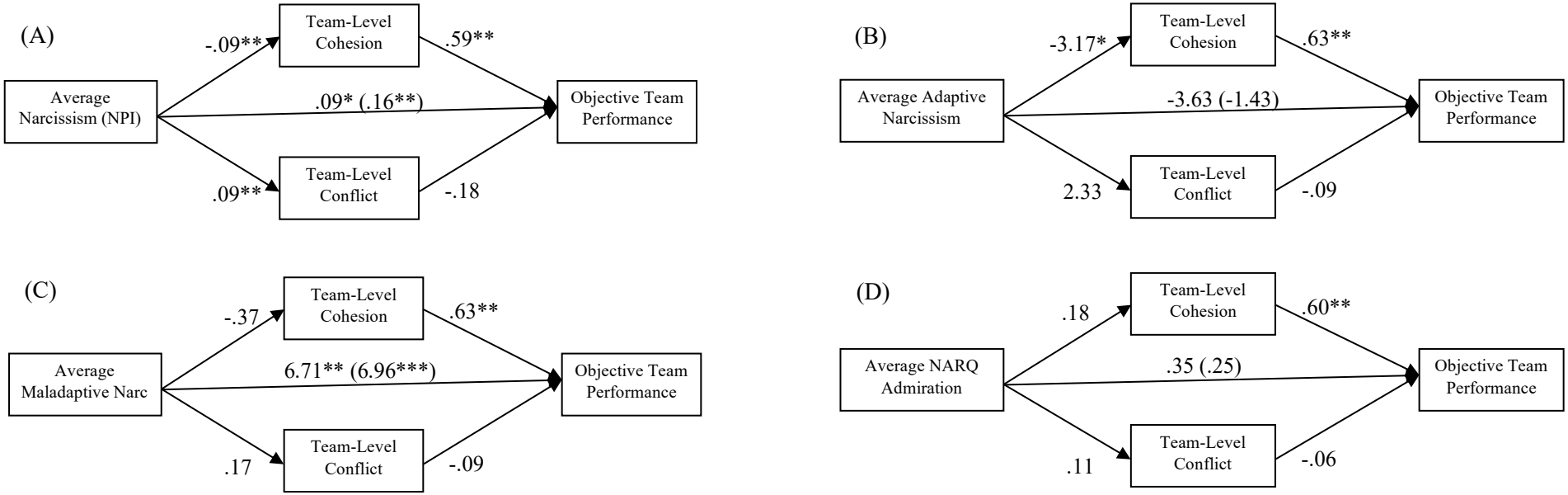
**Figure 33 (cont.)**




*Note.* Models control for gender and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

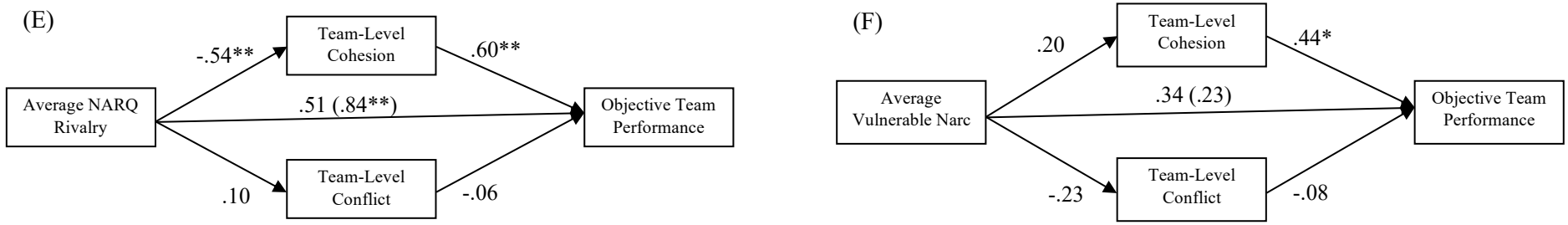
**Figure 34**

*Study 2: Path Models for the Relations of Team-Level Narcissism (Average), Team-Level Processes, and Team Performance (Two Pages)*




*Note.* NARQ = Narcissistic Admiration and Rivalry Questionnaire. Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.
**p* < .05, ***p* < .01, ****p* < .001

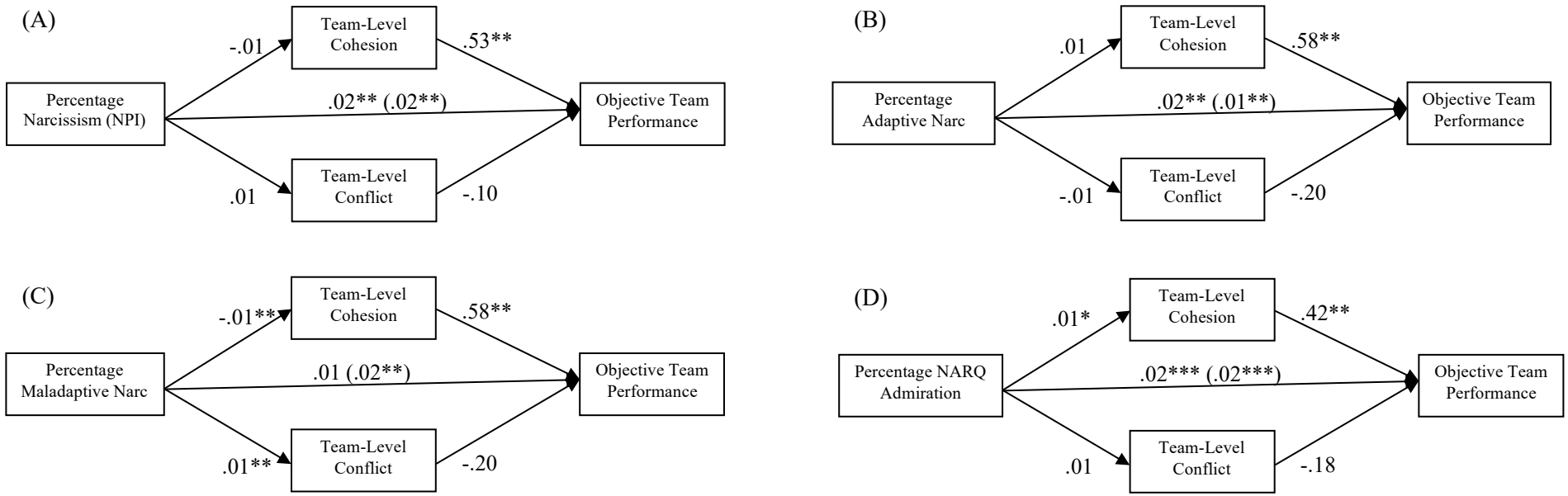
**Figure 34 (cont.)**




*Note.* NARQ = Narcissistic Admiration and Rivalry Questionnaire. Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.
*$p < .05$, **$p < .01$, ***$p < .001$

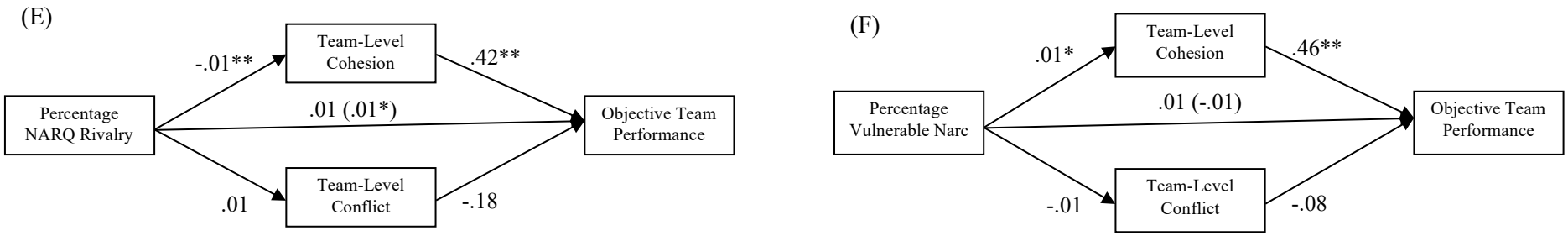
**Figure 35**

*Study 2: Path Models for the Relations of Team-Level Narcissism (Percentage), Team-Level Processes, and Team Performance (Two Pages)*




*Note.* NARQ = Narcissistic Admiration and Rivalry Questionnaire. Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.
**p* < .05, ***p* < .01, ****p* < .001

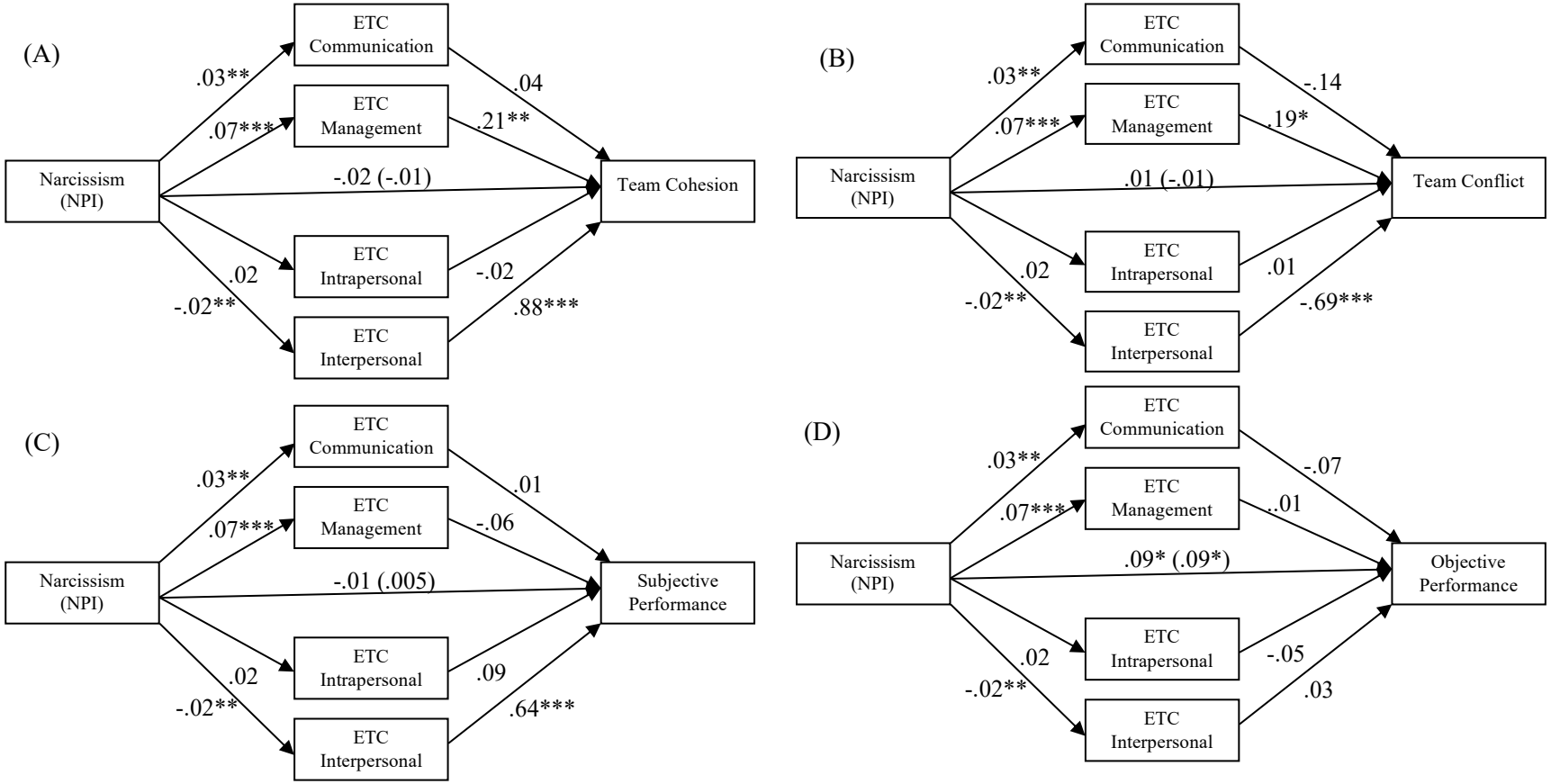
**Figure 35 (cont.)**




*Note.* NARQ = Narcissistic Admiration and Rivalry Questionnaire. Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.
*$p < .05$, **$p < .01$, ***$p < .001$

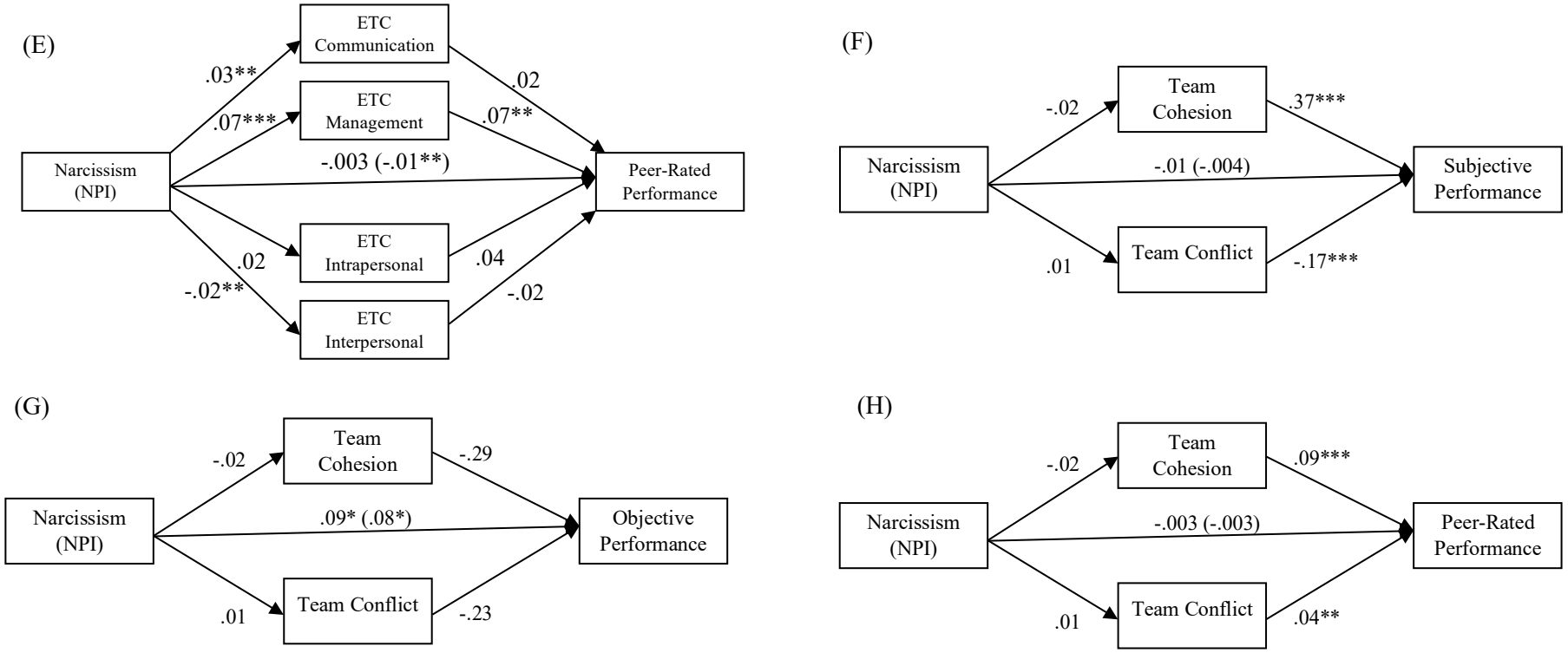
**Figure 36**

*Study 3: Path Models for the Effects of Individual-Level Narcissism (NPI) on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

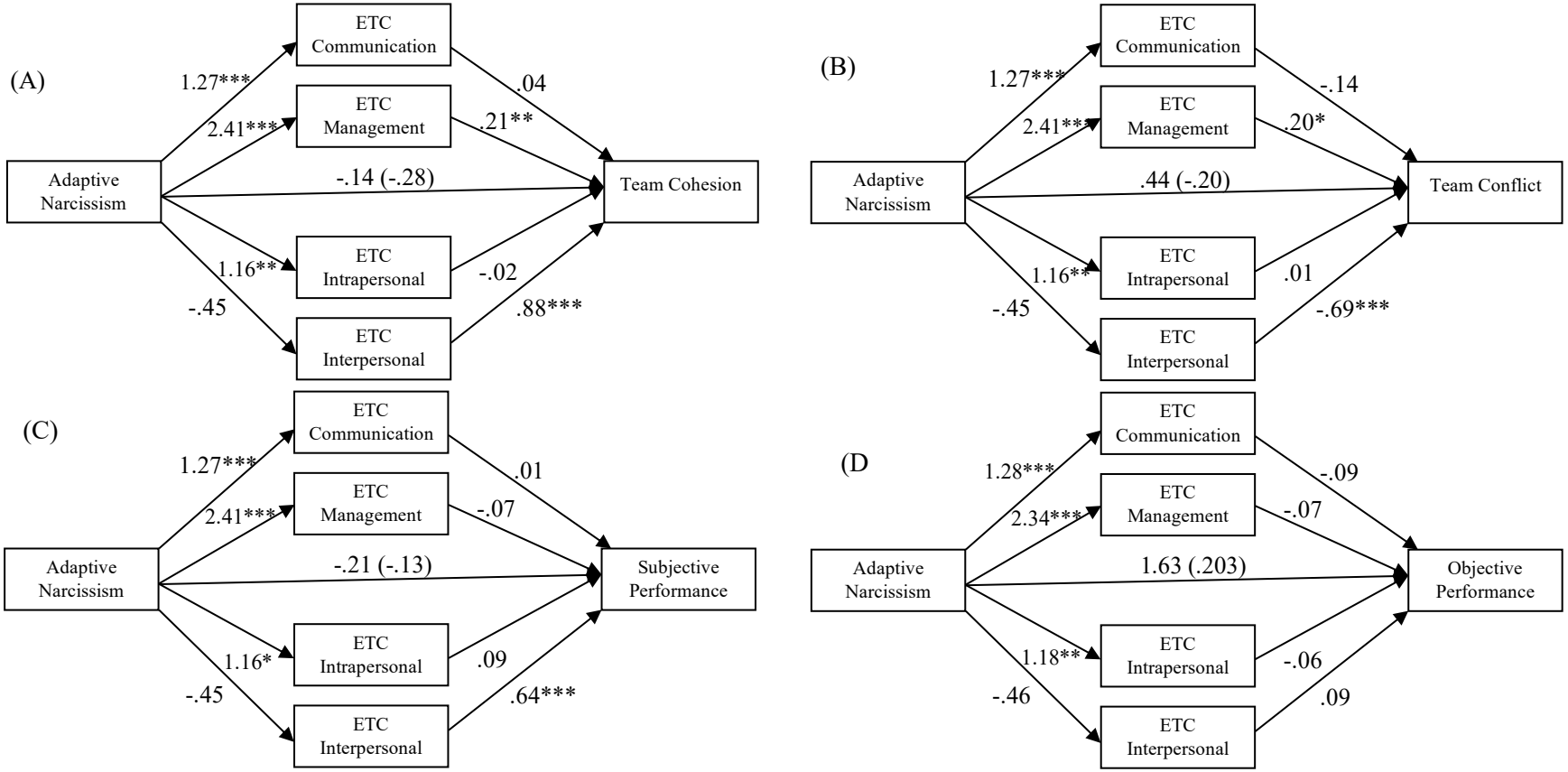
**Figure 36 (cont.)**




*Note.* Models control for gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

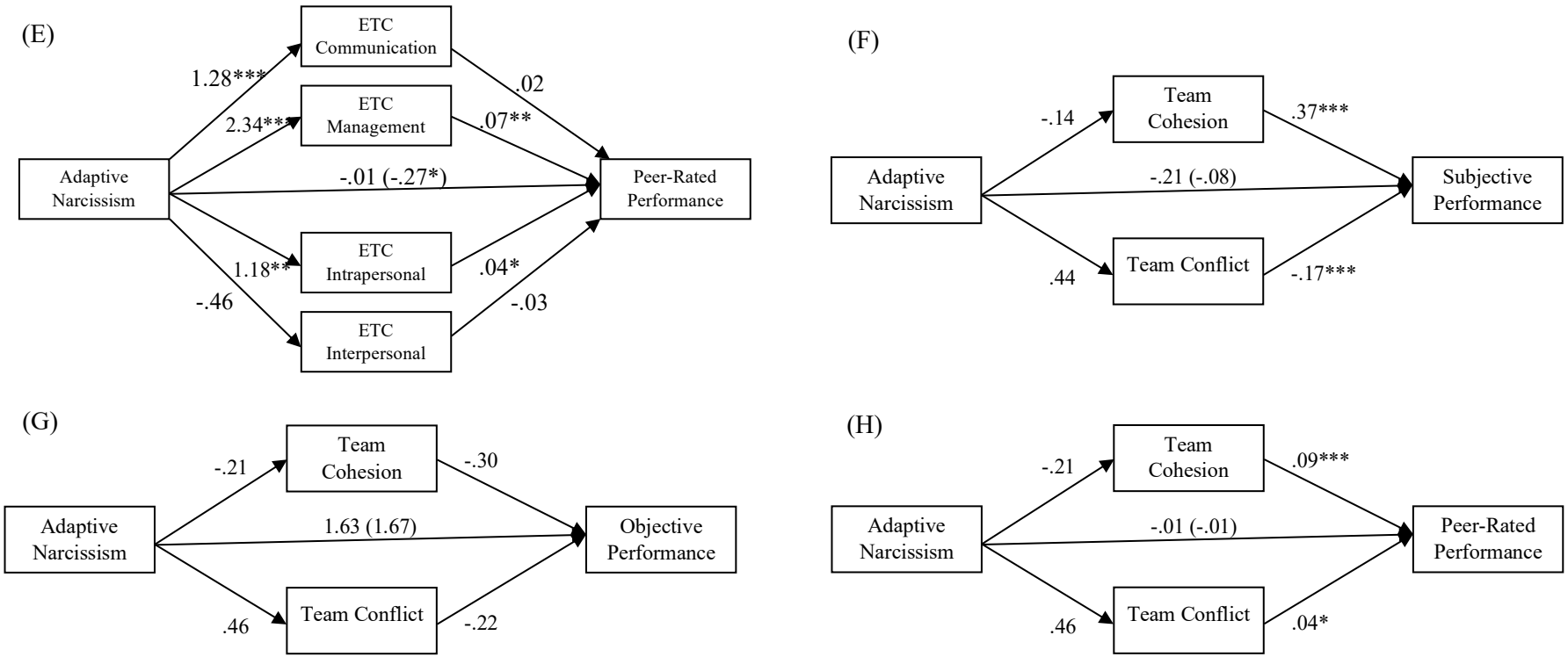
**Figure 37**

*Study 3: Path Models for the Effects of Individual-Level Adaptive Narcissism on Team Processes and Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for maladaptive narcissism, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

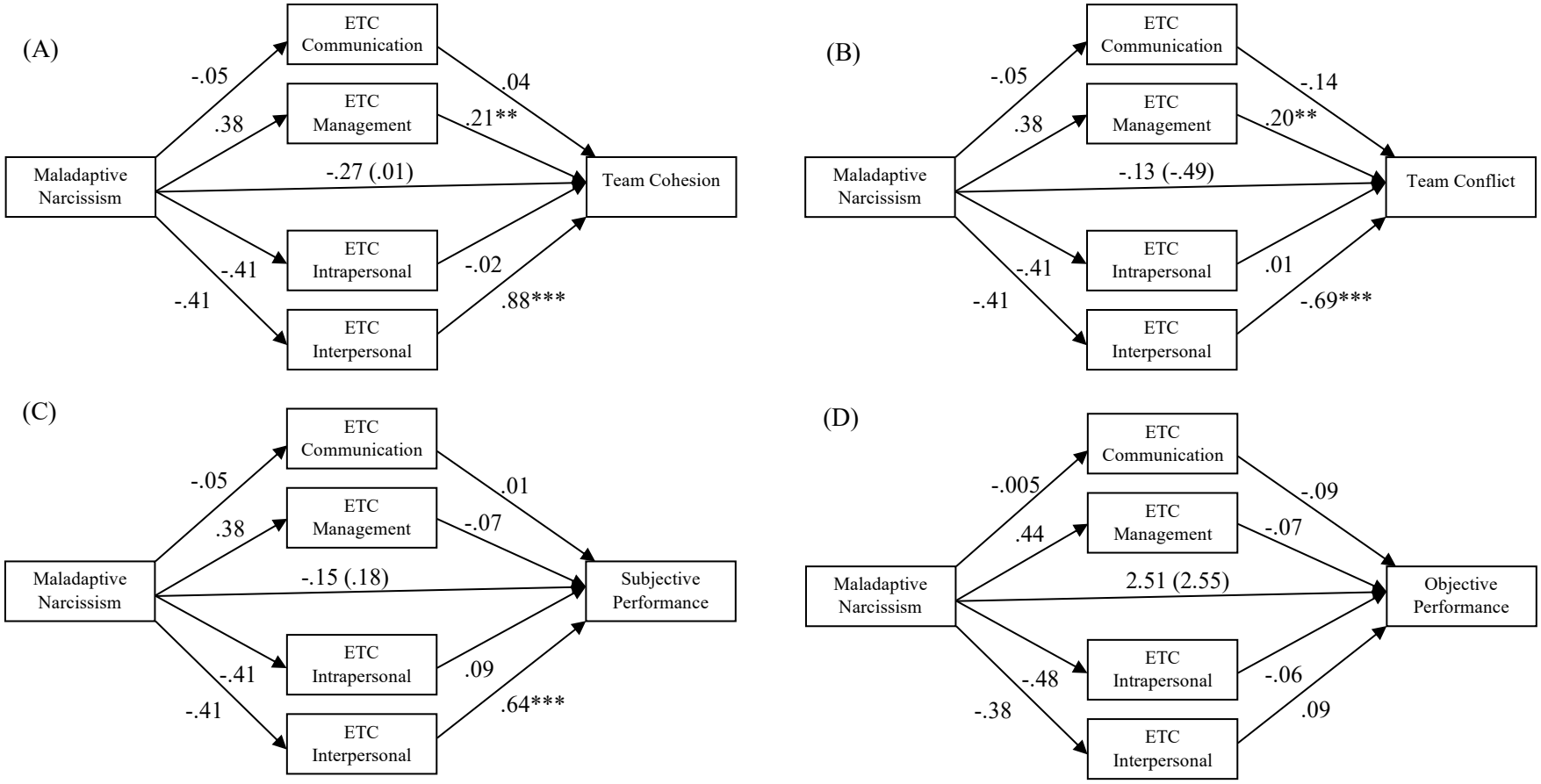
**Figure 37 (cont.)**




*Note.* Models control for maladaptive narcissism, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

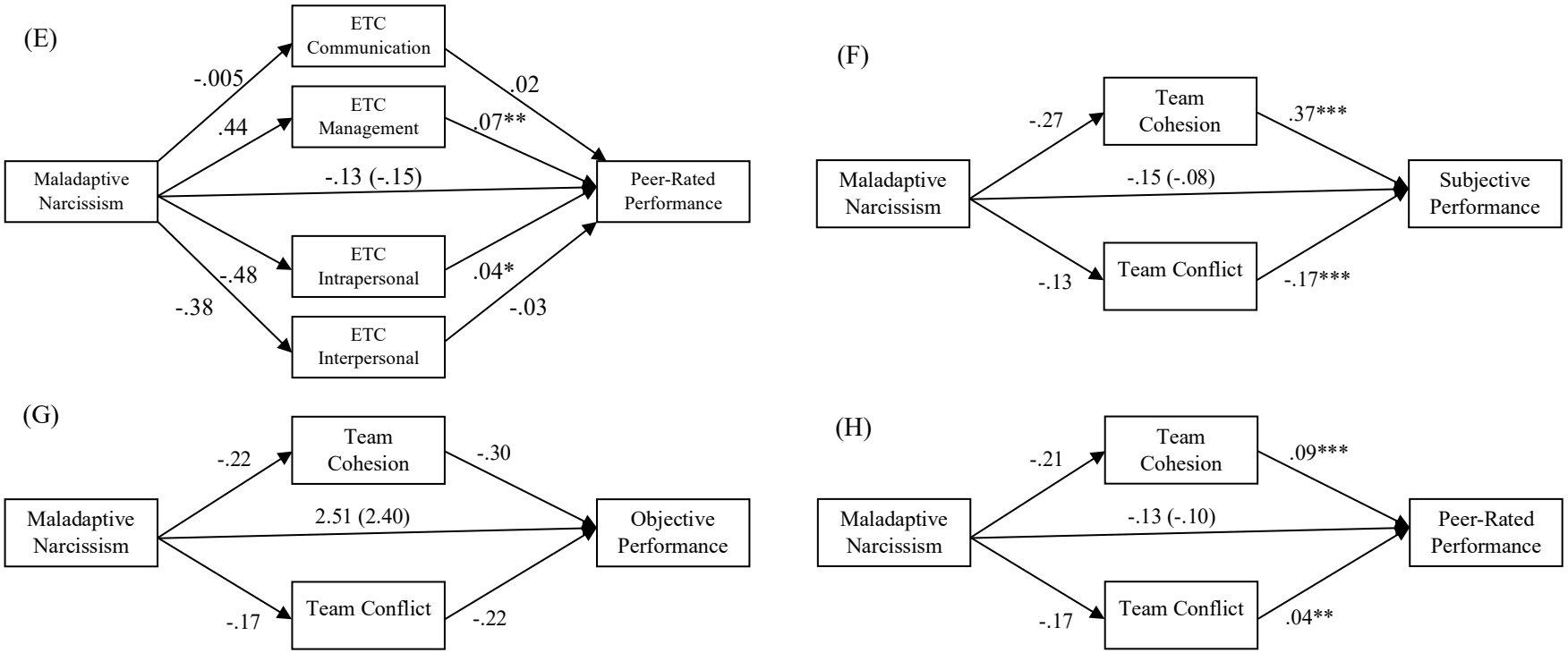
**Figure 38**

*Study 3: Path Models for the Effects of Individual-Level Maladaptive Narcissism on Team Processes and Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for adaptive narcissism, gender, cohort group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

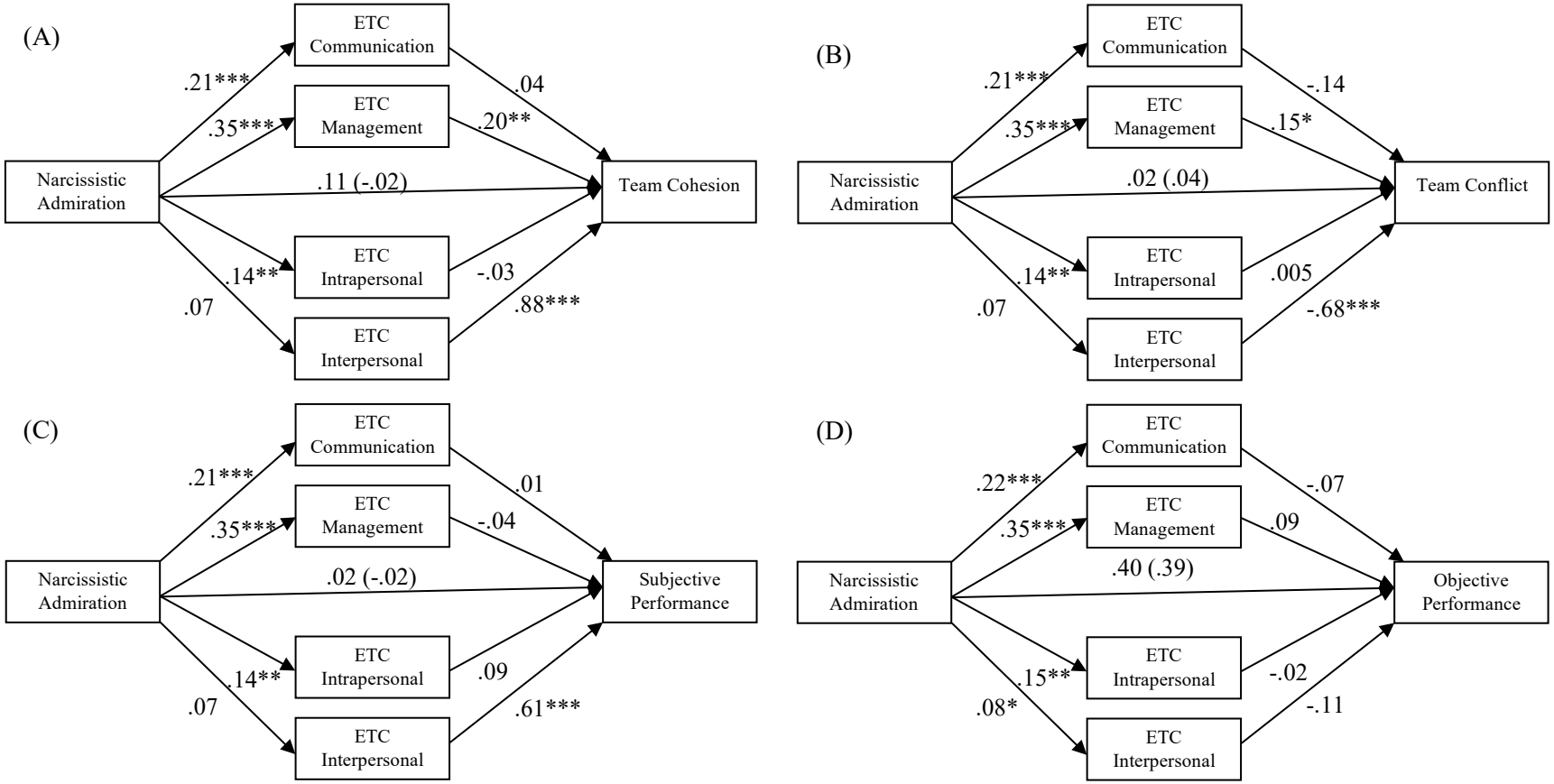
**Figure 38 (cont.)**




*Note.* Models control for adaptive narcissism, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

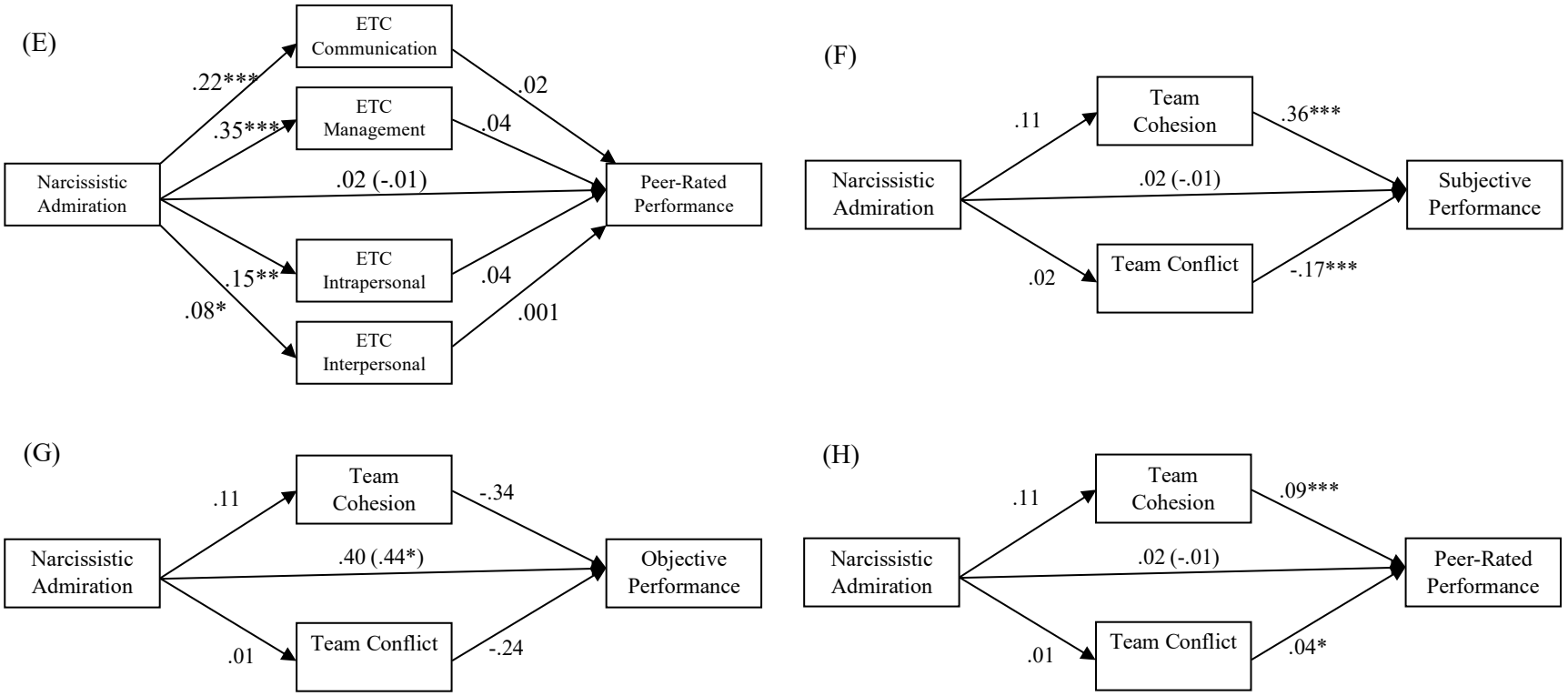
**Figure 39**

*Study 3: Path Models for the Effects of Individual-Level Narcissistic Admiration on Team Processes and Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for narcissistic rivalry, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

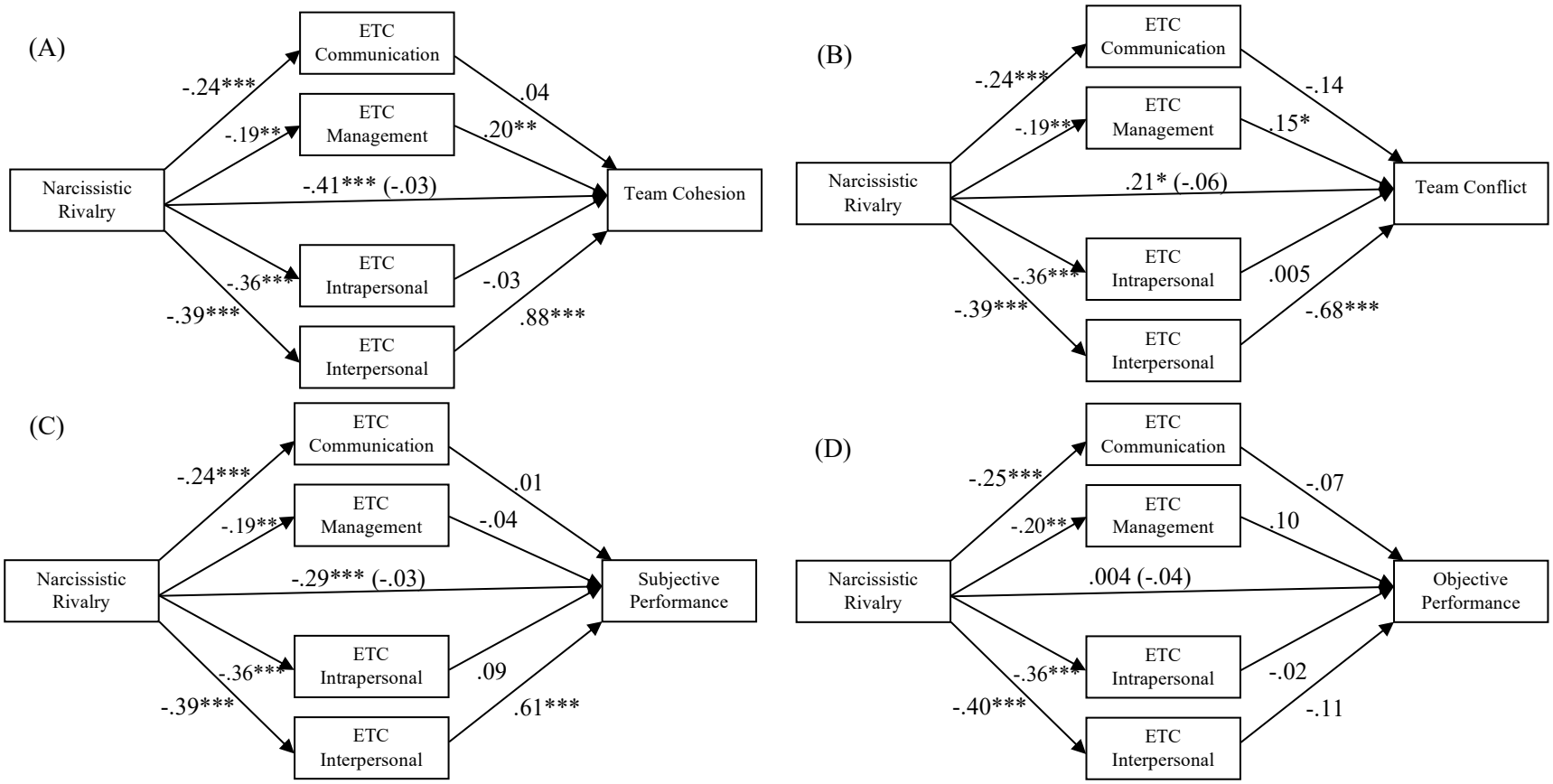
**Figure 39 (cont.)**




*Note.* Models control for narcissistic rivalry, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

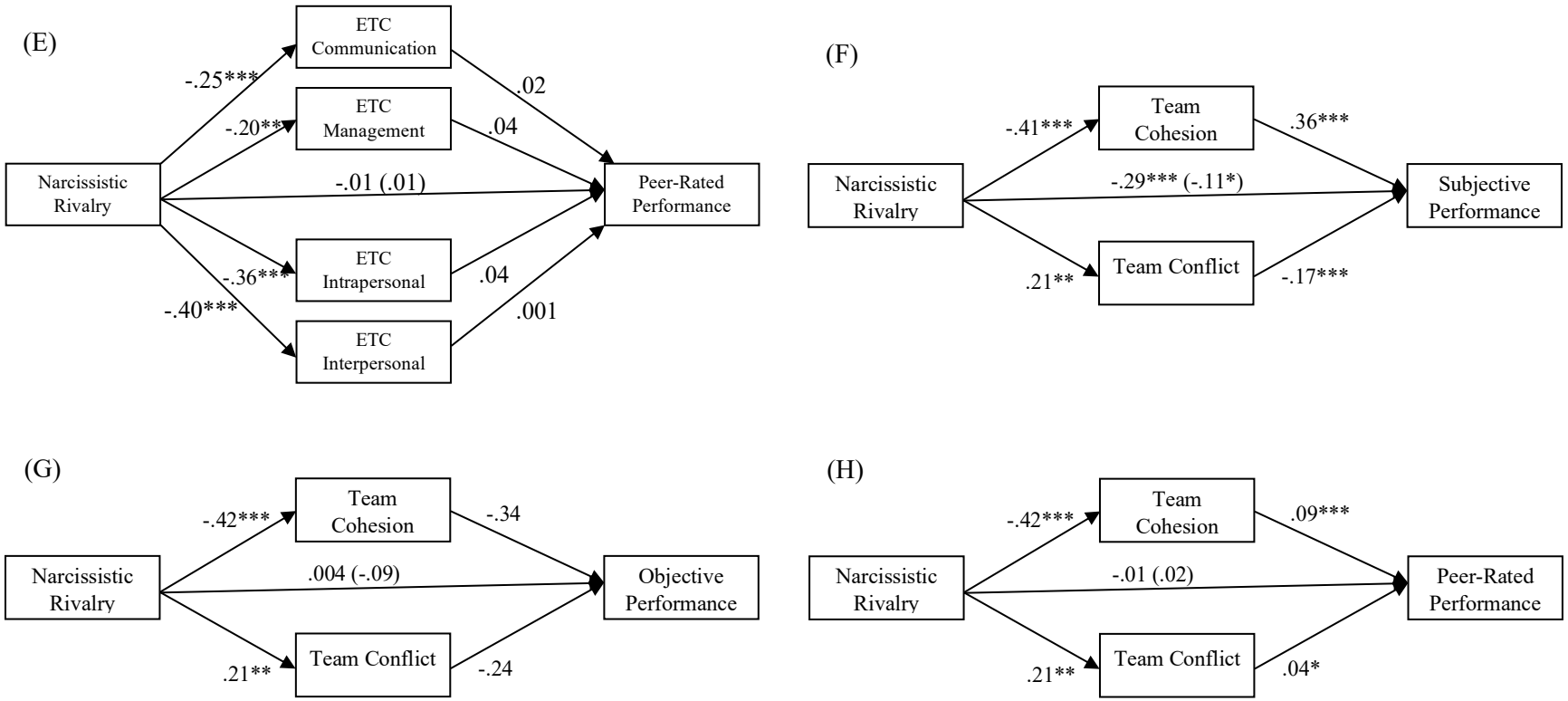
**Figure 40**

*Study 3: Path Models for the Effects of Individual-Level Narcissistic Rivalry on Team Processes and Team Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for narcissistic admiration, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

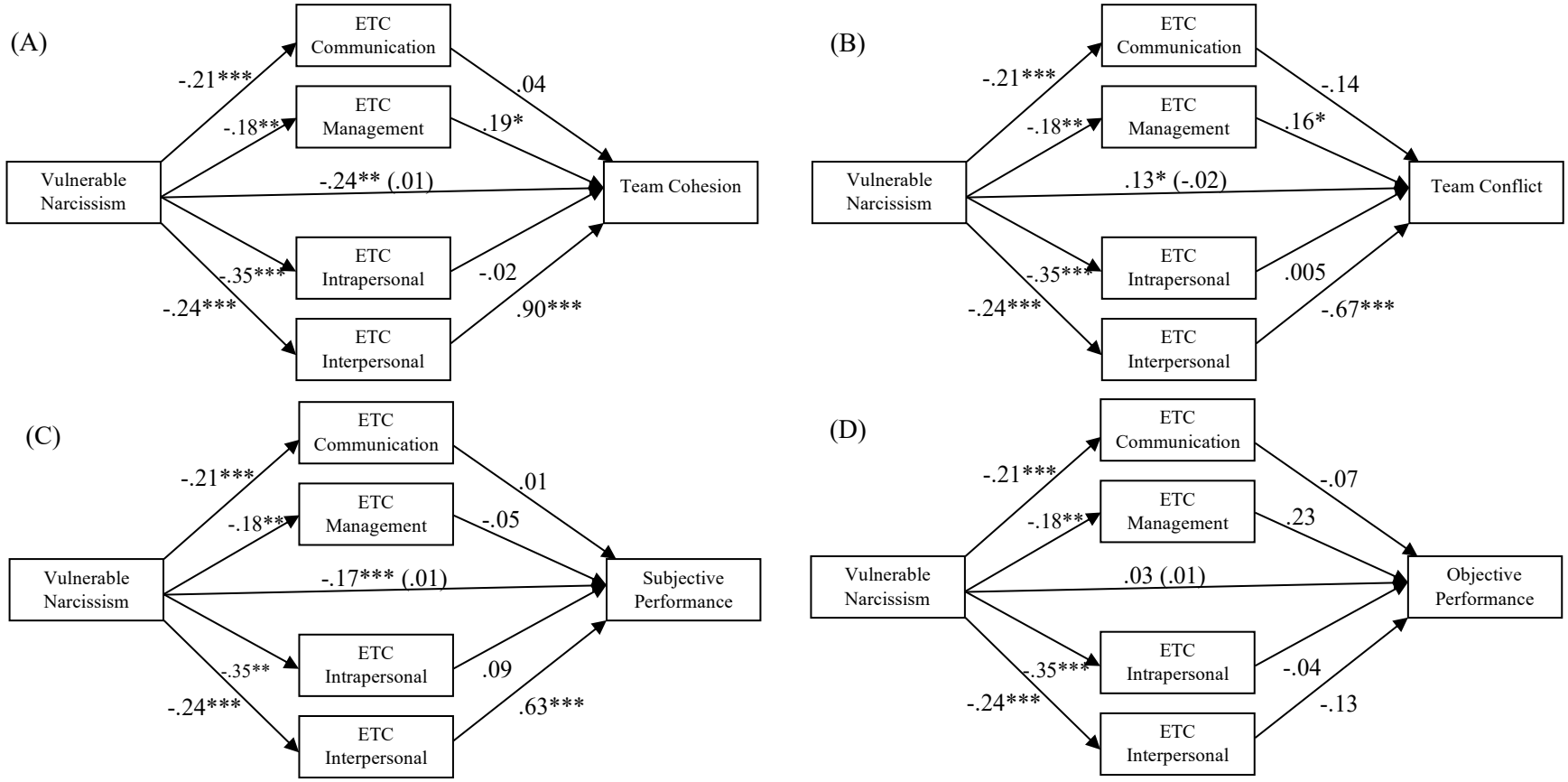
**Figure 40 (cont.)**




*Note.* Models control for narcissistic admiration, gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

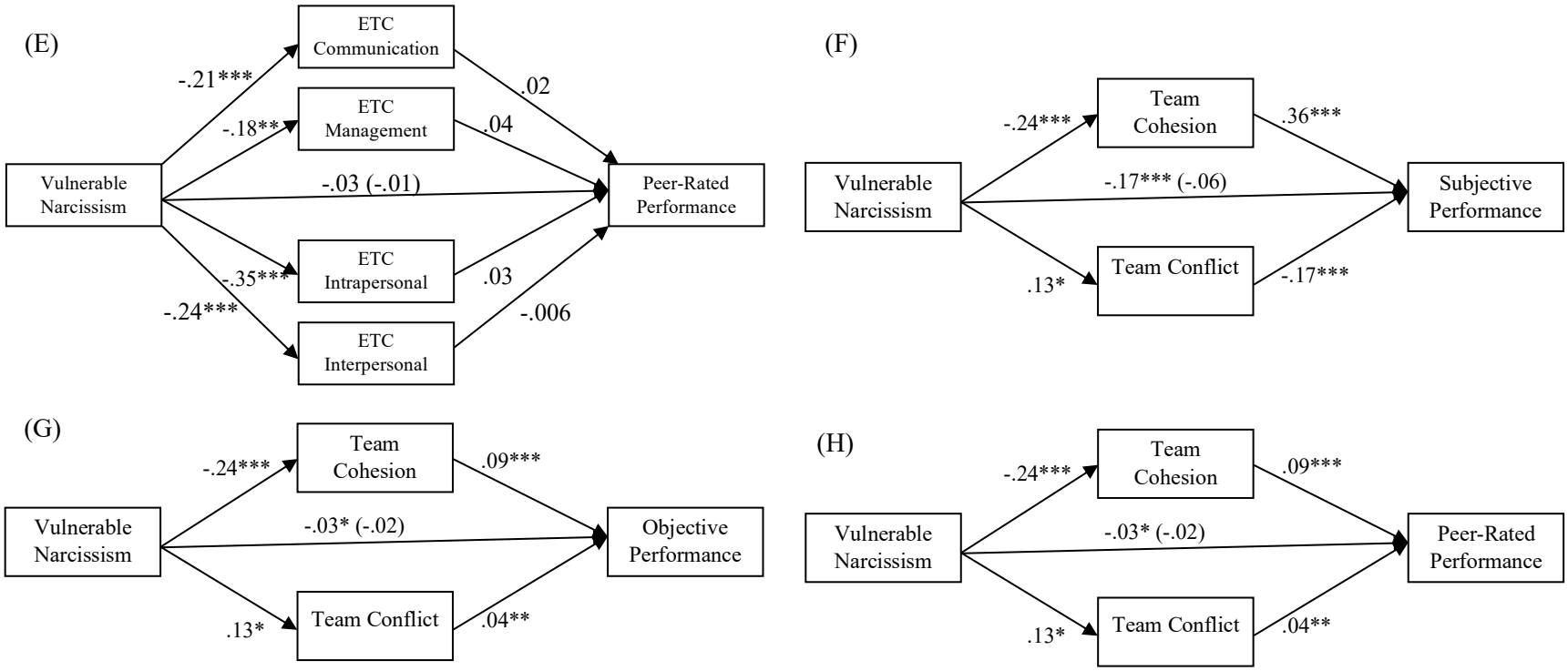
**Figure 41**

*Study 3: Path Models for the Effects of Individual-Level Vulnerable Narcissism on Team Processes and Performance via Teamwork Competencies (Two Pages)*




*Note.* Models control for gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

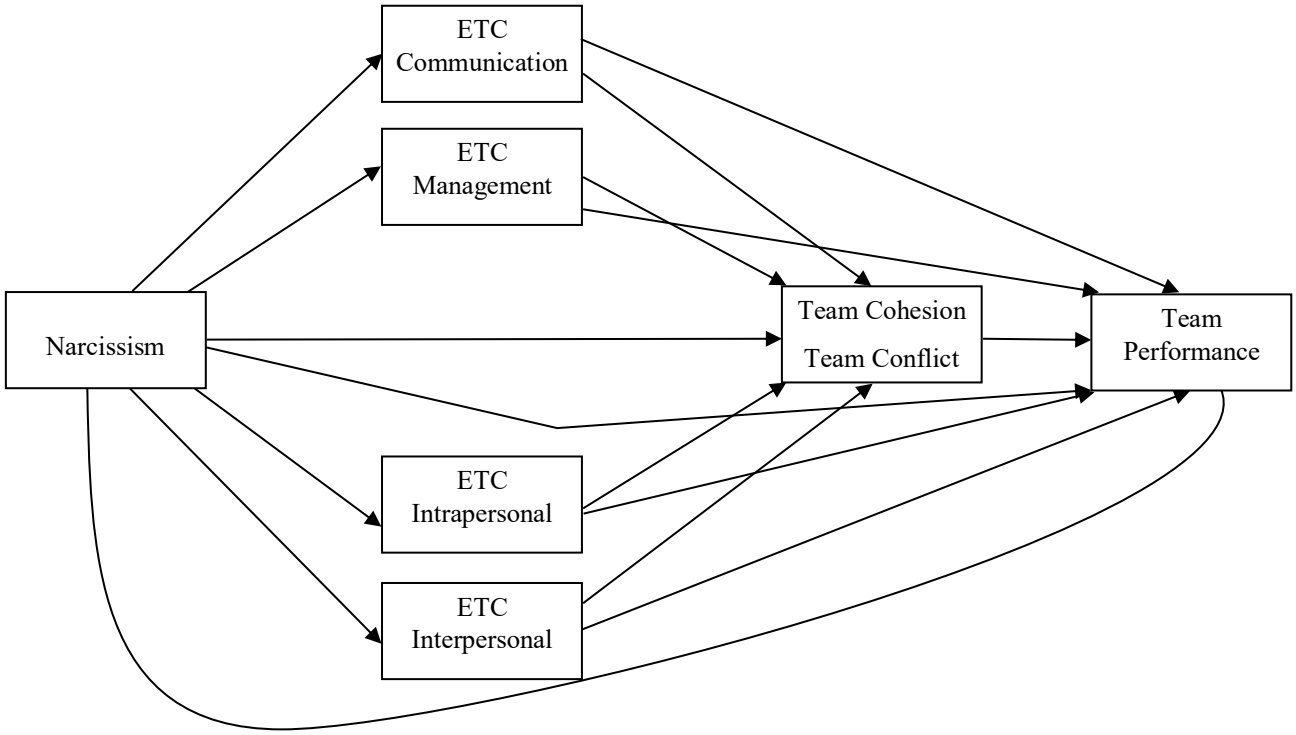
**Figure 41 (cont.)**




*Note.* Models control for gender, cohort, group size, and impression management. ETC = Enhanced Teamwork Competencies. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 42**

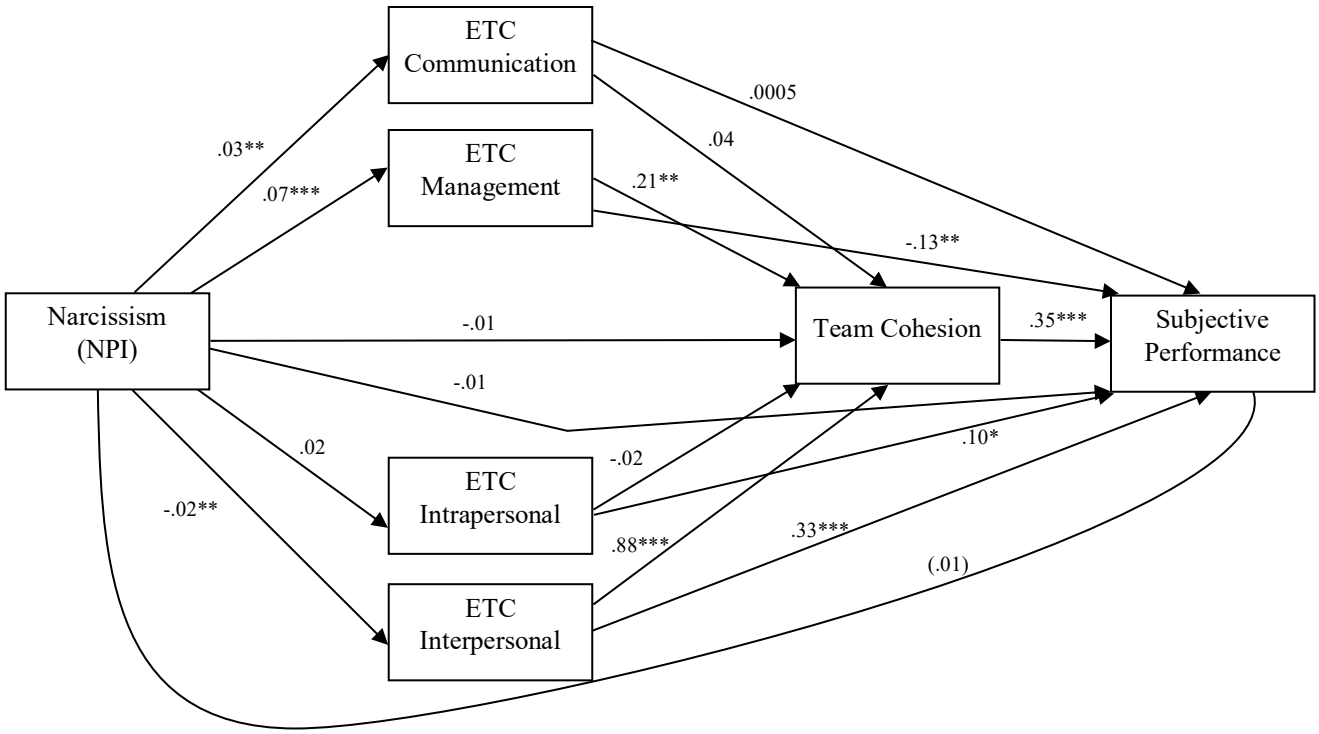
*Study 3: Conceptual Path Model for the Effects of Individual-Level Narcissism on Team Performance (Subjective, Objective, Peer-Rated) via Teamwork Competencies and Team Processes*

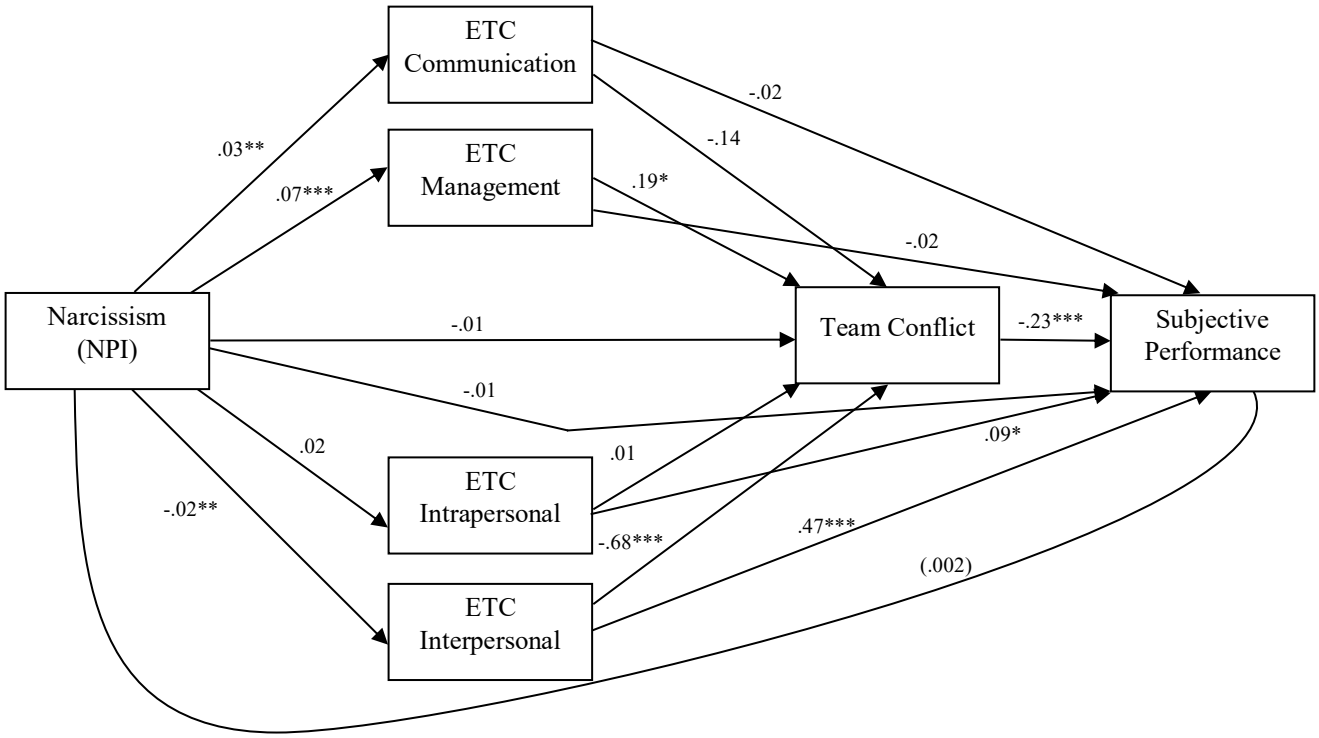


Appendix B

**Figure 43**

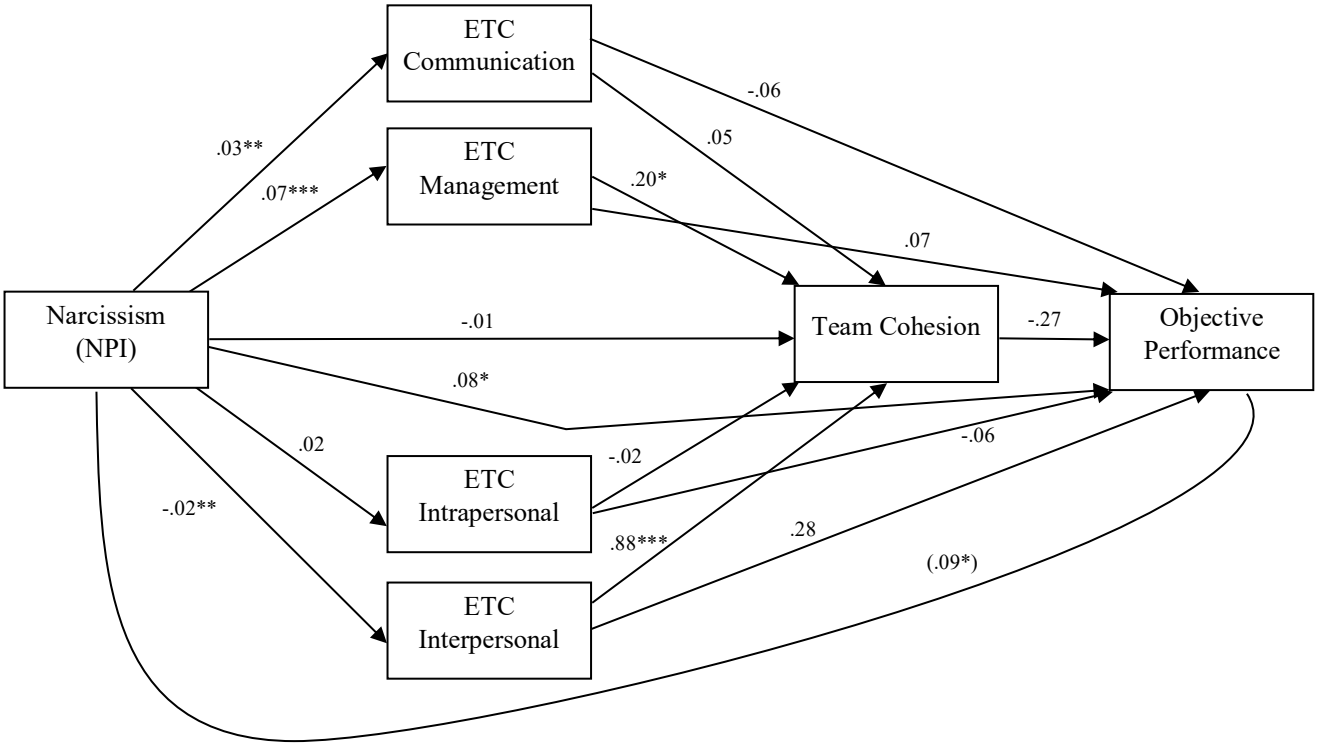
*Study 3: Path Models for the Effects of Individual-Level Narcissism (NPI) on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*

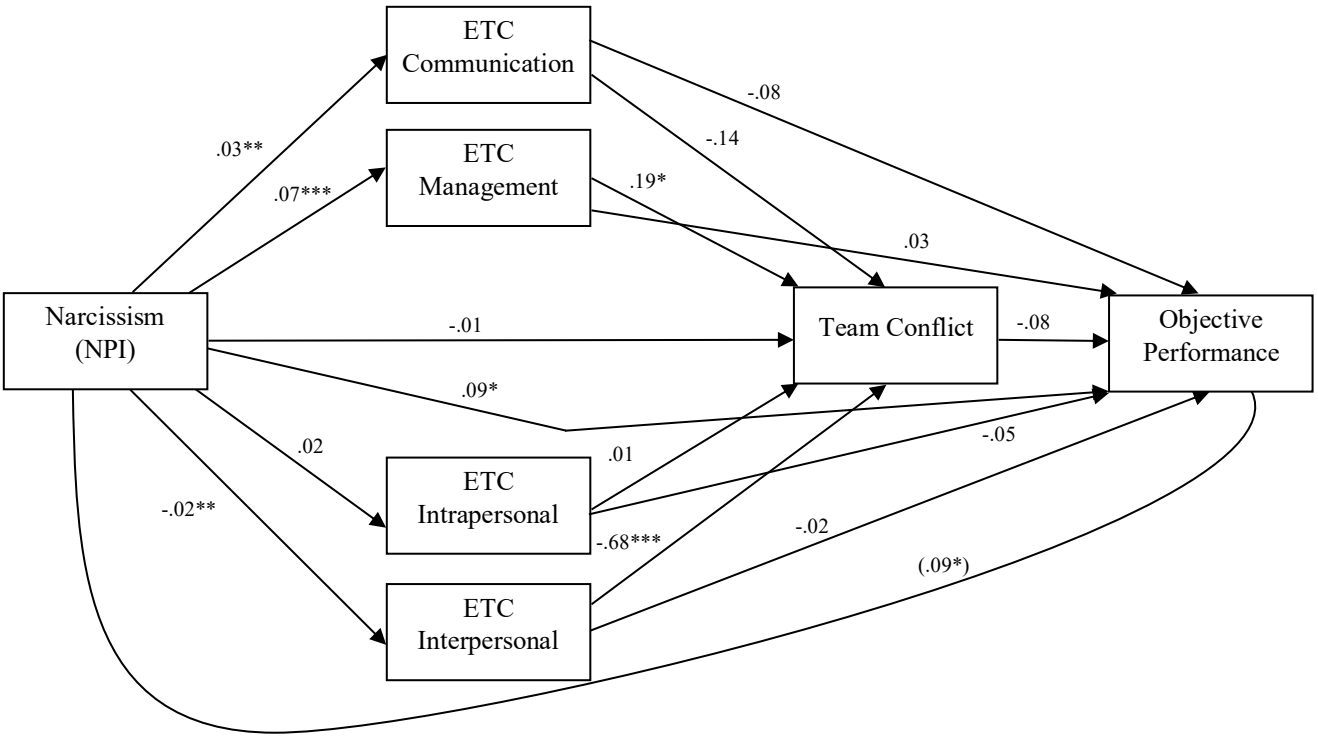



*Note.* Models control for gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

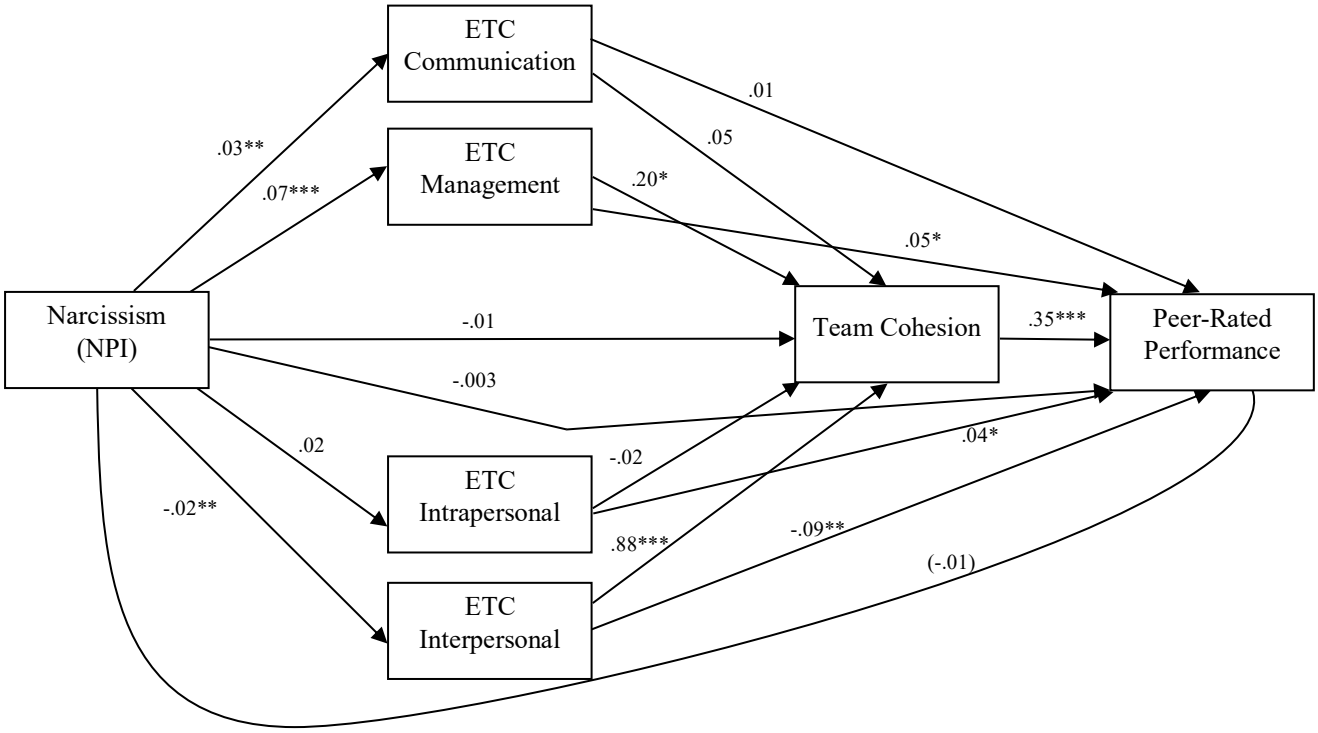
**Figure 43 (cont.)**

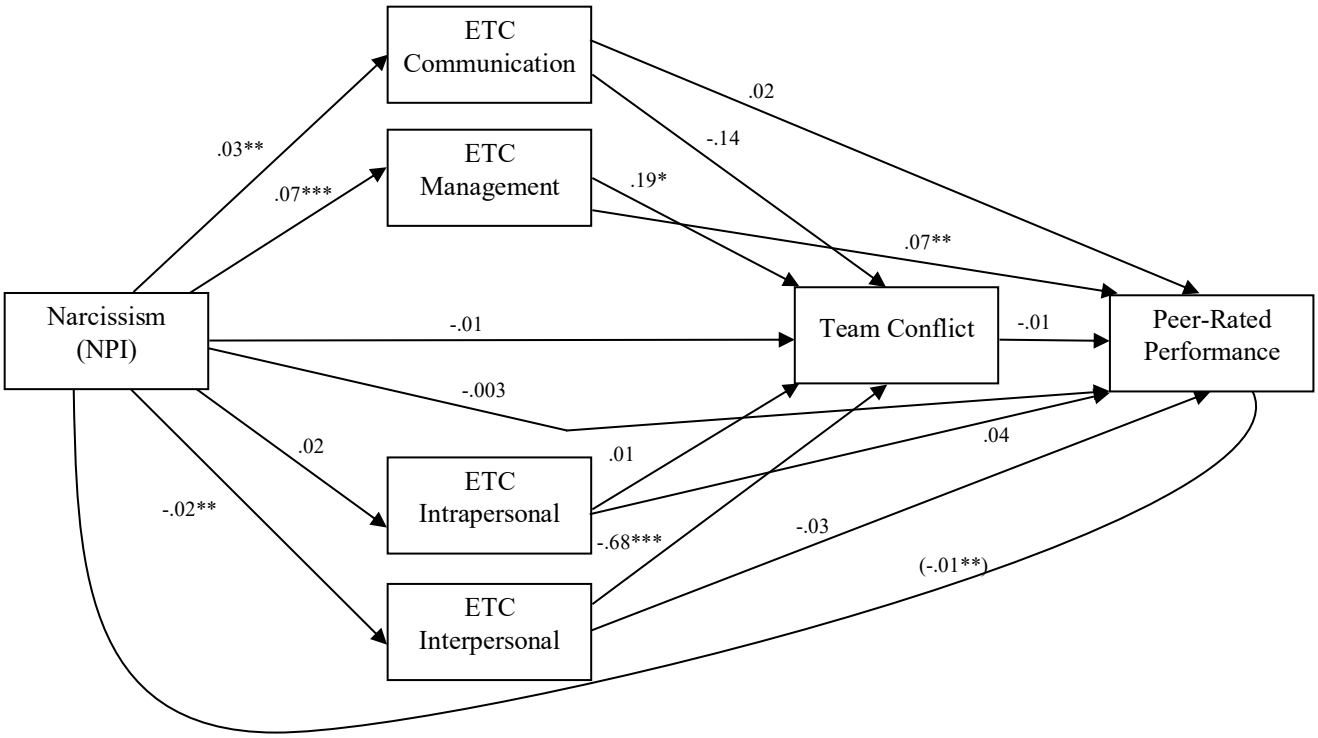



*Note*. Models control for gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 43 (cont.)**

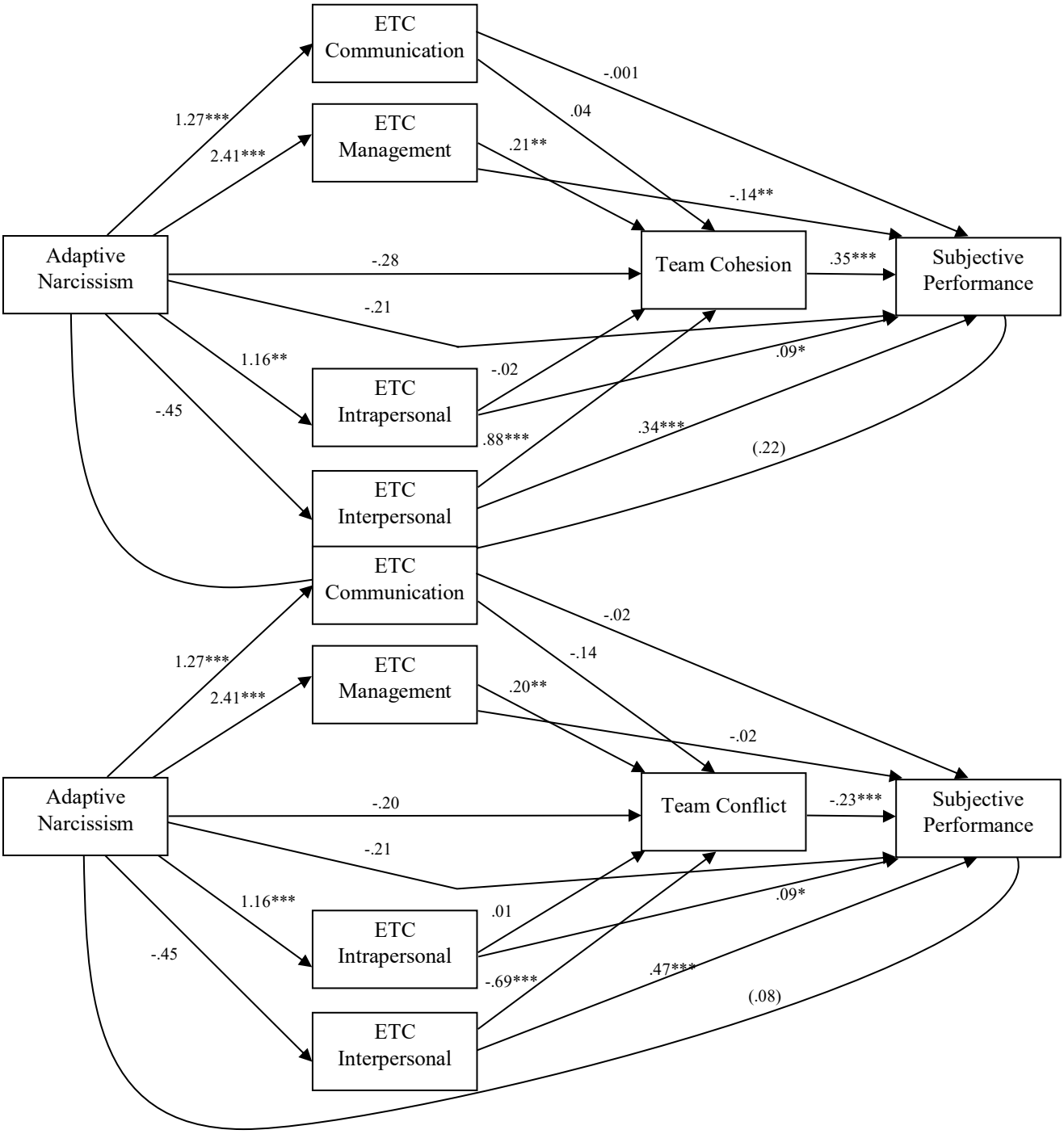



*Note.* Models control for gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

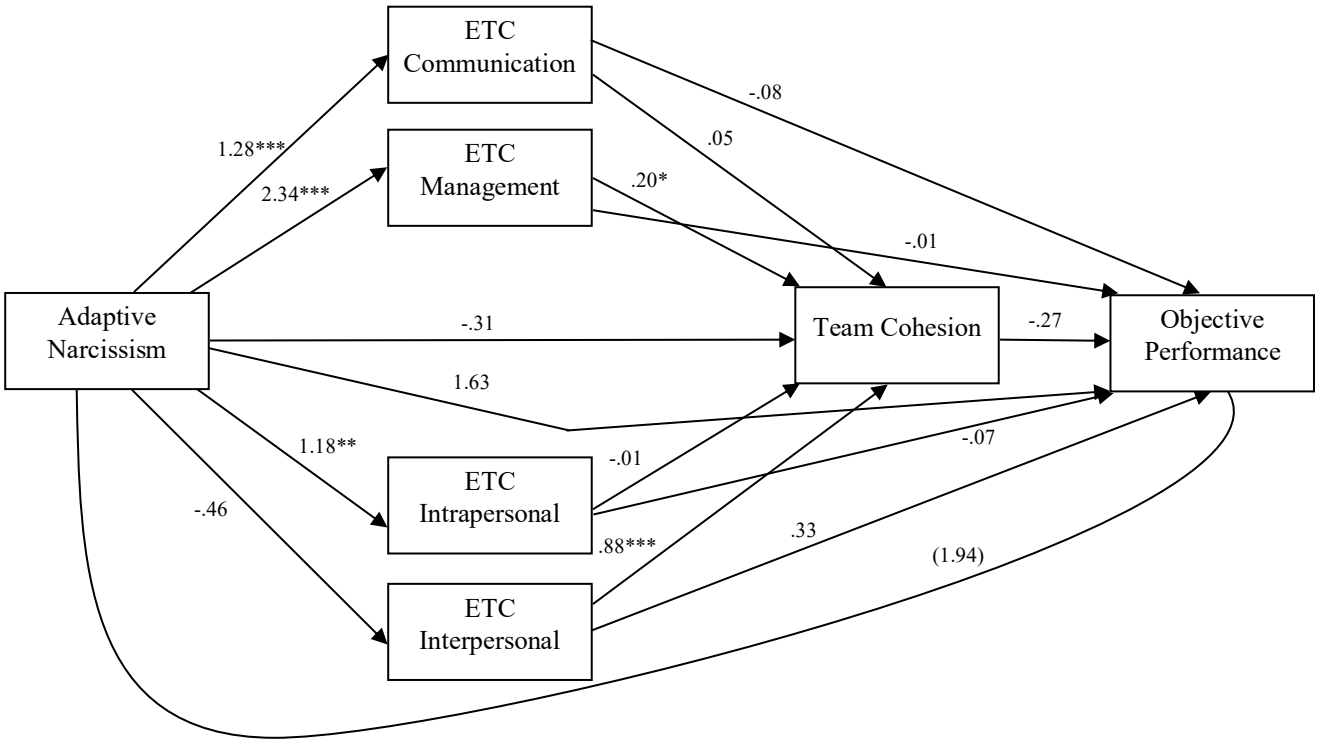
**Figure 44**

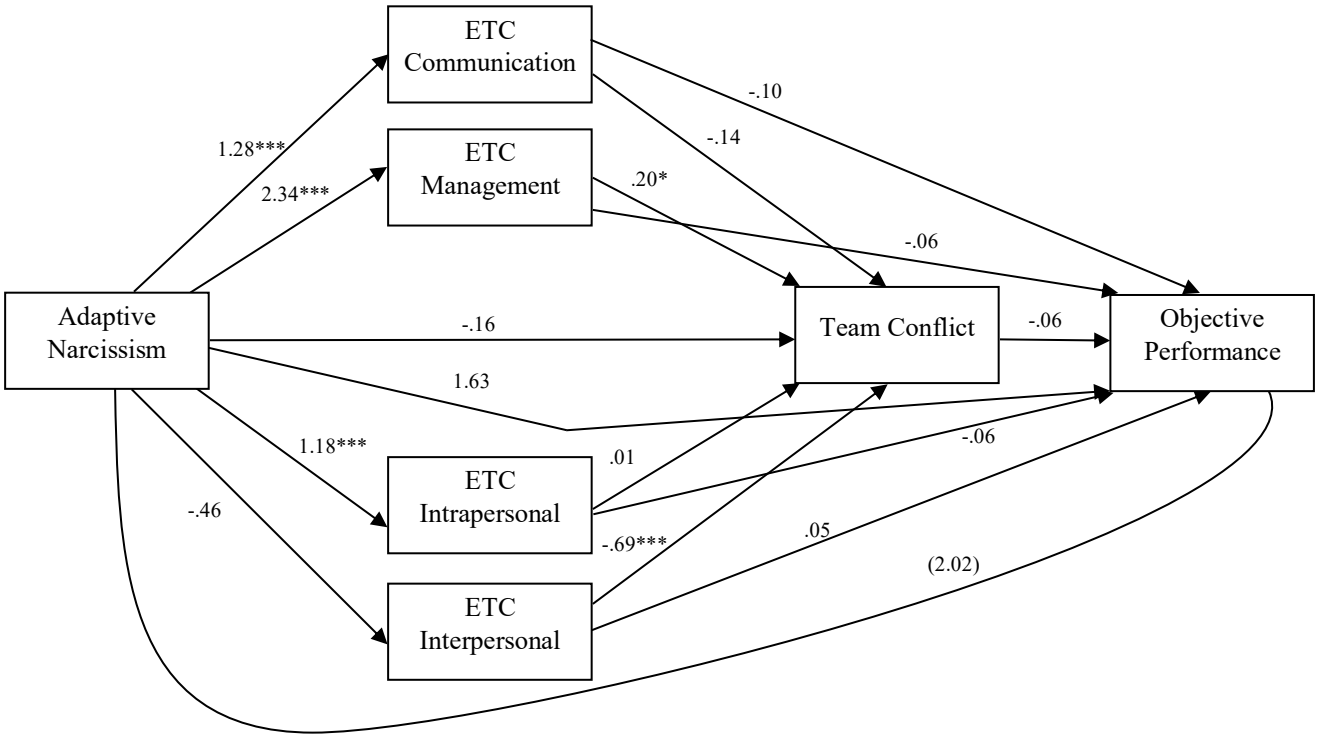
*Study 3: Path Model for the Effects of Individual-Level Adaptive Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*




*Note*. Models control for maladaptive narcissism, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

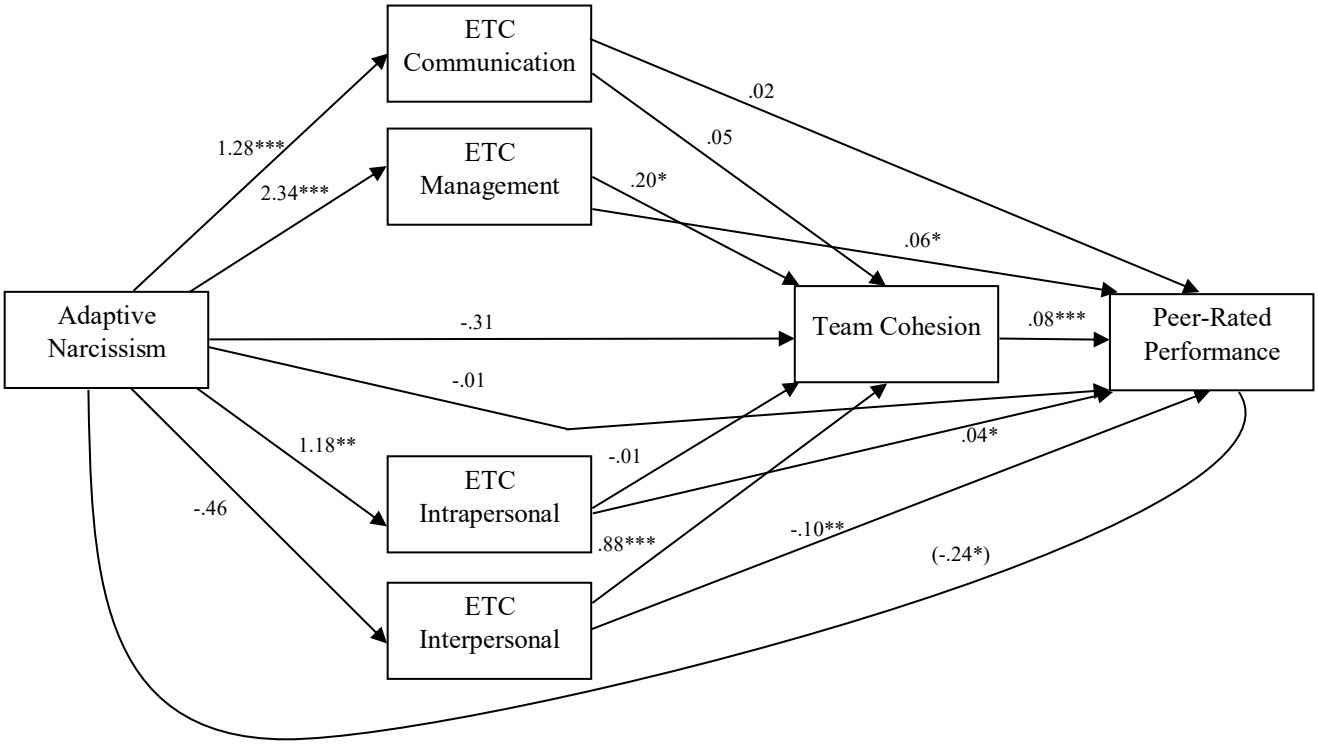
**Figure 44 (cont.)**

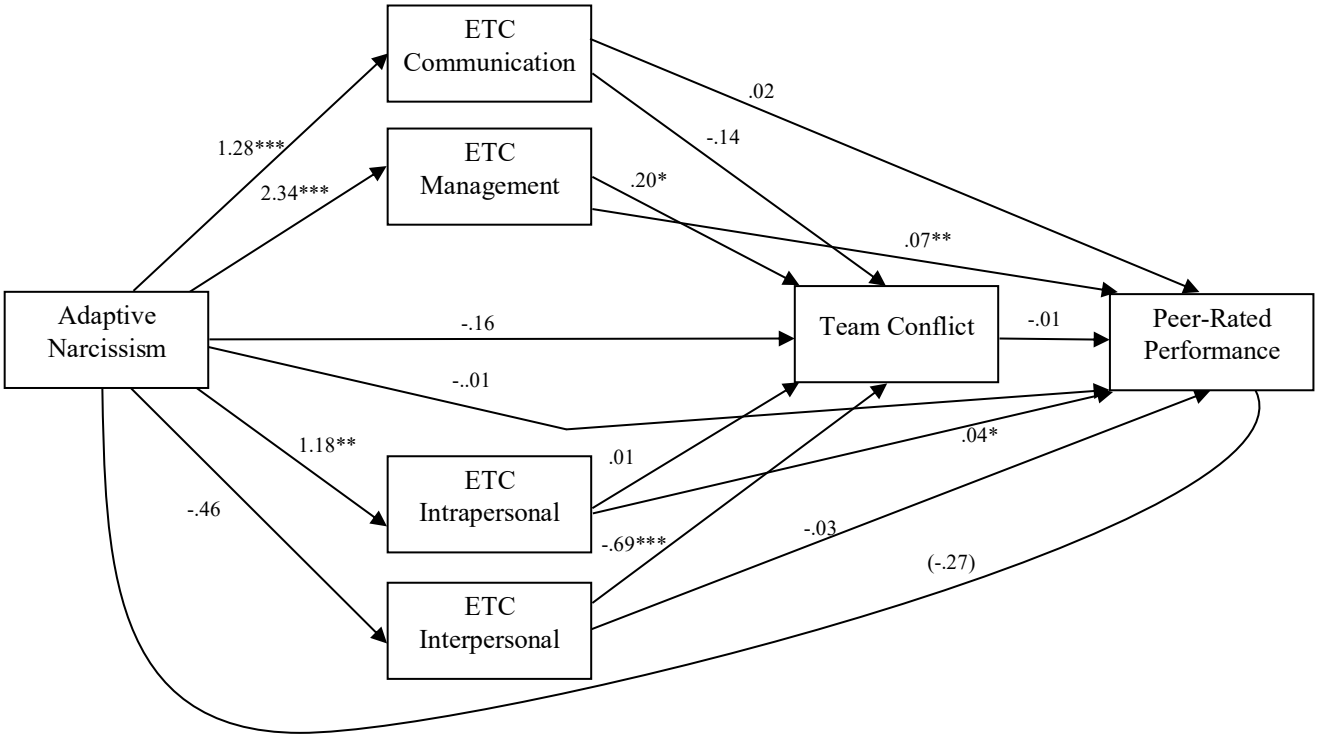



*Note*. Models control for maladaptive narcissism, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 44 (cont.)**



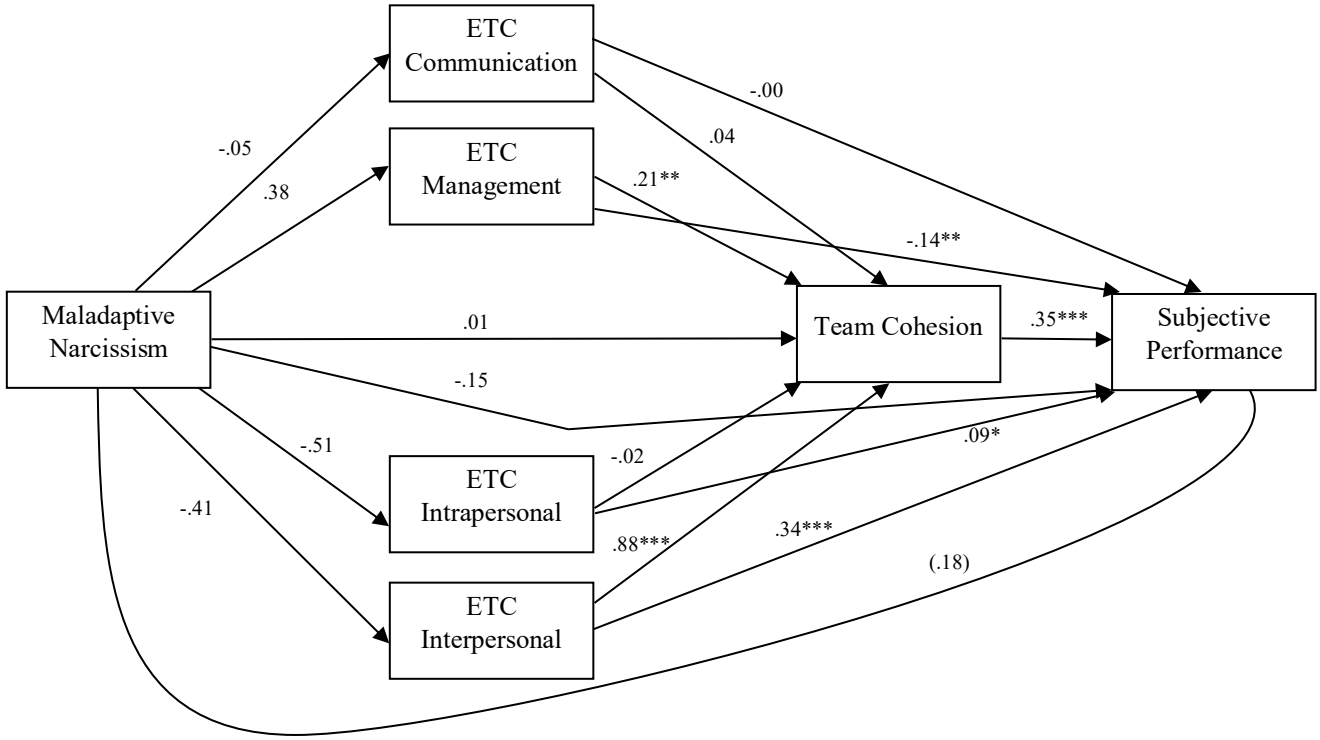



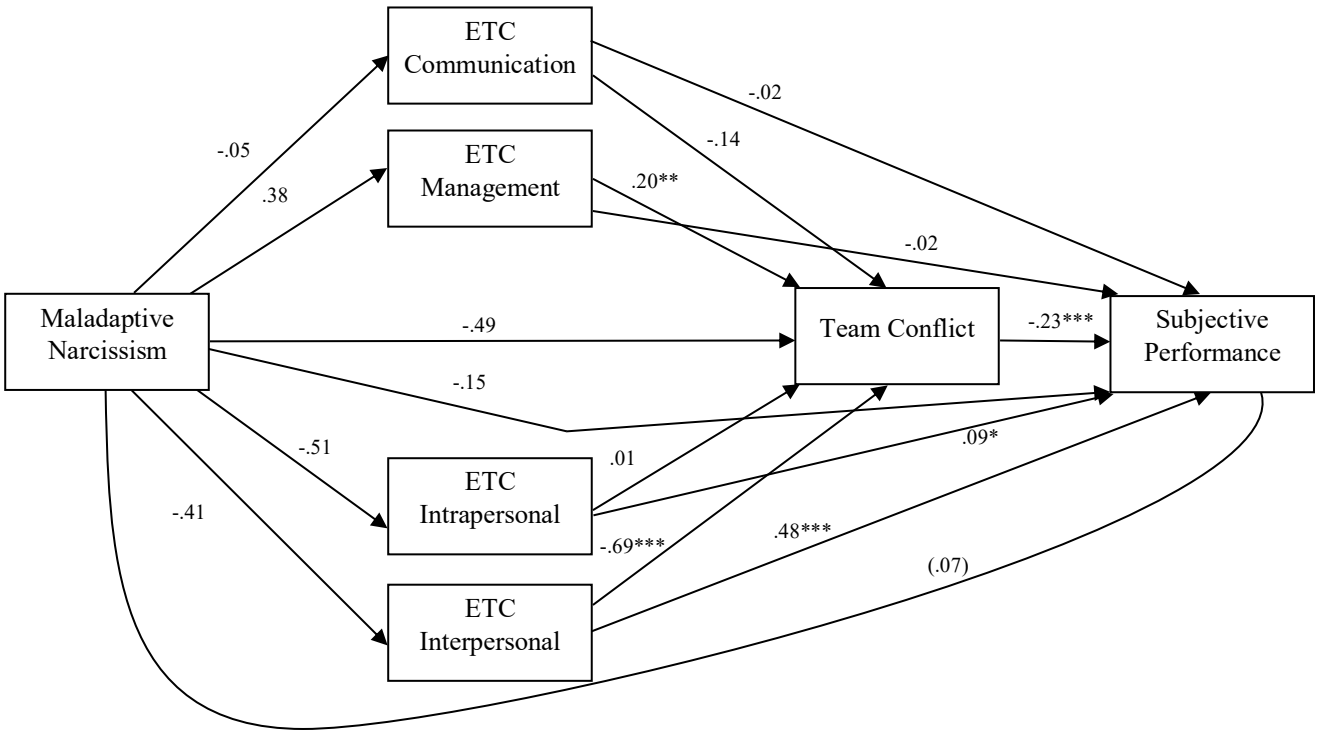

*Note.* Models control for maladaptive narcissism, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

Appendix B

**Figure 45**

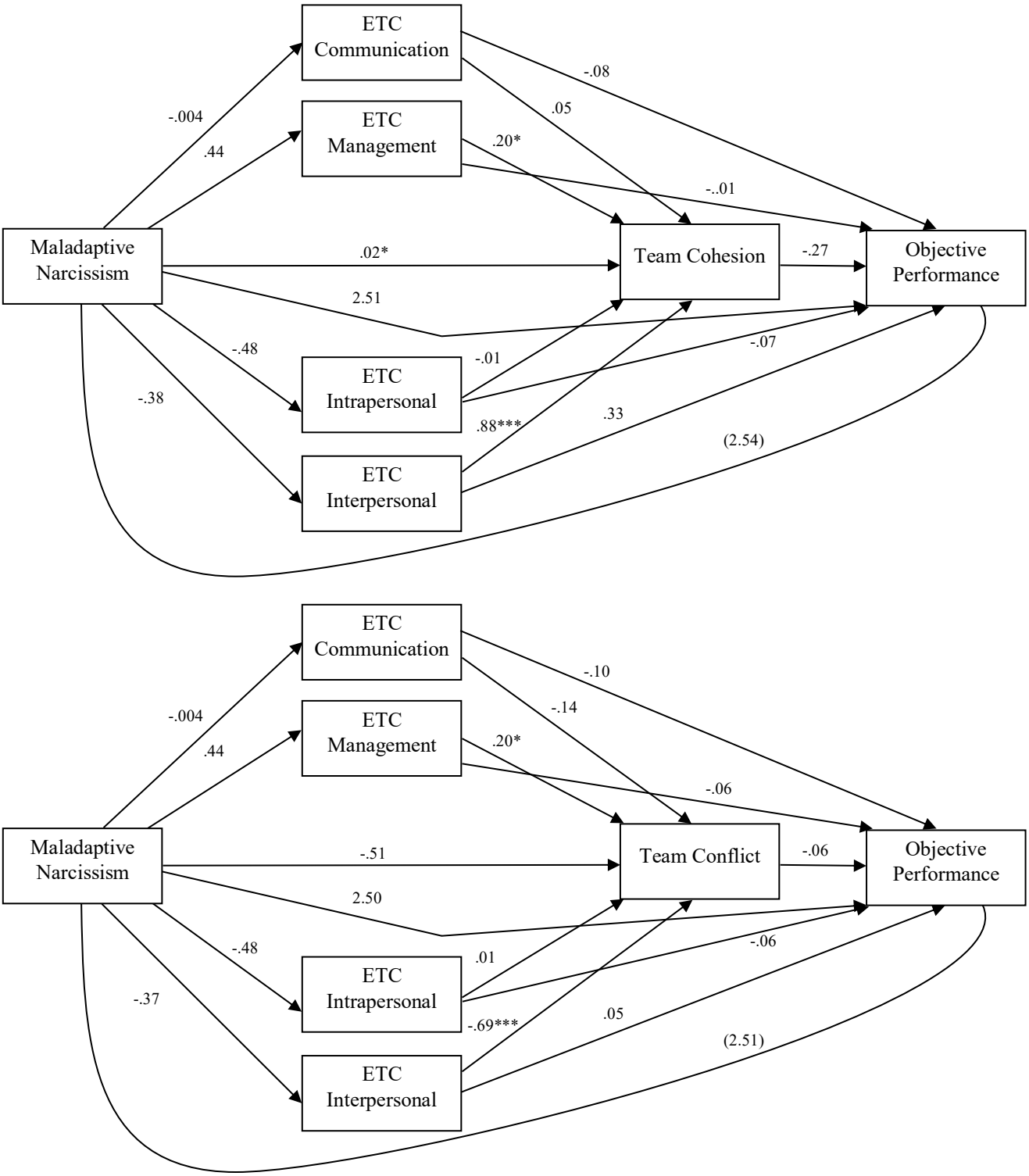
*Study 3: Path Models for the Effects of Individual-Level Maladaptive Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*



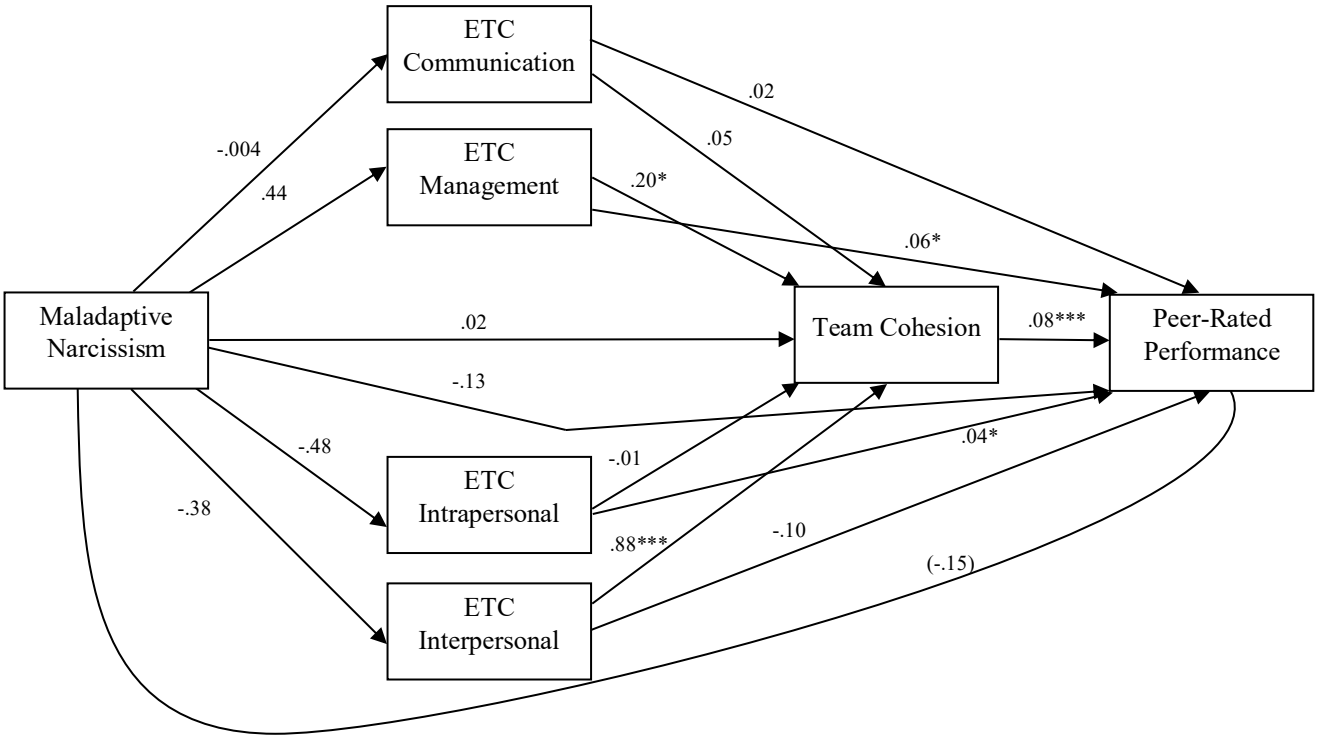

*Note.* Models control for adaptive narcissism, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

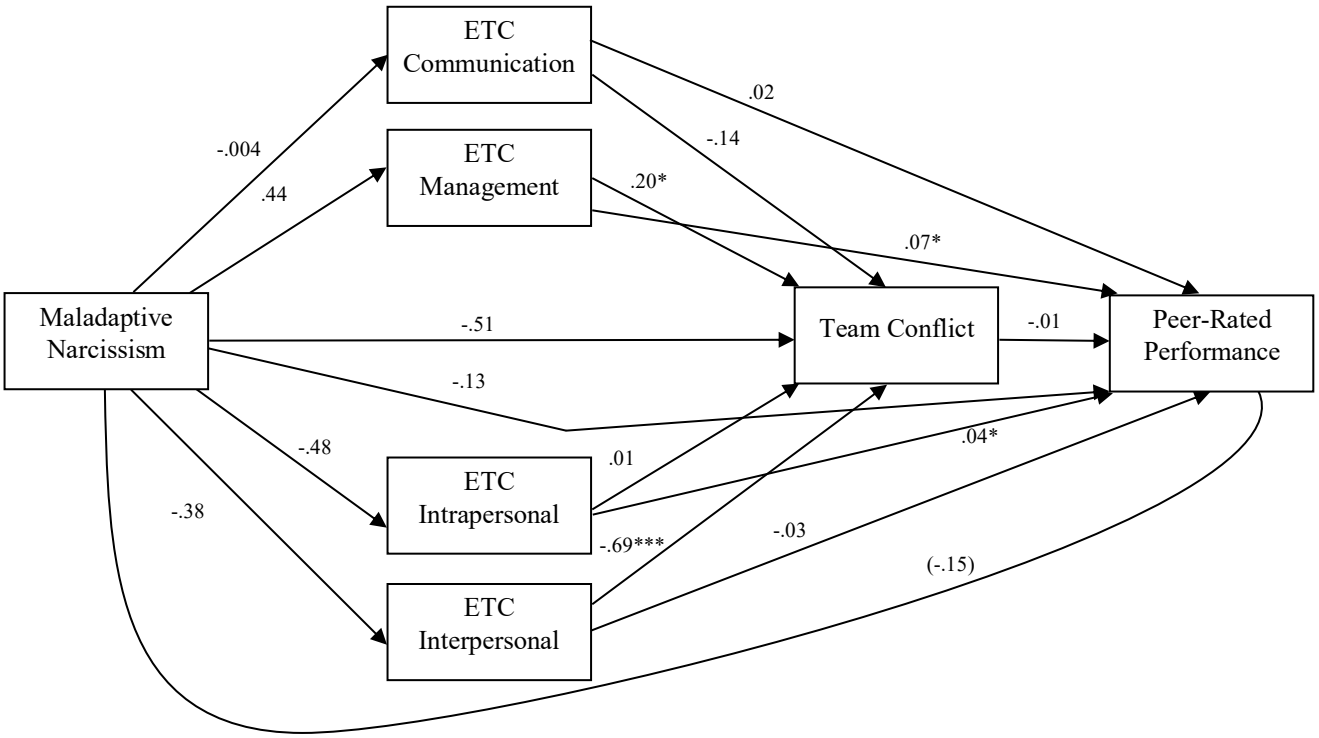
**Figure 45 (cont.)**




*Note.* Models control for adaptive narcissism, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 45 (cont.)**

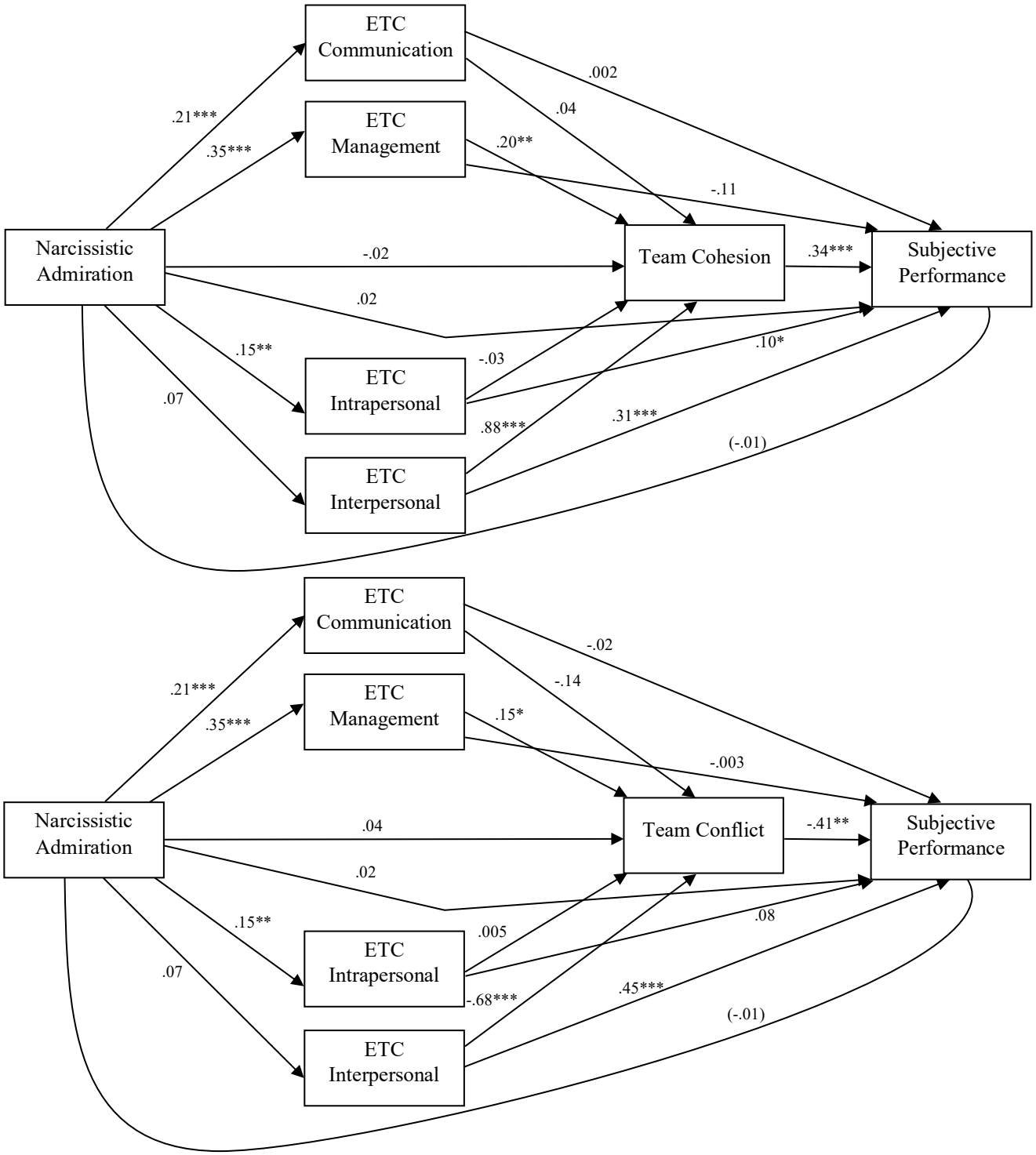



*Note.* Models control for adaptive narcissism, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *p < .05, **p < .01, ***p < .001

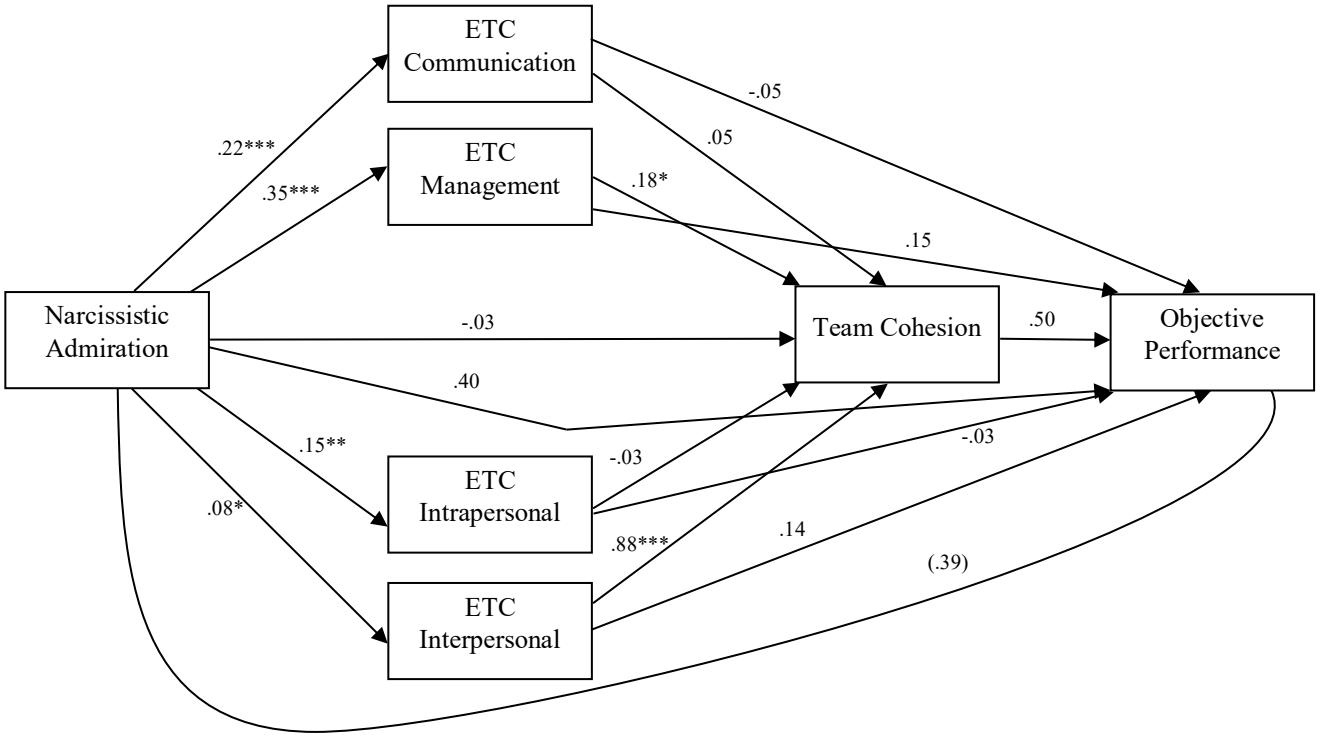
**Figure 46**

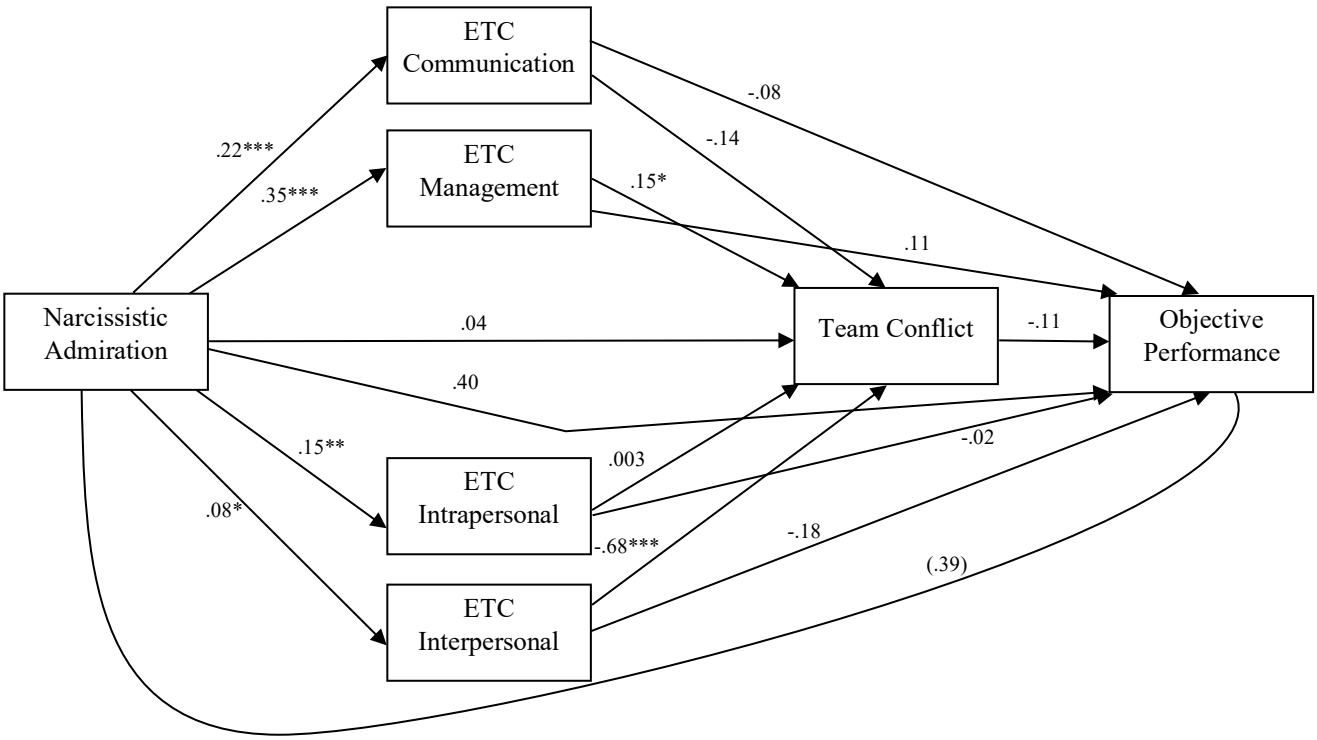
*Study 3: Path Models for the Effects of Individual-Level Narcissistic Admiration on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*




*Note.* Models control for narcissistic rivalry, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

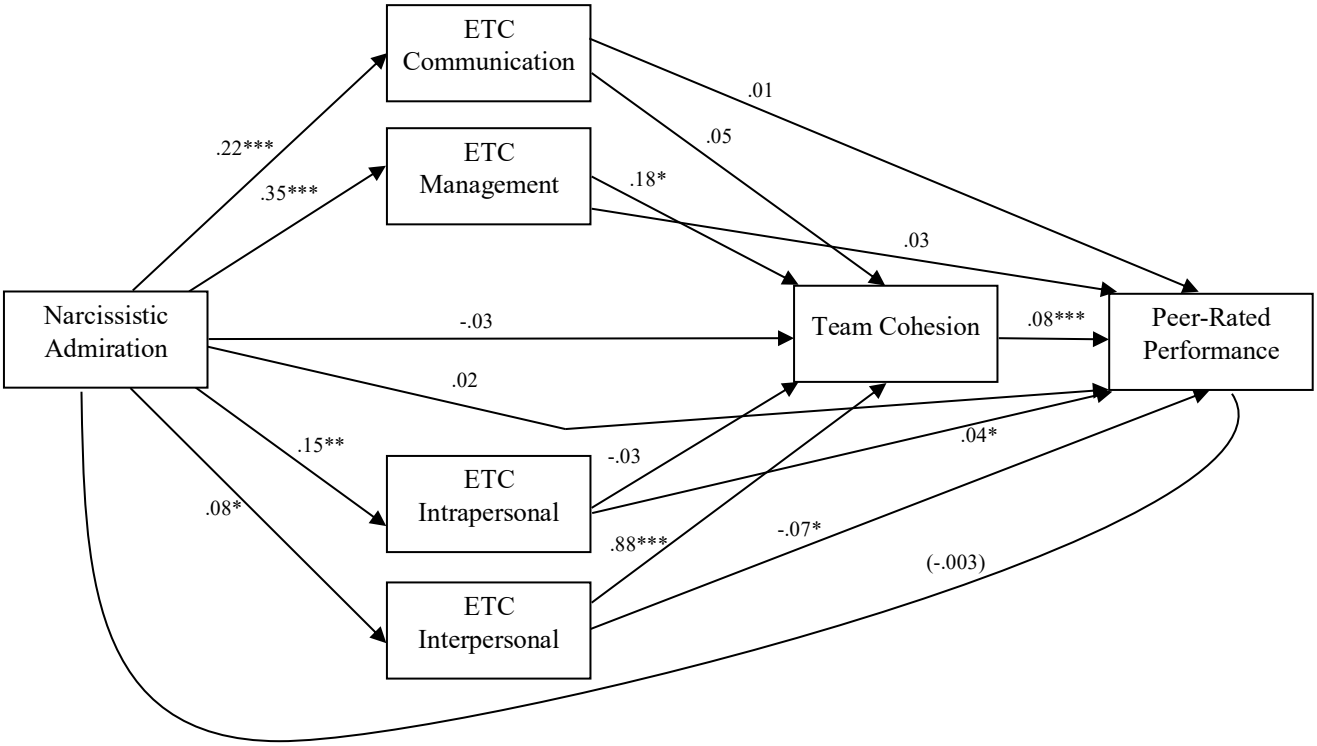
**Figure 46 (cont.)**

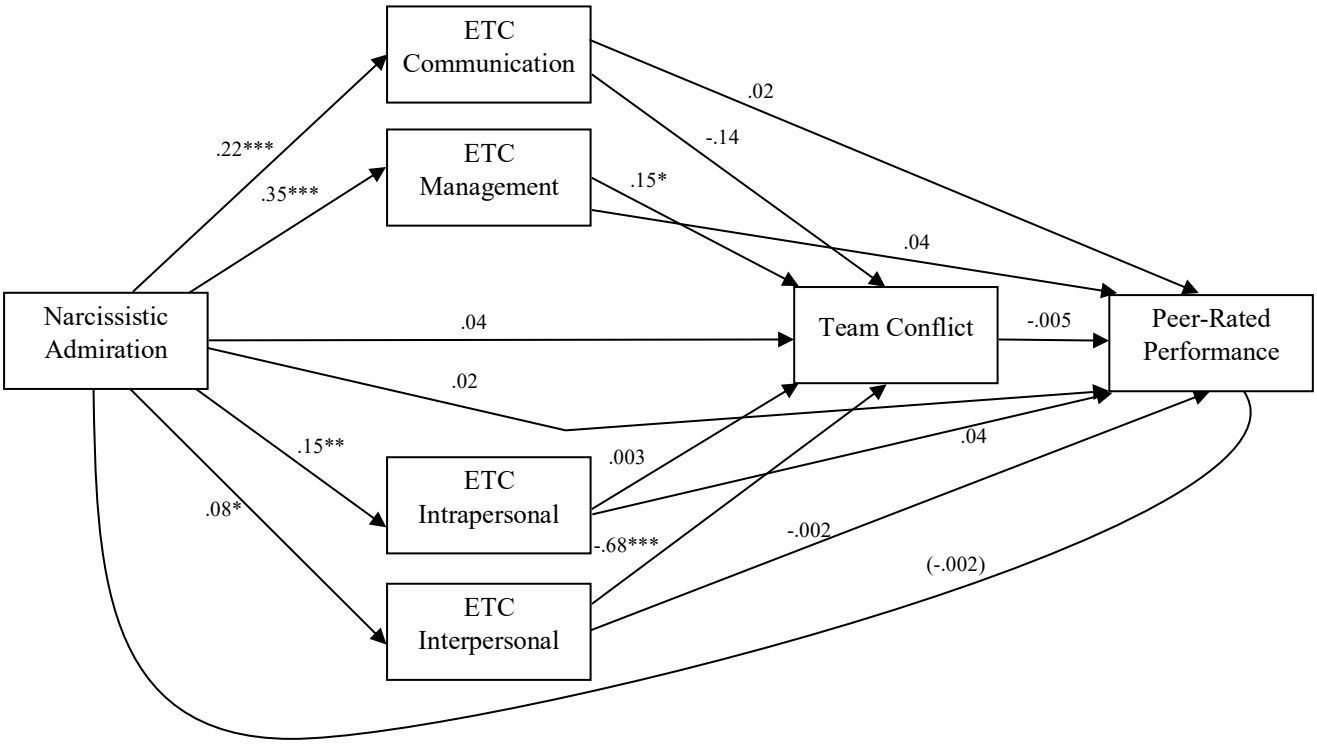



*Note.* Models control for narcissistic rivalry, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 46 (cont.)**



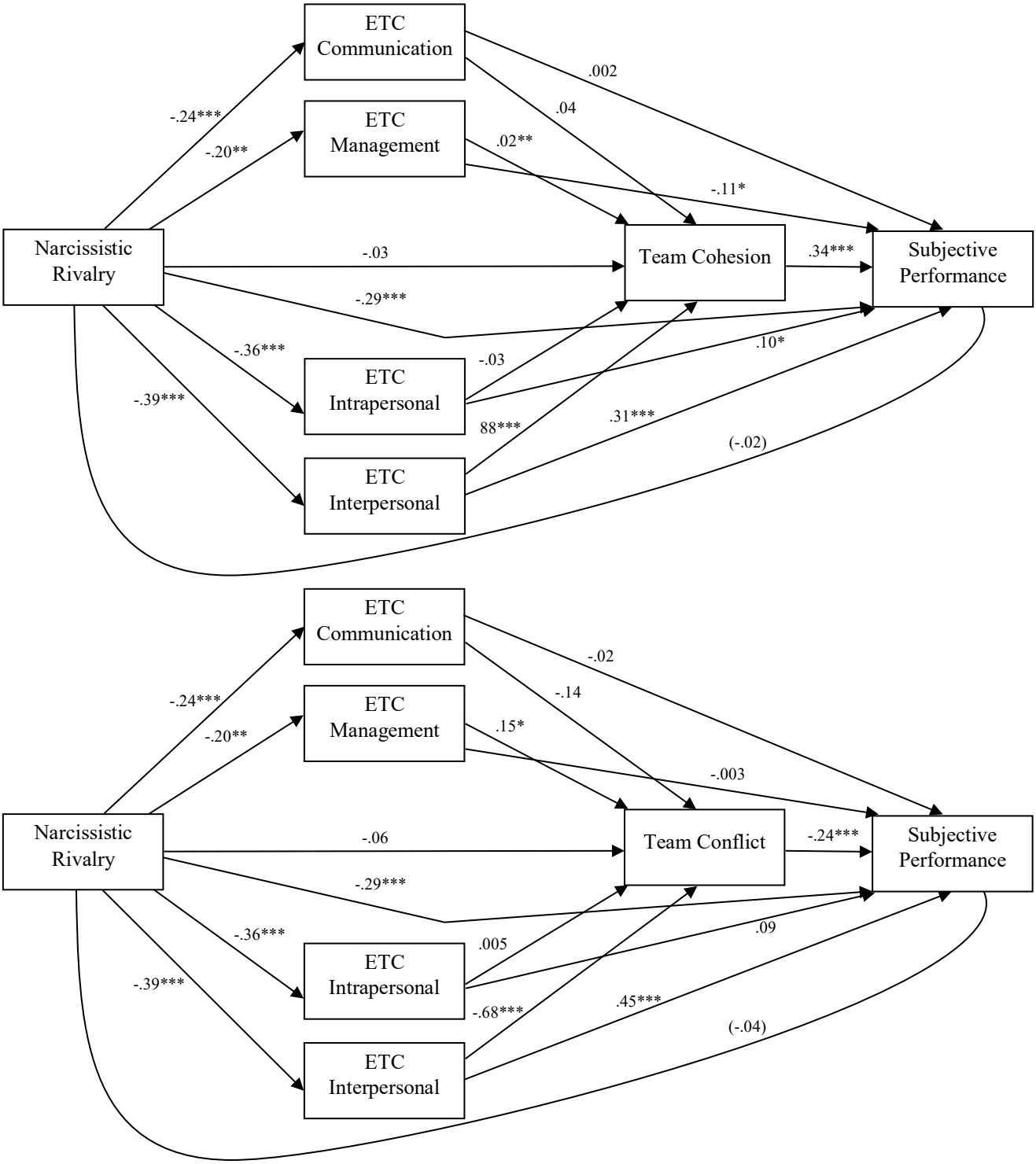




*Note.* Models control for narcissistic rivalry, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

Appendix B

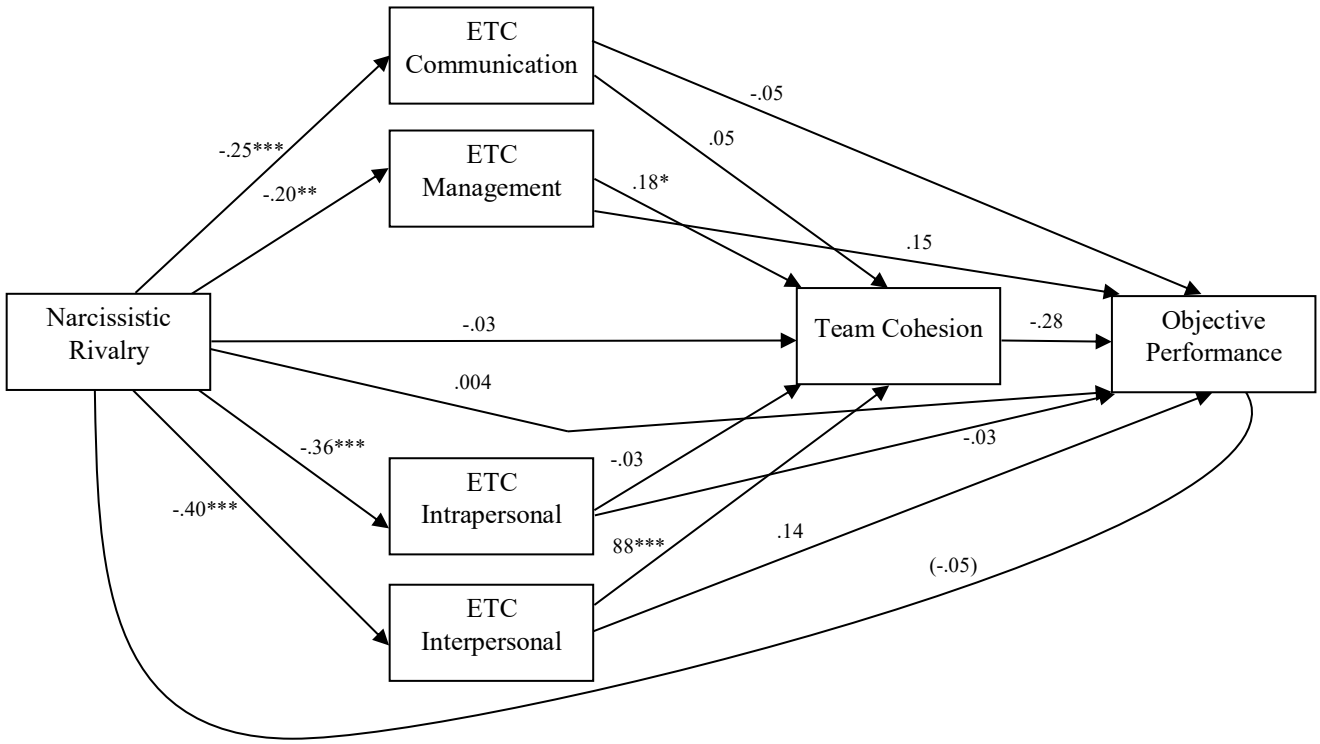
**Figure 47**

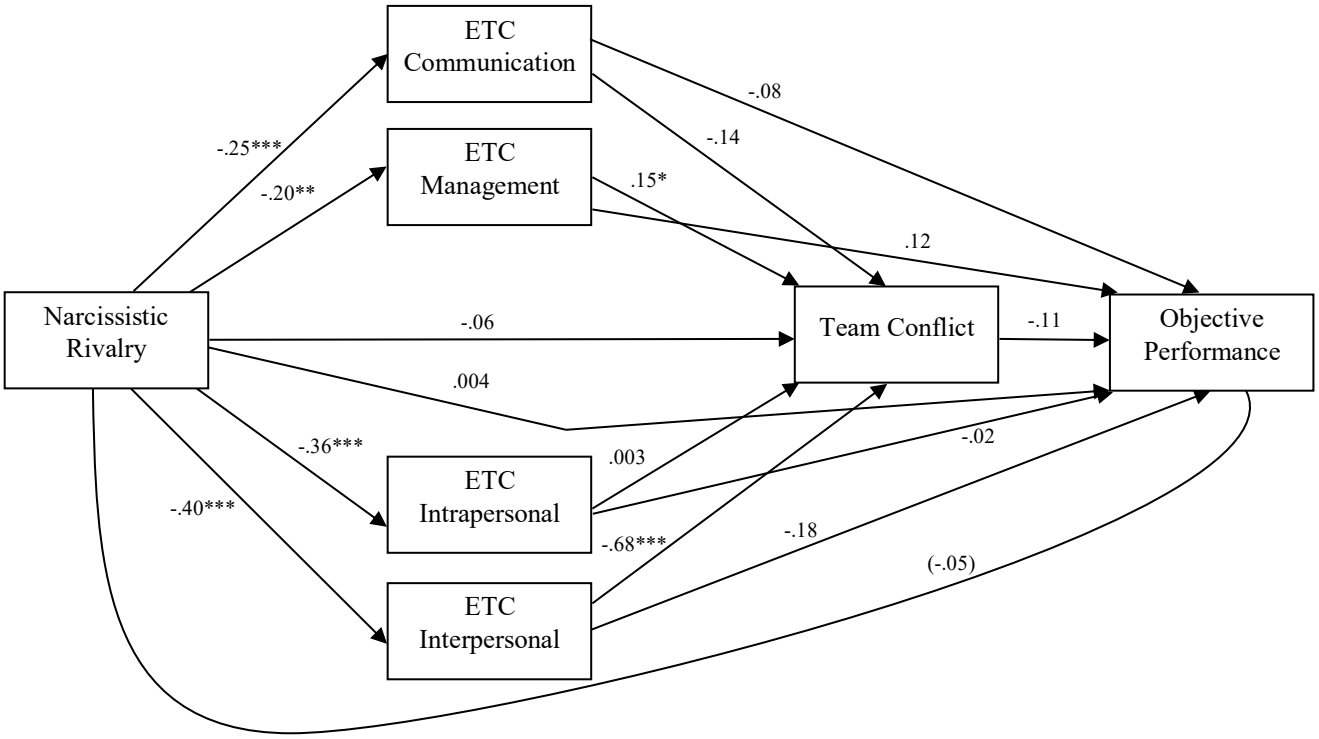
*Study 3: Path Models for the Effects of Individual-Level Narcissistic Rivalry on Team Performance through Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*




*Note.* Models control for narcissistic admiration, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

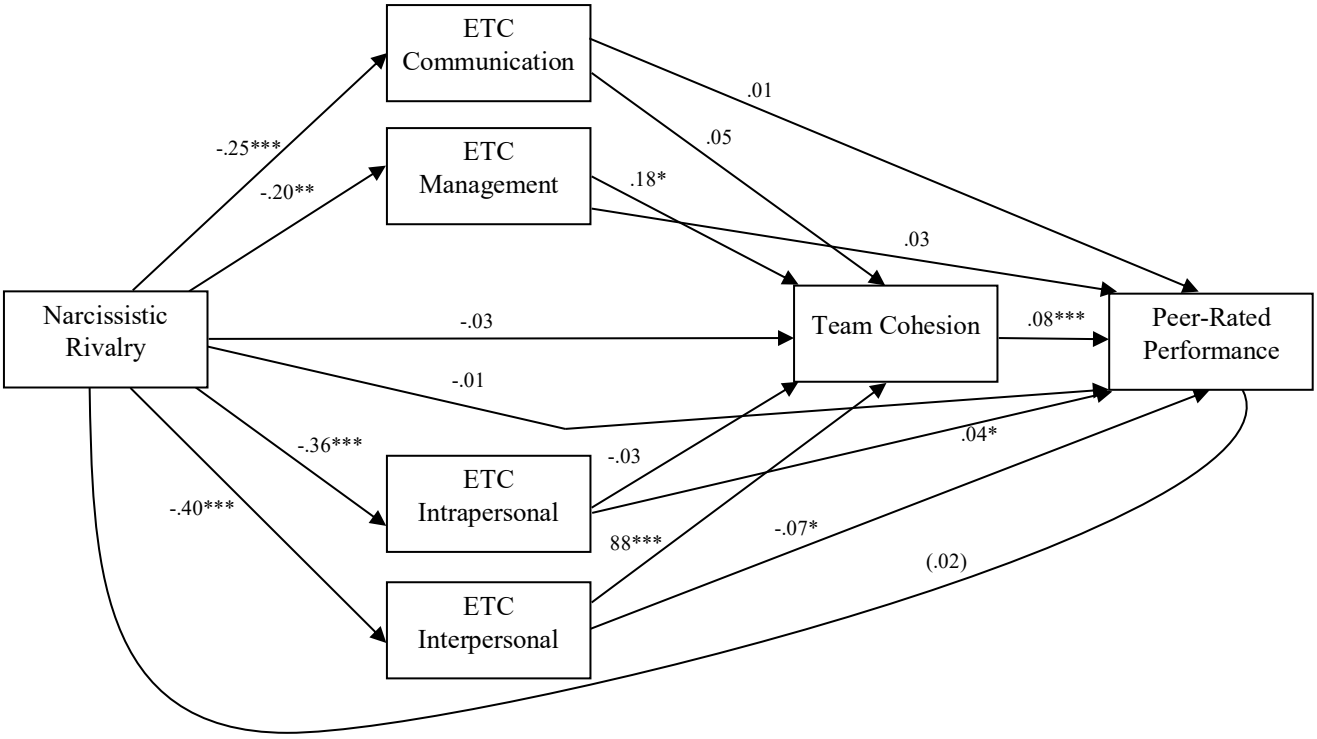
**Figure 47 (cont.)**

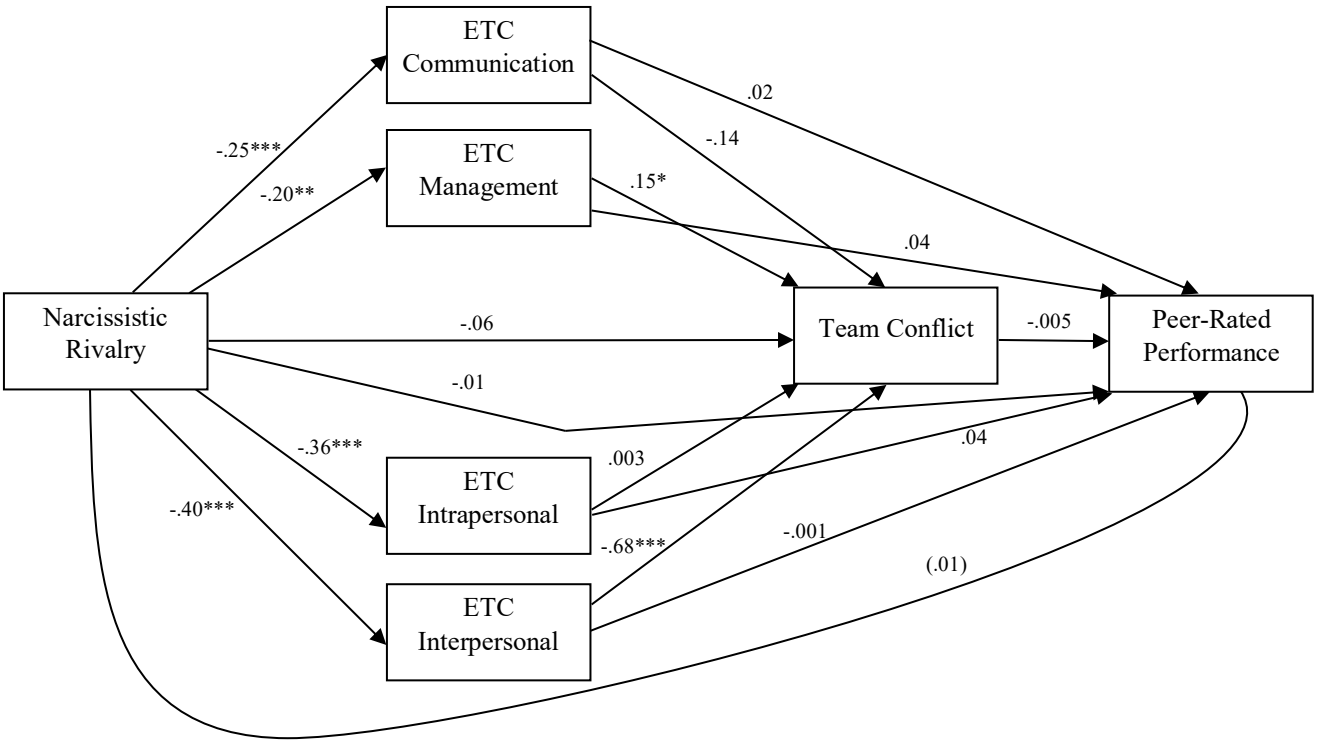



*Note.* Models control for narcissistic admiration, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

**Figure 47 (cont.)**

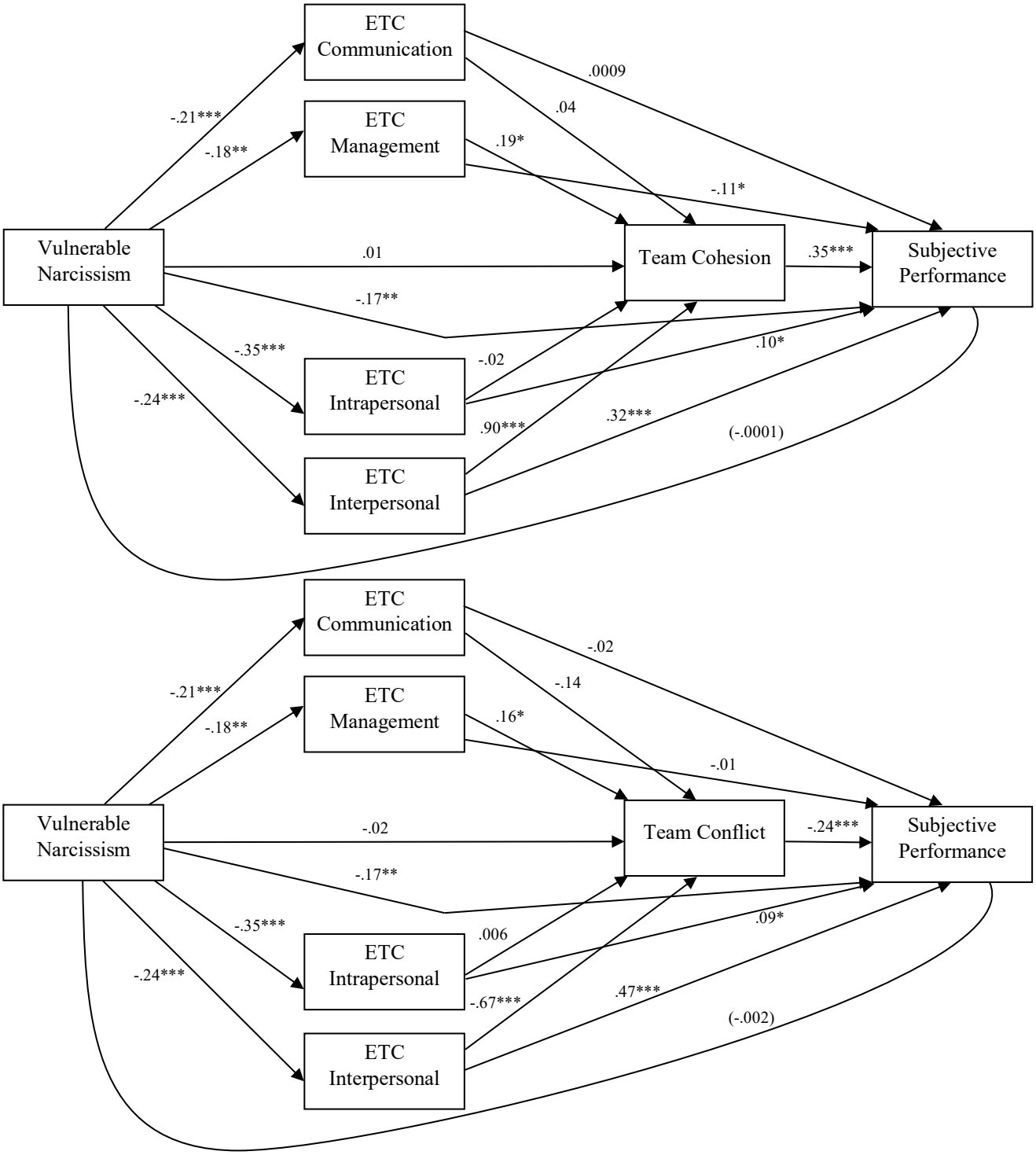



*Note.* Models control for narcissistic admiration, gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

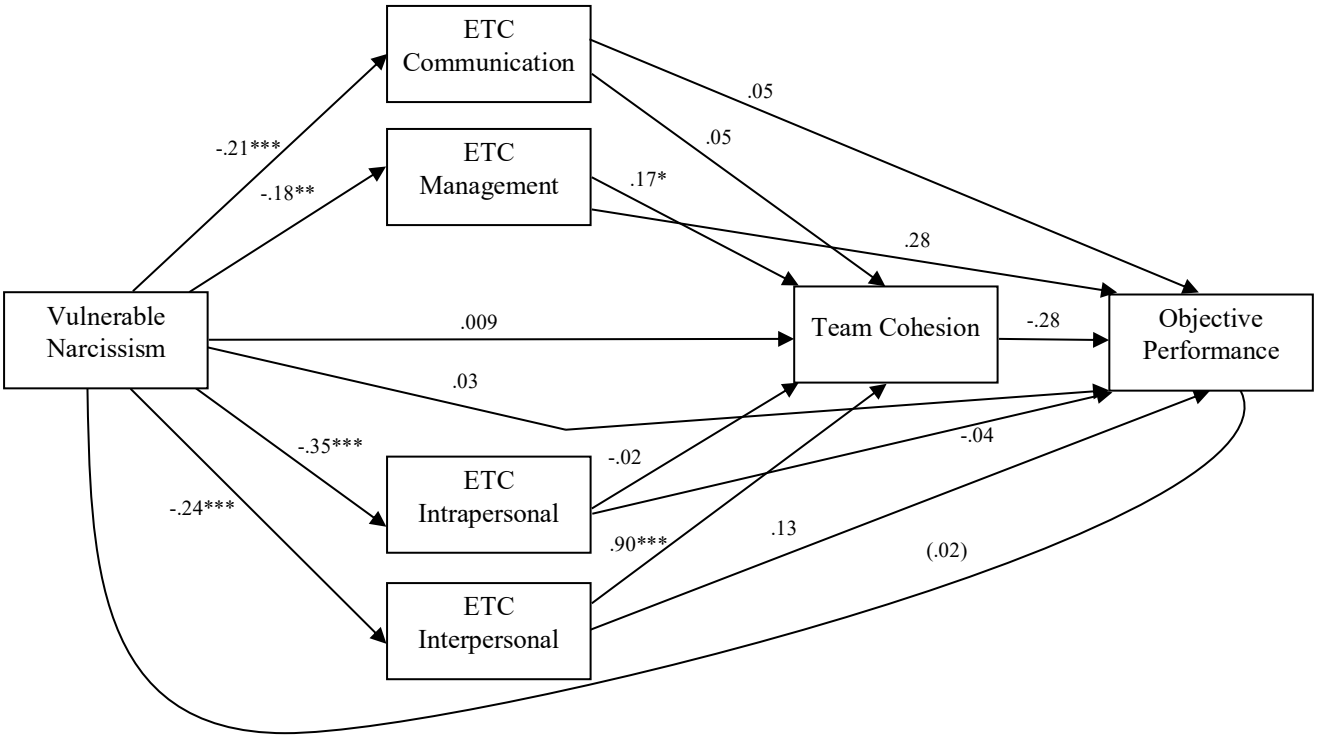
**Figure 48**

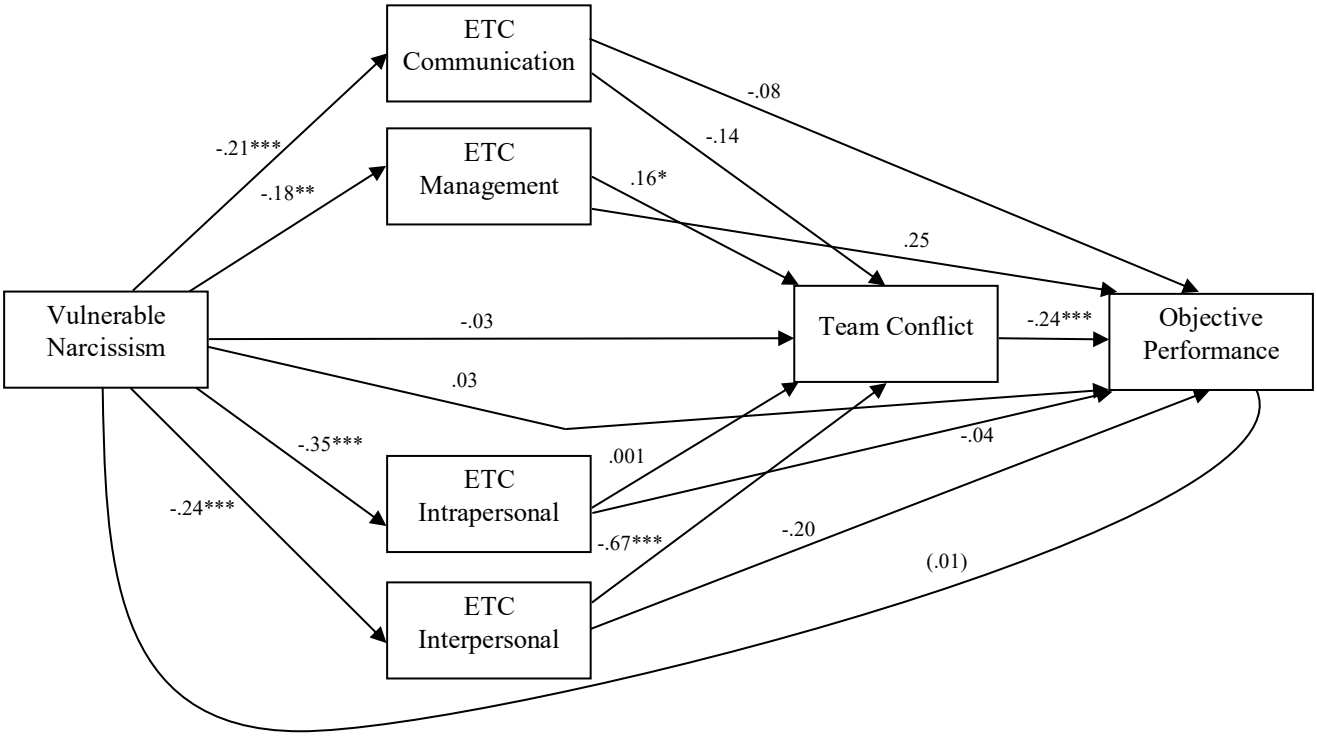
*Study 3: Path Models for the Effects of Individual-Level Vulnerable Narcissism on Team Performance via Teamwork Competencies and Team Processes as Sequential Multiple Mediators (Three Pages)*




*Note.* Models control for gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. **p* < .05, ***p* < .01, ****p* < .001

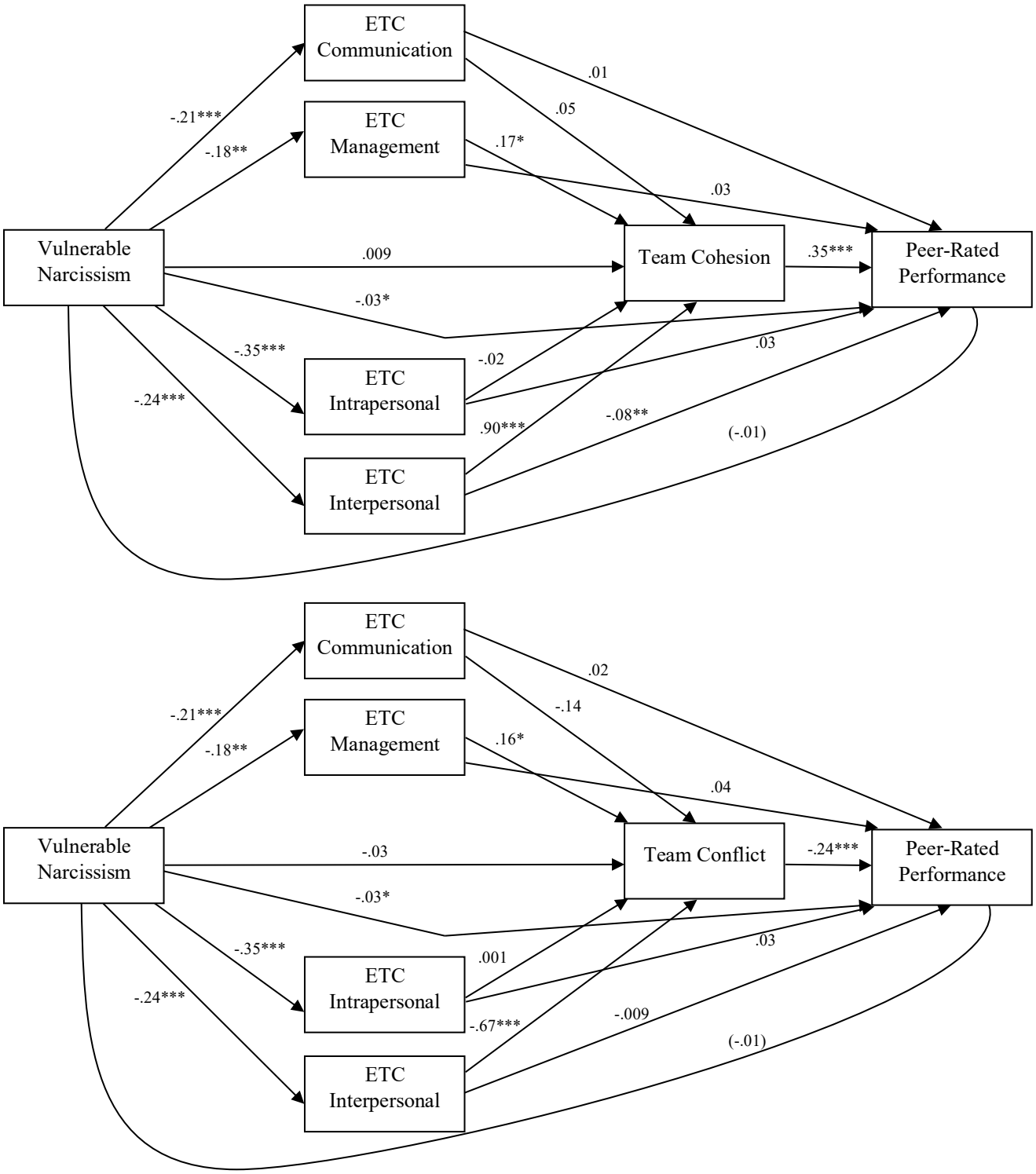
**Figure 48 (cont.)**




*Note.* Models control for gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

**Figure 48 (cont.)**

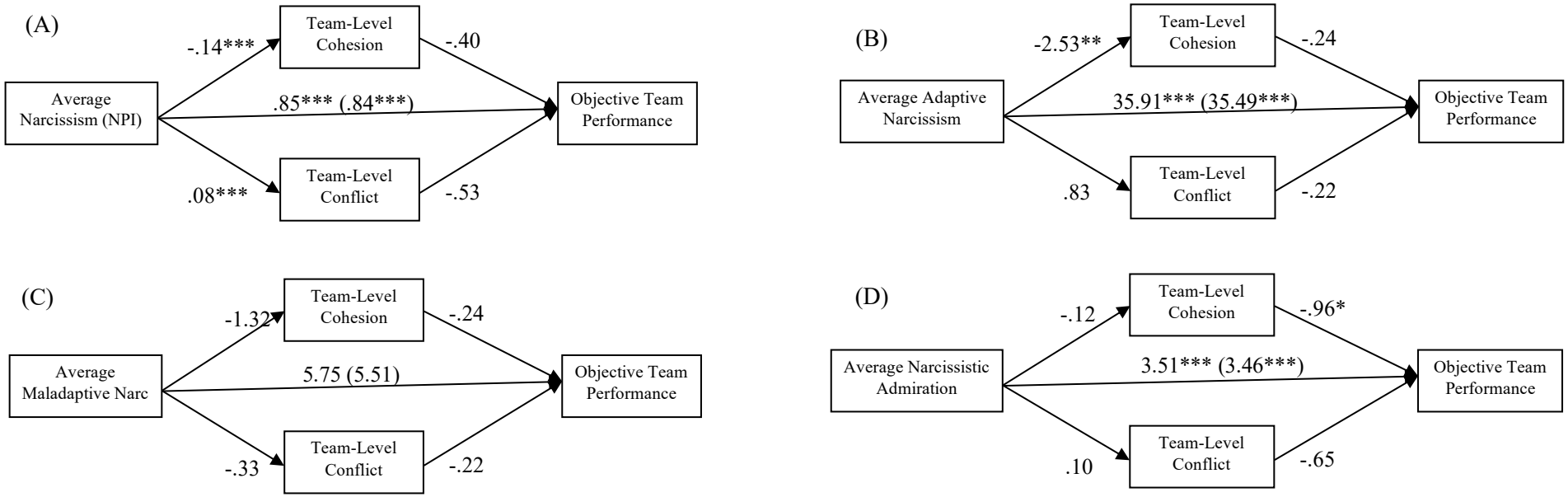



*Note.* Models control for gender, cohort, group size, and impression management. The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model. *$p < .05$, **$p < .01$, ***$p < .001$

Appendix B

**Figure 49**

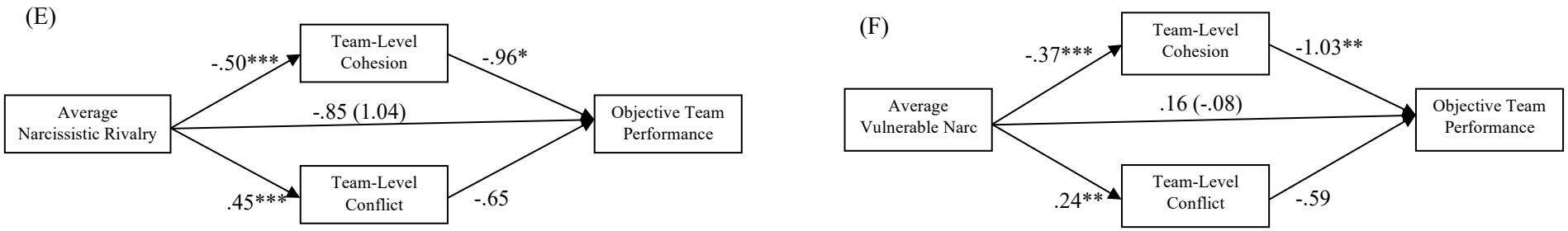
*Study 3: Path Models for the Relations of Team-Level Narcissism (Average), Team-Level Processes, and Objective Team Performance (Two Pages)*




*Note.* Models control for gender, year, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 49 (cont.)**



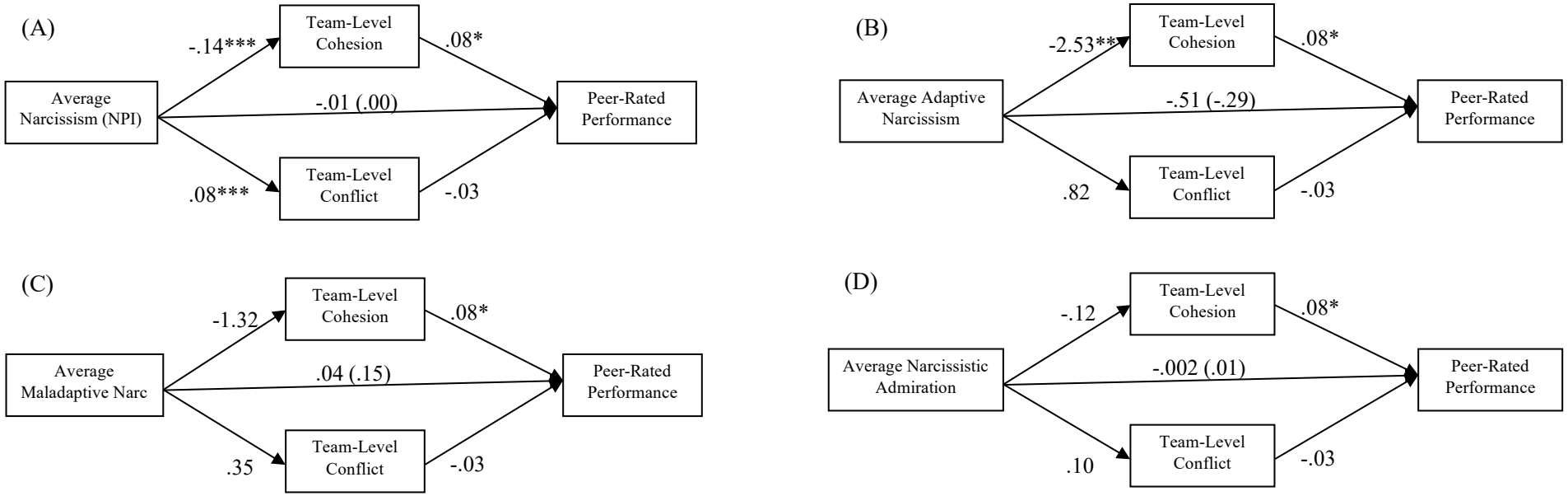

*Note.* Models control for gender, year, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

*$p < .05$, **$p < .01$, ***$p < .001$

Appendix B

**Figure 50**

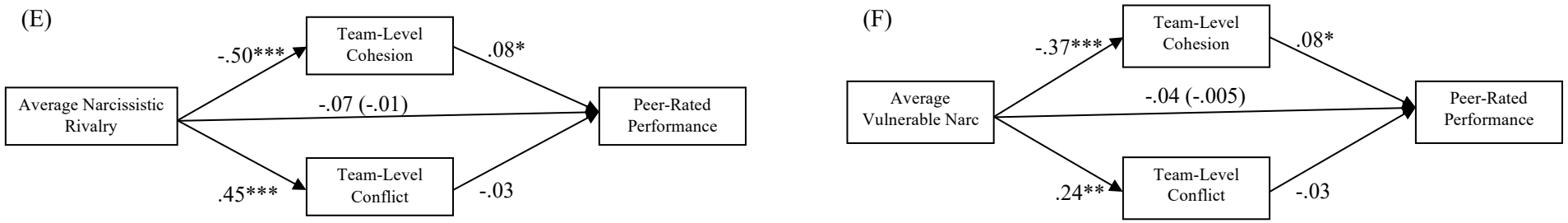
*Study 3: Path Models for the Relations of Team-Level Narcissism (Average), Team-Level Processes, and Peer-Rated Performance (Two Pages)*




*Note.* Models control for gender, year, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

**p* < .05, ***p* < .01, ****p* < .001

**Figure 50 (cont.)**

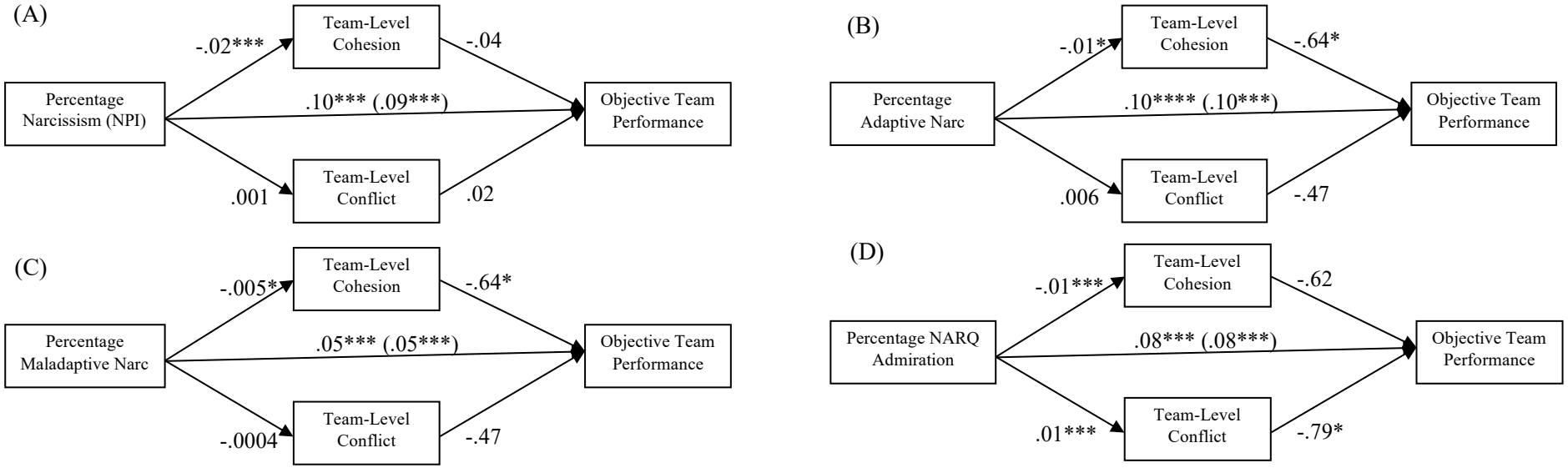



*Note.* Models control for gender, year, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 51**

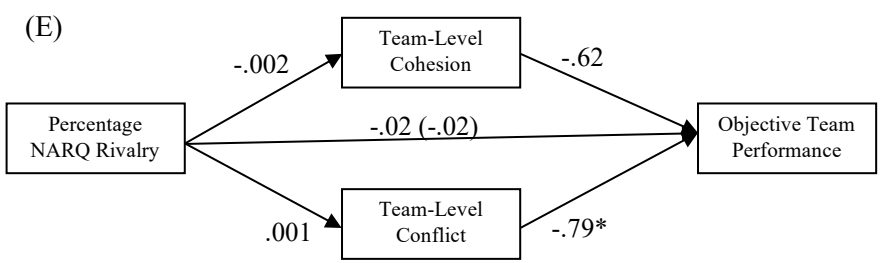
*Study 3: Path Models for the Relations of Team-Level Narcissism (Percentage), Team-Level Processes, and Team Performance (Two Pages)*

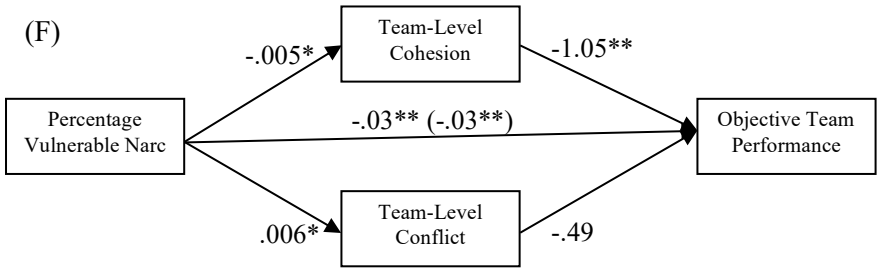



*Note.* Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 51 (cont.)**



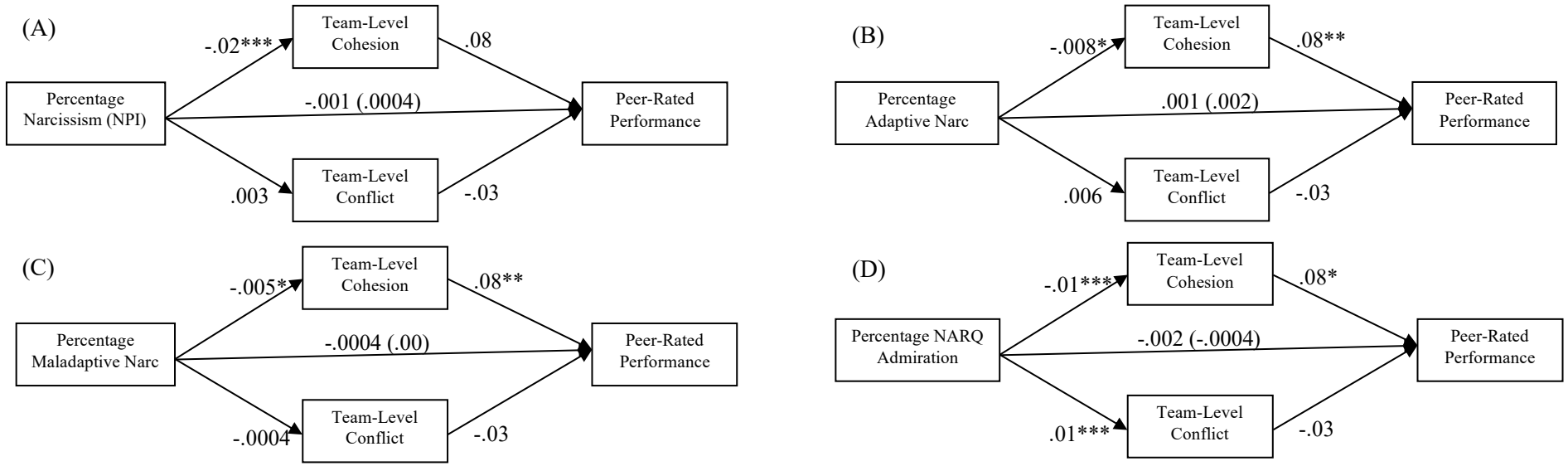




*Note.* Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

*$p < .05$, **$p < .01$, ***$p < .001$

**Figure 52**

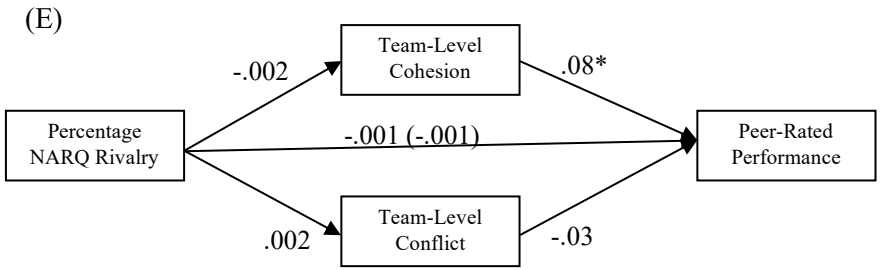
*Study 3: Path Models for the Relations of Team-Level Narcissism (Percentage), Team-Level Processes, and Peer-Rated Team Performance (Two Pages)*

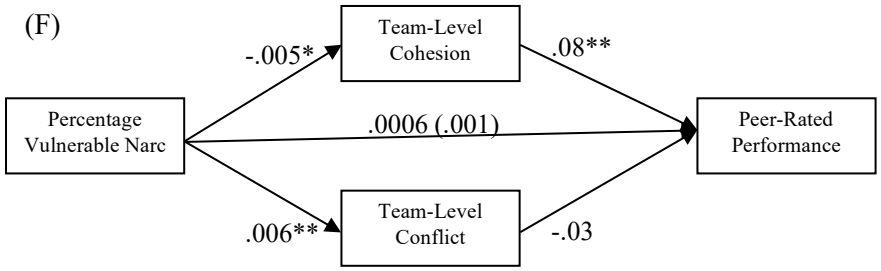



*Note.* Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

**p* < .05, ***p* < .01, ****p* < .001

**Figure 52 (cont.)**




*Note.* Models control for gender, impression management, and the other form of narcissism (where necessary). The path coefficients are unstandardised regression coefficients. The value in parentheses is the direct effect (c') of each model.

*$p < .05$, **$p < .01$, ***$p < .001$

# PhD Summary – Aims & Results

UNIVERSITY OF Southampton
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## There's No I in Team But There is a Me: The Influence of Narcissism on Team Processes and Organisational Outcomes

Reece Bush-Evans

UNIVERSITY OF Southampton
School of Psychology

## Research…

**Aim:** To investigate how the **Bright** and **Dark** sides of narcissism predict engagement in a range of team-related behaviours and the influence that this has on team processes and team performance.

**Overall Hypothesis:** Individuals high on traits associated with the **Dark side of narcissism will engage in more negative behaviours**, which in turn, will predict poorer team and organisational outcomes (e.g., increased conflict, reduced cohesion, impaired performance) than individuals high on traits associated with the Bright side.

**Study One:** Online study (N = 394)

**Study Two:** Escape Room round-robin study (N = 101, 23 teams)

**Study Three:** Longitudinal round-robin study (N = 387, 43 teams)

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## Study One: Summary

| Dark Side | Bright Side |
|---|---|
| ❑ Do not see eye to eye with others<br>❑ Low levels of teamwork competencies and team cohesion<br>❑ High levels of team conflict<br>❑ Impaired team performance | ❑ Behave in ways conducive to team interactions<br>❑ High levels of teamwork competencies and team cohesion<br>❑ High levels of team conflict<br>❑ Mixed results for team performance |

**Implications & Next Steps**

Narcissism: A trait to monitor and understand in teams/organisations

- ❑ Objective performance measure
- ❑ Multiple levels of analysis required
- ❑ Context matters!

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## Study Two: Summary

Escape Room Game – ($k$ = 23 teams)

**Hypotheses:** Individual, Team, & Relational-Levels

- **Round-Robin analyses:** Perceiver, target, relationship effects
  - Interindividual differences: Assumed similarity & Self-other agreement
- **Performance:** Objective measure
- **Context:** Competitive setting

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## Study Two: Summary

| Dark Side | Bright Side |
| --- | --- |
| ❑ Low levels of teamwork competencies and team cohesion; High levels of team conflict<br>❑ Team-level: More harmful team-related behaviours and processes; Impaired team performance<br>❑ Relational: Interindividual differences; Rated as arrogant and aggressive; Rated others negatively; Rated self as less trustworthy and less hardworking | ❑ High levels of management skills; High levels of team conflict<br>❑ Team-Level: Less harmful behaviours and processes; High levels of objective performance<br>❑ Relational: Interindividual differences; Rated as confident and arrogant; Overvalued likeability and leadership |

**Implications & Next Steps**

Narcissists do not always make the best team members

- ❑ First study to empirically assess narcissism in an escape room
- ❑ Nuanced perspective of intragroup dynamics of teamwork
- ❑ Larger sample / More teams
- ❑ Longitudinal effects

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## Study Three: Summary

Longitudinal Study– ($k$ = 43 teams)

**Hypotheses:** Individual, Team, & Relational-Levels

- **Round-Robin analyses:** Perceiver, target, relationship effects
  - Interindividual differences: Assumed similarity & Self-other agreement
- **Performance:** Objective measure
- **Theory:** Social exchange / Self-enhancement / Chocolate Cake Model
- **Context:** Academic setting – 12 weeks

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# Study Three: Summary

| Dark Side | Bright Side |
| --- | --- |
| ❑ Low levels of teamwork competencies and team cohesion; High levels of team conflict; impaired performance; Negative peer-ratings<br>❑ Team-level: Mixed results for performance – Conflict predicts poor performance; Cohesion does not.<br>❑ Relational: Interindividual differences; Rated low on most measures; Rated others and self negatively<br>❑ Ratings: Emerged more favourably over time | ❑ High levels of teamwork competencies and team cohesion; High conflict; Positive peer-ratings<br>❑ Team-Level: Mixed results for performance – Conflict predicts poor performance; Cohesion does not.<br>❑ Relational: Interindividual differences; Rated high on most measures; Overvalued likeability and leadership<br>❑ Ratings: More positive ratings; Negative ratings emerged more favorably over time |

**Implications**

Narcissists: Destination (e.g., success) is more important than the journey (e.g., cohesion)

Narcissists may *play smarter* to get ahead in team settings

Nuanced understanding of interpersonal and intrapsychic strategies to get ahead

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# List of References

Ackerman, P. L. (1989). Within-task intercorrelations of skilled performance: Implications for predicting individual differences. *Journal of Applied Psychology, 74*(2), 360-364. http://doi.org/bg6f8p

Ackerman, R. A., Donnellan, B. M., & Robins, R. W. (2012). An item response theory analysis of the Narcissistic Personality Inventory. *Journal of Personality Assessment, 94*(2), 141-155. http://doi.org/dhkm

Ackerman, R. A., Witt, E. A., Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., & Kashy, D. A. (2011). What does the Narcissistic Personality Inventory really measure? *Assessment, 18,* 67-87. http://doi.org/b9cg8k

Adams, J. S. (1965). Injustice in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 267-300). Academic Press.

Adams, A., & Bond, S. (2000). Hospital nurses' job satisfaction, individual and organizational characteristics. *Journal of Advanced Nursing, 32*(3)*,* 536-43. http://doi.org/b6xn8w

Adkins, C. L., & Russell, C. J. (1997). Supervisor-subordinate work value congruence and subordinate performance: A pilot study. *Journal of Business and Psychology, 12,* 205-218. http://doi.org/bbvrsx

Aguado, D., Manzanares, S. M., & Salas, E. (2014). Teamwork competency test (TWCT): A step forward on measuring teamwork competencies. *Group Dynamics: Theory, Research, and Practice, 18*(2), 101-121. http://doi.org/dhkn

Ahmad, M. (2005). Psychometric evaluation of the Cognitive Appraisal of Health Scale with patients with prostate cancer. *Journal of Advanced Nursing, 49*(1), 78-86. http://doi.org/dm9qpq

Ahronson, A., & Cameron, J. E. (2007). The nature and consequences of group cohesion in a military sample. *Military Psychology, 19*(1), 9-25. http://doi.org/cqmbzj

Ahuja, R., Khan, D., Symonette, D., Pan, S., Stacey, S., & Engel, D. (2020). Towards the automatic assessment of student teamwork. Group 20: Companion of the 2020 ACM International Conference on Supporting Group Work (January 2020). Pages 143-146. http://doi.org/dptt

Akgün, A. E., & Lynn, G. S. (2002). Antecedents and consequences of team stability on new product development performance. *Journal of Engineering and Technology Management, 19*(3), 263-286. http://doi.org/djs764

Alderfer, C. P. (1977). Improving organizational communication through long-term intergroup intervention. *Journal of Applied Behavioral Science, 12,* 193-210. http://doi.org/bhfwfr

Alicke, M. D., & Govorun, O. (2005). The better-than-average effect. In M. D. Alicke, D. A., Dunning., & J. I., Krueger (Eds.), *Studies in self and identity. The self in social judgment.* Psychology Press.

Alicke, M., & Sedikides, C. (2009). Self-enhancement and self-protection: What they are and what they do. *European Review of Social Psychology, 20,* 1-48. http://doi.org/dmb7gg

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal, 39,* 123-148. http://doi.org/cng

Amason, A. C., Thompson, K. R., Hochwarter, W. A., & Harrison, A. W. (1995). An important dimension in successful management teams. *Organizational Dynamics, 24*(2), 20-35. http://doi.org/cjnv6g

Ancona, D., Goodman, P. S., Lawrence, B. S., & Tushman, M. L. (2001). Time: A new research lens. *The Academy of Management Review, 26*(4), 15-39. http://doi.org/dnz34z

Anderson, C., & Kilduff, G. J. (2009). Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance. *Journal of Personality and Social Psychology, 96*(2), 491-503. http://doi.org/b62m9v

Antoni, C., & Hertel, G. (2009). Team processes, their antecedents and consequences: Implications for different types of teamwork. *European Journal of Work and Organizational Psychology, 18*(3), 253-266. http://doi.org/bgcqxh

Antonioni, D. (1998). Relationship between the big five personality factors and conflict management styles. *International Journal of Conflict Management, 9*(4), 336-355. http://doi.org/d7bkz3

Aritzeta, A., Ayestaran, S., & Swailes, S. (2005). Team role preference and conflict management styles. *The International Journal of Conflict Management, 16*(2), 157-182. http://doi.org/cznpnf

Arthur, C. A., Woodman, T., Ong, C. W., Hardy, L., & Ntoumanis, N. (2011). The role of athlete narcissism in moderating the relationship between coaches' transformational leader behaviours and athlete motivation. *Journal of Sport and Exercise Psychology, 33,* 3-19. http://doi.org/dpmd

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *The Academy of Management Review, 14*(1), 20-39. http://doi.org/fghttx

Ashkanasy, N. M., Wilderom, C. P. M., & Peterson, M. F. *Handbook of organizational culture and climate.* Sage.

Awadh, A. M., & Saad, M. Y. (2013). Impact of organizational culture on employee performance. *International Review of Management and Business Research, 2*(1), 168-175.

Ayoko, O. B., & Callan, V. J. (2010). Teams' reactions to conflict and teams' task and social outcomes: The moderating role of transformational and emotional leadership. *European Management Journal, 28*(3), 220-235. http://doi.org/c6f3gg

Ayoka, O. B., Callan, V. J., & Härtel, C. E. J. (2008). The influence of team emotional intelligence climate on conflict and team members' reactions to conflict. *Small Group Research, 39*(2), 121-149. http://doi.org/chr2b4

Ayoko, O. B., Hartel, C. E. J,, & Cullen, V. J. (2002). Resolving the puzzle of productive and destructive conflict in culturally heterogeneous work groups: A communication accommodation theory approach. *International Journal of Conflict Management, 13*, 165-187.

Back, K. W. (1951). Influence through social communication. *Journal of Abnormal and Social Psychology, 46*(1), 9-23. http://doi.org/fbwnxv

Back, M. D. (2018). The narcissistic admiration and rivalry concept. In A. D. Herman, A. Brunell, & J. Foster (Eds.), *The Handbook of trait narcissism: Key advances, research methods, and controversies.* Springer. http://doi.org/dhkp

Back, M. D., & Kenny, D. A. (2010). The social relations model: How to understand dyadic processes. *Social and Personality Psychology Compass, 4*(10), 855-870. http://doi.org/d4vbrp

Back, M. D., Küfner, A. C., Dufner, M., Gerlach, T. M., Rauthmann, J. F., & Denissen, J. J. (2013). Narcissistic admiration and rivalry: Disentangling the bright and dark sides of narcissism. *Journal of Personality and Social Psychology, 105*(6), 1013-1037. http://doi.org/f5mh4b

List of References

Back, M. D., Schmukle, S. C., & Egloff, B. (2010). Why are narcissists so charming at first sight? Decoding the narcissism-popularity link at zero acquaintance. *Journal of Personality and Social Psychology, 98*(1), 132-145. http://doi.org/fxdvpf

Badke-Schaub, P., Goldschmidt, G., & Meijer, M. (2010). How does cognitive conflict in design teams support the development of creative ideas? *Creativity and Innovation Management, 19*(2), 119-133. http://doi.org/fjwb6r

Bakar, H. A. (2017). Explaining cohesion linkages in workgroups: The cooperative communication in collectivism and high power distance workgroup context. *Malaysian Journal of Communication, 33*(3), 157-177. http://doi.org/dnv7

Baker, D. P., Horvath, L., Campion, M., Offermann, L., & Salas, E. (2005). The ALL teamwork framework. In T. S. Murray, Y. Clermont & M. Binkley (Eds.), *Measuring adult literacy and life skills: New frameworks for assessment* (pp. 229-272). Statistics Canada.

Bardi, A., Buchanan, K. E., Goodwin, R., Slabu, L., & Robinson, M. (2014). Value stability and change during self-chosen life transitions: Self-selection versus socialization effects. *Journal of Personality and Social Psychology, 106*(1), 131-147. http://doi.org/dp6v

Bartone, P. T., & Adler, A. B. (1999). Cohesion over time in a peacekeeping medical task force. *Military Psychology, 11,* 85-107. http://doi.org/bzdhv5

Bartram, D., Robertson, I. T., & Callinan, M. (2002). Introduction: A framework for examining organizational effectiveness. In I. T. Roberston, M. Callinan, & D. Bartram (Eds.), *Organizational effectiveness: The role of psychology* (pp. 1-12). Chichester, UK: Wiley.

Bartone, P. T., &Adler, A. B. (1999). Cohesion over time in a peacekeeping medical task force. *Military Psychology, 11*(1), 85-107. http://doi.org/bzdhv5

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44,* 1-26. http://doi.org/hjv

Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology, 83,* 377-391. http://doi.org/cnzjw6

Barrick, M. R., Stewart, G. L., & Piotrowski, M. (2002). Personality and job performance: Test of the mediating effects of motivation among sales representatives. *Journal of Applied Psychology, 87,* 43-51. http://doi.org/ftsh3v

Barry, C. T., Chaplin, W. F., & Grafeman, S. J. (2006). Aggression following performance feedback: The influence of narcissism, feedback valence and comparative standard. *Personality and Individual Differences, 41,* 177-187. http://doi.org/b52trr

Barry, C., Frick, P. J., Adler, K. K., & Grafeman, S. J. (2007). The predictive utility of narcissism among children and adolescents: Evidence for a distinction between adaptive and maladaptive narcissism. *Journal of Child and Family Studies, 16,* 508-521. http://doi.org/dhqjqn

Barry, C. T., & Malkin, M. L. (2010). The relation between adolescent narcissism and internalizing problems depends on the conceptualization of narcissism. *Journal of Research in Personality*, *44*(6), 684-690. http://doi.org/cwcfhr

Barry, B., & Stewart, G. (1997). Composition, process, and performance in self-managed groups: The role of personality. *Journal of Applied Psychology, 82,* 62-78. http://doi.org/dnpvmw

Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software, 67,* 1-48. http://doi.org/gcrnkw

Baumeister, R. F. (1998). The self. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., pp. 680-740). McGraw-Hill.

Baumeister, R. F., Ainsworth, S. E., & Vohs, K. D. (2016). Are groups more or less than the sum of their members? The moderating role of individual identification. *Behavioural and Brain Sciences, 39*, e137. http://doi.org/f9fz4j

Beal, D. J., Cohen, R. R., Burke, M. J., & McLendon, C. L. (2003). Cohesion and Performance in Groups: A Meta-Analytic Clarification of Construct Relations. *Journal of Applied Psychology, 88,* 989-1004. http://doi.org/cs7dmm

Behfar, K. J., Mannix, E. A., Trochim, W. M. K., & Peterson, R. S. (2008). The critical role of conflict resolution in teams: A close look at the links between conflict type, conflict management strategies, and team outcomes. *Journal of Applied Psychology, 93,* 170-188.

Bell, S. T. (2007). Deep-level composition variables as predictors of team performance: A meta-analysis. *Journal of Applied Psychology, 92,* 595-615. http://doi.org/ckkjx7

Bell, S. T., & Outland, N. (2017). Team composition over time. In E. Salas (Ed.), *Team dynamics over time: Advances in psychological theory, methods, and practice* pp. 1-xx). Bingley.

Belschak, F. D., Den Hartog, D. N., & Kalshoven, K. (2015). Leading Machiavellians: How to translate Machiavellians' selfishness into pro-organizational behaviour. *Journal of Management, 41,* 1934-1956. http://doi.org/gf84vr

Belzung, C., Villemeur, E. B. D., Grevin, A., & Iorio, G. (2016). Identity matters to individuals: Group assessment cannot be reduced to collective performance. *Behavioural and Brain Sciences, 39*, e139. http://doi.org/gdm24t

Benson, A. J., Siska, P., Eys, M., Priklerova, S., & Slepicka, P. (2016). A prospective multilevel examination of the relationship between cohesion and team performance in elite youth sport. *Psychology of Sport and Exercise, 27,* 39-46. http://doi.org/dhkq

Bentley, C. A.,. & Gehringer, E. F. (2020). Promoting collaborative skills with Github project boards. SIGCSE 20: Proceedings of the 51st ACM Technical Symposium on Computer Science Education (February 2020), page 1332. http://doi.org/dptr

Bernardin, H. J., Thomason, S., Buckley, M. R., & Kane, J. S. (2016). Rater rating-level bias in accuracy in performance appraisals: The impact of rater personality, performance management competence, and rater accountability. *Human Resource Management, 44,* 321-340. http://doi.org/dhkr

Bernardin, H. J., Tyler, C. L., & Villanova, P. (2009). Rating level and accuracy as a function of rater personality. *International Journal of Selection Assessment, 17,* 300-310. http://doi.org/dd3m99

Besser, A., & Priel, B. (2010). Grandiose narcissism versus vulnerable narcissism in threatening situations: Emotional reactions to achievement failure and interpersonal rejection. *Journal of Social and Clinical Psychology, 29*(8), 874-902. http://doi.org/dp582d

Besser, A., & Zeigler-Hill, V. (2011). Pathological forms of narcissism and perceived stress during the transition to the university: The mediating role of humor styles. *International Journal of Stress Management, 18*(3), 197-221. http://doi.org/bptjdk

Bianchi, E. C. (2018). Narcissism and the economic environment. In A. D. Herman, A. Brunell, & J. Foster (Eds.), *The Handbook of trait narcissism: Key advances, research methods, and controversies.* Springer. http://doi.org/dhkp

Biglan, A. (1995). *Changing culture practices: A contextualistic framework for intervention research.* Reno Context.

Blair, C. A., Hoffman, B. J., & Helland, K. R. (2008). Narcissism in organizations: A multisource appraisal reflects different perspectives. *Human Performance, 21,* 254-276. http://doi.org/cq4784

Blake, R. R., & Mouton, J. S. (1964). *The Managerial Grid*, Gulf.

Blau, P. M. (1964). *Exchange and power in social life.* John Wiley.

Bleske-Rechek, A., Remiker, M. W., & Baker, J. P. (2008). Narcissistic men and women think they are so hot – But they are not. *Personality and Individual Difference, 45*(2), 420-424. http://doi.org/ft9dx3

Blickle, G., Schlegel, A., Fassbender, P., & Klein, U. (2006). Some personality correlates of business white-collar crime. *Applied Psychology: An International Review, 55*(2), 220-233. http://doi.org/fkk3bh

Blinder, A. S., & Morgan, J. (2005). Are two heads better than one? Monetary policy by committee. *Journal of Money, Credit and Banking, 37,* 789-811.

Blinkhorn, S. F., & Johnson, C. E. (1990). The insignificance of personality testing. *Nature, 348*, 671-672. http://doi.org/b4hnh5

Bogart, L. M., Benotsch, E. G., & Pavlovic, J. D. (2004). Feeling superior but threatened: The relation of narcissism to social comparison. *Basic and Applied Social Psychology, 26*(1)*,* 35-44. http://doi.org/dq6r7h

Bono, J. E., Hooper, A. C., & Yoon, D. J. (2012). Impact of rater personality on transformational and transactional leadership ratings. *Leadership Quarterly, 23,* 132-145. http://doi.org/fzhhvd

Borek, L. (2011). Team structural constellations and intra-team conflict. *Team Performance Management, 17*(7), 405-417. http://doi.org/c3c9qx

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt, & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco, CA: Jossey-Bass

Bosson, J. K., Lakey, C. E., Campbell, W. K., Zeigler-Hill, V., Jordan, C. H., & Kernis, M. H. (2008). Untangling the links between narcissism and self-esteem: A theoretical and empirical review. *Social and Personality Psychology Compass, 2*(3), 1415-1439. http://doi.org/d65pzc

Boudreau, J., & Anis, H. (2020). Effect of personality traits in team dynamics and project outcomes in engineering design. *International Journal of Engineering Education, 36*(1), 420-435.

Bradley, B. H., Baur, J. E., Banford, C. G., & Postlethwaite, B. E. (2013). Team players and collective performance: How agreeableness affects team performance over time. *Small Group Research, 44*(6), 680-711. https://doi.org/10.1177%2F1046496413507609

Branje, S. J. T., Finkenauer, C., & Meeus, W. H. J. (2007). Modeling Interdependence Using the Social Relations Model: The Investment Model in Family Relationships. In N. Card, J. Seli, & T. D. Little (Eds.), *Modeling interdependent data in developmental psychology.* Card.

Braun, S. (2017). Leader narcissism and outcomes in organizations: A review at multiple levels of analysis and implications for future research. *Frontiers in Psychology, 8,* 773. https://dx.doi.org/10.3389%2Ffpsyg.2017.00773

Braun, M. T., Kozlowski, S. W. J., Brown, T. A. R., & DeShon, R. P (2020). Exploring the dynamic team cohesion-performance and coordination-performance relationships of newly formed teams. *Small Group Research, 1*, 100-122. https://doi.org/10.1177%2F1046496420907157

Bresman, H. (2010). External learning activities and team performance: A multimethod field study. *Organization Science, 21,* 81-96. http://doi.org/ftnz9z

Brief, A. P., & Weiss, H. M. (2002). Organizational behaviour: Affect in the workplace. *Annual Review of Psychology, 53*(1), 279-307. https://doi.org/10.1146/annurev.psych.53.100901.135156

Briganti, G., & Linkowski, P. (2019). Exploring network structure and central items of the Narcissistic Personality Inventory. *International Journal of Methods in Psychiatric Research,* 1-9. http://doi.org/dnfs

Brookes, R. (2017). Developing teamwork skills in undergraduate science students: The academic perspective and practice. *Proceedings of the Australian Conference on Science and Mathematics Education.*

Brown, A. D. (1997). Narcissism, identity, and legacy. *The Academy of Management Review, 22*(3), 643-686. https://www.jstor.org/stable/259409

Brown, A. A., & Brunell, A. B. (2017). The "modest mask"? An investigation of vulnerable narcissists' implicit self-esteem. *Personality and Individual Differences, 119,* 160-167. http://doi.org/gcczvp

Brown, R. P., & Zeigler-Hill, V. (2004). Narcissism and the non-equivalence of self-esteem measures: A matter of dominance? *Journal of Research in Personality, 38,*585-592.

Brummelman, E., Thomaes, S., & Sedikides, C. (2016). Separating narcissism from self-esteem. *Current Directions in Psychological Science, 25*(1), 8-13. http://doi.org/f7926r

Brunell, A. B., Gentry, W. A., Campbell, W. K., Hoffman, B. J., Kuhnert, K. W., & DeMarree, K. G. (2008). Leader emergence: The case of the narcissistic leader. *Personality and Social Psychology Bulletin, 34*(12), 1663-1676. http://doi.org/fgcpkm

Bryne, K. A., & Worthy, D. A. (2013). Do narcissists make better decisions? An investigation of narcissism and dynamic decision-making performance. *Personality and Individual Differences, 55,* 112-117. http://doi.org/bnc5

Buchholtz, A. K., Amason, A. C., & Rutherford, M. A. (2005). The impact of board monitoring and involvement on top management team affective conflict. *Journal of Managerial Issues, 17*(4)*,* 405-422.

Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality and Social Psychology Bulletin*, *34*, 1303-1314. http://doi.org/bwr4p9

Bunderson, J. S., & Sutcliffe, K. M. (2003). Management team learning orientation and business unit performance. *Journal of Applied Psychology, 88*(3), 552-560. http://doi.org/bpwj3t

Burgmer, P., Weiss, A., & Ohmann, K. (2019). I don't feel ya: How narcissism shapes empathy. *Self and Identity, 1*(3), 1-17. http://doi.org/dnft

Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology, 75,* 219-229. http://doi.org/b5m5jn

Bushman, B. J., Bonacci, A. M., van Dijk, M., & Baumeister, R. F. (2003). Narcissism, sexual refusal, and aggression: Testing a narcissistic reactance model of sexual coercion. *Journal of Personality and Social Psychology, 84,* 1027-1040. http://doi.org/bfgvzv

Buss, D. M., & Chiodo, L. M. (1991). Narcissistic Acts in Everyday Life. *Journal of Personality, 59*(2), 179-215. http://doi.org/dk57rg

Buyl, T., Boone, C., & Wade, J. B. (2019). CEO narcissism, risk-taking, and resilience: An empirical analysis in U.S. commercial banks. *Journal of Management, 45,* 1372-1400. https://doi.org/10.1177%2F0149206317699521

Byrne, D. (1971). *The attraction paradigm.* Academic.

Byrnes, H. F., Miller, B. A., Bourdeau, B., & Johnson, M. B. (2019). Impact of group cohesion among drinking groups at nightclubs on risk from alcohol and other drug use. *Journal of Drug Issues, 49*(4), 668-679. http://doi.org/dnfx

Cai, H., Kwan, V. S. Y., & Sedikides, C. (2012). A sociocultural approach to narcissism: The case of modern China. *European Journal of Personality, 26*, 529-535. http://doi.org/cfrttd

Cai, H., & Luo, Y. L. L. (2018). Distinguishing between adaptive and maladaptive narcissism. In A. D. Herman, A. Brunell, & J. Foster (Eds.), *The Handbook of trait narcissism: Key advances, research methods, and controversies* (pp. 57-67). Springer. http://doi.org/dhkp

Cain, N. M., Pincus, A. L., & Ansell, E. B. (2008). Narcissism at the crossroads: Phenotypic description of pathological narcissism across clinical theory, social/personality psychology, and psychiatric diagnosis. *Clinical Psychology Review, 28*(4), 638-656. http://doi.org/fcf99w

Campbell, W. K. (1999). Narcissism and romantic attraction. *Journal of Personality and Social Psychology*, *77*(6), 1254-1270. http://doi.org/cjk2kj

Campbell, W. K. (2005). *When you love a man who loves himself: How to deal with a one-way relationship*. Sourcebooks Casablanca.

Campbell, W. K., Bosson, J. K., Goheen, T. W., Lakey, C. E., & Kernis, M. H. (2007). Do narcissists dislike themselves "deep down inside"? *Psychological Science, 18*(3), 227-229. http://doi.org/fnqm86

Campbell, W. K., Bush, C. P., Brunell, A. B., & Shelton, J. (2005). Understanding the social costs of narcissism: The case of tragedy of the commons. *Personality and Social Psychology Bulletin, 31*(10), 1358–1368. http://doi.org/ffnjt2

Campbell, W. K., & Campbell, S. M. (2009). On the self-regulatory dynamics created by the peculiar benefits and costs of narcissism: A contextual reinforcement model and examination of leadership. *Self and Identity, 8,* 214-232. http://doi.org/cntkvr

Campbell, W. K., Goodie, A. S., & Foster, J. D. (2004). Narcissism, confidence, and risk attitude. *Journal of Behavioral Decision Making, 17*(4), 297-311. http://doi.org/cmssz7

Campbell, W. K., & Foster, J. D. (2007). The narcissistic self: Background, an extended agency model, and ongoing controversies. In C. Sedikides & S. Spencer (Eds.), *Frontiers in social psychology: The self* (pp. 115-138). Psychology Press.

Campbell, W. K., Hoffman, B. J., Campbell, S. M., & Marchisio, G. (2011). Narcissism in organizational contexts. *Human Management Review, 21*(4), 268-284. http://doi.org/fckgt8

Campbell, W. K., Rudich, E., & Sedikides, C. (2002). Narcissism, self-esteem, and the positivity of self-views: Two portraits of self-love. *Personality and Social Psychology Bulletin, 28,* 358-368.

Campbell, W. K., Reeder, G. D., Sedikides, C., & Elliot, A. J. (2000). Narcissism and comparative self-enhancement strategies. *Journal of Research in Personality, 34*(3), 329-347. http://doi.org/cg9

Campion, M. C., Campion, E. D., & Campion, M. A. (2019). Using practice employment tests to improve recruitment and personnel selection outcomes for organizations and job seekers. *Journal of Applied Psychology, 104*(9), 1089-1112. http://doi.org/gf8ttb

Campion, M. A., Medsker, G. J., & Higges, C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology, 46*(4), 823-847. http://doi.org/b8cqzf

Cannon-Bowers, J. A., & Bowers, C. A. (2011). Team development and functioning. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology* (Vol 1, pp.597-650). American Psychological Association.

Cannon-Bowers, J. A., Tannenbaum, S. I., Salas, E., & Volpe, C. E. (1995). Defining competencies and establishing team training requirements. In R. A. Guzzo, & E. Salas (Eds.), *Team effectiveness and decision making in organizations* (pp. 333-380). Jossey-Bass.

Carenzo, L., Braithwaite, E., Carfagna, F., Franc, J., Ingrassia, P., Turner, M. S., & Jones, M. (2020). Cognitive appraisals and team performance under stress: A simulation study. *Medical association, 1.* ISSN 0308-0110

Carless, S. A., & De Paola, C. (2000). The measurement of cohesion in work teams. *Small Group Research, 31,* 71-88. http://doi.org/crhkn2

Carlson, E. N. (2013). Honestly arrogant or simply misunderstood? Narcissists' awareness of their narcissism. *Self and Identity, 12*(3), 259-277. http://doi.org/dhks

Carlson, E. N., & DesJardins, N. M. L. (2015). Do mean guys always finish first or just say that they do? Narcissists' awareness of their social status and popularity over time. *Personality and Social Psychology Bulletin, 41*(7), 901-917.

Carlson, E. N., Vazire, S., & Oltmanns, T. F. (2011). You probably think this paper's about you: Narcissists' perceptions of their personality and reputation. *Journal of Personality and Social Psychology, 101,* 185-201. http://doi.org/b5dt23

Carnevale, P. J., & Probst, T. M. (1998). Social values and social conflict in creative problem solving and categorization. *Journal of Personality and Social Psychology, 74,* 1300-1309. http://doi.org/dxzcrf

Carroll, L. (1987). A study of narcissism, affiliation, intimacy, and power motives among students in business administration. *Psychological Reports, 61,* 355-358. http://doi.org/c3qz4s

Carron, A. V., & Brawley, L. R. (2000). Cohesion: Conceptual and measurement issues. *Small Group Research, 31,* 89-106. http://doi.org/bh56c6

Carron, A. V., Brawley, L. R., & Widmeyer, W. N. (1998). The measurement of cohesiveness in sport groups. In J. L. Duda (Ed.), *Advances in sport and exercise psychology measurement* (pp.213-226). Fitness Information Technology.

Carron, A. V., Burke, S. M., & Prapavessis, H. (2004). Self-presentation and group influence. *Journal of Applied Sport Psychology, 16*(1), 41-58. http://doi.org/bkr5b6

Carron, A., Bray, S. R., & Eys, M. (2002). Team cohesion and team success in sport. *Journal of Sports Sciences, 20*(2), 119-126. http://doi.org/cnnk9b

Carron, A. V., & Spink, K. S. (1995). The group size-cohesion relationship in minimal groups. *Small Group Research, 26*(1), 86-105. http://doi.org/dvf25t

Casey-Campbell, M., & Martens, M. L. (2009). Sticking it all together: A critical assessment of the group cohesion-performance literature. *International Journal of Management Reviews, 2,* 223-246. http://doi.org/fp2c3h

Castilla, E. J., & Benard, S. (2012). The paradox of meritocracy in organizations. *Administrative Science Quarterly, 55*, 543-676.

Cavazotte, F., Moreno, V., & Hickmann, M. (2012). Effects of leader intelligence, personality and emotional intelligence on transformational leadership and managerial performance. *Leadership Quarterly, 23,* 443-445. http://doi.org/c79vjz

Chang, M. L. (2020). Can intergroup conflict aid the growth of within- and between-group social capital? *Journal of Management & Organization, 26*(1), 52-74. http://doi.org/dng9

Chang, A., & Bordia, P. (2001). A multidimensional approach to the group cohesion-group performance relationship. *Small Group Research, 32*(4), 379-405. http://doi.org/b6cjg7

Chen, G., Donahue, L. M., & Klimoski, R. J. (2004). Training undergraduates to work in organizational teams. *Academy of Management, 3*(1), 12-27. http://doi.org/cnz5gp

Cheng, K. H., Hui, C. H., & Cascio, W. F. (2017). Leniency bias in performance ratings: The big-five correlates. *Frontiers in Psychology, 8,* 521. http://doi.org/f95x43

Cheshure, A., Zeigler-Hill, V., Sauls, D., Vrabel, J. K., & Lehtman, M. J. (2020). Narcissism and emotion dysregulation: Narcissistic admiration and narcissistic rivalry have divergent associations with emotion regulation difficulties. *Personality and Individual Differences, 154*(1)*,* 109-122. http://doi.org/dh6r

Chiocchio, F., & Essiembre, H. (2009). Cohesion and performance: A meta-analytic review of disparities between project teams, production teams, and service teams. *Small Group Research, 40*(4), 382-420. http://doi.org/bjdmbj

Cisek, S. S., Hepper, E. G., & Hart, C. M. (2010). *The Enhanced Teamwork Competencies Scale*. Unpublished manuscript.

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management, 23*(3), 239-290. http://doi.org/fmt4kg

Collins, D. R., & Stukas, A. A. (2008). Narcissism and self-presentation: The moderating effects of accountability and contingencies of self-worth. *Journal of Research in Personality, 42*(6), 1629-1634. http://doi.org/ddf3kz

Colvin, C. R., Block, J., & Funder, D. C. (1995). Overly positive self-evaluations and personality: Negative implications for mental health. *Journal of Personality and Social Psychology, 68,* 1152-1162. http://doi.org/fgf93n

Connelly, L., Burbach, B. E., Kennedy, C., & Walters, L. (2018). Escape room recruitment event: Description and lessons learned. *Journal of Nursing Education, 57*(3), 184-187. http://doi.org/gc794k

Conway, J. M. (1999). Distinguishing contextual performance from task performance for managerial jobs. *Journal of Applied Psychology, 84,* 3-13.

Cook, W., & Dreyer, A. (1984). The social relations model: A new approach to the analysis of family-dyadic interaction. *Journal of Marriage and Family, 46*(3), 679-687. http://doi.org/b6chng

Corry, N., Merritt, R. D., Mrug, S., & Pamp, B. (2008). The factor structure of the Narcissistic Personality Inventory. *Journal of Personality Assessment, 90*(6), 593-600. http://doi.org/czdc2g

Cosier, R., & Rose, G. (1977). Cognitive conflict and goal conflict effects on task performance. *Organizational Behavior and Human Decision Processes, 19,* 378-391. http://doi.org/b9t98m

Crampton, S. M., & Wagner, J. A. III. (1994). Percept-percept inflation in microorganizational research: An investigation of prevalence and effect. *Journal of Applied Psychology, 79*(1), 67-76. http://doi.org/bk3dd3

Crocker, J., & Canevello, A. (2015). Relationships and the self: Egosystem and ecosystem. In M. Mikulincer, P. R. Shaver, J. A. Simpsons, J. F. Dovidio, M. Mikulincer, P. R. Shaver, & J. F. Dovidio (Eds.)*, APA handbook of personality and social psychology, Volume 3: Interpersonal relations* (pp. 93-116). American Psychological Association.

Crocker, J., & Park, L. E. (2003). Seeking self-esteem: Construction, maintenance, and protection of self-worth. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 291-313). Guildford Press.

Cronin, M. A., & Weingart, L. R. (2007). Representational gaps, information processing, and conflict in functionally diverse teams. *Academy of Management Review, 32*(3), 6-21. http://doi.org/cd575r

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874-900. http://doi.org/cjtkx7

Cummings, J. N. (2008). Leading groups from a distance: How to mitigate consequences of geographic dispersion. In S. Weisband (Ed.), *Leadership at a distance* (pp. 33-50). Lawrence Erlbaum Associates.

Curtis, R. C., & Miller, K. (1986). Believing another likes or dislikes you: Behaviours making the beliefs come true. *Journal of Personality and Social Psychology, 51,* 284-290. http://doi.org/fhqzxh

Czarna, A. Z., Leifeld, P., Smieja, M., Dufner, M., & Salovey, P. (2016). Do narcissism and emotional intelligence win us friends? Modeling dynamics of peer popularity using inferential network analysis. *Personality and Social Psychology, Bulletin, 42*(3), 1588-1599. http://doi.org/f9bvhj

Deckers, M., Altmann, T., & Roth, M. (2018). Conceptualizing and measuring group openness and cohesion as dimensions of group personality. *Psychology, 9*(1), 80-100. http://doi.org/dnfv

De Dreu, C. K. W. (2006). When too little or too much hurts: Evidence for a curvilinear relationship between task conflict and innovation in teams. *Journal of Management, 32*(1), 83-107. https://doi.org/10.1177%2F0149206305277795

De Dreu, C. K. W., & Gelfand, M. J. (2008). *The organizational frontiers series. The psychology of conflict and conflict management in organizations.* Taylor & Francis Group/Lawrence Erlbaum Associates.

De Dreu, C. K. W., Harinck, F., & Van Vianen, A. E. M. (1999). Conflict and performance in groups and organizations. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 14, pp. 369-414). Wiley.

De Dreu, C. K. W., & van de Vliert, E. (1997). *Using conflict in organizations.* Sage.

De Dreu, C. K. W., van Dierendonck, D., & Dijkstra, M. T. M. (2004). Conflict at work and individual well-being. *International Journal of Conflict Management, 15*(1), 6-26. http://doi.org/d93p42

De Dreu, C. K. W., & van Knippenberg, D. (2005). The possessive self as a barrier to conflict resolution: Effects of mere ownership, processes accountability, and self-concept clarity on competitive cognitions and behavior. *Journal of Personality and Social Psychology, 89*(3), 345-357. http://doi.org/cczvhg

De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88*(4), 741-749. http://doi.org/cnk

De Dreu, C. K. W., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology, 86*(6), 1191-1201. http://doi.org/c7p

Den Hartog, D. N., De Hoogh, A. H. B., & Belschak, F. D. (2020). Toot your own horn? Leader narcissism and the effectiveness of employee self-promotion. *Journal of Management, 46*(2), 261-286. http://doi.org/gfgvvj

DeNisi, A., Randolph, W. A., & Blencoe, A. G. (1983). Potential problems with peer ratings. *Academy of Management Journal, 26*(3), 457-464. http://doi.org/fr7z6k

DeShon, R. P., Kozlowski, S. W. J., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). A multiple goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology, 89*(6), 1035-1056. http://doi.org/frvz9c

Deutsch, M. (1973). The resolution of conflict: Constructive and destructive processes. *American Behavioral Scientist, 17*(2), 248-259.

DeVellis, R. F. (2003). *Scale development: theory and applications* (2nd ed.). Sage Publications.

de Vries, M. F. R. K., & Miller, D. (1985). Narcissism and Leadership: An object relations perspective. *Human Relations, 38*(6), 583-601. http://doi.org/c4d8m9

Devine, D. J., Clayton, L. D., Philips, J. L., Dunford, B. B., & Melner, S. B. (1999). Teams in organizations: Prevalence, characteristics, and effectiveness. *Small Group Research, 30,* 678-711. http://doi.org/b9rsgr

DeWall, N. C., Buffardi, L. E., Bonser, I., & Campbell, K. W. (2011). Narcissism and implicit attention seeking: Evidence from linguistic analyses of social networking and online presentation. *Personality and Individual Differences,* 51(1), 57-62. http://doi.org/ctwn5p

Dickinson, K. A., & Pincus, A. L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of Personality Disorders, 17,* 188-207. http://doi.org/c3x83g

Dierdorff, E. C., Bell, S. T., & Belohlav, J. A. (2011). The power of "we": Effects of psychological collectivism on team performance over time. *Journal of Applied Psychology, 96,* 247-262. http://doi.org/dd8ptb

Diehl, M., & Stoebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology, 53*(3), 497-509. http://doi.org/dqwf6j

Dionne, S. D., Yammarino, F. J., Atwater, L. E., & Spangler, W. D. (2004). Transformational leadership and team performance. *Journal of Organizational Change Management, 17*(2), 177-193. http://doi.org/fs6kxp

DeNisi, A. S. (2015). Some further thoughts on the entrepreneurial personality. *Entrepreneurship Theory and Practice, 39*(5), 997-1003.

Devonish, D., & Greenidge, D. (2010). The effect of organizational justice on contextual performance, counterproductive work behaviours, and task performance: Investigating the moderating role of ability-based emotional intelligence. *International Journal of Selection and Assessment, 18,* 75-86. http://doi.org/bp6qdp

Dowgwillo, E. A., Dawood, S., & Pincus, A. (2016). The dark side of narcissism. In V. Zeigler-Hill & D. K. Marcus (Eds.), *The dark side of personality: Science and practice in social, personality, and clinical psychology.* American Psychological Association.

Driskell, J. E., Goodwin, G. F., Salas, E., & O'Shea, P. G. (2006). What makes a good team player? Personality and team effectiveness. *Group Dynamics: Theory, Research, and Practice, 10,* 249-271. http://doi.org/c4qnqq

Driskell, J. E., Hogan, R., & Salas, E. (1987). Personality and group performance. In C. Hendrick (Ed.), *Review of personality and social psychology, Vol. 9. Group processes and intergroup relations* (pp. 91-112). Sage.

D'Souza, M. F., Souza, O. M. L., Caldas, A. J. S., & Santana, N. D. (2019). I can, you can, I can more: Narcissism and power. *Revisra de Pesquisa em Contabilidade, 13*(1), 157-174.

Duchon, D., & Drake, B. (2009). Organizational narcissism and virtuous behaviour. *Journal of Business Ethics, 85,* 301-308.

Dufner, M., Gebauer, J. E., Sedikides, C., & Denissen, J. J. A. (2019). Self-enhancement and psychological adjustment: A meta-analytic review. *Personality and Social Psychology Review, 23*(1), 48-72. http://doi.org/gf847v

Dufner, M., Rauthmann, J. F., Czarna, A. Z., & Denissen, J. J. A. (2013). Are narcissists sexy? Zeroing in on the effect of narcissism on short-term mate appeal. *Personality and Social Psychology Bulletin, 2,* 1-13. http://doi.org/f49skm

Dumenci, L., Achenbach, T. M., & Windle, M. (2010). Measuring context-specific and cross-contextual components of hierarchical constructs. *Journal of Psychopathology and Behavioral Assessment, 33*(1), 3-10. http://doi.org/b5m3dt

Edwards, T., Boothby, J., & Succheralli, L. (2019). Escape room: Using an innovative teaching strategy for nursing students enrolled in a maternity clinical course. *Teaching and Learning in Nursing, 14*(4), 251-253. http://doi.org/dhkt

Eisenberg, J., Post, C., & DiTomaso, N. (2019). Team dispersion and performance: The role of team communication and transformational leadership. *Small Group Research, 50*(3), 348-380. http://doi.org/ggbgh5

Ellis, A. P. J., Bell, B. S., Ployhart, R. E., Hollenbeck, J. R., Ilgen, D. R. (2005). An evaluation of generic teamwork skills training with action teams: Effects on cognitive and skill-based outcomes. *Personnel Psychology, 58,* 641-672. http://doi.org/d2tf5k

Emmons, R. A. (1984). Factor analysis and construct validity of the Narcissistic Personality Inventory. *Journal of Personality Assessment, 48*(3)*,* 291-300. http://doi.org/dmj65h

Emmons, R. A. (1987). Narcissism: Theory and measurement. *Journal of Personality and Social Psychology, 52,* 11-17. http://doi.org/bj3mfd

Englefield, E., Black, S. A., Copsey, J. A., & Knight, A. T. (2019). Interpersonal competencies define effective conservation leadership. *Biological Conservation, 235*(1), 18-26. http://doi.org/dptv

Ensley, M. D., Pearson, A. W., & Amason, A. C. (2002). Understanding the dynamics of new venture top management teams: Cohesion, conflict, and new venture performance. *Journal of Business Venturing, 17,* 365-386.

Evans, C. R., & Dion, K. L. (1991). Group cohesion and performance: A meta-analysis. *Small Group Research, 22,* 175-186. http://doi.org/c2p3mn

Evans, N. J., & Jarvis, P. A. (1980). Group cohesion: A review and re-evaluation. *American Sociology Revised, 51,* 591-602.

Exline, J. J., Baumeister, R. F., Bushman, B. J., Campbell, W. K., & Finkel, E. J. (2004). Too proud to let go: Narcissistic entitlement as a barrier to forgiveness. *Journal of Personality and Social Psychology, 87,* 894-912. http://doi.org/djzf5c

Farh, J. L., Lee, C., & Farh, C. I. (2010). Task conflict and team creativity: A question of how much and when. *Journal of Applied Psychology, 95*(6), 1173-1180. http://doi.org/crntbs

Farwell, L., & Wohlwend-Lloyd, R. (1998). Narcissistic processes: Optimistic expectations, favourable self-evaluations, and self-enhancing attributions. *Journal of Personality, 66*(1), 65-83. http://doi.org/crn8hw

Fatfouta, R. (2019). Facets of narcissism and leadership: A tale of Dr. Jekyll and Mr. Hyde? *Human Resource Management Review, 29*(4), 35-56. http://doi.org/gfgkd7

Felty, R., Whitaker, B. G., Bergman, S. M., & Bergman, J. Z. (2014). The longitudinal influence of narcissism in the team context. *International Journal of Organization Theory and Behavior, 18*(2), 147-176.

Fennimore, A. (2020). That's my stapler: Vulnerable narcissists and organizational territoriality. *Management Research Review, 1*, 101-124. http://doi.org/dng8

Ferguson, A. J., Ormiston, M. E., & Wong, E. M. (2019). The effects of cohesion and structural position on the top management team boundary spanning-firm performance relationship. *Group and Organization Management, 44*(6), 1099-1135. http://doi.org/dnfw

Festinger, L. (1950). Informal social communication. *Psychology Revised, 57,* 271-282.

Filipiak, S., & Łubianka, B. (2020). Locus of control in situations of successes and failures and personality traits in young athletes practicing team sports. *Health Psychology, Report, 8*(1), 47-58. http://doi.org/dnhb

Finch, W. H., Bolin, J. E., & Kelley, F. (2014). *Multilevel modelling using R.* CRC Press.

Firth, H., McIntee, J., McKeown, P., & Britton, P. G. (1985). Maslach Burnout Inventory: Factor structure and norms for British nursing staff. *Psychological Reports, 57*(1), 147-150. http://doi.org/c2kgv2

Firth, H., McIntee, J., McKeown, P., & Britton, P. (1986). Interpersonal support amongst nurses at work. *Journal of Advanced Nursing, 11,* 237-282.

Forsyth, D. R. (2010). *Group Dynamics.* Wadsworth/Cengage.

Foster, J. D., Brantley, J. A., Kern, M., Kotze, J. L., Slagel, B. A., & Szabo, K. (2018). The many measures of grandiose narcissism. In A. D. Herman, A. B. Brunell, & J. D. Foster (Eds.), *Handbook of trait narcissism: Key advances, research methods, and controversies* (pp. 115-133), Springer.

Foster, J.. D., Shira, I., & Campbell, W. K. (2006). Theoretical models of narcissism, sexuality, and relationship commitment. *Journal of Social and Personal Relationships, 23,* 367-386. http://doi.org/dgwkmx

Foster, J. D., & Trimm, R. F. (2008). On being eager and uninhibited: Narcissism and approach-avoidance motivation. *Personality and Social Psychology Bulletin, 34*(7),1004-1017. http://doi.org/b7q2xz

Fotaris, P., & Mastoras, T. (2019). Escape rooms for learning: A Systematic Review [Proceedings of the 13th International Conference on Game Based Learning ECGBL 2019]. Reading.

Freis, S. D. (2016). *Bases of entitlement among the narcissistic subtypes* [Unpublished manuscript]. Edward F. Hayes Graduate Research Forum, The Ohio State University.

Freis, S. D. (2018). The distinctiveness model of the narcissistic subtypes (DMNS): What binds and differentiates grandiose and vulnerable narcissism. In A. D. Herman, A. Brunell, & J. Foster (Eds.), *The Handbook of trait narcissism: Key advances, research methods, and controversies* (pp.123-128). Springer. http://doi.org/dhkp

Freis, S. D., Brown, A. A., Carroll, P. J., & Arkin, R. M. (2015). Shame, rage, and unsuccessful motivated reasoning in vulnerable narcissism. *Journal of Social and Clinical Psychology, 34*(10), 877-895. http://doi.org/dhkv

Friedkin, N. E. (2004). Social cohesion. *Annual Review of Sociology, 30,* 409-425. *http://doi.org/fgdmbf*

Fui, L. D., & Hassan, Z. (2015). The relationship between personality and team conflict. *International Journal of Accounting, Business and Management, 3*(1), 42-53.

Fung, H. P. (2014). Relationships among team trust, team cohesion, team satisfaction, team effectiveness and project performance as perceived by project managers in Malaysia. *Australian Journal of Basic and Applied Sciences, 8*(8), 205-216.

Furnham, A. (2008). *Personality and intelligence at work: Exploring and explaining individual differences at work.* New York, NY: Taylor & Francis.

Gabriel, M. T., Critelli, J. W., & Ee, J. S. (1994). Narcissistic illusions in self-evaluations of attractiveness and intelligence. *Journal of Personality, 39*, 550-557. http://doi.org/cf5dnt

Gaertner, L., Iuzzini, J., & O'Mara, E. M. (2008). When rejection by one fosters aggression against many: Multiple-victim aggression as a consequence of social rejection and perceived groupness. *Journal of Experimental Social Psychology, 44,* 958-970. http://doi.org/dstq6j

Galvin, B. M., Waldman, D. A., Balthazard, P. (2010). Visionary communication qualities as mediators of the relationship between narcissism and attributions of leader charisma. *Personality Psychology, 63,* 509-537. http://doi.org/ffdq2j

Garcia, D., Lindskär, E., & Archer, T. (2014). To schedule or not to schedule? Agentic and cooperative teams at call centers. *Frontiers in Psychology, 5*:999. http://doi.org/f25b32

Gardner, H. K., Gino, F., & Staats, B. R. (2012). Dynamically integrating knowledge in teams: Transforming resources into performance. *Academy of Management Journal, 55,* 998-1022. http://doi.org/gfw325

Gardner, D. G., & Pierce, J. L. (2011). A question of false self-esteem: Organization-based self-esteem and narcissism in organizational contexts. *Journal of Managerial Psychology, 26*(8)*,* 682-699. http://doi.org/c4db5t

Garrison, G., Wakefield, R. L., Xu, X., & Kim, S. H. (2010). Globally distributed teams: The effect of diversity on trust, cohesion, and individual performance. *ACM SIGMIS Database, 41,* 27-48. http://doi.org/fwxs6r

Garson, D. G. (2010). *Multilevel modelling: Applications in STATA, IBM SPSS, SAS, R, & HLM.* Sage.

Gatewood, R. D., Field, H. S., & Barrick, M. R. (2011). *Human resource selection*. Cengage Learning.

Gebauer, J. E., Sedikides, C., Verplanken, B., & Maio, G. R. (2012). Communal narcissism. *Journal of Personality and Social Psychology, 103*(5), 854-878. http://doi.org/f4f9gj

Gergen, K. J. (1969). *The psychology of behavioural exchange.* Addison-Wesley.

Germain, M. L. (2018). *Narcissism at work: Personality disorders of corporate leaders.* Palgrave Macmillan.

Gersick, C. J. (1989). Marking time: Predictable transitions in task groups. *Academy of Management Journal, 32,* 274-309. http://doi.org/fjj7fj

Gevers, J. M. P., Li, . J., Rutte, C. G., & van Eerde, W. (2020). How dynamics in perceptual shared cognition and team potency predict team performance. *Journal of Occupational and Organizational Psychology, 93*(1), 134-157. http://doi.org/gf62cv

Giacomin, M., & Jordan, C. H. (2013). Down-regulating narcissistic tendencies: Communal focus reduces state narcissism. *Personality and Social Psychology Bulletin, 3*, 1-13. http://doi.org/gf5gzx

Giambatista, R. C., & Hoover, J. D. (2018). Narcissism and teamwork skill acquisition in management education. *The Psychologist-Manager Journal, 21*(1), 55-74. http://doi.org/dhkw

Giang, C., Chevalier, M., Negrini, L., Peleg, R., Bonnet, E., Piatti, A., & Mondada, F. (2018, October 11). Exploring escape games as a teaching tool in educational robotics [Proceedings of the International Conference Educational Robotics]. Rome.

Glickman, A. S., Zimmer, S., Montero, R. C., Guerette, P. J., & Campbell, W. J. (1987). *The evolution of teamwork skills: An empirical assessment with implications for training. Technical Reporting.* Naval Training Systems Center, Human Factors Division, Orlando.

Goncalo, J. A., Flynn, F. J., & Kim, S. H. (2010). Are two narcissists better than one? The link between narcissism, perceived creativity and creative performance. *Personality and Social Psychology Bulletin, 36,* 1484-1495. http://doi.org/chjdn6

Goncalo, J. A., Polman, E., & Maslach, C. (2010). Can confidence come too soon? Collective efficacy, conflict and group performance over time. *Organizational Behavior and Human Decision Processes, 113*(1), 13-24. http://doi.org/dsxfbg

Goodman, P. S., Ravlin, E., & Schminke, M. (1987). Understanding groups in organizations. *Research in Organizational Behavior, 9,* 121-173.

Gordon, S. K., Trovinger, S., & DeLellis, T. (2019). Escape from the usual: Development and implementation of an 'escape room' activity to assess team dynamics. *Currents in Pharmacy Teaching and Learning, 11*(8), 818-824. http://doi.org/dhkx

Gore, K. N., & Camp, C. H. (2020). The Coronavirus: Business risks, liabilities and force majeure in the face of a global health crisis. *The World Financial Review* (March 2020). https://ssrn.com/abstract=3549509

Grapsas, S., Brummelman, E., Back, M. D., & Denissen, J. J. A. (2019). The "why" and "how" of narcissism: A Process model of narcissistic status pursuit. *Perspectives on Psychological Science, 15*(1), 150-172. http://doi.org/ggkddn

Graziano, W. G., Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interpersonal conflict and reacting to it: The case for Agreeableness. *Journal of Personality and Social Psychology, 70,* 820-835. http://doi.org/bf82tp

Green, C. N. (1989). Cohesion and productivity in work groups. *Small Group Research, 20*(1), 70-86. http://doi.org/fs4vqs

Greenberg, N. (2015). *Military and Disaster Psychiatry.* Elsevier.

Greenfield, P. M. (2014). Sociodemographic differences within countries produce variable cultural values. *Journal of Cross-Cultural Psychology, 45*(1), 37-41. http://doi.org/ggdq99

Greer, L. L., Saygi, O., Aaldering, H., & De Dreu, C. K. W. (2012). Conflict in medical teams: Opportunity or danger? *Medical Education, 46*(10), 935-942. http://doi.org/f372nx

Greitemeyer, T., Schulz-Hardt, S., Broadbeck, F. C., & Frey, D. (2006). Informational sampling and group decision making: The effects of an advocacy decision procedure and task experience. *Journal of Experimental Psychology: Applied, 12,* 31-42. http://doi.org/fgtxs6

Griffith, A., Connelly, J., & Thiel, S. (2014). Emotion regulation and intragroup conflict: When more distracted minds prevail. *International Journal of Conflict Management, 25*(2), 148-170. http://doi.org/dhn2

Grijalva, E., & Harms, P. D. (2014). Narcissism: An integrative synthesis and dominance complementarity model. *Academy of Management Perspectives, 28*(2), 108-127. http://doi.org/f56bv4

Grijalva, E., Harms, P. D., Newman, D. A., Gaddis, B. H., & Fraley, R. C. (2015). Narcissism and leadership: A meta-analytic review of linear and nonlinear relationships. *Personnel Psychology, 68*(1), 1-47. http://doi.org/cjc6

Grijalva, E., Maynes, T. D., Badura, K. L., & Whiting, S. W. (2020). Examining the "I" in team: A longitudinal investigation of the influence of team narcissism composition on team outcomes in the NBA. *Academy of Management, 61*(1), 1-19. http://doi.org/gfwjhf

Grijalva, E., & Newman, D. A. (2015). Narcissism and counterproductive work behaviour (CWB): Meta-analysis and consideration of collectivist culture, big five personality, and narcissism's facet structure. *Applied Psychology, 64*(1), 93-126

Grijalva, E., & Zhang, L. (2016). Narcissism and self-insight: A review and meta-analysis of narcissists' self-enhancement tendencies. *Personality and Social Psychology Bulletin, 42*(1), 3-24. http://doi.org/ggdrgw

Guekes, K., Mesagno, C., Hanrahan, S. J., & Kellmann, M. (2012). Testing an interactionist perspective on the relationship between personality traits and performance under public pressure. *Psychology of Sport and Exercise*, *13*, 243 250. http://doi.org/fzbf6z

Guekes, K., Mesagno, C., Hanrahan, S. J., & Kellmann, M. (2013). Activation of self-focus and self-presentation traits under private, mixed, & public pressure. *Journal of Sport & Exercise Psychology*, *35*, 50–59. http://doi.org/f4p57h

Guetzkow, H., & Gyr, J. (1954). An analysis of conflict in decision making groups. *Human Relations, 7,* 367-381.

Gully, S. M., Devine, D. J., & Whitney, D. J. (1995). A meta-analysis of cohesion and performance: Effects of levels of analysis and task interdependence. *Small Group Research, 26,* 497-520. http://doi.org/c55x4p

Gully, S. M., Incalcaterra, K. A., Joshi, A., & Beaubien, J. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and level of analysis as moderators of observed relationships. *Journal of Applied Psychology, 87,* 819-832. http://doi.org/bcfc2f

Guver, S., & Motschnig, R. (2017). Effects of diversity in teams and workgroups: A qualitative systematic review. *International Journal of Business, Humanities, and Technology, 7*(2), 6-34.

Guzzo, R. A., & Dickson, M. W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology, 47,* 307-338. http://doi.org/d68z5v

Guzzo, R. A., & Shes, G. P. (1992). Group performance and intergroup relations in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 269-313). Consulting Psychologists Press.

Gyory, J. T., Cagan, J., & Kotovsky, K. (2019). Are you better off alone? Mitigating the underperformance of engineering teams during conceptual design through adaptive process management. *Research in Engineering Design, 30*(1), 85-102. http://doi.org/dp2j

Habib, S., Aslam, S., Hussain, A., Yasmeen, S., & Ibrahim, M. A. (2014). The impact of organizational culture on job satisfaction, employees commitment and turnover intention. *Advances in Economics and Business, 2*(6), 215-222.

Hackman, J. R. (1987). The design of work teams. In J. Lorsch (Ed.), *Handbook of organizational behaviour* (pp. 315-342). New York: Prentice Hall.

Hackman, J. R., Brousseau, K. R., & Weiss, J. A. (1976). The interaction of task design and group performance strategies in determining group effectiveness. *Organizational Behavior & Human Performance, 16*(1)*,* 350-362. http://doi.org/bs2q8p

Hackman, J. R., & Morris, C. G. (1975). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol.8, pp. 35-56). Academic Press.

Hackshaw, A. (2008). Small studies: Strengths and limitations. *European Respiratory Journal, 32*(5), 1141- 1143. http://doi.org/dnbcfs

Halfhill, T., Sundstrom, E., Lahner, J., Calderone, W., & Nielsen, T. (2005). Group personality composition and group effectiveness. An integrative review of empirical research. *Small Group Research, 36,* 83-105. http://doi.org/c569ws

Hall, D., & Buzwell, S. (2012). The problem of free-riding in group projects: Looking beyond social loafing as reason for non-contribution. *Active Learning in Higher Education, 14*(1), 37-49. http://doi.org/gcpf95

Halpern, D., Valenzuela, S., & Katz, J. E. (2016). "Selfie-ists" or "Narci-selfiers"? A cross-lagged panel analysis of selfie taking and narcissism. *Personality and Individual Differences, 97,* 98-101. http://doi.org/f8m5qg

Hamamura, T., Johnson, C. A., & Stankovic, M. (2020). Narcissism over time in Australia and Canada: A cross-temporal meta-analysis. *Personality and Individual Differences, 155*(1), 1-6. http://doi.org/ggf9z8

Hanel, P. H. P., & Vione, K. C. (2016). Do student samples provide an accurate estimate of the general public? *PLoS One, 11*(12): e0168354. 10.1371/journal.pone.0168354

Hansen-Brown, A. A. (2018). Perceived Control Theory of Narcissism. In A. D. Herman, A. Brunell, & J. Foster (Eds.), *The Handbook of trait narcissism: Key advances, research methods, and controversies.* Springer. http://doi.org/dhkp

Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science, 17*(4), 417-526.

Harms, P. D., Spain, S. M., & Hannah S. T. (2011). Leader development and the dark side of personality. *The Leadership Quarterly, 22*(3)*,* 495-509. http://doi.org/ff8gg8

Harris, P. R., & Harris, K. G. (1996). Managing effectively through teams. *Team Performance Management, 2*(3), 23-36. http://doi.org/bf2xr5

Harrison, D. A., Price, K .H., & Bell, M. P. (1998). Beyond relational demography: time and the effects of surface and deep-level diversity on work group cohesion. *The Academy of Management Journal, 41*(1), 96-107. https://www.jstor.org/stable/256901

Hart, C. M., Bush-Evans, R. D., Hepper, E. G., & Hickman, H. M. (2017). The children of Narcissus: Insights into narcissists' parenting styles. *Personality and Individual Differences, 117,* 249-254. http://doi.org/dhkz

Hart, C. M., Hepper, E. G., & Sedikides, C. (2018). Understanding and mitigating narcissists' low empathy. In A. D. Herman, A. Brunell, & J. Foster (Eds.), *The Handbook of trait narcissism: Key advances, research methods, and controversies* (pp.335-343). Springer. http://doi.org/dhkp

Hart, C. M., Ritchie, T. D., Hepper, E. G., & Hebauer, J. E. (2015). The balanced inventory of desirable responding short form (BIDR-16). *SAGE Open,* 1-9. http://doi.org/drd8

Hart, W., Tortoriello, G. K., & Richardson, K. (2020). Why are narcissistic people cold? A cognitive account emphasizing the perceived momentousness of successes and failures. *Personality and Individual Differences, 15*(3), 1-8.

Hayes, N. (1997). *Successful team management.* International Thomson Business Press.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* The Guildford Press.

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd edition). The Guildford Press.

Haynie, D. L. (2001). Delinquent peers revisited: Does network structure matter? *American Journal of Sociology, 106*(4), 1013-1057.

Hendin, H. M., & Cheek, J. M. (1997). Assessing hypersensitive narcissism: A re-examination of Murray's Narcism Scale. *Journal of Research in Personality, 31,* 588-599. http://doi.org/fs7cf7

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*(2-3), 61-83. http://doi.org/c9j35b

Hepper, E. G., Gramzow, R. H., & Sedikides, C. (2010). Individual differences in self-enhancement and self-protection strategies: An integrative analysis. *Journal of Personality, 78*(2), 781-814. http://doi.org/cdx6mm

Hepper, E. G., Hart, C. M., Meek, R., Cisek, S., & Sedikides, C. (2014). Narcissism and empathy in young offenders and non-offenders. *European Journal of Personality, 28*(2)*,* 201-210. http://doi.org/f5xcf2

Hepper, E. G., Hart, C. M., & Sedikides, C. (2014). Moving narcissus: Can narcissists be empathic? *Personality and Social Psychology Bulletin, 40*(9)*,* 1079-1091. http://doi.org/dhk2

Higgs, M. (2009). The good, the bad and the ugly: Leadership and narcissism. *Journal of Change Management, 9*(2), 165-178. http://doi.org/dzxctw

Hinds, P. J., & Mortensen, M. (2005). Understanding conflict in geographically distributed teams: The moderating effects of shared identity, shared context, and spontaneous communication. *Organization Science, 16*(3), 203-325. http://doi.org/bgs49j

Hinsz, V. B., Tindale, R. S., & Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. *Psychology Bulletin, 121*(1), 43-64.

Hirschfeld, R. R., & Bernerth, J. B. (2008). Mental efficacy and physical efficacy at the team level: Inputs and outcomes among newly formed action teams. *Journal of Applied Psychology,93,* 1429-1437. http://doi.org/fmd9bf

Hoegl, M., & Parboteeah, K. P. (2007). Creativity in innovative projects: How teamwork matters. *Journal of Engineering and Technology Management, 24,* 148-166. http://doi.org/dvjztc

Hofmann, D. A., & Jones, L. M. (2005). Leadership, collective personality, and performance. *Journal of Applied Psychology, 90*(3), 509-522. http://doi.org/cfwgw6

Hogan, R. (1983). A socioanalytic theory of personality. In M. M. Page (Ed.), *Nebraska symposium on motivation* (Vol. 29, 55-89). University of Nebraska Press.

Hogan, R., & Hogan, J. (2001). Assessing leadership: A view from the dark side. *International Journal of Selection and Assessment, 9,* 40-51. http://doi.org/c7j8fv

Hogan, R., & Kaiser, R. B. (2005). What we know about leadership. *Review of General Psychology, 9*(2), 169-180. http://doi.org/fnfr85

Hollenbeck, J. R., Ilgen, D. R., Sego, D. J., Hedlund, J., Major, D. A., & Phillips, J. (1995). The multilevel theory of team decision making: Decision performance in teams incorporating distributed expertise. *Journal of Applied Psychology, 80,* 292-316.

Horn, E. M., Collier, W. G., Oxford, J. A., Bond, C. F., Jr., & Dansereau, D. F. (1998). Individual differences in dyadic cooperative learning. *Journal of Educational Psychology, 90*(1), 153-161. http://doi.org/cbvvx3

Horton, R. S., & Sedikides, C. (2009). Narcissistic responding to ego threat: When the status of the evaluator matters. *Journal of Personality, 77*(5), 1493-1526. http://doi.org/dcrg54

Hox, J. J. (2010). *Applied multilevel analysis* (2nd edition). Routledge.

Hoyle, R. H., & Gottfredson, N. C. (2015). Sample size considerations in prevention research applications of multilevel modelling and structural equation modelling. *Prevention Science, 16*(7), 987-996. http://doi.org/f7srvk

Hudson, C. A., Satchell, L. P., & Quackenbush, N. A. (2018). It takes two: The round-robin methodology for investigate interviewing research. *Frontiers in Psychology, 9*:2181. http://doi.org/gfp4g6

Hung, H., & Gatica-Perez, D. (2010). Estimating cohesion in small groups using audio-visual nonverbal behavior. *IEEE Transactions on Multimedia, 12,* 563-575. http://doi.org/djmvfb

Iacono, C. S., & Weisband, S. (1997). *Developing trust in virtual teams*. Wailea Publishers.

Jackson, S.E. (1992). Team composition in organizational settings: Issues in managing an increasingly diverse workforce. In S. Worchel, W. Wood, & J. Simpson (Eds.), *Group process and productivity* (pp. 138-173). Newbury Park, CA: Sage.

Jackson, S. E., Stone, V. K., & Alvarez, E. B. (1992). Socialization amidst diversity: The impact of demographics on work team old timers and newcomers. *Research in Organizational Behavior, 15,* 45-109.

Jaffee, D. (2008). Conflict at work throughout the history of organizations. In C. K. W. De Dreu & M. J. Gelfand (Eds.), *The organizational frontiers series. The psychology of conflict and conflict management in organizations* (pp. 55-77). Taylor & Francis Group/Lawrence Erlbaum Associates.

Janis, I. L. (1972). *Victims of groupthink: A psychological study of foreign-policy decisions and fiascos.* Houghton Mifflin.

Janssen, O., Van de Vliert, E., & Veenstra, C. (1999). How task and person conflict shape the role of positive interdependence in management teams. *Journal of Management, 25,* 117-141. http://doi.org/ckjbr6

Jauk, E., & Kaufman, S. B. (2018). The higher the score, the darker the core: The nonlinear association between grandiose and vulnerable narcissism. *Frontiers in Psychology, 9,1305*. http://doi.org/gd3fdp

Jawahar, I. M. (2001). Attitudes, self-monitoring, and appraisal behaviours. *Journal of Applied Psychology, 86,* 875-883. http://doi.org/bfbhp3

Jehn, K. A. (1992). The impact of intragroup conflict on effectiveness: A multimethod examination of the benefits and detriments of conflict [Unpublished doctoral dissertation]. North-western University.

Jehn, K. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40,* 256-282. http://doi.org/cnp

Jehn, K. (1997). Affective and cognitive conflict in work groups: Increasing performance through value-based intragroup conflict. In C. K. W. De Dreu & E. Van de Vliert (Eds.), *Using conflict in organizations* (pp. 87-100). London: Sage.

Jehn, K. A., & Bendersky, C. (2003). Intragroup conflict in organizations: A contingency perspective on the conflict-outcome relationship. In R. M. Kramer & B. M. Staw (Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews* (pp. 187-242). Elsevier Science Ltd.

Jehn, K. A., Greer, L., Levine, S., & Szulanski, G. (2008). The effects of conflict types, dimensions, and emergent states on group outcomes. *Group Decision and Negotiation, 17*(6), 465-495. http://doi.org/c3mmxh

Jehn, K., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44,* 238-251. http://doi.org/btwdpr

Jehn, K., & Shah, P. P. (1997). Interpersonal relationships and task performance: An examination of mediation processes in friendship and acquaintance groups. *Journal of Personality and Social Psychology, 72,* 770-775.

Jiang, X. (2010). How to motivate people working in teams. *International Journal of Business and Management, 5*(10), 223-229.

Jiang, J., & Klein, G. (2000). Software development risks to project effectiveness. *Journal of Systems and Software, 52*(1), 3-10. http://doi.org/dgwqb3

John, O. P., & Robins, R. W. (1994). Accuracy and bias in self-perception: Individual differences in self-enhancement and the role of narcissism. *Journal of Personality and Social Psychology, 66,* 206-219. http://doi.org/hnv

Johnson, D. W., & Johnson, R. T. (1999). *Learning together and alone: Cooperative, competitive and individualistic learning.* Allyn and Bacon.

Johnson, J., Erdogan, D. M., Bauer, B., & Hammer, T. N. (2009). Perceptions of overall fairness: Are effects on job performance moderated by leader-member exchange? *Human Performance, 11,*432-449. http://doi.org/bjncgz

Jones, L. L., & Brunell, A. B. (2014), Clever and crude but not kind: Narcissism, self-esteem, and the self-reference effect. *Memory, 22*(4), 307-322. http://doi.org/dqfx

Jones, B. D., Woodman, T., Barlow, M., & Roberts, R. (2017). The darker side of personality: Narcissism predicts moral disengagement and antisocial behavior in sport. *The Sport Psychologist, 31*(2), 109-116. http://doi.org/dh6v

Jöreskog, K., & Long, J. S. (1993). *Introduction in testing structural equation models.* Sage.

Jowett, S., & Chaundy, V. (2004). An investigation into the impact of coach leadership and coach-athlete relationship on group cohesion. *Group Dynamics: Theory, Research, and Practice, 8*(4), 302-311. http://doi.org/d593gq

Judge T. A., LePine J. A., Rich B. L. (2006). Loving yourself abundantly: relationship of the narcissistic personality to self- and other perceptions of workplace deviance, leadership, and task and contextual performance. *Journal of Applied Psychology, 91,* 762–776. http://doi.org/bz5s6r

Julian, J. W., Bishop, D. W., & Fiedler, F. E. (1966). Quasitherapeutic effects of intergroup competition. *Journal of Personality and Social Psychology, 3*(3), 321-327. http://doi.org/b6277v

Kabanoff, B. (1991). Equity, equality, power and conflict. *Academy of Management Review,16,* 416-441. http://doi.org/d9pdw2

Kanki, B. G., Lozito, S. C., & Foushee, H. C. (1989). Communication indices of crew coordination. *Aviation, Space and Environmental Medicine, 60,* 56-60.

Kapp, K. (2016). *Game-based learning in 3D and real life: "Escape Room Learning*". Wiley & Sons.

Karau, S. J., & Hart, J. W. (1998). Group cohesiveness and social loafing: Effects of a social interaction manipulation on individual motivation within groups. *Group Dynamics Theory Research and Practice, 2*(3), 185-191. http://doi.org/dggfd8

Katzenbach, J. R., & Smith, D. K. (1993). *The wisdom of teams: Creating the high-performance organization.* Harvard Business School Press.

Keller, R. T. (2001). Cross-functional project groups in research and new product development: Diversity, communications, job stress, and outcomes. *Academy of Management Journal, 44*(3), 547-555. http://doi.org/dhk3

Kellett, J. B., Humphrey, R. H., & Sleeth, R. G. (2006). Empathy and the emergence of task and relations leaders. *The Leadership Quarterly, 17,* 146-162. http://doi.org/dsj28g

Kenny, D. A. (1988). Interpersonal perception: A social relations analysis. *Journal of Social and Personal Relationships, 5*(2), 247-261.

Kenny, D. A. (1994). Interpersonal perception: A social relations analysis. Guilford.

Kenny, D. A., Kashy, D. A., & Cook, W. (2006). *Dyadic data analysis.* Guilford.

Kenny, D. A., & La Voie, L. (1985). The social relations model. *Advances in Experimental Social Psychology, 18*, 141-182. http://doi.org/cnt7dn

Kenny, D. A., West, T. V., & Malloy, T. E. (2006). Componential analysis of interpersonal perception data. *Personality and Social Psychology Review, 10*(4), 282-294.

Kent, R. N., McGrath, J. E. (1969). Task and group characteristics and factors influencing group performance. *Journal of Experimental Social Psychology, 5,* 429-440.

Kernberg, O. F. (1975). *Borderline Conditions and Pathological Narcissism.* Jason Aronson.

Kernberg, O. F. (1998). Pathological narcissism and narcissistic personality disorder: Theoretical background and diagnostic classification. In E. F. Ronningtam (Ed.), *Disorders of narcissism: Diagnostic, clinical, and empirical implications* (pp. 29-51). American Psychiatric Association.

Kernis, M. H., & Sun, C. R. (1994). Narcissism and reactions to interpersonal feedback. *Journal of Research in Personality, 28,* 4-13.

Kerr, N. L., & Tindale, R. S. (2004). Group performance and decision making. *Annual Review of Psychology, 55,* 623.655. http://doi.org/b9z6pq

Kets De Vries, M. F. R. (1999). High-performance teams: Lessons from the Pygmies. *Organisational Dynamics,* 27(3), 66-77. http://doi.org/cs68mw

Kets de Vries, M. (2004). Organizations on the couch: A clinical perspective on organizational dynamics. *European Management Journal, 22,* 183-200.

Khoo, H. S., & Burch, St. J. G. (2008). The 'dark side' of leadership personality and transformational leadership: An exploratory study. *Personality and Individual Differences, 44*(1), 86-97. http://doi.org/b947dv

King, G. (2007). Narcissism and effective crisis management: A review of potential problems and pitfalls. *Journal of Contingencies and Crisis Management, 15,* 183-193. http://doi.org/c6t427

Klemp, G. O. (1980). *Assessment of occupational competence.* National Institute of Education.

Klimoski, R., & Mohammed, S. (1994). Team mental model: Construct or metaphor? *Journal of Management, 20*(2), 403-437. http://doi.org/ffhzr8

Kline, R. B. (2005). *Principles and practice of structural equation modelling (2nd edition)*. The Guilford Press.

Kollmann, T., Stockmann, C., & Linstaedt, J. W. (2019). Task conflict, narcissism and entrepreneurial capability in teams planning a business: A moderated moderations approach to explaining business planning performance. *Journal of Small Business Management, 57*(4), 1399-1423. http://doi.org/dhk4

Korsgaard, M. A., Jeong, S. S., Mahony, D. M., & Pitariu, A. H. (2008). A multilevel view of intragroup conflict. *Journal of Management, 34,* 1222-1252. http://doi.org/c6sdx6

Koshle, H., Kaur, R., & Basista, R. (2020). Breakdown of business and workers in India: Impact of Coronavirus. *Business Line* (March 2020). http://doi.org/dqfz

Kozlowski, S. W. J., & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology,* (Vol 12, pp. 333-375). John Wiley & Sons Inc.

Kozlowski, S. W. J., & Chao, G. T. (2012). The dynamics of emergence: Cognition and cohesion in work teams. *Managerial and Decision Economics, 33,* 335-354. http://doi.org/dp28

Kozlowski, S. W. J., Gully, S. M., Salas, E., & Cannon-Bowers, J. A. (1996). Team leadership and development: Theory principles, and guidelines for training leaders and teams. In M. Beyerlein, D. Johnson, & S. Beyerlein (Eds.), *Advances in interdisciplinary studies of work teams: Team leadership* (Vol. 3, pp. 251-289).

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Personality and Social Psychology Review, 13*(3), 151-164. http://doi.org/cpn6fn

Krizan, Z., & Herlache, A. D. (2018). The narcissism spectrum model: A synthetic view of narcissistic personality. *Personality Psychology Review, 22,* 3-31. http://doi.org/ggdbw7

Kroski, E. (2019). *Escape rooms and other immersive experiences in the library.* America-Library.

Küfner, A. C. P., Nestler, S., & Back, M. D. (2013). The two pathways to being an (un-) popular narcissist. *Journal of Personality*, *81*(2), 184-195. http://doi.org/f4srn3

Kruglanski, A. W. (1989). *Lay epistemics and human knowledge: Cognitive and motivational biases.* Plenum Press.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108,* 480-498. http://doi.org/fpphvr

Kwan, V. S. Y., John, O. P., Kenny, D. A., Bond, M. H., & Robins, R. W. (2004). Reconceptualizing individual differences in self-enhancement bias: An interpersonal approach. *Psychological Review, 111,* 94-110. http://doi.org/ftkrrc

Kwiatkowski, C. (2019). Effective team leader and interpersonal communication skills. In E. Strielkowski (Ed.), *Sustainable leadership for entrepreneurs and academics* (pp.87-98). Springer.

Labianca, G., Brass, J. D., & Gray, B. (1998). Social networks and perceptions of intergroup conflict: The role of negative relationships and third parties. *Academy of Management Journal, 41,* 55-67.

Lake, C. J., Carlson, J., Rose, A., & Chlevin-Thiele, C. (2019). Trust in name brand assessments: The case of the Myers-Briggs Type Indicator. *The Psychologist-Manager Journal, 22*(2), 91-107. http://doi.org/dq65

Lakey, C. E., Rose, P., Campbell, W. K., & Goodie, A. S. (2007). Probing the link between narcissism and gambling: The mediating role of judgment and decision-making biases. *Journal of Behavioural Decision Making, 21*(2)*,* 113-137. http://doi.org/dgwjpk

Langfred, C. W. (2000). The paradox of self-management: Individual and group autonomy in work groups. *Journal of Organizational Behavior, 21*(5), 563-585.

Lash, J. P. (1980). *Helen and teacher: The story of Helen Keller and Anne Sullivan Macy.* Delacorte Press.

Lashley, B. R., & Kenny, D. A. (1998). Power estimation in social relations analyses. *Psychological Methods, 3,* 328-338.

Leary, M. R. (1993). Self-presentational processes in exercise and sport. *Journal of Sport and Exercise Psychology, 14,* 339-351.

Leary, M. R., & Kowalski, R. M. (1990). Impression management: A literature review and two-component model. *Psychological Bulletin, 107*(1), 34-47. http://doi.org/dxcrb9

LeBlanc, D., Gilin, D. A., Calan, K., & Solarz, B. (2012). Perspective taking, empathy, and relational conflict at work: An investigation among participants in a workplace conflict resolution program. *International Conflict Management Review, 18*, 27-34.

Lechner, C., Frankenberger, K. & Floyd, S. (2010). Task contingencies in the curvilinear relationships between intergroup networks and initiative performance. *Academy of Management Journal, 53,* 865-889. http://doi.org/df64cp

Leckelt, M., Gueukes, K., Küfner, A. C. P., Niemeyer, L. M., Hutteman, R., Osterholz, S., Egloff, B., Nestler, S., & Back, M. D. (2019). A longitudinal field investigation of narcissism and popularity over time: How agentic and antagonistic aspects of narcissism shape the development of peer relationships. *Personality and Social Psychology Bulletin, 46*(4), 643-659. http://doi.org/dpjw

Leckelt, M., Küfner, A. C. P., Nestler, S., & Back, M. D. (2015). Behavioral processes underlying the decline of narcissists' popularity over time. *Journal of Personality and Social Psychology, 109*(5), 856-871. http://doi.org/f7wj7v

Leckelt, M., Richter, D., Wetzel, E., & Back, M. D. (2019). Longitudinal associations of narcissism with interpersonal, intrapersonal, and institutional outcomes: An investigation using a representative sample of the German population. *Collabra: Psychology, 5*(1): 26. http://doi.org/ggb8z4

Leckelt, M., Wetzel, E., Gerlach, T. M., Ackerman, R. A., Miller, J. D., & Chopik, W. J. (2018). Validation of the narcissistic admiration and rivalry questionnaire short scale (NARQ-S) in convenience and representative samples. *Psychological Assessment, 30*, 86-96. http://doi.org/gcvw9n

Ledoux, J. A., Gorman, A., & Woehr, D. (2011). The impact of interpersonal perceptions on team processes: A social relations analysis. *Small Group Research, 43*(3), 356-382. https://doi.org/10.1177%2F1046496411425190

Lee, S. K., Benavides, P., Heo, Y. H., & Park, S. W. (2014). Narcissism increase among college students in Korea: A cross-temporal meta-analysis (1999-2014). *Korean Journal of Psychology General, 33,* 609-625.

Lee, P., Gillespie, N., Mann, L., & Wearing, A. (2010). Leadership and trust: Their effect on knowledge sharing and team performance. *Management Learning, 41*(4), 473-491. http://doi.org/cxvnn6

Leggat, S. G. (2007). Effective healthcare teams require effective team members: Defining teamwork competencies. *BMC Health Services Research, 7*(17), 2-19. http://doi.org/cxhr27

Leunissen, J. M., Sedikides, C., & Wildschut, T. (2017). Why narcissists are unwilling to apologize: The role of empathy and guilt. *European Journal of Personality, 31*(4), 385-403. http://doi.org/gbww3r

Li, N., Barrick, M. R., Zimmerman, R. D., & Chiaburu, D. S. (2014). Retaining the productive employee: The role of personality. *The Academy of Management Annals, 8,* 347-395. http://doi.org/gckfjs

Littlejohn, S. W., & Domenici, K. (2001). *Engaging communication in conflict: Systemic practice.* Thousand Oaks, CA: Sage.

Liu, J., Fu, P., & Liu, S. (2009). Conflicts in top management teams and team/firm outcomes: The moderating effects of conflict-handling approaches. *International Journal of Conflict Management, 20*(3), 228-250. http://doi.org/cjvqcw

Locke, K. D. (2009). Aggression, narcissism, self-esteem, and the attribution of desirable and humanizing traits to self versus others. *Journal of Research in Personality, 43*(1), 99-102. http://doi.org/c8ztdg

Lott, A. J., & Lott, B. E. (1965). Group cohesiveness as interpersonal attraction: A review of relationships with antecedent and consequent variables. *Psychology Bulletin, 64,* 259-309. http://doi.org/bpf4wh

Lovelace, K., Shapiro, D. L., & Weingart, L. R. (2001). Maximizing cross-functional new product teams' innovativeness and constraint adherence: A conflict communications perspective. *Academy of Management Journal, 44,* 779-783. http://doi.org/ftv9v6

Lubit, R. (2005). The long-term organizational impact of destructively narcissistic managers. *The Academy of Management Executive, 16*(1), 127-138. https://www.jstor.org/stable/4165819

Luke, D. A. (2004). *Multilevel modelling.* Sage.

Lunbeck, E. (2014). *The Americanization of narcissism*. Harvard University Press.

Lundgren, D. C., & Bogart, D. H. (1974). Group size, member dissatisfaction, and group radicalism. *Human Relations, 27*(4), 339-355. http://doi.org/bg2sbz

Maccoby, M. (2004). Narcissistic Leaders: The incredible pros, the inevitable cons. *Harvard Business Review, 82,* 92-101.

Mach, M., Dolan, S., & Tzafrir, S. (2010). The differential effect of team members' trust on team performance: The mediation role of team cohesion. *Occupational and Organizational Psychology, 83*(3), 771-794. http://doi.org/frgg25

Magnusson, D., & Torestad, B. (1993). A holistic view of personality: A model revisited. *Annual Review of Psychology, 44*, 427-452. http://doi.org/bq49sw

Malesza, M., Kaczmarek, M. C. (2018). Grandiose narcissism versus vulnerable narcissism and impulsivity. *Personality and Individual Differences, 126*(1)*,* 61-65. http://doi.org/gc6d8h

Manley, H., Paisarnsrisomsuk, N., & Roberts, R. (2020). The effect of narcissistic admiration and rivalry on speaking performance. *Personality and Individual Differences, 1*(154), 109624. http://doi.org/dh6q

Manley, H., Roberts, R., Beattie, R., & Woodman, T. (2018). I'll get there because I'm great, or am I? Narcissistic vulnerability moderates the narcissistic grandiosity-goal persistence relationship. *Personality and Individual Differences, 120*, 65-74. http://doi.org/dhk5

Markova, G., & Perry, J. T. (2014). Cohesion and individual well-being of members in self-managed teams. *Leadership and. Organization Development, 35*(5), 429-441. http://doi.org/dp22

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *The Academy of Management Review, 26*(3), 356-376. http://doi.org/bcphb5

Marques-Quiniteiro, P., Rico, R., Passos, A. M., & Curral, L. (2019). There is light and there is darkness: On the temporal dynamics of cohesion, coordination, and performance in business teams. *Frontiers in Psychology, 10*, 847. http://doi.org/dp2h

Marsh, H. W., Balla, J. R., & Hau, K. (1996). An evaluation of increment fit indices: A clarification of mathematical and empirical properties. In G. A. Marcoulides & R. E. Schumacker (Eds.), *Advanced Structural Equation Modeling: Issues and techniques* (pp. 315-353). Lawrence Erlbaum.

Marsh, H. W., Hau, K-T., & Wen, Z. (2004). In search of golden rules: comment on hypothesis-testing approaches to setting cut-off values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling: A Multidisciplinary Journal, 11*(3)*,* 320-341. http://doi.org/dp39b9

Martinez-Moreno, E., Gonzalez-Navarro, P., Zornoza, A., & Ripoll, P. (2009). Relationship, task and process conflicts on team performance: The moderating role of communication media. *International Journal of Conflict Management, 20*(3), 251-268. http://doi.org/fw9jkf

Martin, S. R., Cote, S., & Woodruff, T. (2016). Echoes of our upbringing: How growing up wealthy or poor relates to narcissism, leader behavior, and leader effectiveness. *Academic Management Journal, 59,* 2157-2177. http://doi.org/gcx44n

Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management, 34,* 410-476. http://doi.org/dgq2c9

Mathieu, J. E., Tannenbaum, S. I., Donsbach, J. S., & Allider, G. M. (2014). A review and integration of team composition models: Moving toward a dynamic and temporal framework. *Journal of Management, 40*(1), 130-160. http://doi.org/q2q

Mathieu, J. E., Wolfson, M. A., & Park, S. (2018). The evolution of work team research since Hawthorne. *American Psychologist, 73*(4), 308-321. http://doi.org/gdq8ft

Maynard, M. T., Kennedy, D. M., Sommer, S. A., & Passons, A. M. (2015). Team cohesion: A theoretical consideration of its reciprocal relationships within the team adaptation nomological network. In E. Salas (Ed.), *Team cohesion: Advances in psychological theory, methods, and practice* (pp. 83 -111). Emerald Group Publishing.

McEwan, D. (2020). The effects of perceived teamwork on emergent states and satisfaction with performance among team sport athletes. *Sport, Exercise, and Performance Psychology, 9*(1), 1-15. http://doi.org/ggj99h

McEwan, D., Ruissen, G. R., Eys, M. A., Zumbo, B. D., & Beauchamp, M. R. (2017). The effectiveness of teamwork training on teamwork behaviors and team performance: A systematic review and meta-analysis of controlled interventions. *PLoS One, 12*(1), e0169604. http://doi.org/f9kt8p

McCrae, R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and social Psychology, 52,* 81-90. http://doi.org/cfk

McCroskey, J. C., Hamilton, P. R., & Weiner, A. N. (1974). The effect of interaction behavior on source credibility, homophily, and interpersonal attraction. *Human Communication Research, 1*, 42-52. http://doi.org/cfcmcq

McEwan, D., Ruissen, G. R., Eys, M. A., Zumbo, B., & Beauchamp, M. R. (2017). The effectiveness of teamwork training on teamwork behaviors and team performance: A systematic review and meta-analysis of controlled interventions. *PLoS One, 12*(1), 5-39. http://doi.org/f9kt8p

Menges, J. I., & Kilduff, M. (2015). Group emotions: Cutting the gordian knots concerning terms, levels-of-analysis, and processes. *Academic Management Annual, 9,* 845-928. http://doi.org/dp3b

Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Campbell, K. W. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality, 79*(5), 1013-1042. http://doi.org/fhrhhv

Miller, J. D., Lynam, D. R., & Campbell, W. K. (2016). Measures of narcissism and their relations to DSM-5 pathological traits: A critical reappraisal. *Assessment, 23*(1), 3-9. http://doi.org/f78ffp

Miller, J. D., & Maples, J. (2011). Trait personality models of narcissistic personality disorder, grandiose narcissism, and vulnerable narcissism. In K .W. Campbell & J. D. Miller (Eds.), *The handbook of narcissism and narcissistic personality disorder: Theoretical approaches, empirical findings, and treatments* (pp.198-209). John Wiley & Sons, Inc.

Miller, J. D., McCain, J., Lynam, D. R., Few, L. R., Gentile, B., MacKillop, J., & Campbell, W. K. (2014). A comparison of the criterion validity of popular measures of narcissism and narcissistic personality disorder via the use of expert ratings. *Psychology Assessment, 26*(3), 958-969. http://doi.org/f6f55n

Miranda, S. M., & Bostrom, R. P. (1993). The impact of group support systems on group conflict and conflict management. *Journal of Management Information Systems, 10*(3), 63-95. http://doi.org/dp96

Mohammed, S., & Nadkarni, S. (2011). Temporal diversity and team performance: The moderating role of team temporal leadership. *Academy of Management Journal, 54,* 489-503. http://doi.org/cmj5b2

Mohant, A., Mohanty, S., & O'Anusandhan, S. (2018). The impact of communication and group dynamics on teamwork effectiveness: The case of service sector organisations. *Academic of Strategic Management Journal, 17*(4), 1-14.

Mooney, A. C., Holahan, P. J., & Amason, A. C. (2007). Don't take it personally: Exploring cognitive conflict as a mediator of affective conflict. *Journal of Management Studies, 44*(5), 733-758. http://doi.org/dh9z5d

Moreland, R. L., & Levine, J. M. (1992). The composition of small groups. In E. J. Lawler, B. Markovsky, C. Ridgeway, & H. A. Walker (Eds.), *Advances in group processes* (Vol. 9, pp. 237-280). JAI Press.

Morf, C. C., Horvath, S., & Torchetti, L. (2011). Narcissism self-enhancement: Tales of (successful?) self-portrayal. In M. D. Alicke, & C. Sedikides (Eds.), *Handbook of self-enhancement and self-protection* (pp. 399-424). New York, NY: Guilford Press.

Morf, C. C., & Rhodewalt, F. (1993). Narcissism and self-evaluation maintenance: Explorations in object relations. *Personality and Social Psychology Bulletin, 19*(6), 668-676. http://doi.org/b7qz2p

Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, *12*, 177–196. http://doi.org/bfsfwq

Morgan, B. B., Salas, E., & Glickman, A. S. (1993). An analysis of team evolution and maturation. *Journal of General Psychology, 120,* 277-291. http://doi.org/cd32r8

Morris, E. K. (1988). Contextualism: The world view of behavior analysis. *Journal of Experimental Child Psychology, 46,*289.323. http://doi.org/cdn2vj

Moynihan, L. M. & Peterson, R. S. (2001). A contingent configuration approach to understanding the role of personality in organizational groups. *Research in Organizational Behaviour, 23,* 327-378.

Mudrack, P. E. (1989). Defining group cohesiveness: A legacy of confusion? *Small Group Research, 20*(1), 37-49.

Mueller, J. S. (2012). Why individuals in larger teams perform worse. *Organizational Behavior and Human Decision Processes, 117*(1), 111-124. http://doi.org/bfzm9x

Mullen, B., & Copper, C. (1994). The relation between group cohesiveness and performance: An integration. *Psychological Bulletin, 115*(2), 210. http://doi.org/bccfss

Mullen, B., Anthony, T., Salas, E., & Driskell, J. E. (1994). Group cohesiveness and quality of decision making: An integration of tests of the groupthink hypothesis. *Small Group Research, 25*(2), 189-204. http://doi.org/cjb6gk

Murphy, K. R. (1989). Is the relationship between cognitive ability and performance stable over time? *Human Performance, 2*(3), 183-200. http://doi.org/bc6zw4

Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin, 83*(4), 602-627. http://doi.org/fkbwvt

Nair, S. L. S., Aston, J., & Kozlovski, E. (2019). The relationship between organisational culture and job satisfaction of IT sector employees in contrasting economies. *Forum Scientiae Oeconomia, 7*I3), 77-88. http://doi.org/dq63

Nassif, A. G. (2019). Heterogeneity and centrality of 'dark personality' within teams, shared leadership, and team performance: A conceptual moderated-mediation model. *Human Resource Management Review, 29,* 1-13. http://doi.org/gfw5vw

Nawaz, N., & Gomes, A. M. (2020). The relationship between organizational citizenship behavior and team performance: The mediating effect of team conflict. *Management and Organizational Studies, 5*(1), 15-22. http://doi.org/dp29

Nelson, M., Calandrella, C., Schmalbach, P., & Palmierei, T. (2017). 159 escape the conference room. *Annals of Emergency Medicine, 70*(4), 64. http://doi.org/dhk6

Neuman, G. A., Wagner, S. H., & Christansen, N. D. (1999). The relationship between work-team personality composition and the job performance in teams. *Group and Organization Management, 24,* 28-45. http://doi.org/b2f8h6

Neuman, G. A., & Wright, J. (1999). Team effectiveness: Beyond skills and cognitive ability. *Journal of Applied Psychology, 84,* 376-389. http://doi.org/df6b4t

Nevicka, B., De Hoogh, A. H. B., Den Hartog, D. N., & Belschak, F. D. (2018). Narcissistic leaders and their victims: Followers low on self-esteem and low on core self-evaluations suffer most. *Frontiers*, *9*. http://doi.org/gdbjtn

Nevicka, B., De Hoogh, A. H. B., Van Vianen, A. E., Beersma, B., & McIlwain, D. (2011). All I need is a stage to shine: Narcissists' leader emergence and performance. *The Leadership Quarterly, 22*(5), 910-925. http://doi.org/bz3n8c

Ng, K. Y., Koh, C., Ang, S., Kennedy, J. C., & Chan, K. Y . (2011). Rating leniency and halo in multisource feedback ratings: Testing cultural assumptions of power distance and individualism-collectivism. *Journal of Applied Psychology, 96*(5), 1033-1044. http://doi.org/d5pvz6

Nicholson, S. (2015). Peeking behind the locked door: A survey of escape room facilities [Whitepaper] http://scottnicholson.com/pubs/erfacwhite.pdf

Nieva, V., Fleishman, E. A., & Rieck, A. (1985). *Team dimensions: Their identity, their measurement and their relationships*. Defense Technical Information Center.

Nijstad, B. A., & De Dreu, C. K. W. (2012). Motivated information processing in organizational teams: Progress, puzzles, and prospects. *Research in Organizational Behavior, 32,* 87-111. http://doi.org/ggft8x

Nijstad, B. A., Stroebe, W., & Lodewijkx, H. F. M. (2002). Cognitive stimulation and interference in groups: Exposure effects in an idea generation task. *Journal of Experimental Social Psychology, 38*(6), 535-544. http://doi.org/dp9cm8

Novak, J., Lozos, J. C., & Spear, S. E. (2019). Development of an interactive escape room intervention to educate college students about earthquake preparedness. *Natural Hazards Review, 20*(1), 23-28.

Ogrodniczuk, J. S., Piper, W. E., Joyce, A. S., Steinberg, P. I., & Duggal, S. (2009). Interpersonal problems associated with narcissism among psychiatric outpatients. *Journal of Psychiatry Research, 43*(9), 837-842. http://doi.org/bjh3gq

Oltmanns, T. F., Friedman, J. N. W., Fiedler, E. R., & Turkheimer, E. (2004). Perceptions of people with personality disorders based on thin slices of behaviour. *Journal of Research in Personality, 38*(3), 216-229. http://doi.org/bwb2kt

Ong, C. W., Roberts, R., Arthur, C., Woodman, T., & Akehurst, S. (2016). The leader ship is sinking: A temporal investigation of narcissistic leadership. *Journal of Personality, 84*(2)*,* 237-247. http://doi.org/f8d59q

O'Boyle, E. H., Forsyth, D. R., Banks, G. C., McDaniel, M. A. (2012). A meta-analysis of the dark triad and work behavior: A social exchange perspective. *Journal of Applied Psychology, 97*(3), 557-579. http://doi.org/fnkzqv

O'Keefe, R. D., Kernaghan, J. A., & Rubenstein, A. H. (1975). Group cohesiveness: A factor in the adoption of innovations among scientific work groups. *Small Group Behavior, 6,* 282-292. http://doi.org/dh29nk

O'Neill, T. A., & Allen, N. J. (2010). Personality and the prediction of team performance. *European Journal of Personality, 25*, 31-42. http://doi.org/ctgw4h

O'Reilly, C., Chatman, J. A., & Doerr, B. (2018). When 'Me' trumps 'We': Narcissistic leaders and the cultures they create. *Academy of Management Annual Meeting Proceedings, 1*(1)*,* 1-15. https://doi.org/10.5465/AMBPP.2018.11515abstract

O'Reilly, C. A., & Doerr, B. (2020). Conceit and deceit: Lying, cheating, and stealing among grandiose narcissists. *Personality and Individual Differences, 154*(1), 109-127. http://doi.org/dng7

Oswald, F. L., & Hough, L. M. (2010). Personality and its assessment in organizations: Theoretical and empirical developments. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology: Vol. 2. Selecting and developing members for the organization* (pp. 153-184). Washington, DC: American Psychological Association.

Ott, J. S., Parkes, S. J., & Simpson, R. B. (2008). *Classic readings in organizational behaviour.* Belmont, CA: Wadsworth/Perseus Books.

Owens, B. P ., Wallace, A. S., & Waldman, D. A. (2015). Leader narcissism and follower outcomes: The counterbalancing effect of leader humility. *Journal of Applied Psychology, 100*(4), 1203-1213. http://doi.org/f7j74w

Padilla, A., Hogan, R., & Kaiser, R. B. (2007). The toxic triangle: Destructive leaders, susceptible followers, and conducive environments. *The Leadership Quarterly, 18,* 176-194. http://doi.org/c9vmf2

Pan, R., Lo. H., & Neustaedter, C. (2017, June 19-24). Collaboration, awareness, and communication in real-life escape rooms [Proceedings of the Conference on Designing Interactive Systems]. Edinburgh. http://doi.org/gf5fsm

Pan, W., & Zhang, Q. (2018). Withholding knowledge in teams: An interactionist perspective of personality, justice, and autonomy. *Social Behaviour and Personality: An International Journal, 46,* 2009-2024. http://doi.org/dpmh

Papageorgiou, K .A., Gianniou, F, M., Wilson, P., Moneta, G., B., Biello, D., & Clough, P. J. (2019). The bright side of dark: Exploring the positive effect of narcissism on perceived stress through mental toughness. *Personality and Individual Differences, 139*, 116-124. http://doi.org/ggd3hv

Parayitam, S., & Dolley, R. S. (2009). The interplay between cognitive- and affective conflict and cognition- and affect-based trust in influencing decision outcomes. *Journal of Business Research, 62*(8), 789-796. http://doi.org/g5h

Park, S., & Colvin, C. R. (2014). Narcissism and discrepancy between self and friends' perceptions of personality. *Journal of Personality, 82*(4), 278-286. https://dx.doi.org/10.1111%2Fjopy.12053

Park, S. W., Ferrero, J., Colvin, C. R., & Carney, D. R. (2013). Narcissism and negotiation: Economic gain and interpersonal loss. *Basic and Applied Social Psychology, 35,* 1-6. http://doi.org/dpmc

Park, W., Kim, M. S., & Gully, S. M. (2017). Effect of cohesion on the curvilinear relationship between team efficacy and performance. *Small Group Research, 48*(4), 455-481. http://doi.org/dhk8

Patel, P. C., & Cooper, D. (2014). The harder they fall, the harder they rise: Approach and avoidance focus in narcissistic CEOs. *Strategic Management Journal,* 35(10), 1528-1540. http://doi.org/gf2h7h

Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology, 75*(5), 1197-1208. http://doi.org/bz5w3q

Paulhus, D. L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 17-59). New York: Academic Press.

Paulhus, D. L. (2001). Normal narcissism: Two minimalist accounts. *Psychological Inquiry, 12*(4), 228-230. https://www.jstor.org/stable/1449480

Paulhus, D. L., Harms, P. D., Bruce, M. N., & Lysy, D. C. (2003). The over-claiming technique: Measuring self-enhancement independent of ability. *Journal of Personality and Social Psychology, 84*(4), 890-904. http://doi.org/d68x2d

Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. *Journal of Personality, 66,* 1025-1060.

Paunonen, S., Lonnqvist, J-E., Verkasalo, M., Leikas, S., & Nissien, V. (2006). Narcissism and emergent leadership in military cadets. *Leadership Quarterly, 17*(5), 475-486. http://doi.org/bx9kkj

Pavlovich, K., & Krahnke, K. (2012). Empathy, connectedness and organisation. *Journal of Business Ethics, 105,* 131-137. http://doi.org/d3hsd5

Peeters, M. A. G., van Tuijl, H. F. J. M., Rutte, C. G., & Reymen, I. (2006). Personality and team performance: A meta-analysis. *European Journal of Personality, 20*(5), 377-396. http://doi.org/ftbrqv

Pelled, L. H. (1996). Relational demography and perceptions of group conflict and performance: A field investigation. *International Journal of Conflict Management, 7*(3), 230-246. http://doi.org/frf68t

Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly, 44*(1), 1-28. http://doi.org/bg7dg3

Penney, L. M., & Spector, P. E. (2002). Narcissism and counterproductive work behaviour: Do bigger egos mean bigger problems? *International Journal of Selection and Assessment, 10,* 126-134. http://doi.org/chf

Peterson, R. A., & Merunka, D. R. (2014). Convenience samples of college students and research reproducibility. *Journal of Business Research, 67*(5), 1035-1041. http://doi.org/gf8wmt

Pepitone, A., & Kleiner, R. (1957). The effects of threat and frustration on group cohesiveness. *The Journal of Abnormal and Social Psychology, 54*(2), 192-199. http://doi.org/brp579

Picazo C., Gamero, N., Zornoza, A., Peiró, J. M. (2015). Testing relations between group cohesion and satisfaction in project teams: A cross-level and cross-lagged approach. *European Journal of Work and Organizational Psychology, 24*(2), 297-307. http://doi.org/dhk9

Pierro, D., Constantini, G., Benzi, I., Madeddu, F., & Preti, E. (2019). Grandiose and entitled, but still fragile: A network analysis of pathological narcissistic traits. *Personality and Individual Differences, 140,* 15-20. http://doi.org/gddkx4

Pincus, A. L., Ansell, E. B., Pimentel, C. A., Cain, N. M., Wright, A. G. C., & Levy, K. N. (2009). Initial construction and validation of the Pathological Narcissism Inventory. *Psychology Assessment, 21*(3), 365-379. http://doi.org/b67pck

Pincus, A. L., & Lukowitsky, M. R. (2010). Pathological narcissism and narcissistic personality disorder. *Annual Review of Clinical Psychology, 6,* 421-446. http://doi.org/ccp32g

Podsakoff, P. M., Ahearne, M., & MacKenzie, S. B. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology, 82*(2), 262-270. http://doi.org/ccxk6n

Poless, P. G., Torstveit, L., Lugo, R. G., Andreassen, M., & Sütterlin, S. (2018). Guilt and proneness to shame: Unethical behaviour in vulnerable and grandiose narcissism. *European Journal of Social Psychology, 14*(1), 28-43. http://doi.org/dhmb

Poorthuis, A. M. G., Slagt, M., van Aken, M. A. G., Denissen, J. J. A., & Thomaes, S. (2019). Narcissism and popularity among peers: A cross-transition longitudinal study. *Self and Identity, 4*, 1-15. http://doi.org/dq6z

Porter, T. W., & Lilly, B. S. (1996). The effects of conflict, trust, and task commitment on project team performance. *International Journal of Conflict Management, 7*(4), 361-376. http://doi.org/dqs75n

Prewett, M. S. (2006). *Clarifying the cohesion-performance relationship in teams: Backup behavior as a mediating mechanism* [Doctoral dissertation]. Scholar Commons.

Prewett, M. S., Brown, M. I., Goswami, A., & Christiansen, N. D. (2016). Effects of team personality composition on member performance: A multilevel perspective. *Group and Organization Management, 43*(2), 316-348. http://doi.org/dpmb

Prewitt, M. S., Walvoord, A. A. G., Stilson, F. R. B., Rossi, M. E., & Brannick, M. T. (2009). The team personality-team performance relationship revisited: The impact of criterion choice, pattern of workflow, and method of aggregation. *Human Performance, 22* ,273-296. http://doi.org/cj73j2

Rahim, M. A. (2001). *Managing conflict in organizations*. Quorum.

Rahim, M., Magner, N., & Shapiro, D. (2000). Do justice perceptions influence styles of handling conflict with supervisors? What justice perceptions, precisely? *The International Journal of Conflict Management, 11,* 9-31.

Randall, R., & Sharples, D. (2012). The impact of rater agreeableness and rating context on the evaluation of poor performance. *Journal of Occupational and Organisational Psychology, 85,* 42-59.

Raskin, R. N. (1980). Narcissism and creativity: Are they related? *Psychological Reports, 46,*55-60. http://doi.org/dwx4r3

Raskin, R., Novacek, J., & Hogan, R. (1991). Narcissism, self-esteem, and defensive self enhancement. *Journal of Personality*, *59*, 19-38.

Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology, 54,* 890-902. http://doi.org/chj

Rathvon, N., & Holmstrom, R. (1996). An MMPI-2 portrait of narcissism. *Journal of Personality Assessment, 1,* 1-19. http://doi.org/cdxq54

Raver, J. L., & Gefland, M. J. (2005). Beyond the individual victim: Linking sexual harassment, team processes, and team performance. *Academy of Management Journal, 48*(3), 387-400. http://doi.org/c8sv8g

Reagans, R., & McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly, 48*(2), 240-267. http://doi.org/dp5rm8

Redding, R. E. (2008). Juris types, learning law through self-understanding. *Journal of Legal Education, 58*(2), 312-324.

Reijntjes, A., Vermande, M., Thomaes, S., Goossens, F., Olthof, T., Aleva, L., & Van der Meulen, M. (2016). Narcissism, bullying, and social dominance in youth: A longitudinal analysis. *Journal of Abnormal Child Psychology, 44*, 63-74. http://doi.org/f77pjw

Reilly, A. J., & Jones, J. E. (1974). Team building. In J. W. Pfeiffer, & J. E. Jones (Eds.), *The 1974 annual handbook for group facilitators.* University Associates.

Resick, C. J., Whitman, D. S., Weingarden, S. M., & Hiller, N. J. (2009). The bright-side and the dark-side of CEO personality: Examining core self-evaluations, narcissism, transformational leadership, and strategic influence. *Journal of Applied Psychology, 94*(6), 1365-1381. http://doi.org/ddgq3k

Rezvani, A., Barrett, R., & Khosravi, P. (2019). Investigating the relationships among team emotional intelligence, trust, conflict, and team performance. *Team Performance Management: An International Journal, 25*(1), 120-137. http://doi.org/dhmc

Rezvani, A., Khosravi, P., & Ashkanasy, N. M. (2018). “Examining the interdependencies among emotional intelligence, trust, and performance in infrastructure projects: a multilevel study”. *International Journal of Project Management, 36*(8), 1034-1046. http://doi.org/gfq22q

Rhodewalt, F., & Morf, C. C. (1995). Self and interpersonal correlates of the Narcissistic Personality Inventory: A review and new findings. *Journal of Research in Personality, 29*(1), 1-23. http://doi.org/fw79q2

Rhodewalt, F., & Morf, C. C. (2005). Reflections in troubled waters: Narcissism and interpersonal self-esteem regulation. In A. Tesser, J. Wood, & D. Stapel (Eds.), *On building, defending, and regulating the self* (pp. 127-151). New York: Psychology Press.

Rispens, S., Greer, L. L., & Jehn, K. A. (2007). It could be worse: A study on the alleviating roles of trust and connectedness in intragroup conflicts. *International Journal of Conflict Management, 18*(3), 325-344. http://doi.org/d97q8k

Roark, A. E., & Sharah, H. S. (1989). Factors related to group cohesiveness. *Small Group Research, 20*(1), 62-69. http://doi.org/brs78r

Robins, R. W., & Beer, J. S. (2001). Positive illusions about the self: Short-term benefits and long-term costs. *Journal of Personality and Social Psychology, 80,* 340-352. http://doi.org/d46mv7

Roberts, B. W., Edmonds, G., & Grijalva, E. (2010). It is developmental me, not generation me: Developmental changes are more important than generational changes in narcissism. *Perspectives of Psychological Science, 5,* 97-102. http://doi.org/cjs6k4

Roberts, R., Callow, N., Hardy, L., Woodman, T., & Thomas, L. (2010). Interactive effects of different visual imagery perspectives and narcissism on motor performance. *Journal of Sport & Exercise Psychology, 32*, 499-517. http://doi.org/dp24

Roberts, R., Cooke, A., Woodman, T., Hupfield, H., Barwood, C., & Manley, H. (2019). When the going gets tough, who gets going? An examination of the relationship between narcissism, effort, and performance. *Sport, Exercise, and Performance Psychology, 8*(1), 93-105. http://doi.org/dh6t

Roberts, R., Woodman, T., Hardy, L., Davis, L., & Wallace, H. W. (2013). Psychological skills do not always help performance: The moderating role of narcissism. *Journal of Applied Sport Psychology, 25,* 316-325. http://doi.org/gd8m8m

Roberts, R., Woodman, T., Lofthouse, S., & Williams, L. (2015). Not all players are equally motivated: The role of narcissism. *European Journal of Sport Science, 15*(6), 536-542. http://doi.org/dh6s

Roberts, R., Woodman, T., & Sedikides, C. (2018). Pass me the ball: Narcissism in performance settings. *International Review of Sport and Exercise Psychology, 11*(1), 190-213. http://doi.org/gf9xpm

Rocca, K. A., & McCroskey, J. C. (1999). The interrelationship of student ratings of instructors’ immediacy, verbal aggressiveness, homophily, and interpersonal interaction. *Communication Education, 48*(4), 308-316. http://doi.org/b5wgzz

Roche, W. K., Teague, P., & Colvin, A. J. S. (2014). *The Oxford handbook of conflict management in organizations.* Oxford University Press

Rogers, E. M., & Bhowmik, D. K. (1971). Homophily-heterophily: Relational concepts for communication research. *Public Opinion Quarterly, 34,* 523-538.

Rogoza, R., & Fatfouta, R. (2019). Normal and pathological communal narcissism in relation to personality traits and values. *Personality and Individual Differences, 140*(1), 76-81. http://doi.org/dpj4

Rogoza, R., Zemojtel-Piotrowska, M., Kwiatkowska, M. M., & Kwiatkowska, K. (2018). The bright, the dark, and the blue face of narcissism: The spectrum of narcissism in its relations to the metatraits of personality, self-esteem, and the nomological network of shyness, loneliness, and empathy. *Frontiers in Psychology, 9*(343). https://dx.doi.org/10.3389%2Ffpsyg.2018.00343

Rong, P., Zhang, L., & Xie, J. (2019). Does team conflict affect top management team creativity? Team climate as a moderator. *Social Behavior and Personality: An International Journal, 47*(12), 57-72. http://doi.org/dnfz

Ronningstam, E. F. (2005). *Identifying and understanding the narcissistic personality.* England: Oxford University Press.

Rose, P. (2002). The happy and unhappy faces of narcissism. *Personality and Individual Differences, 33,* 379-392.

Rosenthal, S. A., & Hooley, J. M. (2010). Narcissism assessment in social-personality research: Does the association between narcissism and psychological health result from a confound with self-esteem? *Journal of Research in Personality, 44*, 453-465. http://doi.org/b42wg6

Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. *The Leadership Quarterly, 17*(6), 617-635. http://doi.org/cqhm8w

Rosh, L., Offermann, L. R., & Van Diest, R. (2012). Too close for comfort? Distinguishing between team intimacy and team cohesion. *Human Resource Management Review, 22*(2), 116-127. http://doi.org/fg4tgz

Rousseau, V., Aubé, C., & Savoie, A. (2006). Teamwork behaviors: A review and an integration of frameworks. *Small Group Research, 37*(5), 540-570. http://doi.org/dhjw8h

Rozell, E. J., & Gundersen, D. E. (2003). The effects of leader impression management on group perceptions of cohesion, consensus, and communication. *Small Group Research, 34*(2), 197-222. http://doi.org/bf5ktc

Russell, E. J. (2016). Servant leadership's cycle of benefit. *Servant Leadership: Theory & Practice, 3*(1), 52-68.

Ruz, J. M., Smith, T. W., & Rhodewalt, F. (2001). Distinguishing narcissism and hostility: Similarities and differences in interpersonal circumplex and five-factor correlates. *Journal of Personality Assessment, 76,* 537-555.

Ryan, R. M. (2012). Motivation and the organization of human behaviour: Three reasons for the re-emergence of a field. *The Oxford Handbook of Human Motivation,* 8, 20-59.

Salas, E., Burke, C. S., & Cannon-Bowers, J. A. (2003). Teamwork: Emerging principles. *International Journal of Management Reviews, 2*(4), 81-86. http://doi.org/ffz9rc

Saavedra, R., Earley, P. C., & Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology, 78,* 61-72. 10.1037/0021-9010.78.1.61

Said, A., Prabowo, H., Hamsal, B., & Simatupang, B. (2020). Interpersonal skills in project management. In S. Noviaristanti., H. M., Hanafi., & D. Triganondo (Eds.), *Understanding Digital Industry* (pp. 210-231). Taylor & Francis Group.

Salas, E., Grossman, R., Hughes, A. M., & Coultas, C. W. (2015). Measuring team cohesion: Observations from the science. *Human Factors: The Journal of the Human Factors and Ergonomics Society, 57*(3), 365-374. http://doi.org/dhmd

Salas, E., Rosen, M. A., Burke, C. S., & Goodwin, G. F. (2009). The wisdom of collectives in organizations: An update of the teamwork competencies. In E. Salas., G. F. Goodwin., & C. S.

Burke (Eds.), *The organizational frontiers series. Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches* (pp. 39-79). Taylor & Francis Group.

Salas, E., Sims, D. E., & Burke, S. (2005). Is there a "Big Five" in teamwork? *Small Group Research, 36*(5), 555-599. http://doi.org/cvh7c9

Salas, E., Stagl, K. C., & Burke, C. S. (2004). 25 years of team effectiveness in organizations: Research themes and emerging needs. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organization psychology* (pp. 47-91). New York: Wiley.

Salas, E., Stagl, K. C., Burke, C. S., & Goodwin, G. F. (2007). Fostering team effectiveness in organisations: Toward an integrative theoretical framework. In B. Shuart, W. Spaulding, & J. Poland (Eds.), *Nebraska symposium on motivation: Vol. 52. Modeling complex systems* (pp. 185-243). University of Nebraska Press.

Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly, 23,* 224-253.

Sands, S. A., Stanley, P., & Charon, R. (2008). Pediatric narrative oncology: Interprofessional training to promote empathy, build teams, and prevent burnout. *Journal of Supportive Oncology, 6*(7), 307 – 312.

Sanyal, S., & Hisam, M. W. (2018). The impact of teamwork on work performance of employees: A study of faculty members in Dhofar University. *IOSR Journal of Business and Management, 20*(3), 15-22.

Savas, O. (2019). Impact of dysfunctional leadership on organizational performance. *Global Journal of Management and Business, 19*(1), 16-28.

Sawyer, K. (2007). *Group genius.* New York: Basic Books.

Schaubhut, N. A., Herk, N. A., & Thompson, R. C. (2009). *MPTI® Form M manual supplement.* Palo Alto: CPP Inc.

Schaubroeck, J. M., Hannah, S. T., Avolio, B. J., Kozlowski, S. W. J., Lord, R., Trevino, L. K., Peng, C., & Dimotakis, N. (2012). Embedding ethical leadership within and across organization levels. *Academy of Management Journal, 55*(5), 1053-1078. http://doi.org/qd4

Schein, E. H. (1985). *Organizational culture and leadership.* San Francisco: Jossey-Bass.

Schlenker, B. R. (1980). *Impression management The self-concept, social identity, and interpersonal relations.* Brooks/Cole.

Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. *Personnel Psychology, 36*(1), 19-39. http://doi.org/cc4gr9

Schonbrodt, F. D., Back, M. D., & Schmukle, S. C. (2011). TripleR: An R package for social relations analyses based on round-robin designs. *Behaviour Research, 44,* 455-470. http://doi.org/b5xc6c

Schriesheim, J. F. (1980). The social context of leader-subordinate relations: An investigation of the effects of group cohesiveness. *Journal of Applied Psychology, 65*(2), 183-194. http://doi.org/b893zg

Schulz-Hardt, S., & Broadbeck, F. C. (2012). Group performance and leadership. In M. Hewstone, W. Stroebe, & K. Jonas (Eds.), *Introduction to Social Psychology* (pp 137-168). Berlin: Springer.

Schulz-Hardt, S., Brodbeck, F. C., Mojzisch, A., Kerschreiter, R., & Frey, D. (2006). Group decision making in hidden profile situations: Dissent as a facilitator for decision quality. *Journal of Personality and Social Psychology, 91*(6), 1080-1093. http://doi.org/bdgrhg

Scullen, S. E., Mount, M. K., & Goff, M. (2000). Understanding the latent structure of performance ratings. *Journal of Applied Psychology, 85,* 956-970. http://doi.org/cc9x4g

Scullen, S. E., Mount, M. K., & Judge, T. A. (2003). Evidence of the construct validity of developmental ratings of managerial performance. *Journal of Applied Psychology, 88,* 50-66.

Seashore, S. E. (1954). *Group cohesiveness in the industrial work group.* Michigan Survey Research.

Sedikides, C., & Campbell, W. K. (2017). Narcissistic force meets systemic resistance: The energy clash model. *Perspectives on Psychological Science, 12*(3), 400-421. https://doi.org/10.1177%2F1745691617692105

Sedikides, C., Campbell, W. K., Reeder, G. D., & Elliot, A. J. (1999). The relationship closeness induction task. *Representative Research in Social Psychology, 23*(1), 1-4.

Sedikides, C., & Gregg, A. P. (2001). Self matters. In M. A. Hogg, & J. Cooper (Eds.), *Sage handbook of social psychology.* Sage Ltd.

Sedikides, C., Rudich, E. A., Gregg, A. P., Kumashiro, M., & Rusbult, C. (2004). Are normal narcissists psychologically healthy?: Self-esteem matters. *Journal of Personality and Social Psychology, 87*(3), 400-416. http://doi.org/c33w7s

Seow, H., && Bainbridge, D. (2018). The development of specialized palliative care in the community: A qualitative study of the evolution of 15 teams. *Palliative Medicine, 32*(7), 1255-1266. http://doi.org/gdg7vb

Shamsul, A. B. (2013). No more conflict, but unity remains elusive in Malaysia. *Journal of Conflict Management, 3,* 2-18.

Sharma, S. K., & Sharma, A. (2010). Examining the relationship between organisational culture and leadership styles. *Journal of the Indian Academy of Applied Psychology, 36*(1), 97-105.

Shaw, M. E. (1976). *Group dynamics (2nd edition.*). Tata McGraw Hill.

She, Z., Li, Q., London, M., Yang, B., & Liu, Y. (2019). CEO narcissism and strategic decision-making quality: Examining a moderated mediation model. *Academy of Management, 1*(6), 79-84. http://doi.org/dnf3

Sheldon, K. M., Sedikides, C., Ntoumanis, N., Corcoran, M., & Titova, L. (2019). Narcissism and social motives: Successful pursuit of egosystem goals boost narcissism. *Self and Identity,* 1-22. http://doi.org/dhn4

Shelma, M., Kearney, E., Wegge, J., & Stegmann, S. (2020). Unlocking the performance potential of functionally diverse teams: The paradoxical role of leader mood. *Journal of Occupational and Organizational Psychology, 1,*1-26. http://doi.org/ggjn6f

Shipp, A. J., & Fried, Y. *Current issues in work and organizational psychology. Time and work.* Psychology Press.

Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology, 85,* 102-111.

Smith, J. A., & Forti, R. J. (1998). A pattern approach to the study of leader emergence. *Leadership Quarterly, 9,* 147-160.

Somech, A., Desivilya, H. S., & Lidogoster, H. (2008). Team conflict management and team effectiveness: The effects of task interdependence and team identification. *Journal of Organizational Behavior, 30,* 359-378. http://doi.org/c322f3

South, S. C., Oltmanns, T. F., & Turkeimer, E. (2003). Personality and the derogation of others: Descriptions based on self- and peer report. *Journal of Research in Personality, 37,* 16-33.

Spector, P. E. (1992). A consideration of the validity and meaning of self-report measures of job conditions. *International Review of Industrial and Organizational Psychology, 5,* 123-151.

Spencer, L., & Spencer, S. (1993). *Competency at Work: Models for Superior Performance.* John Wiley and Sons.

Standifer, R. L., Raes, A. M. L., Peus, C., Passos, A. M., Santos, C. M., & Weisweiler, S. (2015). Time in teams: Cognitions, conflict and team satisfaction. *Journal of Managerial Psychology, 30*(6), 692-708. http://doi.org/dhmf

Stasiak, A. (2019). Escape rooms in Poland: A demand-led approach using netnographic research. *Tourism, 29*(1), 71-82. http://doi.org/dhn3

Stasser, G. (1999). The uncertain role of unshared information in collective choice. In L. L. Thompson, J., J. M. Levine, & D. M. Messick (Eds.), *Shared cognition in organizations: The management of knowledge* (pp. 49-69). Hilssdale, NJ: Erlbaum.

Stasser, G., & Birchmeier, Z. (2003). Group creativity and collective choice. In P. B. Paulus & B. A. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 85-109). New York, NY, US: Oxford University Press. http://doi.org/bmpgc2

Steiger, J. H. (2007). Understanding the limitations of global fit assessment in structural equation modelling. *Personality and Individual Differences, 42*(5), 893-898.

Stein, M. (2013). When does narcissistic leadership become problematic? Dick Fuld at Lehman Brothers. *Journal of Management Inquiry, 22*(3), 282-293. http://doi.org/dhmg

Stein, R. & Swan, A. B. (2019). Evaluating the validity of Myers-Briggs Type Indicator theory: A teaching tool and window into intuitive psychology. *Social and Personality Psychology Compass, 13*(2), 1-11. http://doi.org/gf346p

Steiner, I. D. (1972). *Group process and productivity.* New York Academic Press.

Stevens, M. J., & Campion, M. A. (1994). The knowledge, skill, and ability requirements for teamwork: Implications for human resource management. *Journal of Management, 20*(2), 503-530. http://doi.org/bw7d25

Stevens, M. J., & Campion, M. A. (1999). Staffing work teams: Development and validation of a selection test for teamwork settings. *Journal of Management, 25*(2)*,* 207-228. http://doi.org/d87cv5

Stewart, G. L., & Barrick, M. R. (2000). Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. *Academy of Management Journal, 43,* 135-148. http://doi.org/bn4p6v

Stewart, G. L., Fulmer, I. S., & Barrick, M. R. (2005). An exploration of member roles as a multilevel linking mechanism for individual traits and team outcomes. *Personnel Psychology, 58*, 343-365. http://doi.org/dg5j4c

Stoeber, J., Sherry, S. B., & Nealis, L. J. (2015). Multidimensional perfectionism and narcissism: Grandiose or vulnerable? *Personality and Individual Differences, 80,* 85-90. http://doi.org/gctn8p

Stone, Z. (2016, July 28). The rise of educational escape rooms: Why UV lights and padlocks are finding their way into classrooms. *The Atlantic*. https://www.theatlantic.com/education/archive/2016/07/the-rise-of-educational-escape-rooms/493316/

Stouten, J., & Liden, R. C. (2020). Social loafing in organizational work groups: The mitigating effect of servant leadership. *Individual Motivation within Groups, 1*(1), 55-80. http://doi.org/dnwd

Stucke, T. S. (2003). Who's to blame? Narcissism and self-serving attributions following feedback. *European Journal of Personality, 17,* 465-478. http://doi.org/bgkq6r

Sundstrom, E., De Meuse, K. P., & Futrell, D. (1990). Work Teams. Applications and effectiveness. *American Psychologist, 45,* 120-133. http://doi.org/d4k8nk

Sundstrom, E., McIntyre, M., Halfhill, T., & Richards, H. (2000). Work groups: From the Hawthorne studies to work teams of the 1990s and beyond. *Group Dynamics: Theory, Research, and Practice, 4*(1), 44-67. http://doi.org/c46bb9

Swann, W. B., & Read, S. J. (1981). Self-verification processes: How we sustain our self-conceptions. *Journal of Experimental Social Psychology, 15*(4), 351-372. http://doi.org/fn2swx

Taggar, S., & Brown, T. C. (2006). Interpersonal affect and peer rating bias in teams. *Small Group Research, 37*(1), 86-111. http://doi.org/c2hthv

Tarricone, P., & Luca, J. (2002). Employees, teamwork and social interdependence – a formula for successful business? *Team Performance Management, 8* (3), 54-59. http://doi.org/dps6v8

Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A longitudinal study of team conflict, conflict management, cohesion, and team effectiveness. *Group and Organization Management, 34*(2), 170-205. http://doi.org/fkjhxg

Tett, R. P., & Burnett, D. B. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology, 88,* 500-517. http://doi.org/fpk5zz

Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology, 44*, 703-741. http://doi.org/cnfggj

Thiel, C. E., Harvey, J., Courtright, S., & Bradley, B. (2019). What doesn't kill you makes you stronger: How teams rebound from early-stage relationship conflict. *Journal of Management, 45*(4), 1623-1659. http://doi.org/gcwbns

Thomaes, S., Brummelman, E., & Sedikides, C. (2018). Narcissism: A social-developmental perspective. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *The SAGE handbook of personality and individual differences* (pp.377-396). Sage.

Thomaes, S., Stegge, H., Bushman, B. J., Olthof, T., & Denissen, J. (2008). Development and validation of the childhood narcissism scale. *Journal of Personality Assessment, 90*(4), 382-391. http://doi.org/c6j9px

Thomaes, S., Stegge, H., Olthof, T., Bushman, B. J., Nezlek, J. B. (2011). Turning shame inside-out: "Humiliated fury" in young adolescents. *Emotion, 11*(4), 786.793. http://doi.org/cdd53s

Thomas, E. J., & Fink, C. F. (1963). Effects of group size. *Psychological Bulletin, 60*(4), 371-384. http://doi.org/fpqxtf

Tiejun, W., Wenjun, W., Xin, B., & Dianzhi, L. (2013). Mediating effect of team trust between team conflict and team effectiveness in self-management teams. *Journal of Applied Sciences, 13*(9), 1504-1508. http://doi.org/dp97

Tjosvold, D. (1989). Interdependence approach to conflict management in organizations. In M. A. Rahim (Ed.), *Managing conflict: An interdisciplinary approach* (pp. 41-50). Praeger.

Tjosvold, D. (1998). Cooperative and competitive goal approach to conflict: Accomplishments and challenges. *Applied Psychology, 47*(3), 16-25. http://doi.org/fpz957

Tjosvold, D. (2008). The conflict-positive organization: It depends upon us. *Journal of Organizational Behavior, 29*(1), 6-13. http://doi.org/fbdbw8

Torrelles, N. C., Paris, M. G., Sabria, B. B., & Alsinet, M. C. (2015). Assessing teamwork competence. *Psicothema, 27*(4), 354-361. http://doi.org/dhmh

Tracy, J. L., Cheng, J. T., Martens, J. P., & Robins, R. W. (2011). The emotional dynamics of narcissism. In K.W. Campbell & J. D. Miller (Eds.), *The Handbook of Narcissism and Narcissistic Personality Disorder: Theoretical Approaches, Empirical Findings, and Treatments* (pp. 87-114). John Wiley & Sons, Inc. http://doi.org/dhmj

Troth, A. C., Jordan, P. J., Lawrence, S. A., & Tse, H. H. M. (2011). A multilevel model of emotional skills, communication performance, and task performance in teams. *Journal of Organizational Behavior, 33*(5), 700-722. http://doi.org/b72xcf

Trzesniewski, K. H., Donnellan, M. B., & Robins, R. W. (2008). Is "generation me" really more narcissistic than previous generations? *Journal of Personality, 76*(4), 903-918. http://doi.org/bqsqvb

Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin, 65*(6), 384-399.

Tuckman, B. W., & Jensen, M. A. (1977). Stages of small-group development revisited. *Group and Organization Studies, 2*(4), 419-427.

Tulin, M., Pollet, T. V., & Lehmann-Willenbrock, N. (2018). Perceived group cohesion versus actual social structure: A study using social network analysis of egocentric Facebook networks. *Social Science Research, 74,* 161-175. http://doi.org/gd2s8x

Twenge, J. M., & Campbell, W. K. (2009). *The narcissism epidemic: Living in the age of entitlement.* Free Press.

Twenge, J. M., & Foster, J. D. (2010). Birth cohort increases in narcissistic personality traits among American college students, 1982-2009. *Social Psychological and Personality Science, 1*(1), 99-106. http://doi.org/c7p47t

Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the narcissistic personality inventory. *Journal of Personality, 76*, 875-902. http://doi.org/b5w592

Uygur, A., & Öğretmenoğlu, M. (2018). The dark side and the bright side of narcissistic leadership: A critical review. *International Journal of Economics, Commerce, and Management, 6*(4), 349-360.

Vaillancourt, T. (2013). Students aggress against professors in reaction to receiving poor grades: An effect moderated by student narcissism and self-esteem. *Aggressive Behaviour, 39,* 71-84. http://doi.org/gfpnsr

Vancouver, J. B., & Ilgen, D. R. (1989). Effects of interpersonal orientation and the sex-type of the task on choosing to work alone or in groups. *Journal of Applied Psychology, 74,* 927-934. http://doi.org/bcpzmr

Van de Vliert, E., & De Dreu, C. K. W. (1994). Optimizing performance by stimulating conflict. *International Journal of Conflict Management, 5,* 211-222.

van Vianen, A. E. M., & De Dreu, C. K. W. (2001). Personality in teams: Its relationship to social cohesion, task cohesion, and team performance. *European Journal of Work and Organizational Psychology, 10*(2), 97-120. http://doi.org/d5r9j5

van Woerkom, M., & Sanders, K. (2010). The romance of learning from disagreement. The effect of cohesiveness and disagreement on knowledge sharing behaviour and individual performance within teams. *Journal of Business and Psychology, 25,* 139-149. http://doi.org/cvvn8g

Vater, A., Moritz, S., & Roepke, S. (2018). Does a narcissism epidemic exist in modern western societies? Comparing narcissism and self-esteem in East and West Germany. *PLoS One, 13*(1), 12-18. http://doi.org/gcvq5k

Vaughan, B., Yoxall, J., & Grace, S. (2019). Peer assessment of teamwork in group projects: Evaluation of a rubric. *Issues in Educational Research, 29*(3), 961-978. http://www.iier.org.au/iier29/vaughan.pdf

Verburg, R. M., Bosch-Sijtsema, P., & Vartiainen, M. (2013). Getting it done: Critical success factors for project managers in virtual work settings. *International Journal of Project Management, 31*(1), 68-79. http://doi.org/f2z2g5

Viner, D. J .E., & Loughead, T. M. (2010). The relationship among athlete leadership behaviors and cohesion in team sports. *Human Kinetics, 24*(4), 448-467. http://doi.org/dp98

Vize, C. E., Lynam, D. R., Collison, K. L., & Miller, J. D. (2018). Differences among dark triad components: A meta-analytic investigation. *Personality Disorders: Theory, Research, and Treatment, 9*(2), 101-111. http://doi.org/gdbbd5

von Treuer, K., McLeod, J., Fuller-Tyszkiewicz, M., & Scott, G. (2018). Determining the components of cohesion using the repertory grid technique. *Group Dynamics: Theory, Research, and Practice, 22*(2), 108-128. http://doi.org/gdsdfr

Vonk, J., Zeigler-Hill, V., Mayhew, P., & Mercer, S. (2013). Mirror, mirror on the wall, which form of narcissists knows self and others best of all? *Personality and Individual Differences, 54*(3), 396-401. http://doi.org/dhmk

Wales, W. J., Patel, P. C., & Lumpkin, G. T. (2013). In pursuit of greatness: CEO narcissism, entrepreneurial orientation, and firm performance variance. *Journal of Management Studies, 50*(6), 1041-1069. http://doi.org/gf2jsb

Wall, J., & Callister, R. (1995). Conflict and its management. *Journal Management, 21,* 515-558. http://doi.org/fww4q7

Wall, V., & Nolan, L. (1986). Perceptions of inequity, satisfaction, a conflict in task-oriented groups. *Human Relations, 39,* 1033-1052.

Wallace, H. M., & Baumeister, R. F. (2002). The performance of narcissists rises and falls with perceived opportunity for glory. *Journal of Personality and Social Psychology, 82*(5), 819-834. http://doi.org/bpkzxf

Watson, P. J., & Morris, R. J. (1991). Narcissism, empathy and social desirability. *Personality and Individual Differences, 12,* 575-579. http://doi.org/dtz6q2

Watson, P. J., Grisham, S. O., Trotter, M. V., & Biderman, M. D. (1984). Narcissism and empathy: Validity evidence for the Narcissistic Personality Inventory. *Journal of Personality Assessment, 48,* 301-305. http://doi.org/db7

Weaver, S. J., Rosen, M. A., Salas, E., Baum, K. D., & King, H. B. (2010). Integrating the science of team training: Guidelines for continuing education. *Journal of Continuing Education in the Health Profession, 30*(4), 208-220. http://doi.org/cwzt2w

Wegner, D. M., Erber, R., & Raymond, P. (1991). Transactive memory in close relationships. *Journal of Personality and Social Psychology, 61*(6), 923-929. http://doi.org/g5n

Wei, W., Yanran, F., Jiannan, L, I., Junqi, S., & Shenjiang, M. O. (2020). The impact of conflict on performance: The moderating effects of individual and team agreeableness. *Acta Psychologica Sinica, 52*(3), 345-356. http://journal.psych.ac.cn/xlxb/EN/Y2020/V52/I3/345

Welbourne, T. M., Johnson, D. E., & Erez, A. (1998). The role-based performance scale: Validity analysis of a theory-based measure. *Academy of Management Journal, 41*(5), 540-555. http://doi.org/cts6bx

Wellen, J. M., & Neale, M. (2006). Deviance, self-typicality, and group cohesion: The corrosive effects of the bad apples on the barrel. *Small Group Research, 37*(2), 165-186. http://doi.org/crdz38

Wellins, R. S., Byham, W. C., & Wilson, J. M. (1991). *Empowered teams: Creating self-directed work groups that improve quality, productivity, and participation.* Jossey-Bass.

West, M., Borrill, C. A., & Unsworth, K. L. (1998). Team effectiveness in organizations. In C. L. Cooper & I. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol.13, pp. 1-48). John Wiley.

Wetzel, E., Brown, A., Hill, P. L., Chung, J. M., Robins, R. W., & Roberts, B. W. (2017). The narcissism epidemic is dead; Long live the narcissism epidemic. *Psychological Science, 28*(12), 1833-1847. http://doi.org/gcp9kq

Wheelan, S. A. (2009). Group size, group development, and group productivity. *Small Group Research, 40*(2), 247-262. http://doi.org/ds7h2b

Wheeless, L. R. (1974). The effects of attitude, credibility, and homophily on selective exposure to information. *Speech Monographs, 41,* 329-338. http://doi.org/bnvjwk

White, D. R., & Harary, F. (2001). The cohesiveness of blocks in social networks: Node connectivity and conditional density. *Sociological Methodology, 31*(1), 305-359.

Wiemker, M. M. A., Elumir, E., & Clare, A. M. (2015). Escape room games: "Can you transform an unpleasant situation into a pleasant one?" [Whitepaper]. https://thecodex.ca/wp-content/uploads/2016/08/00511Wiemker-et-al-Paper-Escape-Room-Games.pdf

Williams, E. A., Pilli, R., McCombs, K., Lowe, K. B., & Deptula, B. J. (2020). Adaptive and maladaptive narcissism, charisma, and leadership performance: A study of perceptions about the presidential leadership of Donald Trump. *Leadership, 0*(0), 1-22. http://doi.org/dnwf

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology, 61,* 590-597. http://doi.org/fp5b2c

Woodman, T., Roberts, R., Hardy, L., Callow, N., & Rogers, C. H. (2011). There is an "I" in TEAM. *Research Quarterly for Exercise and Sport, 82*(2), 285-290. http://doi.org/dpjx

Wortman, J., & Wood, D. (2011). The personality traits of liked people. *Journal of Research in Personality, 45*(6), 519-528. http://doi.org/ftvwrq

Wu, C., Wagenschutz, H., & Hein, J. (2018). Promoting leadership and teamwork development through escape rooms. *Medical education, 52*(5), 561-562. http://doi.org/dhmm

Wu, W.Y., Rivas, A. A., & Chen, Y. C. (2019). The role of team reflexivity as a mediator between project management skills, task familiarity, procedural justice, and product performance. *Journal of Management & Organization, 25*(6), 876-895. http://doi.org/dptq

Wu, W., Wang, H., Lee, H.Y., Lin, Y. T., & Guo, F. (2019). How Machiavellianism, psychopathy, and narcissism affect sustainable entrepreneurial orientation: The moderating effect of psychological reliance. *Frontiers in Psychology, 3*, 36-47. http://doi.org/dpj2

Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science, 316*(5827), 1036-1039. http://doi.org/bb6p62

Xaver, N., & Santos, S. C. (2020). The effect of team conflict on teamwork performance: An engineering education perspective. *International Journal of Engineering Education, 36*(1b), 502-509.

Xu, X., Jiang, L., & Wang, H. J. (2019). How to build your team for innovation? A cross-level mediation model of team personality, team climate for innovation, creativity, and job crafting. *Journal of Occupation and Organizational Psychology, 92*(4), 116-125. http://doi.org/ggc49m

Yang, J., & Mossholder, K. W. (2004). Decoupling task and relationship conflict: The role of intragroup emotional processing. *Journal of Organizational Behavior, 25*(5), 589-605. http://doi.org/d7kgqd

Yue, X., & Dang, Y. (2017, August 18). The effect of personality on team performance: An interpersonal knowledge interaction perspective [IEEE International Conference on Software Quality, Reliability, and Security Companion Accession]. Czech Republic. *http://doi.org/dhn5*

Yukl, G. (2010). *Leadership in organizations* (7th ed). Prentice-Hall.

Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. *Leadership Quarterly,* 451-483.

Zajenkowski, M., & Czarna, A. Z. (2015). What makes narcissists unhappy? Subjectively assessed intelligence moderates the relationship between narcissism and psychological well-being. *Personality and Individual Differences, 77,* 50-54. http://doi.org/f638f3

Zajenjowski, M., & Fronczyk, K. (2020). How do narcissists perceive personality items? Measurement invariance of a Big Five scale across low and high narcissism groups. *Personality and Individual Differences, 152,* 159-169. http://doi.org/dhmn

Zajenkowski, M., Maciantowicz, O., Szymaniak, K., & Urban, P. (2018). Vulnerable and grandiose narcissism are differentially associated with ability and trait emotional intelligence. *Frontiers in Psychology,* 9, 58. http://doi.org/gd6z3r

Zeraatkar, M., Roudneshin, M., & Sobhanallahi, M. A. (2020). The effect of organisational culture on creativity and innovation processes (case study: Tondar Department of IKCO). *International Journal of Business Information Systems, 33*(1), 23-38. http://doi.org/dq62

Zhang, X. C., Lee, H., Rodriguez, C., Rudner, J., Chan, T. M., Papanagnou, D. (2018). Trapped as a group, escape as a team: Applying gamification to incorporate team-building skills through an 'escape room' experience. *Cureus, 10*(3), e2256. http://doi.org/dhmp

Zhu, D. H., & Chen, G. (2014). CEO narcissism and the impact of prior board experience on corporate strategy, *Administrative Science Quarterly, 36*(13), 31-65. http://doi.org/gf2jq5

Zohar, D., & Luria, G. (2004). Climate as a social-cognitive construction of supervisory safety practices: Scripts as proxy of behavior patterns. *Journal of Applied Psychology, 89*(2), 322-333. http://doi.org/b6q5xd

# Footnotes

[i] Multiple mediation models (using PROCESS V3.4 Model 4; Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The indirect effects were similar for narcissistic rivalry (with the exception that a positive indirect effect on team cohesion was found via high levels of intrapersonal skills) and narcissistic admiration (with the exception that a positive indirect effect on team conflict was found via high levels of intrapersonal skills, and no indirect effect of intrapersonal skills on team cohesion was found) on all dependent variables.

[ii] Sequential multiple mediation models (using PROCESS V3.4 Model 80; Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The sequential indirect effects were similar for narcissistic rivalry and narcissistic admiration (with the exception that a negative indirect effect on team performance via interpersonal skills on both team cohesion and team conflict were found, and no indirect effect of communication skills on team performance via team conflict was found) on all dependent variables.

[iii] Multiple mediation models (using PROCESS V3.4 Model 4, Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The indirect effects were similar for narcissistic rivalry (with the exception that a negative indirect effect on objective team performance was found via low levels of team cohesion, and no indirect effect was found on subjective team performance via team cohesion) and narcissistic admiration on all dependent variables.

[iv] Sequential multiple mediation models (using PROCESS V3.4 Model 80; Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. There were no significant differences found in these analyses when compare to analyses reported.

[v] Hierarchical regressions were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The models were similar for narcissistic rivalry (with the exception that a positive relationship with objective team performance was found) and narcissistic admiration (with the exception that a positive relationship with objective team performance and team-level cohesion was found) on all dependent variables.

[vi] Multiple mediation models (using PROCESS V3.4 Model 4, Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The indirect effects were similar for narcissistic admiration (average and percentage) and narcissistic rivalry (average and percentage) on all dependent variables.

[vii] Multiple mediation models (using PROCESS V3.4 Model 4; Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The indirect effects were similar for narcissistic rivalry (with the exception that a positive indirect effect on peer-rated team performance was found via team conflict, and no indirect effects of management skills on team cohesion or team conflict were found) and narcissistic admiration (with the exception that no indirect effect of management skills on team cohesion were found) on all dependent variables.

[viii] Sequential multiple mediation models (using PROCESS V3.4 Model 80; Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The sequential indirect effects were similar for narcissistic admiration and narcissistic rivalry (with the exception that no indirect effects of management skills on subjective team performance via team cohesion and team conflict, nor indirect effect of management skills on peer-rated team performance via team cohesion was found) on all dependent variables.

[ix] Hierarchical regressions were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The models were similar for narcissistic rivalry and narcissistic admiration (with the exception that a negative relationship with admiration and team cohesion at Time 3 was found) on all dependent variables.

[x] Hierarchical regressions were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The models were similar for narcissistic rivalry and narcissistic admiration (with the exception that a negative relationship with team-level cohesion and average narcissistic admiration was found, and a positive relationship with team-level conflict and average narcissistic admiration was found) on all dependent variables.

[xi] Multiple mediation models (using PROCESS V3.3 Model 4; Hayes, 2018) were also run in which the other form of narcissism was not controlled for when exploring narcissistic admiration and narcissistic rivalry. The indirect effects were similar for narcissistic admiration (with the exception that a negative indirect effect on objective team performance via team-level conflict was found with average narcissistic admiration) and narcissistic rivalry on all dependent variables.