**Abuse and exploitation of Doctoral Students: A conceptual model for traversing a long and winding road to academia**

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**Abstract**

This paper develops a conceptual model of PhD supervisors’ abuse and exploitation of their students and the outcomes of that abuse. Based on the literature about destructive leadership and the “dark side” of supervision, we theorize about why and how PhD student abuse and exploitation may occur. We offer a novel contribution to the literature by identifying the process through which PhD students experience supervisory abuse and exploitation, the various factors influencing this process, and its outcomes. The proposed model presents the Dark Triad, perceptions of goal blockage, and perceptions of ethical culture as potential characteristics of the PhD supervisor and implies the mediation of the perceptions of power and politics in the relationship between the Dark Triad and student abuse and exploitation. Institutional policies and practices concerning doctoral students and their characteristics are proposed as moderators in such a relationship. Finally, the model suggests that student abuse and exploitation may hinder or even end students’ academic careers. The manuscript discusses the theoretical and practical contributions and managerial implications of the proposed model and recommends further exploration of the dark sides of academia.

*Keywords*: Destructive leadership, student abuse and exploitation, Dark Triad, ethical culture, academic career

**The long and winding road: A Conceptual Model of the Abuse and Exploitation of Doctoral Students**

**Introduction**

Doctoral education is critical for enriching academic knowledge and, thus, society. In the global social-economic arena, graduate students have become particularly valuable to industry representatives in fields where academic capitalism is most significant. Graduate students’ research skills adequately match the new demands of the global market (Mendoza, 2007), and professors value graduate students as cheap labor but also as apprentices and future colleagues (Slaughter et al., 2004). While some studies argue that an oversupply of PhD graduates has been observed in Organization for Economic Co-operation and Development Countries (approximately 34,000 in 2008; Cyranoski et al., 2008), not all PhD students complete their studies. Between 40% and 70% of doctoral students in the USA prematurely terminate their degrees (Gardner, 2007); many students drop out in their first year (Jones, 2013). These rates of attrition are disquieting and have significant repercussions at the individual, institutional, and national level. At the national level, waste of human capital hinders future scientific developments, and for institutions, doctoral student attrition is costly. For example, the University of Notre Dame would save $1 million a year in stipends if attrition fell by 10% (Smallwood, 2004, in Gardner, 2007). At the individual level, the financial and personal cost is also very high. Lovitts states that "The most important reason to be concerned about graduate student attrition is that it can ruin individuals’ lives." (2001, p. 6).

The relationship between students and PhD supervisors is the primary reason for PhD attrition (Devos et al. 2017; Rigler et al., 2017)[[1]](#footnote-1); however, the effects of misconduct in the academic environment have received minimal attention in the literature. Despite the likelihood of hidden misconduct, studies rarely concentrate on student exposure to questionable behavior (Swazey et al., 1993). In particular, supervisor abuse and exploitation of doctoral students has been largely ignored by scientific literature (for an exception see Martin, 2013). Graduate students are knowledgeable, bright, and inexpensive labor, which makes them ideal targets of potential exploitation by their PhD supervisors (Mendoza, 2007; Peñaet al.,2014). Abusive supervision has peculiar negative consequences on doctoral students. Abused students minimize interactions with their abusive PhD supervisors, although this strategy does not alleviate any distress. Social-science experiments suggest that feelings of social exclusion, anxiety, and stress may lead to unethical choices, such as falsifying results (Tepper, 2000; Moss, 2018). Hence, a deeper understanding of the determinants of student abuse and its influence on doctoral student attrition is needed (Gardner, 2007; Rigler et al., 2017).

 We have developed a conceptual model to explain the determinants, process(es), and anticipated outcomes of the abuse and exploitation of PhD students. The model relies on concepts and relationships advanced by the destructive leadership model (Krasikova et al., 2013). This concept is rooted in the works of Tepper (2000, 2008), Tepper et al. (2008), Ashforth (1994), and others. In specific situations, and as a result of dispositional tendencies, PhD supervisors may perceive their relationship with the student as a supervisor/subordinate relationship and behave as destructive leaders, or in Ashforth’s (1994) term, petty tyrants (e.g., “A petty tyrant lords his or her power over others,” p. 178) who abuse and exploit doctoral students.

According to Tepper, “abusive supervision refers to subordinates’ perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact” (2000, p. 178). The model we advance here has a slightly different perspective. We contend that the relationship between a PhD supervisor and a PhD student should be defined as a type of leadership rather than a supervisor-employee relationship. Students perceive their supervisor more as a leader and mentor than a boss, and supervisors see their PhD students more as followers and protégés than employees (Phillips & Pugh, 2010; Vähämäki, Saru, & Palmunen, 2021). Some scholars recognize three dimensions of the PhD supervisor role: leadership, knowledge, and support (Ali et al., 2019). Research-oriented supervision emphasizes certain roles, such as being a dialogue partner, a mediator of knowledge and experience, a mentor, and a supervisor (Gruzdev et al., 2020).

Our model proposes various personal characteristics of the PhD supervisor as independent variables (goal blockage, perceptions of ethical culture, and Dark Triad personalities), mediators (perceptions of power and organizational politics), and moderators (institutional policies and practices concerning doctoral students and student characteristics) for explaining the abuse and exploitation of doctoral students. The little empirical literature concerned with PhD students abuse provides specific measure of this construct. Yamada et al. (2014), for instance, developed a 20-item scale that measures bullying in student-supervisor relationships.

Our paper offers several contributions to the literature. First, it is one of the few studies developing a thorough conceptual model for the causes of abuse and exploitation of PhD students. Second, we highlight this critical and sensitive issue to encourage further related conceptual and empirical research. Third, the study presents universities with a better understanding of this issue, thus helping them to address it successfully (Harrison et al., 2020).

**Literature Review and Proposition Development**

Overall, the tenor of the literature on graduate education and graduate students’ experiences is predominately negative, pointing at various issues, problems, and dilemmas. Abusive supervision of research students has long been identified as an ethical issue (Goodyear, Crego & Johnston, 1992). A survey of doctoral students revealed that 24% of respondents experienced an abuse of power from their PhD supervisors (Jacob et al., 2018). According to Tepper: “abusive supervision refers to subordinates' perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact. (Tepper, 2000, p. 178).” The advisor-advisee relationship’s quality may be a determinant of attrition, leading students to abandon their doctoral program or academic career (Gardner, 2007). As a recent editorial from Nature (2018) stated, “We will never know how many promising scientific careers around the world have been brought to a premature end because young researchers felt they could not continue to work under a bullying senior figure.” For that reason, organizations should aim to develop resilience in the dyadic relationships within their staff (Thompson & Ravlin, 2017).

A significant power imbalance exists between PhD students and their supervisors, metaphorically described as a “petty tyranny” (Ashforth, 1994), a phenomenon also examined in the field of management (Crane, 2013). Although many PhD students have supportive supervisors, the current culture of scientific reward — based on the number of publications, journal impact factor, and rank of authorship — may encourage faculty to usurp authorship credit (Oberlander & Spencer, 2006). If their relationship with their supervisor sours, PhD students may find themselves with little support, no references, and without the employment rights of a staff scientist (Devlin, 2018). PhD students often feel powerless and unable to advocate for themselves (Golde & Dore, 2001). The tendency of universities to allow academic supervisors the freedom to manage the supervisor/advisee relationship provides few barriers against outrageous behaviors (Moss, 2018).

Academic bullying has received increased attention (Mahmoudi, 2019). Evidence suggests that the rates of bullying, defined as the systematic persecution of a colleague, a subordinate, or a superior, which if continued may cause severe social, psychological psychosomatic problems for the victim (Einarsen, 1999), are higher in academic settings than in other workplace environments (Moss, 2018). In the absence of an external, unbiased organization responsible for receiving notification and thoroughly investigating incidents of bullying, the subsequent feeble action (or even silence) of academic institutions (a) signals that such behavior is acceptable (or tolerated), and (b) communicates to targets a need to tolerate bullying (Mahmoudi et al., 2019). Due to their powerful positions and seniority, laboratory leaders, for example, are likely to have connections/advocates on the investigating committees who can facilitate dismissal of charges (Mahmoudi et al., 2019).

The reasons for and processes through which PhD student abuse occurs are still unclear. In the following subsections, we present and develop a set of propositions integrated in a conceptual model (Figure 1). Following Krasikova et al. (2013), we contend that destructive leadership results from dispositional and contextual factors. First, PhD supervisors are likely to engage in student abuse when they experience and/or perceive difficulties in achieving their goals (e.g., tenure and promotion, or becoming established scholars), or when they perceive that the department/university’s ethical culture permits student abuse. In the absence of goal blockage, and when the ethical culture strictly prohibits student abuse, some supervisors may simply be dark personalities inclined to harm others. Second, contextual factors are likely to determine whether PhD supervisors will adopt or be tempted to use destructive actions that translate into student abuse. Finally, abuse may determine whether students complete their doctoral studies or pursue academic careers (see Figure 1).

[Insert Figure 1 about here]

**Dependent variable**

***PhD supervisor abuse and exploitation of doctoral students***

The doctoral student-supervisor relationship is characterized by five ethical principles: (i) respect for autonomy, (ii) non-maleficence, (iii) beneficence, (iv) justice, and (v) fidelity, commonly applied in ethical guidelines for researchers (Löfström & Pyhältö, 2020). In doctoral supervision, integrity and ethics are often intertwined through moral decision-making in settings permeated by the research communities’ normative and tacit practices. These practices are typically the result of active decisions or circumstances that might cause detrimental effects for students. Problems in this realm have been called breaches of non-maleficence, as they typically include a component of harm (Löfström & Pyhältö, 2020). Students are rarely willing to expose abusive PhD supervisors upon whom they depend for recommendations, and administrators often side with an established staff member rather than a student.

Previous studies have identified various ethical problems in supervision including incompetent and inadequate supervision, supervisor abandonment, imposition of supervisor views, abusive and exploitative supervision, bullying, encouragement to commit fraud, and authorship issues (Löfström and Pyhältö, 2020). Ethical issues may also take the form of abuse, exploitation, misappropriation of a student’s work, harassment, and racism (Martin, 2013). Dual relationships are also problematic; supervisory connections consisting of deep friendships and therapeutic or intimate interactions are emotionally and psychologically compromised confounded supervisory connections, this includes deep friendships, and therapeutic or intimate interactions (Löfström & Pyhältö, 2020).

Goodyear et al. (1992) distinguish between abusive and exploitive supervision of doctoral students from the PhD supervisors’ point of view depending on the supervisor’s intent. In the case of *exploitive* supervision, the supervisor inconveniences the supervisee for some selfish end, while in *abusive* supervision, the supervisor’s motives suggest punishing the supervisee for some real or imagined shortcoming. Related issues include the prospects of dual relationships (including developing romantic relationships) or encouragement to commit fraud. Sometimes PhD students do not receive credit for their work, through supervisors’ plagiarism or failure to ascribe authorship credit (Becker, 2019; Martin, 2013). Reports of abuse have included unauthorized use of data by the PhD supervisor or other members of the research group (Pyhältö et al., 2012). Martin (1998) pointed out that PhD supervisors often coauthor a publication even if the PhD student carried out the research. This type of exploitation is a direct result of hierarchy and lack of power balance. Students have described being overworked by being asked to assist with other people’s projects instead of concentrating on their own theses (Löfström & Pyhältö, 2014, 2017). Other students reported disrespectful treatment, such as public humiliation or belittlement, or being ignored.

**Independent Variables**

***Supervisor characteristics***

Very limited research exists on the role that PhD supervisors play or should be playing in doctoral training (Bégin & Géarard, 2013). The few studies conducted on this issue indicate that the supervisor/doctoral student interpersonal relationship significantly affects the success and completion of the thesis (Mainhard et al., 2009; Jones, 2013) and the prosecution of the PhD student’s academic career (Golde & Dore, 2001; Löfström & Pyhältö, 2014, 2017). The PhD supervisor’s attitudes and behaviors may have a significant influence on a student’s values and standards (Swazey et al., 1993), and the level of satisfaction they derive from the mentorship relationship (Zhao et al., 2007). Doctoral students’ performance is harmed by supervisors’ toxic behavior, which may be rooted in the supervisors’ struggle to achieve their goals, in their personalities, or in their perceptions of the university’s ethical culture (Kiley, 2019).

**Main effect of goal blockage and doctoral student abuse and exploitation.** The PhD supervisor acts as the leader in the mentorship, and supervisors’ progress toward their goals is an essential factor influencing their choices and actions. Goals are critical for individuals’ self-image and success, and when goals are blocked, people may exhibit depression or aggression (Austin & Vancouver, 1996). Deviant behavior is a typical response to situations in which subjects are thwarted in their attempts to achieve their goals (Austin & Vancouver, 1996; Krasikova et al., 2013; Peña et al., 2014), as seen when supervisors block the advancement of new academics (Martin, 1998) when the job market contracts and few positions are available. In this scenario, the divergence between position and performance can become especially blatant, leading to resentment and sometimes radicalism in those whose careers are blocked.

Goal blockage can also result from faculty role overload. According to Meng and Wang (2018), changes to the university management and evaluation system such as the quantitative evaluation of academic output have increased occupational stress among university faculty members. The pursuit of high teaching quality and the quantitative evaluation mechanism of academic output changed the academic environment dramatically and led to high occupational stress among faculty. Many university faculty members are trapped by demands for a high level of teaching, scientific research output and publishing, professional development, and departmental service (Anthun, & Innstrand, 2016; Meng & Wang, 2018). It is not surprising that as a result the PhD supervisor is buried under an onerous workload that impacts their relationship with their students. This may increase perceptions of goal blockage and the assignment of tasks to PhD students that assist their supervisors but are not relevant to the student’s completion of their dissertation.

In line with Krasikova et al. (2013) and Meng and Wang (2018), we argue that when supervisors perceive that their personal goals cannot be achieved using legitimate means, they may attempt to alleviate their strain by engaging in deviant goal pursuits. This attitude represents a characteristic of the dark side of academic careers (Baruch & Vardi, 2016). Goal blockage may motivate PhD supervisors to abuse their PhD students by not giving credit for publications or by asking a student to perform research work beyond the PhD thesis. Empirical support for this contention was found by Yamada et al. (2014) using a sample of Canadian graduate psychology students, mostly from the PhD program. Yamada et al. found that students who had full professors as their PhD supervisors were five and a half times *less* likely to be bullied than those whose supervisors were at the associate level, suggesting that productivity demands (for securing full-professor status) placed tenured associate-level professors at higher risk of engaging in work-management related bullying behaviors.

Of course, not all PhD supervisors abuse students. Leaders choose which goals to pursue and how to achieve them (Krasikova et al., 2013), and deviant behavior may occur if the supervisor chooses to pursue a goal in a way that can harm the student. PhD supervisors may be more likely to engage in student abuse if they previously observed other supervisors engaging in those behaviors in situations of goal blockage (Krasikova et al., 2013) or if they themselves are abused by the department chair. The supervisors’ choice to abuse or exploit students is both intentional and volitional, as this particular behavior is chosen from among other more constructive alternatives available. Based on the above, we formulated our first proposition.

**Proposition 1**: *High perceptions of goal blockages by a PhD supervisor are positively related to student abuse and exploitation.*

**Main effect of perceptions of organizational ethical culture and doctoral student abuse and exploitation.** A department and/or university’s ethical culture can also affect the PhD supervisors’ decision to exploit and abuse students. There is very little research on ethical culture at universities and research organizations; some studies examined ethical culture in a specific academic department (Malički et al., 2019); others looked for differences in ethical culture between university departments (Acharya, 2005). Very few have related ethical culture to the abuse and exploitation of students. Therefore, we apply research and theory from other settings to explain the importance of this concept to the model.

Organizational ethical culture can be viewed as the perceptions of organizational members, their shared moral obligations, and the way ethical issues should be managed in an organization (Chen et al., 2013; Chernyak-Hai & Tziner, 2021; Victor & Cullen, 1988). Each university has its own characteristics of ethical culture. Organizations are considered ethical when their members show greater concern toward the interests of their colleagues in their decision making and work behavior than toward their own interest; when they manifest a non-instrumental culture focused on the intrinsic value of their mission; when members show concern for the well-being of others and display relevant codes regarding attitudes and behaviors; when members believe in making decisions according to their own internalized personal moral principles rather than according to externally imposed ethical requirements; and when members feel a need for the careful consideration of the moral consequences of their own decision making (Hsieh & Wang, 2016).

Perceived organizational ethical culture refers to members’ (e.g., the PhD supervisor’s) perceptions concerning organizational practices, procedures, norms, and values within an ethical context (Mulki et al., 2008). Hsieh and Wang (2016) viewed members’ perceptions of ethical culture as holistic impressions of their organizations’ ethical context. The culture of an academic department affects the attitudes and behaviors of department members (Ishak et al., 2019; Bruhn, 2008). The construct of ethical culture provides the supervisors with behavioral guidelines that drive their interpretations of what is right and wrong within groups and organizations (Pagliaro et al., 2018; Taylor et al., 2019). Since deviant behavior is defined as a departure from organizational norms, it may be predictable from the ethical culture of the organization (e.g., the university; Peterson, 2002; Appelbaum et al., 2005). When organizational members — PhD supervisors in our case — are aware of the department/university’s ethical culture, they might take it into account when considering their relationships with their students (Eigenstetter et al., 2007).

Subsequently, the propensity of supervisors to engage in toxic behaviors ought to be dictated, in part, by their perceptions of socially accepted behaviors that have been established within the university’s ethical culture (Baskin et al., 2015). One can assume that in a caring and supportive ethical culture, faculty members are genuinely interested in the welfare of their students. They are most likely to make decisions that provide the greatest benefits for the greatest number of people (Chen et al., 2013; Pagliaro et al., 2018; Ishak et al., 2019). In the absence of supportive ethical cultures, PhD supervisors will believe that norms of fairness are not enforced in the organization; this will encourage them to exploit their students (Hsieh & Wang, 2016). When organizational ethical culture silently supports or does not condemn egoistic self-promotion at the expense of one’s students, it encourages the abuse and exploitation of doctoral students (Mulki et al., 2008; Ishak et al., 2019).

Moreover, in an abusive culture the abuse might actually be perceived to be normal, or even positive. In such a setting a PhD instructor without any harmful intent might engage in behaviors that the student perceives as abuse and exploitation but the supervisor understands them as part of the students’ development.

Accordingly, we advance the second proposition.

**Proposition 2**: *Unethical university/department culture* *is positively related to PhD student abuse and exploitation.*

**Main effect of the Dark Triad on doctoral student abuse and exploitation.** Supervisors’ dispositional inclination to harm others may affect their tendency to abuse or exploit, regardless of the presence of goal blockage (Krasikova et al., 2013) or unethical culture. Krasikova et al. (2013) showed that in academic settings, PhD supervisors with dispositional tendencies towards prioritizing their self-interest over and at the expense of others are more likely to abuse doctoral students. Among various PhD supervisors’ characteristics, the Dark Triad appears to be the most prominent disposition reflecting exaggerated self-interest and an instrumental view of people and organizations (Krasikova et al., 2013). The Dark Triad consists of three anti-social subclinical personality traits: Machiavellianism (manipulation of others), narcissism (feelings of grandiosity, entitlement, dominance, and self-superiority), and psychopathy (high impulsivity and thrill-seeking, accompanied by low empathy and anxiety) (O'Boyle et al., 2011). The three personality traits are correlated but not equivalent, suggesting that they are overlapping but distinct constructs (Stead et al., 2012). These traits share a socially malevolent character with self-promoting behavioral tendencies, emotional coldness, duplicity, and aggressiveness (Paulhus & Williams, 2002, in Stead et al., 2012). Those characterized with these personality styles tend to assume disproportionally anti-social behavior.

Previous studies suggest the Dark Triad personality (DTP) as a possible determinant of abuse and exploitation (Smith & Lilienfeld, 2013). As Pearson and Piazza (1997) write, “Predatory professionals deliberately seduce or exploit others, unconcerned with anything but their own needs” (in Scarborough et al., 2006, p. 97). The existence of DTPs in universities were mentioned, for example, by Perry (2015) and Tijdink et al. (2016). Due to the limited discussion of such personality traits in PhD supervisors, we base our propositions on the literature addressing the DTP and destructive work behavior, assuming its relevance to the academic setting. Deviant workplace behaviors may be best predicted by deviant personality traits (Wu & Lebreton, 2011). Hence, we expect a positive relationship between each of the DTP dimensions with student abuse and exploitation. The Dark Triad is strongly and significantly associated with engagement in antisocial and norm-deviating behavior in general and in the workplace, suggesting that it may also be positively associated with questionable research practices (Janke et al., 2019).

Narcissism is proposed as a significant predictor of destructive work behavior. It has been shown to predict conflict, aggression, and bullying across various contexts (Twenge & Campbell, 2009; Campbell et al., 2011). Those presenting a high degree of narcissism are more likely to interpret criticism and insults as threats; hence, they tend to see the social world as a potentially threatening place. This heightened sensitivity to criticism and ego-threats makes those individuals more likely to experience anger and engage in destructive work behaviors (Twenge & Campbell, 2009; Spector, 2011). PhD supervisors presenting a high degree of narcissism are likely to disregard and even counteract others’ needs when setting goals and mobilizing followers (such as PhD students) to achieve their goals (Krasikova et al., 2013). Wu and Lebreton (2011) further contended that, when faced with the opportunity to outshine others, those presenting a high degree of narcissism may be willing to engage in all types of interpersonal destructive work behaviors.

Those presenting a high degree of Machiavellianism are more inclined to morally disengage to pursue their interests more readily, with no self-censure. Machiavellians are dispositionally prone to pursue goals that reflect their self-interests even when it harms the organizations they belong to, or their followers. They tend to push followers and achieve goals that they value using harmful methods or influence (Krasikova et al., 2013). Machiavellianism has been shown to be positively related to various transgressive behavioral tendencies, including anti-social behavior, lying, and the willingness to exploit others (Moore et al., 2012).

Psychopaths not only gain satisfaction from harming others but also use this behavior as a strategy to achieve their goals (Wu & Lebreton, 2011). Psychopaths may hurt others as a means of drawing others’ attention away from a particular task. Thus, psychopaths pursue their agendas by focusing another party’s attention on something other than the task at hand (e.g., encouraging hostility among coworkers). Further, psychopaths are commonly described as remorseless, conscienceless risk-takers (Babiak & Hare, 2006; Wu & Lebreton, 2011; Cohen, 2016, 2018). Hence, they are more likely to engage in abuse. Unsurprisingly, psychopathy is believed to underlie deviance and destructive work behavior (Babiak & Hare, 2006; Boddy, 2014).

Overall, we expect that when PhD supervisors’ dispositional tendencies emphasize self-interest over the interests and at the expense of others, those tendencies will be positively related to the supervisors’ choice of or inclination towards engaging in abuse and exploitation (Krasikova et al., 2013). In the university setting, as elsewhere, people who exhibit any of the three dark triad dimensions consider only their own interest and not that of any other person. Therefore, we expect a similar positive direction of the relationship between all DTP dimensions and the abuse and exploitation of students. It is possible, however, that in some situations (e.g., at different universities, in different countries and ethnic groups, and in the case of different cultural values, particularly collectivist versus individualistic cultures) all three DTPs will be positively related to abuse, while in other situations only one or two will be related to abuse. For example, in Western individualistic culture only narcissism might have a strong relationship with abuse, while in a collectivist culture like China the relationship might be with Machiavellianism (Ying & Cohen, 2018).

Hence, we formulated the following proposition:

**Proposition 3**: *Each of the DTP dimensions is positively related to PhD student abuse and exploitation.*

**Possible negative outcomes of abuse**

We focus on two possible negative outcomes of doctoral student abuse and/or exploitation. First, PhD students may decide to abandon their studies or move to another university (Martin, 2013; Löfström & Pyhältö, 2020). Second, they may complete their doctoral studies but, as a result of the abusive supervision, abandon their academic career and look for alternative employment if the push factor outweighs the pull force that initially lured them to an academic career (Baruch, 2013). Hence, we formulated the following proposition:

**Proposition 4**: *The abuse and exploitation of PhD student leads to the non-completion of* *PhD studies or opting out of academia.*

**Mediation in the relationship between personality traits and doctoral student abuse and exploitation**

People who score high in any element of the Dark Triad are willing to engage in unethical behavior (Spain et al., 2014; Schyns, 2015). We postulate that those high in DTP are skillful predators and sensitive to advantages that promote their interests (Cohen, 2016; 2018). The cues that make them believe that they can safely carry out their destructive, self-serving behavior are still unclear; however, the circumstances under which they will behave unethically are presented below.

**Perception of power as a mediator**

 Social interactions involve power relations, and PhD supervision is no exception (Morris, 2011; Ali et al., 2019). Besides the legitimate power that faculty members hold as a result of status and rank, they also hold strong individual referent and expert power (Twale & De Luca, 2008). Seeking power is inherent in DTPs; such power leads to overconfidence, self-aggrandizement, heightened self-image, pomposity, and sometimes the perception of untouchability (Dziech & Weiner, 1990).

Senior faculty members who hold strong power (or perceive it as such) may believe their position of power guarantees a win-lose outcome in their favor. As a result, some of them — particularly DTPs — may aggressively or passive-aggressively pressure dissenters into supporting them to protect their position. Such political maneuvering may be construed as camouflaged aggression, with which PhD students — the weak side of the relationship — may feel obliged to comply (Twale & De Luca, 2008; Krasikova et al., 2013).

As the difference in power and prestige between the mentor/supervisor and student increases, students’ ability to stay objective regarding their self-interest decreases, and the potential for exploitation increases (Rosenberg & Heimberg, 2009). According to Kitchener (1988), the student expects knowledge and wisdom from academics, and these expectations are higher for faculty with greater power and prestige. Thus, students may experience loss of objectivity and the inability to make decisions in their own interest, particularly when working with DTPs who hold significant power and prestige.

Problems in supervisory relationships regarding the misuse of power have been called breaches of justice (Löfström and Pyhältö, 2020). Various studies have identified the misuse of power or the lack of recognition of the consequences of unequal power distribution for students. Doctoral students reported feelings of unfair treatment if a PhD supervisor used power only for the benefit of some students or took advantage of students. Supervisors often have a stake in doctoral students’ research, to which they contribute in meaningful ways, thus justifying ownership or authorship (see also Morris, 2011). However, there may be cases in which doctoral students possess limited chances to complain or object (Löfström & Pyhältö, 2020). We argue that the above examples of abuse and exploitation intensify among supervisors higher in DTP. Hence, we formulated the following proposition:

**Proposition 5**: *The PhD supervisor’s perceived power mediates the relationship between the Dark Triad and doctoral student abuse and exploitation. A positive and significant relationship may exist between the Dark Triad and power, and a positive and significant relationship may be observed between power and the abuse and exploitation of students by PhD supervisors presenting Dark Triad traits.*

**Perceptions of organizational politics as a mediator**

Situational factors, such as perceived organizational politics, may have a significant impact on employee behavior (Erkutlu & Chafra, 2019). Organizational politics are defined as individual or group behaviors that are informal, ostensibly parochial, typically divisive, and technically illegitimate, not sanctioned by formal authority, accepted ideology, or certified expertise, although it may exploit any of those (Ferris et al., 2002). Baloch et al. (2017) showed that the concept of perception in organizational politics became popular after the development of the classic model by Ferris et al. (1989). Different people perceive the same behavior as political or non-political depending on their previous experiences and frames of reference (Jam et al., 2012). Vigoda-Gadot et al. (2011) demonstrated the existence of organizational politics in academe and their influence on work outcomes, contending that universities’ internal politics are an overarching process, even in organizations that tend to be more liberal and open-minded, show advanced justice and fairness, seek to provide equal opportunities, and evaluate peers and colleagues objectively. All organizations act similarly when valuable assets are at stake.

DTPs are motivated to interpret actions and events in political terms since manipulation and opportunism are their salient traits (Baloch et al., 2017). DTPs are inclined toward a political work environment (Rosen et al., 2006; Cohen, 2016) and typically feel more comfortable in workplaces where they can influence the environment and have access to decision-making and autonomy of action (Baka, 2018). Therefore, when they perceive the environment as being particularly open to exploitation, or more political, their behavior worsens. A person high in Machiavellianism will often perceive the organizational environment as more political than others do (see also Rosen et al., 2006). Psychopaths may use their charm to manipulate their victims and play games with organizational politics, which enables them to make organizational decisions in their interest rather than that of the organization (Boddy, 2006). Narcissists have egoistic motivations, are prone to abuse power, and lack remorse. Thus, they would appear the prime candidates for engaging in self-interested behavior and using political acts to achieve their goals (Ferris et al., 2019). Hence, we formulated the following proposition:

**Proposition 6**: *Perceptions of organizational politics mediate the relationship between personality traits and the abuse and exploitation of students. A positive and significant relationship may exist between the Dark Triad and perceptions of politics. A positive and significant relationship may be observed between perceptions of politics and the abuse and exploitation of students by PhD supervisors presenting Dark Triad traits.*

**Moderators**

***Institutional policies and practices concerning doctoral students***

The institutional context, with its rules and norms, significantly influences how the faculty and PhD students behave and interact. Universities should enact policies to address the abuse and exploitation of PhD students (Goodyear et al., 1992) as “the role of perceived organizational sanctions is important for the prevention of workplace aggression” (Dupré & Barling, 2006, p. 22, cited in Morris, 2011). When policies and sanctions exist and are enforced, less abuse and exploitation of students by DTPs is expected. According to Krasikova et al. (2013), specific factors (e.g., the lack of punishment mechanisms) communicate that harmful behaviors are acceptable or overlooked in organizations. This phenomenon may moderate the positive relationship between high goal blockage and perceptions of unethical culture, with supervisors’ choice to engage in student abuse and exploitation and the relationship between the Dark Triad, the two mediators, and student abuse.

***Awareness of and familiarity with policies and procedures regarding exploitation/abuse***

The lack of institutional policies, or students’ lack of awareness of such policies, can increase the likelihood of student abuse (Mahmud & Bretag, 2013). For instance, the lack of unbiased and fair institutional protocols for reporting incidents without the risk of reprisal induces the targets of abuse to tolerate it (Mahmoudi et al., 2019). The primary sources of information for ethics-related matters are written policies and practices. Empirical evidence suggests that the overall level of understanding of various ethical issues, such as authorship or conflicts of interest, is low. Students reported that they are unclear about various customary practices that rely on a shared understanding of ethical behavior (Golde & Dore, 2001). Keashly and Neuman (2010) contended that specific mechanisms and procedures are needed to address the underlying causes of hostile interactions in academia and to prevent bullying. Similarly, Nilstun et al. (2010) found that less than one-third of the doctoral students in Sweden had heard about scientific dishonesty; however, many of them mentioned being pressured regarding authorship order in publications.

Based on the above, Morris (2011) suggested that institutions should ensure that their staff and students are aware of the existence of and recourse to such policies. Incorporating existing policies and procedures, legislation, and acceptable behaviors into staff and student training sessions would encourage appropriate behavior and reinforce the message that abuse, such as bullying, is unacceptable. Furthermore, the discussion of policies and acceptable behaviors would set a precedent for positive collaborative relationships, as knowledge of such policies would potentially reduce negative student and PhD supervisor experiences downstream and stop bullying before it occurs (Morris, 2011). Dark triad supervisors, those experiencing goal blockage, and those who perceive that the ethical culture is uncaring and unsupportive of the students’ welfare will hesitate before performing abusive and exploitative behavior when they know their students are fully aware of their rights. Hence, we formulated the following propositions:

**Proposition 7a**: *Student familiarity with policies and procedures regarding codes of ethics will moderate the relationship between the Dark Triads with high perceptions of power and organizational politics, and student abuse.*

**Proposition 7b**: *Student familiarity with policies and procedures regarding violations/abuse will moderate the association between goal blockage and abuse; the association will be stronger for those less familiar with the policies and procedures regarding codes of ethics.*

**Proposition 7c**: *Student familiarity with policies and procedures regarding violations/abuse will moderate the association between organizational unethical culture and abuse; the association will be stronger for those less familiar with the policies and procedures regarding codes of ethics.*

***Socialization of PhD students***

The preparation of doctoral students for the role of scholar may be described as a type of adult occupational socialization (Weidman et al., 2001). A key element of the academic profession’s responsibility is the socialization of novices to the *modus operandi* of research, and much of this socialization occurs during graduate school (Anderson & Louis, 1994). Inadequate socialization may be associated with graduate student attrition (Johnson et al., 2017). Peer contact helps dissolve boundaries and reduce feelings of isolation, and socialization helps students prepare for their current and future environments by learning the rules and culture of their discipline and acquiring the knowledge, skills, values, attitudes, habits, and thoughts of the society they wish to belong to (Jones, 2013). Weidman et al. described this as “The processes through which individuals gain the knowledge, skills, and values necessary for successful entry into a professional career requiring an advanced level of specialized knowledge and skill” (2001, p. 3). The literature adopted several ways to conceptualize and operationalize doctoral students’ socialization. A thorough and comprehensive approach has been advanced by Roksa et al. (2018). Roksa et al. (2017) and Weidman and Stein (2003) offered a shorter, clearer, and practical scale to assess it.

The socialization process is fundamentally longitudinal; it evolves, and is often conceptualized, as occurring in a series of interactive stages. During the long apprenticeship of graduate studies, students learn about appropriate behaviors and standards of academic research. Professional norms are inculcated largely informally, through observation and “at the bench” discussion (Anderson & Louis, 1994; Kiley, 2019). Doctoral students who received more appropriate socialization regarding their rights and duties in their relationship with their supervisor were less exposed to abuse and exploitation (Wu, 2017). Socialization should also be provided by universities and by relevant professional associations. Awareness and practice of socialization mitigates the impact of dark triad supervisors and goal blockage, and a supportive ethical culture enables socialization to lessen abuse and exploitation. Thus, we formulated the following propositions:

**Proposition 8a:** *Student levels of socialization will moderate the relationship between the Dark Triads with high perceptions of power and organizational politics, and student abuse.*

**Proposition 8b:** *Student levels of socialization will moderate the association between goal blockage and abuse; the association will be stronger for those less socialized.*

**Proposition 8c:** *Student levels of socialization will moderate the association between organizational unethical culture and abuse; the association will be stronger for those less socialized.*

***Accountability***

Accountability is an essential determinant of ethical behavior in the academic realm (Strathern, 2003) as well as others, and organizations seeking to act ethically should resort to auditing to preserve accountability (Zadek et al., 2013). While the idea has been challenged that regulation and penalties are needed to preserve the integrity of science, regulations are still considered essential for research conduct and integrity (Horner & Minifie, 2011). When penalties are rare, unethical behavior can thrive (Moss, 2018). This is important for universities, which are ill-equipped to investigate bullying reports. Although they claim neutrality, universities often minimize and keep confidential corrective actions against bullies, probably for the sake of the institution’s reputation, the desire to protect their most prolific and well-known scientists, and the fear of being sued by the targets of bullying (Mahmoudi et al., 2019). Awareness of the possibility of being accountable for their actions should mitigate the impact of dark triad supervisors and goal blockage, and a supportive and caring ethical culture lessens abuse and exploitation. Hence, we formulated the following propositions:

**Proposition 9a***: Level of organizational accountability will moderate the relationship between the Dark Triads with high perceptions of power and organizational politics, and student abuse.*

**Proposition 9b**: *Level of organizational accountability**will moderate the association between goal blockage and abuse; the association will be stronger for those with lower perceptions of organizational accountability.*

**Proposition 9c:** *Level of organizational accountability will moderate the association between organizational unethical culture and abuse; the association will be stronger for those with lower perceptions of organizational accountability.*

***Student characteristics***

Research in the field of victimization has identified characteristics of targets that weaken their resistance to abuse and exploitation, providing the PhD supervisor with a sense of discretion in harming them (Krasikova et al., 2013). Meng et al. (2017) suggested the need to address the moderating effects of students’ characteristics to achieve a better understanding of the effects of abusive supervision, thus helping students attenuate its adverse impact. PhD supervisors’ characteristics may lead to student abuse and exploitation, while students’ characteristics may mitigate the process. We suggest three main factors that may be instrumental in this process: (i) assertiveness, (ii) resources, and (iii) aspiration for an academic career.

***Assertiveness***

Doctoral students gain valuable work experience by participating in projects carried out by their research community. However, the problems and risks of breaching non-maleficence involve too heavy a workload, resulting in exploitation and unfair and harmful treatment. Individual differences are observed in students’ abilities to defend their “space” for doctoral study. While some students can take a stand against exploitation, others may find it challenging to refuse tasks assigned by their superiors (Löfström & Pyhältö, 2020).

Assertiveness is a key factor in tackling bullying in a wide range of cultures (Jacobson et al., 2014). In universities, those who are bullied or allow themselves to be bullied need to be more assertive and learn to control various aspects of their situation (Twale & De Luca, 2008). Potential victims need to recognize that they have some control and take the risk to exercise that power rather than ignore the problem, isolate themselves, or seek jobs elsewhere. Victims of bullying and mobbing have choices (Davenport et al., 1999) and often develop coping mechanisms that help them survive in their environment. Eventually, they may gather information and report on a bully; some may seek legal redress (Harvey et al., 2007). Another option for exploited students is to change supervisors. According to Wisker and Robinson (2013), finding a new PhD supervisor is easier for students with emotional resilience. Such students can develop into confident, autonomous, creative researchers. Being an assertive PhD student should discourage dark triad supervisors, with or without goal blockage, and mitigate the impact of their abuse. A supportive and caring ethical culture allows assertiveness to lessen abuse and exploitation. Hence, we formulated the following propositions:

**Proposition 10a***: Student level of assertiveness will moderate the relationship between the Dark Triads with high perceptions of power and organizational politics, and student abuse.*

**Proposition 10b***: Student level of assertiveness will moderate the association between goal blockage and abuse; the association will be stronger for those with lower assertiveness.*

**Proposition 10c***: Student level of assertiveness will moderate the association between unethical organizational culture and abuse; the association will be stronger for those with lower assertiveness.*

***Financial resources of PhD students***

Financial, mental, and emotional resources are critical to successful projects (Hobfoll, 1989). Emotional resources such as emotional intelligence can moderate the relationship between abuse and distress (Hu, 2012); however, financial resources are tangible and particularly influential. The lack of funding can be a major factor in the intention to terminate and the actual termination of one’s studies (Litalien & Guay, 2015). Victims often tolerate abuse because of their dependence on monthly paychecks (Mahmoudi et al., 2019). The advising relationship may not only affect the quality of the doctoral experience; material implications also exist. In many disciplines, funding for doctoral studies and dissertation research often comes directly from PhD supervisors and their grants (Zhao et al., 2007), which strengthens students’ dependence on the supervisor and may tempt supervisors to abuse and exploitation. Having more financial resources should mitigate such attempts and the impact of dark triad and goal blockage on students’ abuse. A supportive and caring ethical culture will also lessen abuse and exploitation. Hence, we formulated the following proposition:

**Proposition 11a***: Students’ level of financial resources will moderate the relationship between the Dark Triads with high perceptions of power and organizational politics, and abuse.*

**Proposition 11b***: Students’ level of financial resources will moderate the association between goal blockage and abuse; the association will be stronger for those with lower financial resource levels.*

**Proposition 11c***: Students’ level of financial resources will moderate the association between unethical organizational culture and abuse; the association will be stronger for those with lower financial resource levels.*

***Academic career aspiration***

A survey of American PhD students found that most were interested in a faculty career and enthusiastic about an idealized vision of faculty life (Golde & Dore, 2001), which suggests a wish to follow a vocation (Wrzesniewski et al., 1997; Hall & Chandler, 2005). However, supervisors’ lack of interest in the future career of their PhD students is a global phenomenon (Ali et al., 2019). The advising relationship’s impact can last far beyond the doctoral studies, and the strength of an PhD supervisor’s letter of recommendation can affect the graduate’s future career options (Zhao et al., 2007). PhD students often tolerate bullying from their supervisors because they depend on supervisors’ positive recommendations to secure future positions (Mahmoudi et al., 2019). When individuals follow a career as a calling (Wrzesniewski et al., 1997), they are more ready to invest in it but possibly also more resigned to accepting a poor relationship with their supervisor, as long as it leads to an academic career. This predisposition makes them more vulnerable to abuse and exploitation (Harvey et al., 2007).

In academia, one of the very few benefits that supervisors may gain from supervising a PhD is a fruitful collaboration for future publications based on a shared goal. Conversely, collaboration may also lead to high pressure and stress when the supervisor is particularly keen to publish or insists on authorship position (or even deletes the student’s name as a co-author, as seen in Becker, 2019 and Martin, 2013). Students who aspire to academic careers may inadvertently encourage the impact of dark triad and goal blockage on their abuse. Unethical organizational cultures may increase abuse and exploitation of students who have high academic career aspirations. Hence, we formulated the following propositions:

**Proposition 12a**: *Students’ level of academic career aspiration will moderate the relationship between the Dark Triads with high perceptions of power and organizational politics, and abuse.*

**Proposition 12b**: *Students’ level of academic career aspiration will moderate the association between goal blockage and abuse; the association will be stronger for those with higher academic career aspirations.*

**Proposition 12c**: *Students’ level of academic career aspiration will moderate the association between unethical organizational culture and abuse; the association will be stronger for those with higher academic career aspirations.*

 Because the nature of the student/supervisor relationship is dyadic, both participants have a specific personal perception regarding each of the potential moderators. For example, the PhD supervisor may attribute low assertiveness to a student and act based on that perception. If that perception is wrong, and the student is actually highly assertive, the supervisor may be surprised by the student’s opposition to the attempt at abuse. A similar perception between the supervisor and the student regarding each of the moderators may facilitate the relationship, because each side may act based on a more accurate evaluation of the situation. Pyhältö et al. (2012) found, for example, that a shared understanding of the resources and challenges between the doctoral student and supervisor was related to students’ satisfaction.

**Discussion**

Doctoral student abuse and exploitation have received media attention but hardly any scientific consideration. In the academic setting, a conspiracy of silence may indirectly encourage abuse and exploitation. Discussing the worth of and need for appropriate PhD education is of great importance (Cyranoski et al., 2011). We suggest that more scientific attention should be devoted to this issue, because our most critical economic resources are human capital and knowledge. Abuse and exploitation may cause strong academics to opt out of the system (Kossek et al., 2017), and a culture of abuse and exploitation may turn into a culture of retaliation (Lian et al., 2014). Universities should be places of high integrity, honor, and knowledge creation, not a locus of political power games. Hence, from a micro-personal perspective, abuse and exploitation of PhD students can destroy talented individuals’ careers and, sometimes, lives.

The proposed model suggests three primary characteristics of the supervisors who engage in PhD abuse and exploitation, goal blockage, DTP, and perception of organizational ethical culture. PhD supervisors may attempt to overcome goal blockages in their careers by exploiting students. This will be easier in university with unethical culture. However, even in the absence of goal blockage, some supervisors’ dispositional narcissism, Machiavellianism, and psychopathy (Krasikova et al., 2013) result in an inclination to cause harm and, thus, PhD student abuse. According to the proposed model, supervisors with high DTP traits overvalue the political setting and their position of power and may use such elements in a predatory fashion. This argument is reflected in the two mediators presented in the model, perception ofpower and perception of politics. The proposed model also assigns a vital role to the environment in determining whether abuse and exploitation occurs. The environment is described by two groups of moderators, students’ characteristics and institutional policies and practices. Environmental attributes determine whether the setting is more or less favorable for faculty with high goal blockages, DTP, and perceive the culture of the university as unethical, to attack and abuse students. We contend that the outcomes of PhD abuse and exploitation influence the completion of PhD studies and the future career of graduate students.

**Theoretical contribution**

Our main conceptual contribution is in shedding light on a largely overlooked phenomenon. Relying on the conceptual framework of Krasikova et al. (2013), we theorize about why and how PhD abuse and exploitation may occur and the factors that may be instrumental in the process. In doing so, we extend knowledge of the dynamics of academic careers (Caplow & McGee, 2001; Baruch & Hall, 2004) and challenge positive, optimistic, and sometimes naive views of PhD education (Nilsson, 2015) as well as the literature that focuses on an idealized image of PhD supervision (Phillips & Pugh, 2010). The theory of misbehavior in organizations would benefit from incorporating the proposed model, particularly regarding career management (Vardi & Weitz, 2016) and work-related stress (Hauge et al., 2007). Both individual self-career management and institutional career systems would benefit from an open disclosure of the threats and obstacles to a successful academic career (Peña et al., 2014). In addition, the dark side of academia should be further explored. The existence of faculty with DTP traits in universities and the harm such people can cause to those in weaker positions (Berti & Simpson, 2019) should be acknowledged, and research should focus on why difficulties in goal achievement and organizational ethical culture can cause normative faculty to abuse and exploit students. Only by grappling with these issues can we change them.

While much has been said concerning the impact of PhD students’ perceptions of their supervisors on academic progress and completion, supervisors’ perception of their students has barely been discussed (Jones, 2013). The literature confirms the importance of a professional and supportive PhD supervisor and discusses selection criteria that PhD students can use to screen their supervisors. However, supervisors who misunderstand their students are not fully engaged in the relationship, and both parties miss out on potentially enriching points of view. More research should be conducted on possible strategies to prevent misperceptions from occurring (Jones, 2013) and to address them when they do occur.

**Practical implications**

The proposed model suggests that research institutions should watch for and eliminate PhD student abuse (Moss, 2018). Certain practices such as group/team supervision help improve supervision style, transparency, and PhD performance (Khosa et al., 2019), possibly due to the role of trust in team supervision (Robertson, 2019). PhD students should be equipped with knowledge regarding their rights and how to protect themselves from abusive supervisors. Unfortunately, there is a lack of training on ethical issues in graduate schools (Oberlander & Spencer, 2006). Training can be beneficial for faculty because they may not be naturally inclined to work collectively or collaboratively (Keashly & Neuman, 2010).

Developing and maintaining a positive and supportive ethical culture toward PhD students is another way to prevent abuse and exploitation. An ethical academic culture could influence the wording of mission statements by emphasizing a focus on and concern for students. Strategy formulation could emphasize the need to look out for the welfare of students, as shown by Sullivan and Ogloff (1998). Appropriate leader and role model behavior would also be instrumental (Dineen et al., 2006); the behavior exhibited by those in power could provide PhD supervisors with a model for acceptable behavior in the university. Similarly, cultural processes of formal socialization, best practices, and rituals may influence the university’s ethical culture (Peterson, 2002; Appelbaum et al., 2005), educating faculty and PhD students about the nature, process, and anticipated outcomes of conflict in academia. This approach is appealing to academics as it is grounded in research and theory and speaks to their analytical nature. In the most egregious cases of abuse, institutions should deprive supervisors of their rights to train PhD students (Moss, 2018). Institutions should clearly define what constitutes bullying and ensure explicit policies for dealing with it (Editorial, Nature, 2018). The system should create navigable paths for early-career researchers to change supervisors if necessary (Moss, 2018).

Workplaces and schools have policies; likewise, universities (which are workplaces and educational institutions) should have a policy to protect their population (Harrison et al., 2020). All universities should formulate a workplace harassment policy and revisit it periodically. Policy intervention may be more effective if the root cause of the bullying and workplace aggression is determined. Campuses may curtail offenders’ activity on committees and ask perpetrators to attend sensitization seminars or provide formal apologies to victims (Twale & De Luca, 2008). In addition, universities may encourage PhD student socialization and reinforce supervision styles that improve the PhD experience (Khosa et al., 2019). The media may also play a crucial role by forcing institutions to release bullying reports to the public, materially reducing bullying incidents and encouraging targets to speak out (Mahmoudi et al., 2019).

Establishing an ombudsperson to whom PhD students can appeal may be useful, as Keashly and Neuman (2010) suggest when a situation is beyond the faculty’s capacity to address. The ombudsperson is an independent, neutral, confidential, and informal resource for the university community to handle conflict situations through fact-finding, mediation, and conciliation. This institutional position and its mandate may play a key role in addressing bullying, particularly when a power imbalance exists between the victim and the bully. Other support mechanisms are mentoring systems, where PhD students are assigned a later-stage PhD student “buddy” as a mentor (Mason & Hickman, 2019).

Borrowing tools from scholarly research practices would provide ethical scaffolding for faculty using familiar terms. All participants in a research relationship should enter it with clear expectations for their respective roles and the rules of their interactions. Using an “informed consent” approach to research supervision would help avert ethical predicaments. Another strategy would be to create an Institutional Review Board, like institutional panel, to review the fairness of authorship inclusion and order. Such review panels may be departmentally based and include both faculty and students. Although this strategy may seem overly bureaucratic, the process would not need to be burdensome (Goodyear et al., 1992). Ethics courses should address the power disparities between students and faculty and provide strategies for negotiating authorship credit (Oberlander & Spencer, 2006). PhD courses should clarify how studies should progress, what might go wrong, and how to act when deviant behavior threatens the integrity of the research process.

Five other practical methods could reduce abuse and exploitation. The first is to improve the selection of faculty by identifying potentially destructive personalities. Second, disciplinary and incentive alignments can be used as mechanisms for preventing PhD student abuse by developing stronger justice and ethics, both at the organizational level (the university) and in the wider academic community (e.g., the Academy of Management and other associations as leaders in ethical behavior and integrity). Third, all organization members should be allowed to monitor and speak out against PhD student abuse. The organization should design safe, and accessible procedures for students and faculty to report such incidents. Fourth, bureaucratic and concrete processes may reduce the PhD supervisor’s discretion to act destructively. Such controls involve normative pressure to behave in a manner accepted by other members of the organization and the academic community (Krasikova et al., 2013). Fifth, universities should develop a flexible policy for changing supervisors (Wisker & Robinson, 2013). Such a policy should protect PhD students from abusive supervisors and enable them to find a new supervisor in a reasonable time. Any possibility for retaliation from the abusive supervisor should be blocked in the replacement process.

Beyond the process suggested in the model, several other variables may act as controls, operating at different levels. Gender can be relevant at the individual level, particularly gender dynamics that detrimental to the integrity of the supervision which might lead either to bias or to romantic relationships (e.g., differences between same-gender vs. mixed-gender dyads, as well as same-sex pairings). At the institutional level, relevant variables include the general standing of the institution and the specific culture and procedure of the PhD supervision. These variables may also vary across different scientific fields. Institutional regulations and cultures influence the existence and severity of PhD abuse and exploitation (e.g., team supervision, PhD socialization). Last, at the nationallevel, culture may influence power distance, level of corruption, and other factors. At this level, regulations and norms may vary. For example, when the level of corruption is high, it might diffuse into the academic realm. National culture can also be influential. Factors like the power position, masculinity, or individualism — to mention some of Hofstede’s (2001) dimensions — may be relevant to the nature and impact of supervision abuse and exploitation.

Finally, future research should consider the possibility that depending on the context, some of the Dark Triad traits might be beneficial as well (Lyons, 2019). According to Lyons (2019), in insecure circumstances where potential profits are large, it may be good to take risks, which is something that high Dark Triad individuals are more likely to do. It might be interesting to examine this possibility in the context of PhD supervision or with research students not pursuing a PhD. For example, which dark traits might lead to constructive relationships with doctoral students? Can an intelligent, high-risk taking psychopath supervise students on highly innovative and risky projects with appropriate control, such as additional supervision (Lyons, 2019). Can Machiavellian strategies benefit the department or the field at large? Can narcissists assist self-effacing students learn confidence?

**Conclusions**

The proposed conceptual mode yields three theoretical contributions. It identifies the factors leading to PhD student abuse and exploitation and the process through which it occurs, as well as its anticipated outcomes. It suggests factors that may mitigate the impact of abuse and exploitation. Finally, it contributes to the broad investigation of the utility of socialization of PhD students to facilitate their future integration into academia, research, or industry (Bégin & Géarard, 2013). Increasing pressure is exerted on individual supervisors, departments, and universities to evaluate the quality and integrity of doctoral supervision (Lee & McKenzie, (2011). Institutions should develop and apply adequate instruments to evaluate student/supervisor relationships, thus helping prevent student abuse and exploitation.

We contribute to the discourse and debate regarding ways to prepare future ranks of academicians. In doing so, we aim to offer further insights into how individuals and institutions may act and interact. We wish to encourage the academic community to share positive values, which are always vulnerable to erosion. By highlighting the impacts of the “dark side” on careers in academia, we anticipate a system where abuse and exploitation are not tolerated and academics find better ways to lead future cohorts of scientists. This represents a pioneering attempt to encourage future conceptual and empirical work and research to develop possible tactics for abused students, and those who want to support and protect them, to cope better with abuse and exploitation.

It should be noted that performing an empirical study on this subject following the model presented here would be challenging. A survey is the best way to examine this model; all variables have established scales. Exploratory studies to examine parts of the model should be performed first. Examining all the concepts presented in the model in a single study might be too challenging to pursue. The target population in such studies would be either PhD students, PhD supervisors, or both, which means that the cooperation of universities is essential. We believe that the best option would be to survey PhD supervisors and their students in the same study in order to avoid relying on a single source. A list of supervisors and their PhD students could be provided by the relevant university and therefore the cooperation of universities is essential. PhD supervisors would complete questionnaires about their characteristics and the relevant mediators. Because of the sensitivity of obtaining information about the Dark Triad from PhD supervisors, students could provide this information based on their experience. The information about the moderators and their outcomes could be provided by the students. Using surveys to validate the model will not be an easy task but it is attainable.

Other methods can also be used to examine this phenomenon. Qualitative interviews withPhD students focusing on specific sections of the model could provide a more personal and profound perspective on student abuse. Performing a longitudinal study via several interviews with students throughout their studies could provide more profound grounded data. Good examples for such studies can be found in Löfström and Pyhältö (2014; 2017). Empirical studies are needed for a better understanding of this phenomenon and for providing universities with valuable information that can assist them in reducing PhD abuse and exploitation.

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**Figure 1**

*Conceptual Model of the Determinants and Outcomes of Ph.D. Students’ Abuse by PhD supervisor (s)*

Supervisor’s characteristics Mediators Moderators Outcomes

**Institutional policies and practices concerning doctoral students**

* Awareness and familiarity of policy and procedures regarding exploitation/abuse
* Relevant socialization of Ph.D. students
* Accountability (or cover-up)

**Perceptions of goal blockage**

**Perceptions of power**

**Dark Triad**

Psychopath

Narcissist

Machiavellianism

**Ph.D. students’ abuse and exploitation by PhD supervisor(s)**

**Perceptions of organizational politics**

**Student’s characteristics**

Assertiveness

Financial resources of the student

Aspiration for academic career

**Perceptions of Ethical culture**

**Abuse outcomes**:

1. Completing the doctoral program or not.

2. Academic career versus non-academic career

1. We refer to PhDs, but this applies to any doctorate, such as the Doctor of Business Administration (DBA) or Doctor of Science (DSc.). [↑](#footnote-ref-1)