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Narcissism and Empathy in Healthcare Professionals.

by

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Thesis for the degree of Doctor of Clinical Psychology

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ABSTRACT

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NARCISSISM AND EMPATHY IN HEALTHCARE PROFESSIONALS

Lauren Louise Ingram

The first section of this thesis is a systematic literature review of interventions to increase empathy in Healthcare Professionals. A total of 17 studies were included. Definitions of empathy, measurement used, sample characteristics, and intervention characteristics were mixed, indicating a range of approaches aiming to increase empathy were considered in the review. Of those interventions examined in the review, none of them accounted for individual differences, instead adopting a 'one glove fits all' approach. This may explain why only seven of the reported studies reported significant improvements in empathy. Limitations of the review and areas for future research are identified and discussed.

The second section consists of an empirical research paper investigating the relationship between narcissism and empathy in Healthcare Professionals. Scant research has explored narcissism levels in Healthcare populations. Narcissists lack empathy but can be empathic. Empathy is important for fostering relationships between healthcare professionals and patients. Thus, we designed a study to test whether it is possible to make empathy appealing to a narcissist – by appealing to their agentic motivations. In total, 192 Healthcare Professionals participated in the study. Amongst this population, narcissism predicted lower levels of empathy towards the hypothetical patient. However, we were not successful at making empathy appealing to healthcare professionals scoring higher in narcissism. Implications for theory, clinical practice, and future research is discussed.

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Academic Thesis: Declaration Of Authorship

I, LAUREN INGRAM

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.

Narcissism and Empathy in Healthcare Professionals.

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.

Signed: .....

Date: .....

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Chapter 1 Systematic Literature Review.

A review of the range and effectiveness of interventions that aim to improve empathy in Healthcare Professionals.

1.1 Introduction

Empathy is widely accepted as important for patients to experience (Mercer & Reynolds, 2002). Recent research has suggested that healthcare professional (HCP) empathy declines over the course of training and employment, and it is important for healthcare services to explore whether this finding is widespread. A HCP with diminished empathy may impact negatively upon patient experience and patient outcomes. Further understanding of HCP empathy levels would be beneficial, alongside exploration of approaches suitable to address this issue.

1.1.1 Defining Empathy

Within the empathy literature, researchers and theorists have been inconsistent in their definitions of what empathy is. Davis (1980; 1983) describes four components of empathy including perspective-taking, transposing oneself imaginatively (fantasy), empathic-concern for others, and personal distress related to interactions with others. Hojat (2016) describes components such as perspective-taking, compassionate care, and standing in the patient's shoes, appearing similar to Davis' (1980; 1983) definition although without the inclusion of personal distress. These definitions could be understood as concepts defined by Stepien and Baernstein (2006) as cognitive empathy (i.e., understanding and identifying patients' perspective), affective (i.e., imagining patients' emotions, and own emotional reactions), although Stepien and Baernstein (2006) also include behavioural (i.e., communicating understanding of the patient perspective to the patient) and moral (i.e., motivation to empathise). Other researchers' definitions have included cognitive, affective and behavioural components of empathy (e.g., Foster, Trieu, Azutillo, Halan, & Lok, 2017; Irving & Dickson, 2004; Lobchuk et al., 2016; Norfolk, Birdi, & Walsh, 2007; Shapiro, 2002; Suchman, Markakis, Beckman, & Frankel, 1997) suggesting these are widely accepted as the key components of empathy.

A lack of agreement about the definition of empathy makes research and exploration of the literature challenging (Stepien & Baernstein, 2006). Cuff, Brown, Taylor, and Howat (2016) carried out a review exploring the definitions of empathy in key papers, finding 43 distinct definitions. The review summarised eight key conflicts within the conceptualisation of empathy, for example 'trait versus state', and 'empathy versus compassion', and presented research evidence for each side prior to suggesting their own definition. Limitations of the methodology included papers not being identified in a systematic or replicable way, and a lack of assessment of the quality of these papers. This therefore leaves the reader uncertain of the quality of the evidence presented to inform Cuff and colleagues' (2016) definition. The definition also appears complex and does not include behavioural responses or personal distress.

> Empathy is an emotional response (affective), dependent upon the interaction between trait capacities and state influences. Empathic processes are automatically elicited but are also shaped by top-down control processes. The resulting emotion is similar to one's perception (directly experienced or imagined) and understanding (cognitive empathy) of the stimulus emotion, with recognition that the source of the emotion is not one's own. (Cuff et al., 2016; p. 16).

Empathy has been explored in the literature as a stable personality *trait* and influenced by contextual factors, referred to as *state* (Cuff et al., 2016). Research has suggested trait empathy is often associated with state empathy (Lockwood, Ang, Husain, & Crockett, 2017; Wilkinson, Whittington, Perry, & Eames, 2017a), which illustrates the changeable nature of empathy in real-life situations despite baseline empathy levels. It could be inferred state empathy may be influenced by various factors such as mood, similarity to the target, and judgements made, as supported by Williams, Boyle and Howard (2016) and studies referenced in Cuff and colleagues review (2016).

The definition preferred by researchers is likely to impact upon the way they choose to measure empathy. A clear, concise, and agreed upon definition of empathy is still required. Hojat (2016) does not include affective responses in his definition and is therefore not considered appropriate for this review as this aspect is widely accepted as a facet of empathy in the literature.

The reviewer would suggest Davis' widely accepted (1980; 1983) definition, "reactions of one individual to the observed experiences of another", is preferable due to the inclusion of cognitive and affective components which is in line with other researchers understandings of empathy as outlined. The lack of recognition of behavioural components is noted, however behaviour could be understood to be an outcome of empathy as opposed to a key component based on Cuff and colleagues' conclusions (2016). Behaviour will require consideration in the review as measurement of empathy in Healthcare Professionals may involve behavioural outcomes (Kiosses et al., 2016), perhaps influenced by researchers' consideration of the care experience of the patient. This definition also includes both self- and other-oriented components of empathy, both important aspects of understanding empathy experienced by Healthcare Professionals. Davis' (1980; 1983) definition is also clear, concise and accessible, in contrast to Cuff et al.'s (2016) suggested definition.

Davis' (1980; 1983) work is understood to measure trait empathy, alongside this state empathy will require consideration as the review seeks to explore whether interventions are able to improve empathy levels, therefore implying empathy can be changeable.

1.1.2 Empathy decline

Neumann and colleagues (2011) reviewed studies of medical students and residents, finding a decline in empathy over training and residency. Suggested reasons for this decline included high workload, mistreatment, unsuitable learning environment and minimal chances to build relationships with patients. They also suggest that students being exposed to morbidity may make students feel vulnerable and over-identify with patients, leading to distress and detachment, and therefore less empathic care. The finding of decline in empathy over training has been supported by further student studies (Chen, Lew, Hershman, & Orlander, 2007; Diseker & Michielutte, 1981; Ward, Cody, Schaal, & Hojat, 2012; Williams, Boyle, & Howard, 2016).

Further research found lower HCP student empathy for hypothetical patients with substance-misuse difficulties (Brown et al., 2010; McKenna et al., 2012; Williams, Boyle, & Howard, 2016), indicating empathy may be influenced by the HCPs opinions about the patients' presenting difficulty.

Declining empathy levels in HCPs over time may have negative implications for their patients. Empathy has been found to be positively associated with outcomes such as; patient satisfaction with service (Lelorain, Brédart, Dolbeault, & Sultan, 2012), reduced anxiety and depression in cancer patients (La Monica, Wolf, Madea, & Oberst, 1987), accurate diagnosis (Beckman & Frankel, 1984), treatment adherence (Hojat et al., 2011), and outcome in psychotherapy (e.g., Malin & Pos, 2015; Watson, Steckley, & McMullen, 2014). In a systematic review by Derksen, Bensing, and Lagro-Janssen (2013) relationships between General Practitioner (GP) empathy and patient satisfaction, anxiety and mood, enablement and clinical outcomes were reported. It could be surmised that declining empathy in HCPs may have potentially detrimental outcomes for patients in these areas and indicates the importance of further exploration of empathy in HCPs.

1.1.3 Interventions to address decline in empathy

HCP empathy levels are researched relatively frequently in the field, and evaluations of interventions to address the decline of HCP empathy are increasing. Neumann et al. (2011) suggested several reasons for empathy decline in HCPs. However, it would be very complex, if not impossible, to change healthcare systems to address these, perhaps indicating a need to target HCPs themselves as opposed to the systems they work in. There is a recognition in the literature that empathy is flexible, and therefore I look to review the interventions that aim to increase empathy.

A key review by Kiosses and colleagues (2016) assessed the evaluation of interventions aimed at improving HCP empathy in randomised controlled trials (RCTs). The majority of included papers involved communication skills training (CST). Based on 13 papers, the authors concluded HCPs in intervention groups showed improved empathic behaviour when compared to control groups. The focus of measurement in the included papers was empathic behaviour measured by HCP or patient questionnaires, or coded behaviours, leaving other aspects such as self-reported cognitive empathy unaccounted for. Only one paper (Riess, Kelley, Bailey, Dunn, & Phillips, 2012) measured empathic attitude, knowledge and skills using questionnaires but failed to find significant results. Patient-report methods did not indicate changes in HCP empathy following intervention. However, based on other measurement methods, Kiosses et al. (2016) reported empathy is amenable to change as a result of some interventions. The review of Kiosses and colleagues (2016) focused on RCTs, which are less common in healthcare settings than

other designs. Kiosses and colleagues (2016) also included both HCP and healthcare student samples in their review, however the possible differences between students and HCPs did not appear to be adequately accounted for or considered in conclusions drawn. To address this limitation it may be beneficial to review research studies that do not include student samples.

The review seeks to update this literature review, as Kiosses and colleagues (2016) carried out their literature searches in 2012. I aim to establish whether Kiosses and colleagues' (2016) findings that empathy interventions can increase empathic behaviours can be confirmed in more recent literature in qualified HCP samples, and whether the lack of research addressing empathic attitudes, knowledge, and skills has since been addressed.

1.1.4 Review research question and aims

A review of recent evidence to identify the range and effectiveness of interventions that aim to improve empathy in HCPs will be undertaken.

Aims

The aims of this review are:

1. To update and extend Kiosses et al. (2016) review, focusing on literature from January 2012 to October 2017.
2. To identify interventions available (not limited to RCTs), and to evaluate their efficacy and suitability for use in healthcare settings.
3. To review literature with samples of qualified HCPs as opposed to samples including both students and qualified HCPs as included in Kiosses et al. (2016) review.

1.2 Method

1.2.1 Search Strategy

Studies utilising an intervention that included an aim to improve empathy in healthcare professionals were identified systematically from online search databases (PubMed, CINAHL, PsycINFO, SCOPUS, Web of Science and Cochrane Library). Searching of key databases was carried out in October 2017 using the following strategies.

PubMed and CINAHL: (interven* OR strateg* OR training OR program*) AND (increas* OR improv* OR enhanc*) AND empathy AND ((Health* AND profession*) OR HCP* OR "health personnel"[MeSH terms] OR (Health AND staff))

PsycINFO, SCOPUS, Web of Science: (interven* OR strateg* OR training OR program*) AND (increas* OR improv* OR enhanc*) AND empathy AND ((Health* AND profession*) OR HCP* OR (health AND personnel) OR (Health AND staff))

COCHRANE: Empathy

The search results were limited to publication dates 2012-2017. A total number of 1,252 papers were identified and, once duplicates were removed, 872 papers remained for initial screening. Following title and abstract screening, a total of 267 papers were identified for full-text review (see Figure 1).

1.2.2 Inclusion and Exclusion Criteria

The following inclusion and exclusion criteria were used to guide selection of appropriate studies for the review. In total, 17 papers were identified as meeting inclusion criteria.

Inclusion criteria:

- Specific intervention that included an aim of improving empathy.
- HCP sample (majority of sample, or identifiable in results).
    - Medics: Residents and post-graduate doctors eligible.
- Empathy measured quantitatively.
- Empathy measured pre- and post-intervention.
- Peer reviewed.

Exclusion criteria:

- Papers not written in English (unless translated version available).
- Evaluation of the effects of standard education or staff training on empathy.
- Empathy measured using an unvalidated or single-item measure.
- Systematic reviews, literature reviews or meta-analyses.
- Student samples.

1.2.3 Quality assessment

It is important to consider both methodological and reporting quality of research included in the present review. This allows researchers to understand the research strengths and limitations, and therefore understand if, and to what extent, conclusions can be drawn from the findings.

QualSyst (Kmet, Lee, & Cook, 2004) was used to assess the quality of the research included. QualSyst was developed by Kmet, Lee, and Cook (2004) to enable them to evaluate research paper quality for a systematic review incorporating a wide range of research topics and designs. They had identified existing tools as variable in terms of reliability, validity, feasibility, and utility. QualSyst was chosen due to its applicability in assessing a range of research designs using standardised criteria.

A second reviewer was used, any disagreements were discussed and agreement reached in all cases, see Appendix A for scores. A liberal cut-off score of 55% was applied (Kmet, Lee, & Cook, 2004). One paper (Runyan, Savageau, Potts, & Weinreb, 2016) was considered for exclusion based on a score of 35%. However, due to the limited literature it remained in the review. Particular weaknesses of this paper included data management and analysis, therefore findings and conclusions will be cautiously interpreted and reported.

1.2.4 Data Extraction

The review aimed to consider the range and efficacy of interventions available for increasing HCP empathy. Specifically, this review considered 1) study and participant characteristics, 2) assessment of empathy, 3) interventions, 4) outcomes, 5) clinical and theoretical implications. The full-texts were reviewed by the author and this information extracted if present. A narrative approach was used to synthesise data as a meta-analysis approach was beyond the scope of this review.

1.2.5 Results

The systematic search of the literature found 17 studies that presented and evaluated an intervention for HCPs which included an aim of increasing empathy. The following sections will discuss key similarities and differences between the studies to present comparison and critique. A summary of the key findings of the included studies is provided in Table 1.

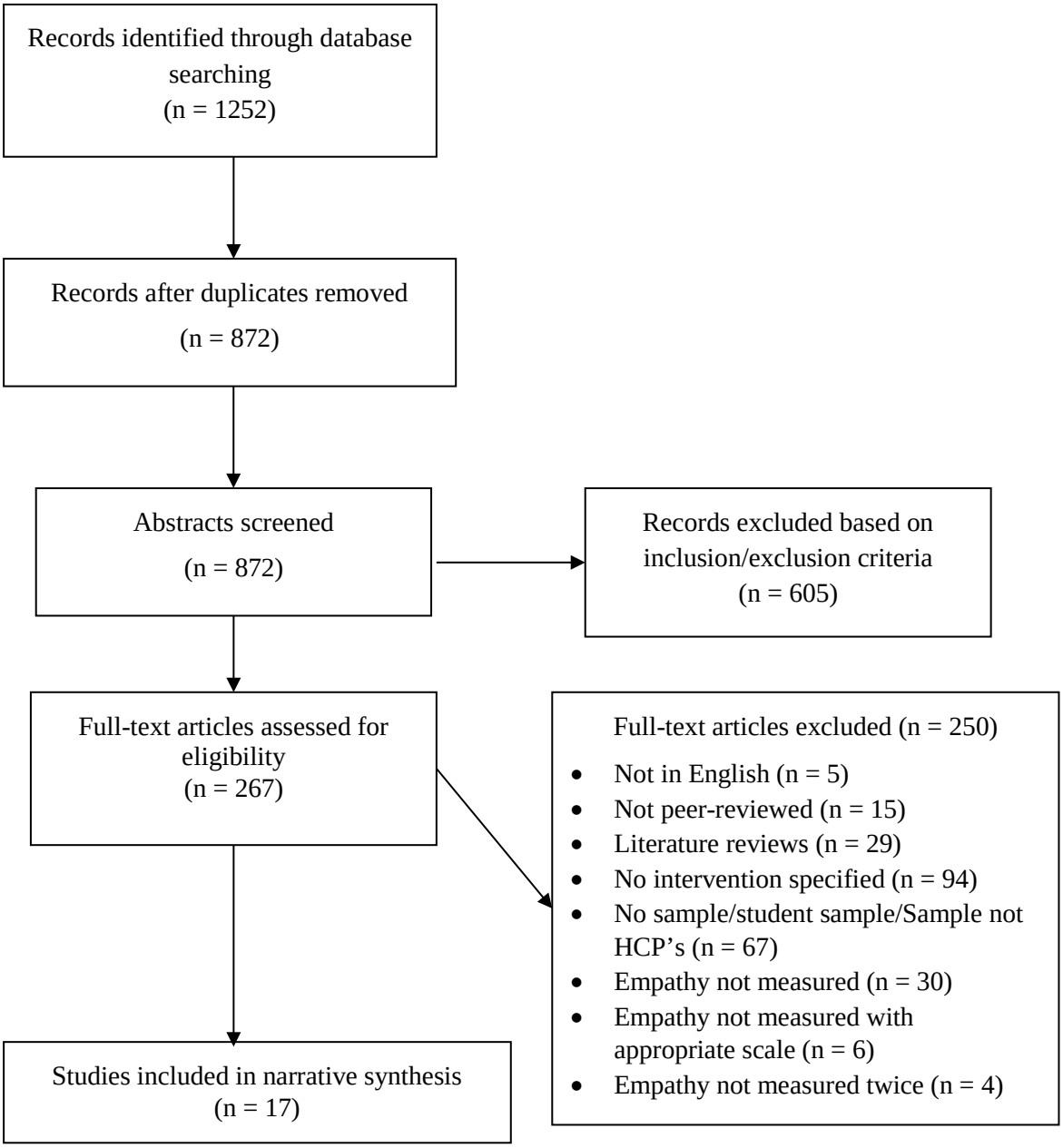


Figure 1. Flow diagram illustrating literature search process.

Table 1

Characteristics of Included Studies

Study ID	Reference	Location	Sample (n)	Intervention	Empathy Measure(s)	Outcome	Effect Size
1	Asuero, A., Queraltó, J., Pujol-Ribera, E., Berenguera, A., Rodriguez-Blanco, T., …Epstein, R. M. (2014)	Spain	Primary healthcare professionals (68; 43 = intervention group, 25 = control group).	Mindfulness Education Program	JSPE	Empathy change in intervention vs control group found a significant difference, *M* = 5.2 (95% CI 0.2 to 10.3).	SES 0.71 (moderate)
2	Barnfather, N., & Amod, Z. (2012)	South Africa	Psychologists, teachers, admin, auxiliary social workers (14) No control group.	Emotional Literacy and Persona Doll Training Programme	IRI	No significant results on 4 IRI subscales (*p* = .10 - .86) indicating there was no change in participants' levels of empathy.	0.05 – 0.44
3	Bry, K., Bry, M., Hentz, E., Karlsson, H. L., Kyllönen, H., Lundkvist, M., & Wigert, H. (2016)	Sweden (Neonatal Intensive Care Unit)	Nurses (13) No control group.	Communication skills training	Clinical conversations recorded and coded	Empathic responses to empathic opportunities increased, pre-19.9%, post 53.8%, *p*=0.027. Non-empathic responses reduced significantly, *p*=0.043.	Not reported

Study ID	Reference	Location	Sample (n)	Intervention	Empathy Measure(s)	Outcome	Effect Size
4	Eritz, H., Hadjistavropoulos, T., Williams, J., Kroeker, K., Martin, R., Lix, L., & Hunter, P. (2016)	Canada (Long-term Care Facilities)	Health staff (99) (Data organised by patient condition: 38 = intervention group, 35 = control group, total patients = 73)	Life history intervention	JSE-HPS	No significant changes for empathy in intervention group. Control group empathy observed to decrease significantly, $t(221)=-2.97$, $p < 0.01$	Not reported
5	Hattink, B., Meiland, F., van der Roest, H., Kevern, P., Abiuso, F., Bengtsson, J., … Dröes, R.-M. (2015)	Netherlands and UK.	Professional caregivers (24; 10 = intervention group, 14 = control group).	STAR training portal	IRI	Statistically significant differences between the experimental (professionals) and control group on 3 subscales of empathy (personal distress, $p < .001$; Empathic-concern, $p < .001$; and perspective-taking, $p = .02$).	η^2 0.46 η^2 0.49 η^2 0.24
6	Johnson, L., Gorman, C., Morse, R., Firth, M., & Rushbrooke, S. (2013)	UK (Oncology and palliative care services)	Oncology and palliative care staff (21; 12 = intervention group, 9 = control group).	Advanced Communication Skills Training course.	CARE (1103 patient responses).	Pre- and post-intervention CARE scores showed no significant difference for the ACST group ($z = -0.837$, $p = 0.403$) or the control group ($z = -0.574$, $p = 0.566$).	Not reported

Study ID	Reference	Location	Sample (n)	Intervention	Empathy Measure(s)	Outcome	Effect Size
7	Johnston, B., Pringle, J., Gaffney, M., Narayanasamy, M., McGuire, M., & Buchanan, D. (2015)	UK (Palliative care hospital wards)	HCPs (17) No control group.	The Patient Dignity Question (PDQ)	CARE (Completed by patients = 30, or their family members = 4)	The CARE failed to show statistical significance from pre-PDQ (*Md*= 43.00) to post-PDQ (*Md*= 43.00), $z = -0.85$, $p = 0.4$.	Not reported
8	Kahriman, I., Nural, N., Arslan, U., Topbas, M., Can, G., & Kasim, S. (2016)	Turkey	Nurses (48; 17 = intervention group, 31 = control group).	Empathy Training Program	ESS	Intervention group scores were found to be statistically significantly higher than control group in the post-intervention test ($p = .015$). Intervention group scores increased significantly ($p = .041$).	Not reported
9	Kemper, K., & Khirallah, M. (2015)	USA	Graduates in the health professions (112) No control group.	Online Mind–Body Skills Training (1 module: Guided Imagery/Hypnosis for Pain, Insomnia, and Changing Habits)	IRI (empathic-concern & perspective-taking subscales)	Empathy improved significantly on both the Empathic-Concern ($p <.01$) and the Perspective-Taking ($p <.01$) subscales.	Not reported

Study ID	Reference	Location	Sample (n)	Intervention	Empathy Measure(s)	Outcome	Effect Size
10	Lases, S., Lombarts, M. H., Slootweg, I., Arah, O., Pierik, E. & Heineman, E. (2016)	Netherlands (Teaching Hospitals)	Surgical residents (69; 22 = intervention group, 47 = control group).	Mind Fitness Training	JSPE	Change in empathy not significant in intervention group (p = 0.19) or control (p = 0.69).	Not reported
11	Passalacqua, S., & Harwood, J. (2012)	USA (Long-term Care Facility – for-profit)	Caregivers (26) No control group.	VIPS communication skills training	IRI (5 items from perspective-taking and empathic-concern subscales)	A change in empathy approaching significance (p < .10, actual value not reported).	d = 0.73
12	Pehrson, C., Banerjee, S., Manna, R., Shen, M., Hammonds, S., Coyle, N., … Bylund, C. (2016)	USA (Cancer Centre)	Inpatient nurses (248) No control group.	Communication skills training module	Comskil Coding system.	Nurse self-efficacy in responding empathically increased significantly (p <.001). A significant increase pre-to-post training in Standardised Patient ratings of the nurses' use of empathic skills (Normalising, p <.01; encouraging, p <.05; praising, p <.05).	Not reported

Study ID	Reference	Location	Sample (n)	Intervention	Empathy Measure(s)	Outcome	Effect Size
13	Runyan, C., Savageau, J., Potts, S., & Weinreb, L. (2016)	USA (Family Medicine Health Centres)	Family residents PGY2 (12) No control group.	Wellness Curriculum	JSE	No significant results (*p* values not reported). The range of JSE scores shifted from pre- (71-130) to post- (115-134) measurement suggesting a narrower range of scores toward increase in empathy.	Not reported
14	Verweij, H., Waumans, R., Smeijers, D., Lucassen, P., Donders, A., van der Horst, H., & Speckens, A. (2016)	Netherlands (University Hospitals)	GP trainers (50; 30 = intervention group, 20 = control group).	Mindfulness-based stress reduction training	JSE-S	Between groups differences post-intervention not significant (0.20 [95% CI -4.45 to 4.93]).	$d = 0.02$
15	Wacker, R., & Dziobek, I. (2016)	Germany (Public Health Organisation)	Health professionals (56; 29 = intervention group, 27 = control group).	Non-violent communication training	SPF (German variant of IRI) - 2 subscales. Empathic distress measured by personal distress subscale of SPF	No significant improvements in perspective-taking ($p = .19$) and empathic-concern subscales ($p = .67$) Interaction between personal distress and NVC, $F(1,49) = 4.71$, $p < .05$, $\eta_p^2 = .09$, 95% CI [.003, .225]. A significant decrease in the intervention group ($M_{pre} = 2.25$, $M_{post} = 1.90$, $p < .01$).	$\eta_p^2 = .09$

Study ID	Reference	Location	Sample (n)	Intervention	Empathy Measure(s)	Outcome	Effect Size
16	Wilkinson, H., Whittington, R., Perry, L., & Eames, C. (2017a)	UK (Forensic Wards – NHS)	Clinical staff (154; 78 = intervention group, 76 = control group).	Psychological formulation of case study	IRI-A (fantasy scale omitted), EQ-SF	Formulated patient information did not significantly effect participants' scores on IRI-A, *p* values ranged from .095 to .830). Formulation mode was not a significant predictor of empathic-concern or perspective-taking. Positive correlations between EQ-SF and empathic-concern (*p* < .05) and perspective-taking (*p* < .05).	*r* = .382 *r* = .256
17	Yang, K.-T., & Yang, J.-H. (2013)	Taiwan (Hospital)	Clerks and PGY1 (110) No control group.	Visual arts-based program	JSPE	No statistically significant change in JSPE scores. The pretest JSPE for the subgroup of PGY1s was significantly lower than the clerks (*p* = .036).	*d* = .553

Note. JSPE: Jefferson Scale of Physician Empathy (Hojat et al., 2001); JSE-HPS: Jefferson Scale of Empathy Health Professional Student version (Hojat, Gonnella, & Maxwell, 2009); IRI: Interpersonal Reactivity Index (Davis, 1980); IRI-A: Interpersonal Reactivity Index Adapted; CARE: Consultation and Relational Empathy Measure (Mercer, Maxwell, Heaney, & Watt, 2004); ESS: Empathic Skill Scale (Dökmen, 1988); EQ-SF: Empathy Quotient Short-Form (Wakabayashi et al., 2006); SPF: Saarbrücker Persönlichkeitsfragebogenwhich (Paulus, 2009). PGY1: Post-graduate Year One medic; PGY2: Post-graduate Year Two medic.

1.3 Results and Synthesis

1.3.1 Study and participant characteristics

1.3.1.1 Location

Figure 2. Map illustrating locations of included research papers.

All research reported took place in developed countries, although they have different healthcare systems. For example, four countries have public state-funded healthcare systems (Spain, Canada, United Kingdom, and Sweden). Other systems include compulsory health insurance, contributions are calculated based on earnings or subsidised for those who cannot afford premiums (Turkey, Germany, Netherlands, Taiwan). The USA has a complicated healthcare system involving citizens requiring health insurance, with initiatives such as Medicare and Obamacare ensuring people under the poverty line can be insured. The organisation in the South African paper (Barnfather & Amod, 2012) is a non-governmental organisation (NGO), usually non-profit and active in areas such as healthcare and education, examples include charities.

1.3.1.2 Profession

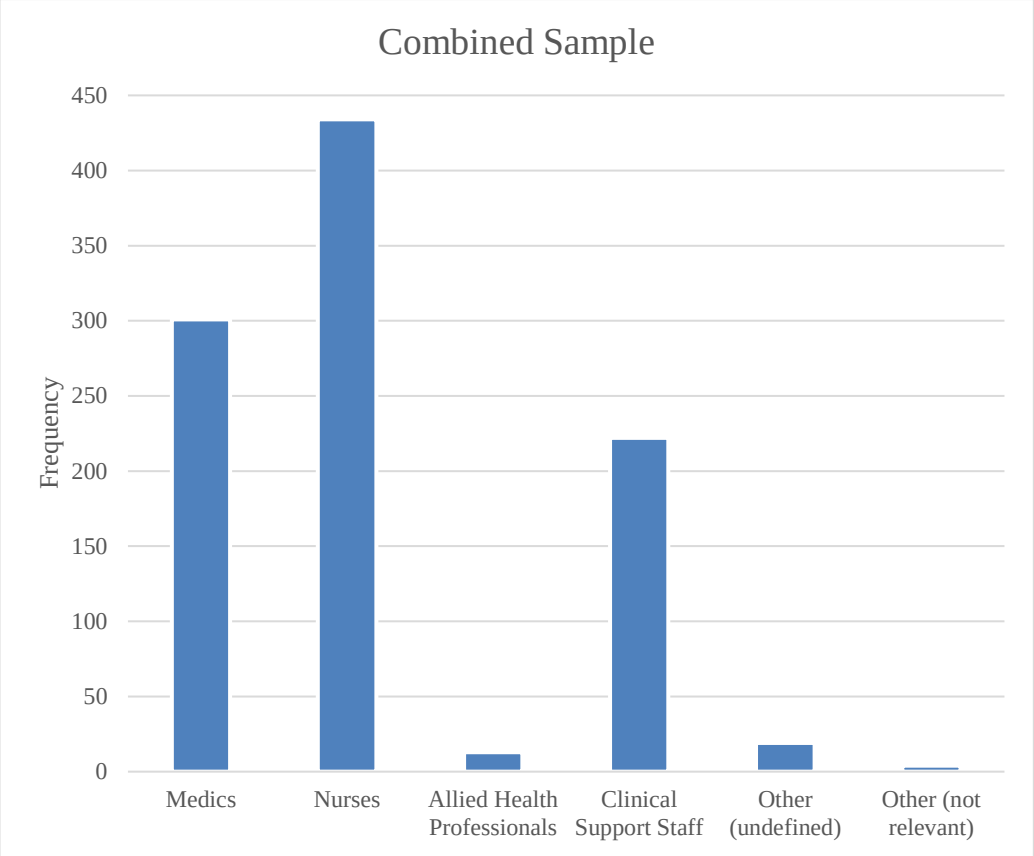


Figure 3. Graph showing the professions of the combined sample[1].

Samples varied in professions. Grouping of professions includes allied health professionals (1.3%), namely psychologists, social workers, radiologists, dentists, physiotherapists, pharmacists; and clinical support staff (22.4%) such as carers, support workers, and auxiliary social workers. The majority of the pooled samples were nurses (43.7%), closely followed by medics (30.3%) which included doctors, surgeons, residents and clerks. The rest of the sample was either not defined in profession (1.9%) or not relevant but part of the sample (0.4%), such as administrators or teachers.

[1] Wacker and Dziobek (2016) did not provide specific information about their sample professions, this study had a sample of 56 HCPs. Kemper and Khirallahs' (2015) sample consisted of 112 HCPs who accessed the online training module that used an empathy measure. The profession categories used did not correspond to those used by the reviewer. These samples have not been included in the chart above or the total sample when referring to percentages for ease of calculation.

NHS workforce statistics for November 2017 (NHS Digital, 2018) indicated doctors made up 10.3%, nurses (including midwives and health visitors) 29.1%, scientific therapeutic and technical staff 12.8%, and finally support to clinical staff 29.7%, of the workforce. In comparison to the NHS workforce, it appears medics and nurses are over-represented in the research presented, and therapeutic staff under-represented. Nine studies included homogenous samples with one profession, whilst the remaining eight samples included two or more professions. Some interventions were aimed at specific professionals, e.g., doctors, which explains the homogenous samples. It is important to note the NHS workforce statistics may not represent healthcare services in other countries and therefore comments on proportions or underrepresentation may not be accurate for other researched countries.

1.3.2 Study design

Study design is important to consider as it can indicate the quality of research, and influences our ability to draw conclusions, update theory, or clinical practice based on the empirical research.

The majority of the research included in this review employed within-groups pre- and post-measurement designs (n = 9, 53%; Barnfather & Amod, 2012; Bry et al., 2016; Johnston et al., 2015; Kahriman et al., 2016; Passalacqua & Harwood, 2012; Pehrson et al., 2016; Runyan et al., 2016; Wacker & Dziobek, 2016; Yang & Yang, 2013). Four studies (24%) included a control group within a pre- and post-measure design (Johnson et al., 2013; Lases et al., 2016; Verweij et al., 2016; Wilkinson, Whittington, Perry, & Eames, 2017a). Only three (18%) of the papers utilised a RCT design (Asuero et al., 2014; Eritz et al., 2016; Hattink et al., 2015), and a final paper described a prospective-cohort design (Kemper & Khirallah, 2015). Four of the 17 papers reported using mixed methods and included a qualitative component in addition to the quantitative components above (Eritz et al., 2016; Johnston et al., 2015; Lases et al., 2016; Passalacqua & Harwood, 2012).

A minority of the studies referred to power calculations (18%; Eritz et al., 2016; Runyan et al., 2016; Wilkinson, Whittington, Perry, & Eames, 2017a) or whether the sample size, and therefore power, for their analyses was sufficient (35%; Barnfather & Amod, 2012; Johnston et al., 2015; Lases et al., 2016; Passalacqua & Harwood, 2012; Verweij et al., 2016; Yang & Yang, 2013). The latter comment was often made in the

discussion, particularly regarding non-significant results, therefore a lack of power calculations *a priori* was noted.

One paper (Eritz et al., 2016) employed follow-up measurement to establish change, repeating measures 46 days (on average) following the post-intervention measures. In addition, Pehrson and colleagues (2016) described using longer-term follow-up, asking nurses to rate frequency of empathic skills use over the 6-months following training. Although nurses reported an increase in skill use, this was not comparable to any pre-intervention data.

The post-intervention measures were completed at a variety of time points, e.g., immediately after to 3-months following intervention. In order to address test-retest reliability the measures used required consideration. Wacker and Dziobek (2016) stated SPF had been previously used to assess change in state empathy over 8-weeks and cited Birnie, Speca and Carlson (2010). Wilkinson, Whittington, Perry, and Eames (2017a) describe test–retest reliability of the Interpersonal Reactivity Index (IRI) for a 60–75-day period (r = 0.61–0.81; Yu & Kirk, 2009). No other papers justified the time-period for repeating measures.

1.3.3 Assessment of empathy

1.3.3.1 Definition of empathy

As outlined in the introduction, empathy is difficult to define and has resulted in a confusing and contradictory state of the literature. It is important to establish the definitions used by papers included in this review in order to establish clarity about the empathic construct being tested.

The number of studies defining empathy in their introduction was low; 11 papers (65%) failed to include any definition which is a distinct limitation of the literature reviewed (Asuero et al., 2014; Bry et al., 2016; Eritz et al., 2016; Hattink et al., 2015; Johnston et al., 2015; Kemper & Khirallah, 2015; Lases et al., 2016; Passalacqua & Harwood, 2012; Runyan et al., 2016; Verweij et al., 2016; Yang & Yang, 2013).

Wilkinson, Whittington, Perry, and Eames (2017a) distinguished between state and trait empathy which provided justification for their choice of measures. Trait empathy was described as a “raw, basic human reaction of one person to another” (p. 159) and they cite

Kunyk and Olson (2001) to suggest that empathy can be reinforced rather than taught. State empathy was described as having cognitive and behavioural dimensions although further explanations of these dimensions were lacking.

Kahriman et al. (2016) employed several references to illustrate a multi-dimensional concept of empathy including emotional, cognitive, communicative, behavioural, moral, and relational dimensions, although each was not explained in detail. This was the only paper referring to a moral aspect, although other papers referred to some of the other terms in various combinations which are outlined below.

Two of the remaining six papers described two components appearing to encompass cognitive and behavioural elements. Namely, understanding the experiences, feelings, perspectives, beliefs of another; and the ability to communicate this to the other (Johnson et al., 2013; Pehrson et al., 2016). Pehrson et al. (2016) chose to focus on cognitive and behavioural empathy, explaining people learning empathic skills only require a cognitive understanding of an individual's feelings.

Regarding an emotional component of empathy, Wacker and Dziobek (2016) defined "empathic distress" as an affective reaction to others emotions' and state it occurs particularly when HCPs over-identify with patients. Eritz et al. (2016) cited Hojat and colleagues' (2001) definition which includes feeling like the other. Davis' (1983) definition, described by Wacker and Dziobek (2016), and Barnfather and Amod (2012), includes personal distress which can be understood as a self-oriented, rather than other-oriented, emotional experience. The reviewer would suggest these descriptions refer to the same concept and fit with Davis' (1983) description of "personal distress".

Johnson et al. (2013) described a relational aspect of empathy by outlining Mercer and Reynolds' (2002) idea that patient perception of the relationship indicates how effective empathic responses have been, providing a robust rationale for using a patient-rated measure in their research.

Davis' (1983) work was cited in two studies (Barnfather & Amod, 2012; Wacker & Dziobek, 2016), which includes perspective-taking, imagining oneself in the others situation, personal distress, and other-oriented empathic-concern. Barnfather and Amod (2012) use this definition to explain why empathy is required in the individuals attending

their training programme. Wacker and Dziobek (2016) discussed evidence suggesting personal distress is a distinct concept, giving justification for their use of measurement.

1.3.3.2 Measurement of empathy

Due to the range of ways to measure empathy, each with strengths and limitations, it was considered valuable to explore this further in this review. Thirteen (76%) studies used self-report questionnaires, two (12%) used patient-report measures, and two (12%) used coded behaviours or speech.

Outcome measure descriptions varied in quality. Three papers described the measures in detail including multiple psychometric qualities such as Cronbach's alpha indicating internal consistency, test-retest reliability, and convergent validity (Barnfather & Amod, 2012; Wacker & Dziobek, 2016; Wilkinson et al., 2017a). A further six studies descriptions of the measures included only one psychometric quality or referred to psychometric properties without data, e.g., "excellent psychometric properties" or "validated" (Asuero et al., 2014; Eritz et al., 2016; Johnson et al., 2013; Kahriman et al., 2016; Passalacqua & Harwood, 2012; Yang & Yang, 2013). Five studies simply named the measures (Johnston et al., 2015; Kemper & Khirallah, 2015; Pehrson et al., 2016; Runyan et al., 2016; Verweij et al., 2016) and three offered brief descriptions (Bry et al., 2016; Hattink et al., 2015; Lases et al., 2016).

Due to a lack of definitions provided it has not been possible to determine the authors rationale for the choice of measure from a theoretical perspective for most of the papers reviewed. The measures utilised are summarised in Table 2 and explored below.

Table 2

Summary of Psychometric Measures Used in Included Studies

Measure	Type	Frequency
Jefferson Scale of Empathy (JSE) or variant	Self-report HCP questionnaire	6
Interpersonal Reactivity Index (IRI) or variant	Self-report questionnaire	6
Empathic Skill Scale (ESS)	Self-report questionnaire	1
Empathy Quotient Short Form (EQ-SF)	Self-report questionnaire	1
Consultation and Relational Empathy Measure (CARE)	Patient-report questionnaire	2

1.3.3.2.1 HCP Self-report

Jefferson Scale of Empathy (JSE; Hojat et al., 2001).

Six studies used a variant of the JSE (Asuero et al., 2014; Eritz et al., 2016; Lases et al., 2016; Runyan et al., 2016; Verweij et al., 2016; Yang & Yang, 2013). JSE is also known as JSPE (physicians/HCPs), JSE-S (medical students), JSE-HP (health-professionals), and JSE-HPS (health-professional students). The reviewer established the JSE (or variants) is available in 55 languages, validated, and specific to healthcare (Hojat, 2016). Asuero and colleagues (2014) described three subscales measuring "compassionate care", "walking in patients' shoes", and "perspective-taking", the latter two subscales appearing to possibly be the same concept. Eritz et al. (2016) reported Cronbach's alphas for JSPE-HP had previously ranged from .87 to .89 (Davis, 1980; Fields et al., 2004), however theirs ranged from .27 to .52, below the recommended minimum value of .7 (Cronbach, 1951). Asuero et al. (2014) reported a Cronbach's alpha of .74 for JSE, and Yang and Yang (2013) reported .81 for JSE-S. Eritz et al. (2016) described acceptable convergent and divergent validity, and high internal consistency. Three papers did not report any psychometric data (Lases et al., 2016; Runyan et al., 2016; Verweij et al., 2016).

None of the studies reported test-retest reliability despite using the measure to assess change. Hojat et al. (2002) report a test-retest reliability for JSE-HP of 0.65 for 3-4 month intervals. The intervals in the reviewed papers ranged from 8-days to 3-months,

leaving uncertainty as to whether the time-frames of repeated measures were appropriate. Lases et al. (2016) did not provide information on the timing of measure completion.

Interpersonal Reactivity Index (IRI; Davis, 1980)

Six studies used the IRI or sections of it (Barnfather & Amod, 2012; Hattink et al., 2015; Kemper & Khirallah, 2015; Passalacqua & Harwood, 2012; Wacker & Dziobek, 2016; Wilkinson, Whittington, Perry, & Eames, 2017a). The IRI has four subscales, two self-oriented (personal distress and fantasy) and two other-oriented (empathic-concern and perspective-taking). Wilkinson, Whittington, Perry, and Eames (2017a) cite Konrath (2013) who advises researchers use subscales relevant to their study as the questionnaire is not designed to have a total score. Two studies used the empathic-concern and perspective-taking subscales, one study excluded the fantasy subscale. Further information from Yarnold, Bryant, Nightingale, and Martin (1996) suggested the empathic-concern and perspective-taking subscales were likely to reflect empathy, whereas personal distress and fantasy were likely to reflect sympathy. Wacker and Dziobek (2016) used a measure called the "Saarbrücker Persönlichkeitsfragebogenwhich" (SPF: Paulus, 2009) described as the German IRI. Passalacqua and Harwood (2012) used five items from IRI and stated Cronbach's alphas were between .60-.69. Although this appears lower than recommended this may be due to a fewer number of items included (Field, 2013). Passalacqua and Harwood (2012) explain they reduced the number of questions due to the limited literacy skills of participants, however, it is not stated how they chose which questions to use.

Wilkinson, Whittington, Perry, and Eames (2017a) reported psychometrics such as internal consistency at (α = .70–.78) and test–retest reliability over a 60–75-day period (r = 0.61–0.81; Yu & Kirk, 2009) indicating reliability was questionable, although they did not use a repeated-measures design. Wacker and Dziobek (2016) cited Birnie et al. (2010) who reported successful use of the SPF to examine change over 8-weeks, although the IRI is generally recognised as measuring trait empathy. Hattink et al. (2015), Passalacqua and Harwood (2012), and Wacker and Dziobek (2016) completed post-intervention measures between 8-12 weeks, which appears appropriate given the psychometrics presented by Wilkinson, Whittington, Perry, and Eames (2017a). However, Kemper and Khirallah (2015) required participants to complete the IRI immediately following the 1-hour module, which may not be advised.

Wording of IRI items can be changed to enable measurement of state empathy rather than trait empathy (e.g., Wilkinson, Whittington, Perry, & Eames, 2017a), for example by changing the wording of items to the present tense or to refer to a particular target. Other studies did not adapt the IRI in this way and therefore it could be suggested they have measured trait empathy, and should not have drawn conclusions about changes in state empathy based on their results (Hattink et al., 2015; Kemper & Khirallah, 2015; Passalacqua & Harwood, 2012; Wacker & Dziobek, 2016).

Further research (see Davis, 1980; Davis, 1983; Davis & Franzoi, 1991) validated the IRIs multidimensional conceptualisation of empathy by demonstrating the four dimensions constituted unique, but related, aspects of empathy. A number of studies have shown the IRI provides a reliable and valid way of measuring empathic tendencies (see Davis, 1994, for a review).

Empathic Skill Scale (ESS; Dökmen, 1988)

The ESS is briefly described in Kahriman and colleagues' (2016) paper, however the measure itself is not included nor psychometric data or development information. Information about the ESS was found (Buyuk, Rizalar, Güdek, Güney, 2015) and describes the measure as six problem statements about a target, and 12 empathic statements that could be communicated to the target in response. Respondents are asked to choose four responses; the total score can range from 62-219 and higher scores indicate higher empathy levels. ESS scores are interpreted as very low (62-92), low (93-124), medium (125-156), high (157-188) and very high (189-219) (Dökmen, 1988; as cited in Buyuk et al., 2015). The ESS appears to only be used in Turkish studies.

Empathy Quotient-Short Form (EQ-SF; Wakabayashi et al., 2006).

The EQ-SF was used by Wilkinson, Whittington, Perry, and Eames (2017a). Additional information indicates the original EQ was developed by Baron-Cohen and Wheelwright (2004), initially for use with adults with Autism to assess deficits in empathic abilities. It has been used in general populations, however, does not appear to have been used specifically in healthcare. Wilkinson, Whittington, Perry, and Eames (2017a) reported good internal consistency (α = .83) when using their data. The use of EQ-SF and IRI by Wilkinson, Whittington, Perry, and Eames (2017a) was not explained, although they distinguished between trait and state empathy and adapted the IRI to measure state

empathy, therefore it could be inferred the EQ-SF was used to measure trait empathy. Wilkinson, Whittington, Perry, and Eames (2017a) did not report test-retest reliability, however Jankowiak-Siuda et al. (2017) reported the Polish EQ-SF obtained $r = 0.85$; ($p < 0.001$) after a 4-week interval. Further information about the application of EQ-SF has not been possible to establish.

1.3.3.2.2 Patient self-report

Consultation And Relational Empathy Measure (CARE; Mercer et al., 2004).

Initially developed and used by GPs, the healthcare specific measure has since been used in a variety of professions. Two studies used this patient-report measure of empathy experienced in a relationship with a caregiver (Johnson et al., 2013; Johnston et al., 2015).

Johnson et al. (2013) state 40 or more patients are required to complete the CARE per HCP to achieve an overall reliability coefficient of above .7 (Mercer & Murphy, 2008). However, they reduced this to 20 patients per HCP in their research and therefore the reliability of the data could be questioned. No psychometric information was provided. Based on the information provided by these authors test-retest reliability and the recommended interval between repeated administrations is unclear.

Hemmerdinger, Stoddart, and Lilford (2007) found the CARE was the only validated measure of the patient perspective, therefore offering a unique viewpoint. The measure was developed based on patient interviews, ensuring what is important to patients in clinical interactions is measured. A critique of using this measure alone is the patient perspective is one side of the relational experience of empathy, the clinicians' cognitive perspective is not captured or understood, their behaviours or rather the patients' experiences of their behaviours are focused upon. The CARE is based on a broad definition of empathy (Mercer et al., 2004) rather than a more specific definition, which may mean other aspects or factors or experiences may be being measured other than empathy.

1.3.3.2.3 Coded behaviours/speech

Bry et al. (2016) and Pehrson et al. (2016) used recordings to code clinician behaviours or speech during interactions, although Pehrson and colleagues (2016) used Standardised Patients (actors representing patients) whereas Bry et al. (2016) used genuine

clinical encounters. In Bry and colleagues' (2016) research, HCPs chose which patients to record interactions with and therefore this may have introduced bias into the data. Both studies referred to coding for "empathic opportunities" and described these similarly as expression of emotion by the patient. Both studies then coded the clinicians' response.

Bry et al. (2016) coded whether the response to each empathic opportunity was empathic; exploring; generalising; ignoring; or, inadequate advice. Inter-rater reliability and psychometric information was not reported, however, Bry et al. (2016) explain the four authors coded independently, discussed disagreements, and reached consensus.

Pehrson et al. (2016) used the ComSkil Coding System which codes speech for the following skills: acknowledgement; normalising; validating; praising efforts; and, encouraging expression of emotion. In addition, the Standardised Patient rated the encounter using a checklist of empathic skills based on the Comskil Coding system. This is a valuable addition to this research and one of few studies which included a patient-perspective measure, although a validated measure may have made for more robust research. This study also had a longer-term follow-up asking nurses to rate the frequency with which they used the skills learnt, however this was not comparable to any pre- or post-intervention data. The reader is not given any information about the ComSkil Coding system, its development or psychometric properties. Pehrson and colleagues (2016) describe an inter-coding reliability assessment which indicated 75.5% agreement.

1.3.3.3 **Other Measures**

Fourteen studies used additional measures aside from those used to assess empathy, the total number of measures completed by participants in each study varied (M = 3.6, *range* 1-8). Additional areas measured included burnout, mindfulness, stress, self-compassion, attitudes towards dementia, mood, and intervention evaluation.

In summary, the majority of studies have not addressed the psychometrics of the measures they have used sufficiently to aid understanding as to why they have chosen a measure and its suitability for their study design and aims. This is identified as an area for improvement.

1.3.4 Interventions

Intervention duration varied from 5-minutes to 4-months, however, the total contact time for some interventions was not available (Barnfather & Amod, 2012; Eritz et al., 2016; Johnston et al., 2015; Lases et al., 2016). Two interventions were delivered online and no record of time taken was made. Thirteen interventions were delivered face-to-face or in real-life clinical settings. The remaining two interventions involved reading a vignette or information about a patient HCPs were working with.

The content of the interventions varied greatly. Five studies (29%; Bry et al., 2016; Johnson et al., 2013; Passalacqua & Harwood, 2012; Pehrson et al., 2016; Wacker & Dziobek, 2016) described communication skills training (CST), one of these being defined as non-violent communication skills training (NVC). There is no manual for delivering CST or guidance on content and therefore programmes can vary greatly and still be referred to as CST. A lack of consistency in content makes it difficult for CST to be evaluated or for conclusions about the approach to be drawn. It could be questioned whether communication skills actually improve empathy or simply teach certain behaviours (Sheldon, 2013).

Five interventions reported focused on the clinicians' wellbeing and included a mindfulness aspect (Asuero et al., 2014; Kemper & Khirallah, 2015; Lases et al., 2016; Runyan et al., 2016; Verweij et al., 2016). Mindfulness-based stress reduction (MBSR) featured in two studies (12%; Asuero et al., 2014, Verweij et al., 2016). Asuero et al. (2014) described the intervention as including group psychoeducational activities. Verweij et al. (2016) described their intervention as focused on issues faced by GPs, however followed the programme developed by Jon Kabat-Zinn. It is unclear how the programme was adapted. The interventions described by both papers were approximately 28-hours in duration, although Verweij and colleagues (2016) described 30-45-minute daily practices in addition. These interventions appear to be comparable to a full therapeutic intervention and therefore may not be practical or feasible in other healthcare settings.

Mind-body skills training (Kemper & Khirallah, 2015) was described as an online intervention consisting of 12 one-hour modules drawing on meditation, mindfulness, guided imagery and hypnosis. The empathy related module was Guided Imagery/Hypnosis for Pain, Insomnia, and Habits although no further description was given. Mind-fitness training was described as based on mindfulness, with meditation, self-awareness exercises,

discussions, and application to work life, alongside home practice (Lases et al., 2016). A Wellness curriculum aimed to teach skills to promote resilience and prevent burnout from occurring through techniques such as mindfulness, narrative medicine, cultivating gratitude, values, self-care and developing personal boundaries in clinical practice (Runyan et al., 2016). These interventions focused on reducing burnout and/or increasing resilience, and papers were included due to their secondary aim of having an impact on empathy toward patients. It may not be perceived as reasonable to use these in healthcare settings where a need has been identified to increase empathy as this is not the primary aim of the interventions. Three of the five studies used Doctors (GPs, residents, or surgical residents), perhaps illustrating a bias in the research for aiming to improve the wellbeing of Doctors rather than other HCPs, given the percentage of Doctors making up the healthcare workforce.

Three studies (18%) described interventions involving patients' information (Eritz et al., 2016; Johnston et al., 2015; Wilkinson, Whittington, Perry, & Eames, 2017a). Eritz and colleagues (2016) displayed the patients' life story (versus medical history control) for staff to read. Johnston et al. (2015) asked patients "What do I need to know about you as a person to take the best care of you I can?", referred to as the Patient Dignity Question. Answers were summarised and this information displayed in medical records and patient rooms. Lastly, a study in forensic mental health services gave participants either a case vignette with a psychological formulation or without. These studies therefore included personal patient information staff may not know under normal circumstances. Therefore, it could be inferred these studies expected change to occur based on increasing understanding of the patient being related to increasing empathy.

Two creative approaches included a visual-arts programme (Yang & Yang, 2013) and empathy training utilising creative drama techniques such as roleplay and improvisations (Kahriman et al., 2016). Attendance of the visual-arts programme was mandatory for clerks and post-graduate doctors. The 4-hour session included stories, images, interpreting paintings and discussion about values and meanings. Kahriman and colleagues (2016) provide detail regarding the content which is helpful for understanding the intervention, however it is unclear whether the intervention focuses more on communication skills. This research provides evidence that a range of methods are useful in training adults, and suggests empathy skills improve, however, without a strong

evidence base and theoretical basis it may be difficult to utilise these approaches in healthcare settings.

The Persona Doll Progamme is a specific programme delivered in South Africa and trains people who have contact with children to build emotional literacy and have difficult conversations through using Persona Dolls (Barnfather & Amod, 2012). These individuals are frequently teachers, however, the sample also included psychologists and assistant social workers hence the inclusion in this review. The intervention aim was to train individuals to have conversations with children, and empathy levels were evaluated following training to establish if the programme increased participants' empathy levels. This paper was included based on the relevant sample, specific intervention, and pre- and post-intervention empathy measurement, however the intervention does not appear transferable to increasing empathy in HCPs.

Finally, an e-learning intervention aiming to increase participants knowledge and improve attitudes about dementia was delivered (Hattink et al., 2015) to professional caregivers, volunteers in dementia care, and informal carers (e.g., family). This study was included in the review as it provided specific analysis of the professional caregivers' data separately from the volunteer/informal carers. We are unable to ascertain how much time participants spent engaging in the intervention, what they understood from it, and if their practice changed as a result.

There is a broad range of interventions presented in this review, the most popular being based on communication skills or wellness in HCPs. Some interventions appeared less relevant and less transferable to a healthcare setting (e.g., Barnfather & Amod, 2012; Yang & Yang, 2013). Assuming the need identified in services is to increase HCP empathy, face validity of the interventions may need to be considered as some do not directly aim to improve empathy. The duration of interventions is also likely to impact upon the selection of interventions for use in healthcare settings due to resources required. It is also important to consider the characteristics of the participants, and potential future HCP participants, with regards to empathy, stress and burnout levels and whether the intervention is effective for all attending or only those identified as in need.

To consider the applicability of the interventions to healthcare settings various aspects have been reflected upon. The Persona Doll Programme (Barnfather & Amod, 2012) does not appear transferable or applicable to HCPs or healthcare. STAR e-learning

(Hattink et al., 2015) appears to be aimed predominantly at volunteers or informal carers rather than professionals and therefore may not be beneficial for HCPs. CST approaches appear applicable to HCPs and accessible to a variety of professions as indicated by the samples. However, there is no agreed upon content for CST and therefore we cannot draw conclusions about the approach without more clarity and consistency. Wellness interventions are predominantly aimed at Doctors, however two utilised mixed HCP samples studies (Asuero et al., 2014; Kemper & Khirallah, 2015), illustrating accessibility to a range of professions. However, these approaches tend to focus on resilience, burnout or stress, rather than empathy for patients which may influence their face validity if the identified need is low empathy. Approaches such as MBSR are akin to a full therapeutic intervention and therefore perhaps unsuitable for the need identified. Patient information interventions may be of use in inpatient hospitals or long-term care facilities but perhaps not feasible or appropriate in short-term care or one-off interactions, however the interventions appear accessible to a variety of professions. The creative approaches of Kahriman et al. (2016) and Yang and Yang (2013) illustrate novel ideas aiming to increase empathy, however these approaches may not be acceptable in terms of face validity, theoretical evidence and staff readiness to engage, therefore impacting on their utility in healthcare.

1.3.5 Outcomes

Twelve of 17 studies reported improvements in empathy levels, however only seven of these 12 were statistically significant (Asuero et al., 2014; Bry et al., 2016; Hattink et al., 2015; Kahriman et al., 2016; Kemper & Khirallah, 2015; Pehrson et al., 2016; Wacker & Dziobek, 2016), see Table 3 for summary. One study reported a significant decrease in personal distress (measured by IRI) which was described as an improvement (Wacker & Dziobek, 2016). A lack of explanation regarding measure scoring means interpretation is not possible for three post-intervention empathy scores (Kemper & Khirallah, 2015; Pehrson et al., 2016; Wacker & Dziobek, 2016). Using information from Buyuk et al. (2015), the ESS post-intervention scores can be described as “high” empathy, in comparison to “medium” pre-intervention (Kahriman et al., 2016). Hattink and colleagues’ (2015) results indicate significant increases in empathic-concern ($Mpre$ = 12.9, $Mpost$ = 20.3, $p < .001$) and perspective-taking ($Mpre$ = 13.30, $Mpost$ = 19.1, $p < .02$), alongside a decrease in personal distress ($Mpre$ =13.30, $Mpost$ = 7.5, $p < .001$) for the

intervention group with large effect sizes. Information was not presented by Bry et al. (2016) to enable interpretation of post-intervention empathy.

The studies reporting significant results ranged from 2-hours to 4-months duration. Two of the seven studies reported a CST approach, one was 2-hours (Pehrson et al., 2016) and one approximately 9-hours (Bry et al., 2016), both used coded conversations to measure empathy. Pehrson et al. (2016) also used empathic skill ratings from Standardised Patients, generating the only significant result from a patient perspective. Standardised Patient Assessments may be difficult to use in practice as they take time, resources and preparation. Two studies described online training; mind-body skills (Kemper & Khirallah, 2015) and dementia awareness (Hattink et al., 2015), and both utilised the IRI to assess change. The final three studies described face-to-face programmes in Mindfulness Education (Asuero et al., 2014), Empathy Training (Kahriman et al., 2016) and Non-Violent Communication (Wacker & Dziobek, 2016) and ranged from 20–28 hours, utilising the JSPE, ESS, and SPF, respectively. The samples were nurses (Bry et al., 2016; Kahriman et al., 2016; Pehrson et al., 2016), three mixed HCP samples (Asuero et al., 2014; Kemper & Khirallah, 2015; Wacker & Dziobek, 2016), and one of professional carers (Hattink et al., 2015).

Table 3

Characteristics of Seven Studies Reporting Statistically Significant Improvements in Empathy Levels

Study ID	Reference	Type of intervention	Length of intervention	Sample and Location	Empathy measure
1	Asuero, A., Queraltó, J., Pujol-Ribera, E., Berenguera, A., Rodriguez-Blanco, T., …Epstein, R. M. (2014)	**Mindfulness Education Program.** Group psychoeducation activities and mindfulness practice.	28 hours.	Primary Healthcare Professionals (*n* = 68). Spain.	JSPE
3	Bry, K., Bry, M., Hentz, E., Karlsson, H. L., Kyllönen, H., Lundkvist, M., & Wigert, H. (2016)	**Communication Skills Training.** Lecture and workshop.	9 hours.	Nurses (*n* = 13) in neonatal intensive care unit. Sweden.	Clinical conversations recorded and coded
5	Hattink, B., Meiland, F., van der Roest, H., Kevern, P., Abiuso, F., Bengtsson, J., … Dröes, R.-M. (2015)	**STAR training portal.** 8 modules including text, videos, interactive exercises, knowledge tests.	Own pace within 4 months.	Professional caregivers (*n* = 24). Netherlands and UK.	IRI

Study ID	Reference	Type of intervention	Length of intervention	Sample and Location	Empathy measure
8	Kahriman, I., Nural, N., Arslan, U., Topbas, M., Can, G., & Kasim, S. (2016)	**Empathy Training Program.** Creative drama techniques (roleplay and improvisation).	20 hours.	Nurses (*n* = 48). Turkey.	ESS
9	Kemper, K., & Khirallah, M. (2015)	**Online Mind-Body Skills training.** Module: Guided Imagery/Hypnosis for Pain, Insomnia and Changing Habits. Case study and reflective exercises.	< 12 hours.	Healthcare professionals (*n* = 112, 28% trainees). USA	IRI
12	Pehrson, C., Banerjee, S., Manna, R., Shen, M., Hammonds, S., Coyle, N., … Bylund, C. (2016)	**Communication Skills Training.** Workshop including teaching and roleplay.	2 hours.	Nurses (*n* = 248). USA	Comskil Coding System
15	Wacker, R., & Dziobek, I. (2016)	**Non-violent Communication Training.** Teaching and practical exercises.	21 hours.	Health professionals (*n* = 56). Germany	SPF (German variant of IRI)

Although coding different types of response to empathic opportunities, CST approaches both yielded significant results indicating services could choose to use the 2-hour intervention for cost effectiveness. The online modules are also cost-effective in terms of overheads, however lack analysis of how long or how engaged users are with the content. Specific programmes such as Mindfulness Education and Mind-Body Skills require additional practice and may take more time, motivation and commitment than is indicated by the durations described. The role of outside practice in influencing results was not accounted for.

The synthesis of the research outcomes indicate interventions are available that significantly improve self-reported empathy levels or coded empathy behaviours. Significant improvements in empathic skills ratings were also gained from Standardised Patients (Pehrson et al., 2016), although scoring is not explained and therefore interpretation is not possible. These findings may be particularly important for the review given the emphasis on improving experiences of healthcare for patients. These interventions range in duration and therefore, burden and cost effectiveness, however, if improvements in patient experience occur these factors may be acceptable.

Five studies reported trends towards improvement of empathy levels but had non-significant results (Lases et al., 2016; Passalacqua & Harwood, 2012; Runyan et al., 2016; Verweij et al., 2016; Yang & Yang, 2013). Only one study explicitly reported their analysis being underpowered (Runyan et al., 2016), but others cited small samples as contributing to non-significant results (Lases et al., 2016; Passalacqua & Harwood, 2012; Verweij et al., 2016). Other reasons presented included difficulties with participant understanding of the questionnaire (Passalacqua & Harwood, 2012); a “healthy” sample of residents which Lases et al. (2016) suggests means they did not require an intervention; majority of sample being medical students (Yang & Yang, 2013) although the reasoning behind this statement is not clear. Verweij and colleagues (2016) do not suggest reasons for their non-significant results but later suggestions for future research indicates adequate power may have been an issue. Based on these reviewed papers the five interventions could not be deemed effective in improving HCP empathy. Should these interventions be investigated further with adequate sample sizes it could be possible they could obtain statistically significant results and therefore be considered further as potential interventions for improving empathy.

Factors such as mandatory attendance (e.g., Yang & Yang, 2013) or self-selection (e.g., Asuero et al., 2014; Kemper & Khirallah, 2015; Verweij et al., 2016) may impact on outcomes. It could be suggested participants self-selecting to engage in interventions may be more burnt-out, and therefore more distressed and in need, than colleagues who do not self-select (Verweij et al., 2016). However, contrary views indicate self-selectors are more motivated to engage (e.g., Dossett et al., 2014; McGuire, Bynum, & Wright, 2016) and therefore unlikely to be the individuals who need support.

The variety of healthcare systems present indicate potential differences in funding of the interventions or the potential cost to services. This information could have been helpful in commenting on the feasibility of interventions in both public and private healthcare systems.

1.3.6 Clinical Implications

Many studies recommended further research to either confirm their findings, change the intervention, improve sample size, confirm generalisability, or assess if participants are benefitting from the intervention.

All studies clearly linked their results back to their aims, except Yang and Yang (2013), ensuring findings could be understood in relation to research aims. The significant results indicated improvements in empathic responses to patients or self-efficacy in empathic responding; perspective-taking and empathic-concern; self-reported empathic behaviours or attitudes; and personal distress (Asuero et al., 2014; Bry et al., 2016; Hattink et al., 2015; Kahriman et al., 2016; Kemper & Khirallah, 2015; Pehrson et al., 2016; Wacker & Dziobek, 2016). These improvements could have important clinical implications for healthcare services.

Researchers suggested the interventions would be beneficial, feasible or useful if continued (Barnfather & Amod, 2012; Bry et al., 2016; Kemper & Khirallah, 2015; Passalacqua & Harwood, 2012; Pehrson et al., 2016; Runyan et al., 2016; Wacker & Dziobek, 2016). Three of these studies did not ascertain significant results and therefore these statements are not based on well-supported findings and would require further research (Barnfather & Amod, 2012; Passalacqua & Harwood, 2012; Runyan et al., 2016), particularly Runyan et al. (2016) due to a poor quality rating (Kmet et al., 2004). Other researchers suggested intervention modifications could be helpful including increasing the intensity, duration, or frequency of the intervention; a more targeted intervention for

specific needs; modifying to be cheaper; or changing the approach to increase staff involvement (Eritz et al., 2016; Johnson et al., 2013; Kahriman et al., 2016; Pehrson et al., 2016; Wilkinson et al., 2017a; Yang & Yang, 2013). These suggestions of how the interventions could be modified, would require further research to assess their efficacy.

Wilkinson, Whittington, Perry, and Eames (2017a) referred to the clinical utility of their contribution to theory by suggesting the NHS could screen employees for trait empathy to then train them in state empathy over the course of their employment to ensure their empathic behaviour continued.

Seven studies used a mixed population (Asuero et al., 2014; Bry et al., 2016; Eritz et al., 2016; Johnson et al., 2013; Johnston et al., 2015; Kemper & Khirallah, 2015; Wilkinson, Whittington, Perry, & Eames, 2017a) and therefore it could be speculated the content would be appropriate for a range of HCPs, whereas some studies used one profession (e.g., doctors) and it could be questioned firstly how generalisable the results would be to other professions, and secondly how accessible or appropriate the intervention would be for different professions.

The majority of reviewed interventions were delivered in a number of healthcare settings (76%; Bry et al., 2016; Johnson et al., 2013; Johnston et al., 2015; Kahriman et al., 2016; Lases et al., 2016; Pehrson et al., 2016; Verweij et al., 2016; Wilkinson et al., 2017a; Yang & Yang, 2013), predominantly various physical health hospital wards (e.g., oncology, child health, forensic mental health). Only two studies were delivered in community settings (15%; Asuero et al., 2014; Runyan et al., 2016). It may be valuable to consider whether the interventions in hospital settings could be accessible, applicable, and beneficial in other settings, such as community services or other mental health services.

1.3.7 Theoretical Implications

As previously described, few papers offered definitions or theory about empathy and this remained the case in the discussion sections reviewed. Although, improving empathy was not a primary aim in all papers and therefore authors may have prioritised theory related to their primary aim. Without theory being presented readers are not granted an explanation of the theoretical information influencing the development of interventions and therefore lack an understanding of how or why interventions are expected to be effective.

Two papers are notable in their consideration of theoretical implications of their work with particular focus on empathy (Wacker & Dziobek, 2016; Wilkinson et al., 2017a). These were the only papers to state how their work could be linked or contribute to the theoretical understanding of empathy, in particular the understanding of trait and state empathy, and empathic-concern. Wilkinson, Whittington, Perry, and Eames (2017a) discussed Davis' (1983) theory of empathy and linked this to their results of trait empathy predicting state perspective-taking and empathic-concern scores in response to a vignette. Previous research (Batson & Ahmad, 2009; Vreeke & van der Mark, 2003) indicates people need to be able to perspective-take (cognitive empathy) prior to feeling empathic-concern (affective empathy), perhaps indicating better trait cognitive empathy will enable HCPs to feel more empathic towards patients. In support of this, Wilkinson, Whittington, Perry, and Eames (2017a) found staff scoring highly on trait empathy also scored highly on state empathic-concern.

Wacker and Dziobek (2016) link their results to the concepts of trait and state empathy, explaining there is no evidence to suggest trait empathy can be improved with their intervention, although they suggest participants may increase their awareness of their own internal experiences thus building a basis for being able to do so in others. With regards to their result of reducing empathic distress in response to a vignette (state empathy) the authors suggest NVC training may contribute to managing emotions and the ability to differentiate self from other, and therefore the experience of personal distress. They also conceptualise their findings in terms of a 4-level training evaluation model which allows us to understand how changes may have occurred for participants in a learning process. Additionally, they suggest verbalising negative emotions could be helpful for staff, although this is not explicitly based in theory.

Six papers reported their research as improving or contributing to the literature, although this was not necessarily directly related to empathy, and included areas such as personhood and NVC (Asuero et al., 2014; Bry et al., 2016; Eritz et al., 2016; Hattink et al., 2015; Runyan et al., 2016; Wacker & Dziobek, 2016). Due to the poor quality of Runyan and colleagues' (2016) paper (Kmet et al., 2004), it could be argued their research is not of acceptable quality to contribute to improving the literature. Two papers report being able to confirm that empathy is teachable (Kahriman et al., 2016; Pehrson et al., 2016). Some papers link to theories aside from empathy, such as mindfulness and models of behaviour (Asuero et al., 2014; Eritz et al., 2016).

The process by which improvements may be made is commented on by three papers, however this may include patient care (Hattink et al., 2015), mindfulness (Asuero et al., 2014; Verweij et al., 2016), person-centred care and burnout (Passalacqua & Harwood, 2012), and may not be explicitly linked to theoretical ideas. Eleven papers cite and discuss previous research in considering their own results which is a relative strength in the papers reviewed (Barnfather & Amod, 2012; Bry et al., 2016; Hattink et al., 2015; Johnson et al., 2013; Kemper & Khirallah, 2015; Lases et al., 2016; Runyan et al., 2016; Verweij et al., 2016; Wacker & Dziobek, 2016; Wilkinson et al., 2017a; Yang & Yang, 2013).

The distinct lack of consideration of theoretical implications presents difficulties for the reviewer and readers, in placing the research findings within a theoretical context, and in interpreting how these findings further our knowledge and understanding of process, attributes or skills. A lack of theoretical connection can also make synthesising the information within a review particularly challenging.

Although many of the papers did not have significant results they could have discussed their lack of findings in relation to the theory surrounding the area of research, enabling readers to understand the implications of non-significant results and what this may mean for the theories we may hold in high-esteem.

1.4 Discussion

The aims of the review were to examine recent evidence to identify the range and effectiveness of interventions that aim to improve empathy in HCPs. Interventions varied in their focus and content and included: communication skills, use of patient information; mindfulness based approaches; creative approaches (e.g., drama techniques); or HCP wellness. In terms of efficacy, seven of 17 papers reported statistically significant results and the details of these studies have been summarised in Table 2. Three of these seven significant papers utilised CST interventions and therefore the evidence suggests this intervention type currently has the most support in the literature.

1.4.1 Limitations of Studies

This section aims to consider the limitations of the studies discussed in this review and the limitations of the review itself. The lack of definition and theory presented is a concern and is similar to Kiosses et al. (2016) review, who reported that only two out of 17

studies provided a definition of empathy. It could be argued that some of the papers did not identify empathy as their principal aim for the intervention and therefore focused on other theory. Based on the evidence presented, the definitions used by Kiosses et al. (2016) and provided by Davis (1983), we suggest recognising empathy as both state and trait, and composed of cognitive, affective and behavioural components.

Study design is another limitation of the research, although most papers utilised acceptable designs and methods according to QualSyst criteria (Kmet et al., 2004). Most studies recruited small samples and therefore may have had underpowered analysis impacting on the conclusions able to be drawn. Future research should prioritise larger samples to produce more robust research and therefore contribute to the literature further. It is possible recruitment to these interventions within a healthcare setting is difficult due to the time commitment required or workload of HCPs. Transparency issues were present, such as recruitment procedures not being clearly stated, therefore recruitment challenges cannot be understood or improved upon. Intervention procedures were not clearly stated in all papers which impacted upon this review in being able to synthesise and critique the interventions.

Further limitations of research designs include lack of long-term follow-up to assess the durability of changes or to assess slower developing changes. Pehrson and colleagues (2016) described using a longer-term follow-up, asking nurses to rate how frequently they used empathic skills over the 6-months following training. This was not comparable to any pre-intervention data although nurses did report increases in skill use. It would be useful for follow-up data to include a repeated measure of empathy.

Few included studies used a design including a control-group, indicating a methodological limitation. Of those using a control group (n = 7), 43% randomised participants in an acceptable way, whereas the remaining methods could potentially lead to biased samples. Although a limitation, this may reflect the difficulty recruiting to these studies from HCP populations and be challenging to rectify in future research. Kiosses and colleagues' (2016) review only included RCT's and this review chose to include other research designs, possibly allowing consideration of different and novel approaches to improving empathy.

Although the use of different methods of empathy measurement is a relative strength of the literature presented, this could be improved by the inclusion of more than one method in each study. Using self-report measures alone does not allow researchers to

establish the impact of an intervention on actual care provided or experienced by patients, therefore using a patient reported measure or coding behaviours could be useful. Studies utilising behaviour coding could have benefitted from self-report measures to be completed by the HCP to assess if different aspects of empathy had been improved and whether this was in line with behaviour change. Although, it could be argued HCP self-report of empathy is less important than an improved patient experience. The preferred definition of empathy for this review included a state and trait understanding, therefore it could be argued researchers should use or adapt measures (e.g., Wilkinson, Whittington, Perry, & Eames, 2017a) to ensure they are measuring the correct concept for their study.

A lack of information about the measures used is a limitation of the papers included. Information regarding validity and reliability is important for researchers to state to ensure transparency of their methods. The ESS (Dökmen, 1988) is likely to present difficulties for researchers and it could be argued it is a poor choice of measure as information, reliability and validity data is not accessible. This measure could be supplemented or replaced with a well-known and validated questionnaire. It could be argued the EQ-SF (Wakabayashi et al., 2006) is a questionable choice of measure and I would suggest the research could have been improved by using a validated and population specific measure. Although I have suggested particular researchers should have employed alternative or additional empathy measures, this could increase the burden on participants significantly given the amount of measures already used.

Three papers (Barnfather & Amod, 2012; Eritz et al., 2016; Passalacqua & Harwood, 2012) described difficulties with participant understanding of the measure and identified consequences for data collection and possibly the results presented. Future research should consider the participants first language and education levels and select measures accordingly.

A wide range of interventions were presented and compared which indicates a diverse literature to draw from in this review and for future reviews. The interventions included in the review varied in time commitment, resources and demand on participants. The professions of the face-to-face intervention facilitators were not addressed by the studies reviewed and could have an impact on the cost to services of delivering interventions (i.e., if higher paid staff are required to deliver the interventions). Consideration needs to be given to whether interventions are feasible and suitable for delivery in healthcare settings, whether they are cost-effective and whether HCPs (and management) would feel able to commit to engaging with them. Although, this is a

hypothetical reflection as a lack of significant results so far would suggest the interventions are not effective and therefore unlikely to be used in services.

1.4.2 Limitations of Review

There are a number of limitations of the review identified. Firstly, literature that was unpublished, dissertations, or not subject to peer-review, was excluded. It is known that research with positive or significant results is more likely to be published in comparison to those with negative or non-significant results and therefore the methodology may have been biased. Qualitative data was not explored and studies using this method exclusively were excluded from the review as pre- and post-measures were important inclusion criteria. However, qualitative information may have aided understanding of the process by which change occurred, and perhaps added value in understanding the experiences of participants, both patient and professional.

The decision to exclude student populations led to several papers being excluded that appeared to present novel and interesting approaches to improving empathy, in particular simulation of particular populations or health difficulties.

A number of the papers reviewed did not state improving HCP empathy as a primary aim of their research, rather their primary aim may have been to improve wellbeing or reduce burnout. However, these studies did include measurement of empathy levels and therefore improving empathy is considered a secondary aim. If this research was excluded the review would have been limited and resulted in fewer papers.

1.4.3 Clinical and Theoretical Implications of Review

This review contributes to the literature by identifying gaps in the research and areas for improvement. When considering the theoretical basis of the interventions reviewed these generally do not appear to have a clear grounding in empathy theory.

The definition of empathy chosen for this review included cognitive and affective domains (Davis, 1980; 1983), however the reviewer also recognised behavioural components alongside trait and state concepts. The improvements in perspective-taking and empathic-concern could be understood as improvements in cognitive empathy as defined by Hojat (2007). Improvements in empathic responses found in coded conversations (Bry et al., 2016; Pehrson et al., 2016) could be indicative of improvements

in behavioural empathy, that is actions taken or communication of the understanding of another's perspective.

Reductions in personal distress can be understood as reduced affective responses and reduced over-identification with patients, therefore, suggesting higher perspective-taking skills. These findings are in line with Davis' (1983) theory that higher perspective-taking is associated with lower personal distress and higher empathic-concern.

Regarding state versus trait empathy, improvements in empathy levels themselves suggest change, therefore, it could be argued this provides evidence for empathy as a state variable as well as a stable trait.

There are a number of factors to consider regarding the suitability of the interventions for use in healthcare settings. These intervention issues include: the aim may not be to increase empathy; it may be suitable for longer-term healthcare versus short term; it may not be accessible to a variety of professions; it may focus on burnout or staff wellness which is an area of need in its own right. These points indicate issues requiring consideration, and further research, prior to implementing any of these interventions in existing healthcare systems. It may be beneficial for the literature and healthcare services for wider investigation into HCP empathy levels to establish if interventions to improve empathy are required. The strongest evidence from this review is for Communication Skills Training, however these interventions may not have a primary aim of increasing empathy and therefore may not be compatible with service aims or policy.

This review indicates areas for improvement in the field, especially regarding a more coherent definition of empathy, quality of research design, theoretical justification for interventions, placing findings in the theoretical context and considering the clinical implications of delivering the interventions in different healthcare systems.

1.5 Conclusions

The papers reviewed vary in quality and amount of information presented. There are interventions available that include an aim to improve empathy levels in HCPs which vary in duration and therefore perhaps feasibility in real-life clinical settings. However, few of these gained significant results and many statistical analyses were underpowered. The results indicate a need to explore other reasons for a lack of improvement in empathy levels with sufficiently powered research. It may be helpful to consider shorter-term interventions in the first instance, to ensure minimal burden on HCPs and resources,

particularly in the current NHS climate. An important gap in the literature to consider is the lack of clearly defined interventions with a primary aim, and proven effectiveness, in improving a variety of HCPs empathy levels.

Chapter 2 Empirical Research Paper

Can We Make Empathy Appealing to Narcissistic Healthcare Professionals?

2.1 Introduction

In Chapter 1 of this thesis I presented a systematic review focusing on interventions currently being used in healthcare settings that aim to increase healthcare professionals' (HCPs) empathy levels. The review concluded that interventions vary in their approach, quality, and outcomes. Only seven of 17 papers reported statistically significant increases in HCP empathy. Most current interventions use a universal approach, ignoring individual differences, which could be suggested to impact on the efficacy of the interventions. Therefore, tailoring interventions to the participants or target population, may increase efficacy. Trait low empathy is associated with individual difference factors such as narcissism, and thus subclinical narcissism will be considered in the current empirical chapter. To address the issue of empathy and narcissism in healthcare professionals, relevant background information will firstly be explored to explain these concepts. Justification for the current research study will be identified. This research study aims to explore whether it is possible to make empathy appealing to narcissists to try and increase HCP empathy levels towards patients.

2.1.1 Narcissism

Based on the negative correlational relationship between narcissism and empathy (e.g., Andrew, Cooke, & Muncer, 2008; Delič, Novak, Kovačič, & Avsec, 2011; Jonason & Krause, 2013; Jonason, Lyons, Bethell, & Ross, 2013; Wai & Tiliopoulos, 2012; Watson & Morris, 1991), it could be suggested that narcissism is an individual difference that could impact on the effectiveness of empathy interventions.

Narcissistic personality disorder (NPD) is a clinical diagnosis included in the DSM-V (American Psychiatric Association, 2013), described as:

> Grandiose views of the self, an active fantasy life involving personal successes, the assumption that one is unique or special, an arrogant attitude and desire for admiration, a sense of entitlement and envy for others' success and possessions, and little empathy for others and a willingness to exploit them. (Campbell & Foster, 2007; p. 116).

However, Murray (1938) argued narcissism is a personality trait all individuals possess to varying degrees. The term *subclinical narcissism* describes those who do not meet criteria for NPD (Raskin & Hall, 1979) but nevertheless have significant narcissistic traits and in the remainder of this paper subclinical narcissists will be referred to as narcissists. This personality trait has been identified as an area of interest based on increasing media attention regarding narcissism and its manifestation in the workplace and relationships. Anecdotally, and supported by limited literature, stories are present within healthcare services of problematic behaviour consistent with narcissistic traits including workplace bullying (Carter et al., 2013), superiority (Morgan & Ogbonna, 2008), and domineering conduct. However, this has not been formally researched and therefore requires further investigation.

2.1.2 Subclinical Narcissism

Narcissists focus on conducting themselves in ways that have benefits for themselves and show little regard for how their actions may impact others, that is, they have a high agentic and low communal focus (Campbell & Foster, 2007). High agency refers to often inflated positive self-views, entitlement, and, grandiosity. These positive self-views occur predominantly in self-oriented, or agentic, areas such as status, power, and physical appearance. In line with high agency, research has shown narcissists overestimate their performance, attractiveness and intelligence (Campbell, Goodie, & Foster, 2004; Gabriel, Critelli, & Ee, 1994). Narcissists' positive self-views do not occur in communal domains, such as caring or morality (Campbell & Foster, 2007). In line with narcissists low communion, research has illustrated they lack empathy, self-enhance even when this is at the expense of a close other, and score lower in their need for intimacy (Campbell, Reeder, Sedikides, & Elliot, 2000; Carroll, 1987; Watson & Morris, 1991). Narcissists prefer to be admired rather than liked by others (Morf, 1994), demonstrating their agentic focus and priorities within their interactions and relationships with others.

Based on these findings, it is clear why narcissism is considered detrimental to interpersonal relationships (Campbell, Rudich, & Sedikides, 2002).

The Self-Regulatory Model proposed by Morf and Rhodewalt (2001) suggests that narcissism is a process in which the traits, skills, self-regulation and interpersonal strategies work together, this generates positive feelings which reinforce and maintain the narcissistic processes and behaviours. Examples of strategies include; fantasising about success (Raskin & Novacek, 1991), directing topics of conversation to themselves (Raskin & Shaw, 1988), responding with anger to criticism (Bushman & Baumeister, 1998), and attributing success to the self and failure to others (Farwell & Wohlwend-Lloyd, 1998). In summary, the behaviours of narcissists all serve to meet their agentic needs, but what are the consequences of this for the narcissist and for those around them?

The process of narcissism, as outlined, ensures positive self-views in agentic domains are maintained in the narcissist. It could be argued that these strategies result in positive outcomes, such as actual success. Sedikides, Rudich, Gregg, Kumashiro, and Rusbult, (2004) reported narcissists are psychologically healthy in that narcissism is negatively correlated with sadness, depression, loneliness, anxiety, and neuroticism, whilst being positively correlated with well-being. Narcissists' prioritisation of their agentic needs therefore appears to be beneficial for them, however, the same cannot be said for those close to the narcissist. Narcissists have poor intimate relationships (Campbell, Foster, & Finkel, 2002), are likely to be unfaithful (Hunyady, Josephs, & Jost, 2008), are less committed to their partners (Campbell & Foster, 2002), and less likely to forgive others (Strelan, 2006).

Low empathy has been shown to be the reason as to why narcissists engage in activities that are harmful or detrimental to those around them, e.g., poor parenting (Hart, Bush-Evans, Hickman, & Hepper, 2017); criminal behaviour (Barry, Frick, Adler, & Grafeman, 2007; Hepper, Hart, Meek, Cisek, & Sedikides, 2014); and school and workplace bullying (Hart & Hepper, 2017; Hart, Sargeant, & Hepper, 2014). Other people can have negative perceptions of narcissists (Küfner, Nestler, & Back, 2013), illustrated by unpublished data from Hart and Hepper (n.d.) indicating narcissists low empathy was picked up on in interactions and this was associated with lower levels of liking for the narcissist. Narcissistic behaviours and narcissists approach to relationships may be particularly concerning when considered in the context of healthcare services. The findings

presented build a picture of the possible experience of working or interacting with a narcissist. It could be suggested that narcissism would impact negatively on relationships with colleagues, patients, and the general collaborative approach advocated by healthcare services. Therefore, narcissism is a valuable avenue of exploration and research within healthcare settings.

Given the negative consequences borne by those around the narcissist, it is worrying that research suggests that narcissistic responding has increased by 30% over a 30 year time period in America (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). Arguably, this may be a global phenomenon, as demonstrated by increasing narcissism levels also in China, which is particularly surprising given the collectivistic values held in eastern cultures (Cai, Kwan, & Sedikides, 2012). Although, note that Wetzel et al. (2017) found narcissism had not increased in three American University cohorts between 1990's and 2010's, however there appears to be agreement amongst researchers that narcissism is increasing. Narcissists appear to be present across cultures and different research settings, therefore it appears logical to suggest that narcissists would also be present in healthcare services. If narcissism levels are increasing, given the problems associated with their dispositional lack of empathy, it is crucial to establish if it is possible to intervene to increase empathy in narcissists.

Narcissists have been found to have capacity for empathy however generally choose not to be empathic. This does not reflect a lack of empathic skill, rather a lack of motivation to empathise (Hart, Hepper, & Sedikides, 2018). Hepper, Hart, and Sedikides (2014) found increases in narcissists' empathy levels when asking them to actively consider the perspective of another person, and when informing them of agentic benefits to taking the perspective of others. This is a significant finding and indicates narcissists' empathy levels may be receptive to intervention.

Hart, Hepper, and Sedikides (2018) suggest describing perspective-taking as relevant for agentic gains may make it appear beneficial and rewarding to narcissists, and therefore motivation to empathise may be increased as it is more compatible with self-enhancement aims. Hepper, Hart, and Sedikides (2014) research was conducted on University students and would benefit from extension into the general population to establish if this result is generalisable. I suggest these outcomes would occur in a HCP

population and plan to use the approach of informing regarding agentic benefits of perspective-taking to influence empathy.

The first paper to investigate levels of narcissism in UK HCPs (Bucknall, Burwaiss, MacDonald, Charles, & Clement, 2015) found HCPs scored lower (*M* = 12) on NPI-40 (Narcissistic Personality Inventory: Raskin & Hall, 1979) in comparison to their general population sample (*M* = 15.9). Although, there were differences between professions, with surgeons scoring the highest (*M* = 15), slightly below the general population mean. Their results indicated there are a range of levels of narcissism present in HCPs, as there are in the general population, suggesting this trait occurs across various workplace settings including healthcare. Many professions were not represented in the sample as only medics and nurses were recruited. This study did not measure empathy and therefore confirmation of the well-documented link between narcissism and empathy is required in a HCP sample.

2.1.3 Empathy

The review in Chapter 1 identified a preferred definition of empathy. Empathy was recognised as multidimensional, including cognitive, affective and behavioural components, along with a distinction between state and trait empathy. Cognitive empathy is understood as the ability to take an others' perspective (Davis, 1980; 1983); affective empathy includes an understanding of the others' emotions alongside the empathisers own emotional reactions (Stepien & Baernstein, 2006); behavioural empathy is described communicating understanding of the perspective of the patient (Stepien & Baernstein, 2006). The current paper will continue to consider this definition in measurement and discussion, although measurement will not include a behavioural component given the prioritisation of other-oriented empathy and the methodology used. Other-oriented empathy is characterised by cognitive empathy and empathic concern (emotional responses of concern for another), whereas self-oriented empathy is concerned with the empathisers emotional responses (Tangney & Dearing, 2002).

2.1.4 Empathy in Healthcare

The systematic review in Chapter 1 focused on the importance of empathy in healthcare, predominantly for the patient. Empathy is necessary for prosocial behaviour, social connection, and interpersonal interaction (Hepper, Hart, & Sedikides, 2014), areas

that appear consistent with the requirements of working in healthcare. Research findings have shown empathy to be related to positive health outcomes such as reduced anxiety and depression (La Monica et al., 1987), patient honesty (Halpern, 2001), diagnostic accuracy (Beckman & Frankel, 1984), treatment adherence (Mohammadreza Hojat et al., 2011), outcome in psychotherapy (e.g., Malin & Pos, 2015; Watson, Steckley, & McMullen, 2014). Patients who experience empathic relationships with HCPs describe greater satisfaction with their healthcare service (Lelorain et al., 2012).

The impact of empathic relationships for HCPs has been researched significantly less than the patient perspective. Two of 17 papers in Chapter 1 recognised the impact of burnout on empathy and included burnout as a covariate, whilst five papers aimed to intervene to reduce burnout or stress in HCPs. A systematic review exploring empathy and burnout reported varying strengths of correlation between empathy and burnout, and the majority of evidence presented suggested a negative correlational relationship, indicating those high in empathy report lower burnout (Wilkinson, Whittington, Perry, & Eames, 2017b). These conclusions were drawn from cross-sectional studies and therefore unable to infer whether there are causal relationships between these variables. This review suggested interventions to increase or sustain empathy may be beneficial if staff experiences of burnout are unable to be lessened (Wilkinson, Whittington, Perry, & Eames, 2017b).

HCP empathy levels have been explored using cross-sectional and longitudinal approaches. Results have been mixed, indicating both decreases in empathy (Chen, Lew, Hershman, & Orlander, 2007; Diseker & Michielutte, 1981; Williams, Boyle, & Howard, 2016) and increases in empathy, over the course of training (Williams et al., 2014). Teng and colleagues (2017) indicated empathic behaviours may not reduce over time whereas self-reported medical student empathy reduced, suggesting that the participants did not *feel* as empathic towards others, however were able to *behave* as though they felt this way. This finding highlights the importance of the empathy measurement chosen in research.

Patients presenting difficulty may also impact upon empathy levels, illustrated by negative attitudes in HCP students towards patients with substance misuse (Boyle et al., 2010; McKenna et al., 2012; Williams, Boyle, & Fielder, 2015). Previous research has shown negative attitudes in HCPs towards some mental and physical health difficulties; such as deliberate self-harm (McAllister, Creedy, Moyle, & Farrugia, 2002), schizophrenia or being a secure-hospital inpatient (Rao et al., 2009), or obesity (Puhl & Heuer, 2010).

However, previous research has measured attitudes as opposed to empathy towards hypothetical patients with different presenting difficulties. We are interested in establishing empathy levels in qualified professionals and are curious whether HCP empathy levels differ depending on the presenting patient difficulty.

2.1.5 Empathy Interventions

Interventions aiming to improve HCP empathy are available, however high-quality research evaluating these approaches is limited. Of the interventions identified in Chapter 1, few gained significant results indicating many were ineffective in improving HCP empathy levels. Seven papers reported statistically significant improvements in HCP empathy using a variety of interventions including communication-skills training, mindfulness education and mind-body skills training, however, some of these interventions did not specifically target HCP empathy. Overall, the interventions identified by the review were poor; frequently inadequately defined and lacking theoretical justification; often delivered in a pre-determined format and not adapted for the individual differences or needs of participants. Individual differences were rarely measured in the papers and therefore were not explored as predictors or covariates. It could be suggested that if those who require or may benefit from an intervention could be identified, the efficacy of such interventions may improve through tailoring to their specific motivations or needs, for example agentic motivation in narcissists.

A deficit in empathy is widely recognised as a characteristic of narcissism, however this trait was not measured or accounted for in any of the reviewed papers in Chapter 1, thus indicating a gap in the literature. The literature describes narcissism as a normal personality trait that may be expressed in varying degrees. Personality traits are understood to be relatively stable over time, however the behaviour and emotional responses associated with these traits can be manipulated (e.g., Hepper, Hart, & Sedikides, 2014). Negative consequences for others occur as a result of narcissists' lack of empathy. Does this extend to the patients of narcissistic HCPs? It could be suggested narcissistic HCPs may be less empathic towards patients, thus negatively impacting on patients' outcomes and experiences of care. If this is the case, and given evidence that narcissists can be empathic, intervention could be required.

2.2 Current study

Narcissism and empathy has not been explored in a HCP sample and therefore this paper offers a unique contribution. I propose there will be range of narcissism levels within HCPs as a group and therefore infer a range of empathy levels towards patients. Given the importance of empathy in patient care, a more detailed investigation into narcissism and empathy could be valuable for healthcare services. This research will greatly improve upon Bucknall and colleagues' (2015) research, given their lack of empathy measurement and limited sample.

Importantly, this work aims to identify those scoring higher in narcissism and establish if intervention could enable them to be more empathic, thus possibly beneficial for patients, professionals and services. Due to narcissists' predominant motivation being agentic concerns, the intervention used will focus on appealing to this desire to maintain or enhance positive views of the self in agentic domains. Brunell, Tumblin, and Buelow (2014) found narcissists report prosocial behaviour when it serves agentic functions such as career success, therefore the agentic intervention will outline the benefits of perspective-taking to furthering an individuals' career.

Recent conceptualisations of narcissism make distinctions between maladaptive and adaptive components (e.g., Hepper, Hart, & Sedikides, 2014). Research indicates the NPI measures dimensions of narcissism related to maladaptive (Entitlement/Exploitativeness and Grandiose Exhibitionism) or adaptive (Leadership/Authority) outcomes (Ackerman et al., 2011; Barry, Frick, & Killian, 2003). Maladaptive narcissism is understood as unhelpful for those around the narcissist (Ackerman et al., 2011), whereas adaptive narcissism is not (Lessard, Greenberger, Chen, Farruggia. 2011). Hepper, Hart, and Sedikides (2014) found that low empathy towards a target was driven by the maladaptive components of narcissism, therefore, these dimensions will be considered in the current paper, going beyond exploring overall narcissism alone.

2.2.1 Research aims

- To explore whether HCPs scoring higher in narcissism report lower empathy towards hypothetical patients

- To explore whether empathy can be increased in HCPs scoring high in narcissism by making it appealing to them (agentic)
- To establish if the results are robust across different target problems described (physical or mental health).
- To explore the differences in narcissism and empathy levels between professional groups.

2.2.2 Hypotheses

1. It is hypothesised that there will be a negative significant main effect of narcissism on empathy; individuals scoring higher in narcissism will express lower levels of empathy towards the vignette targets. In line with previous research (Hepper, Hart, & Sedikides, 2014) I hypothesise this main effect will be driven by the maladaptive components of narcissism.
2. It is hypothesised there will not be a main effect of condition (article: agentic, communal, control), the condition alone is not expected to be associated with higher levels of empathy.
3. I hypothesise there will be an interaction between narcissism and condition. In those scoring highly in narcissism, empathy towards vignette targets is hypothesised to be low in the communal and control conditions, and higher in the agentic condition.
4. The researchers hypothesise the same pattern of results will be observed in responses to both physical and mental health vignettes.

2.3 Procedure

iSurvey was used to construct an online survey which was estimated to take 20-30 minutes from a pilot. A prize draw incentive of eight £25 Amazon vouchers was offered and participants submitted an email address if they wished to take part. The iSurvey link for the study, referred to as “Personality and Healthcare”, was published online (see Appendix B for websites) and shared via social media (see Appendix B for organisations tweeted) during the data collection period and was completed on participants own devices. The online study was accessed approximately 4500 times. 86 people submitted incomplete data sets, and 211 completed the study. An NHS Trust in the South of England was also used to recruit participants via emails distributed by team managers. Overall, the sample

was composed of 184 participants recruited via social media and 27 participants recruited through the NHS.

Data was collected anonymously and stored on a password-protected computer. Questionnaire responses to the main study and email addresses provided for entry into the prize draw were stored separately. Ethical approval was acquired from University of Southampton and by Proportionate Review through NHS ethics (see Appendix C & D).

Participants were briefed prior to participating in the study and asked to indicate their consent by ticking a box at the beginning of the survey (see Appendix E). Following completion of the study, participants were debriefed and signposted to support if necessary. Participants were given contact details of the lead researcher and informed they could withdraw at any time.

Participants were asked to complete demographic information and personality measures, which were presented in a random order. The order of the questionnaires was random to account for issues such as fatigued responding, or question order effects affecting data quality and participant responses (Krosnick, 2018). See Figure 4 for procedure flow chart.

Participants were presented with one of three articles (chosen at random by iSurvey) and told they were required to read the article to assess readability and clarity of the information presented. Each condition used a different article created by the authors and appeared as an internet article, see Appendix F. The agentic condition used an article stating perspective-taking is important for success in career progression in healthcare, an example sentence: “Kotter’s research shows that employees with perspective taking ability rise up through the organisation more quickly, understanding how to get ahead and outshine their peers”. The communal condition used an article stating perspective-taking is important for success in relationships with others. Finally, the control condition used an article stating perspective-taking is related to superior spatial awareness. To ensure participants engaged with the article, it was presented for three minutes before participants could move to the next section of the survey. Participants were asked brief questions about the readability of the article; “How clear was the argument made by the authors?” and “How easy did you find it to take in the information?”. A manipulation check consisted of two questions regarding the message of the article; “How important is perspective-taking for success in business settings?” and “How important is perspective-taking for improving

relationships?". The first question was intended to ask "How important is perspective-taking for success in healthcare settings?" however an error was made in the construction of the survey.

Following the article, participants were presented with two vignettes describing hypothetical patients. One described a mental health difficulty (low mood), and the other a physical health problem (stomach pain), see Appendix G. The order of vignette presentation was counterbalanced between participants. An adapted IRI measure was presented to participants after each vignette to measure empathy towards target, see Appendix H.

2.3.1 Measures

2.3.1.1 Narcissistic Personality Inventory (NPI-40: Raskin & Terry, 1988)

The NPI-40 is a forced choice measure whereby participants choose one of two statements that applies most to them; one a narcissistic response and one a modest response. For example: 'The thought of ruling the world frightens the hell out of me' or 'If I ruled the world it would be a better place'. Narcissistic responses score one point and participants can score between 0-40 in total ($\alpha = .81$).

Adaptive and maladaptive narcissism scores were computed as described by Barry et al. (2007). Sum scores were calculated for adaptive narcissism (i.e., authority and self-sufficiency items; $\alpha = .71$) and maladaptive narcissism (i.e., exploitativeness, exhibitionism and entitlement items; $\alpha = .70$).

2.3.1.2 Interpersonal Reactivity Scale (IRI: Davis, 1983)

The IRI is a 28-item measure containing four 7-item subscales, Perspective Taking; Empathic Concern; Fantasy; and Personal Distress. Example items include: 'I often have tender, concerned feelings for people less fortunate than me' (empathic-concern); 'I try to look at everybody's side of a disagreement before I make a decision' (perspective-taking); 'I sometimes feel helpless when I am in the middle of a very emotional situation' (personal distress); and 'I really get involved with the feelings of the characters in a novel' (fantasy). Participants rate how much they agree with the statement on an eight-point scale (1 = *totally disagree*; 8 = *totally agree*), some items are reverse scored. Subscale scores are calculated; and some researchers calculate a total score (e.g., Bratek, Bulska, Bonk,

Seweryn, & Krysta, 2015; Costa et al., 2017; Zazulak, Halgren, Tan, & Grierson, 2015). The IRI has been utilized to measure trait empathy. As the current paper aims to explore HCP empathy levels towards others, rather than self-oriented empathy experiences, only other-oriented empathy subscales have been included (Konrath, 2013). Cronbach's alphas were α = .79 (perspective-taking) and α = .63 (empathic-concern). A mean response score was used for the subscales.

An adapted version of the IRI also served as a dependent variable; assessing state empathy towards two hypothetical patients (see Appendix H). The fantasy subscale was not used as it was not applicable (Konrath, 2013). Based on Davis' (1983) definition of other-oriented empathy, an additional variable was calculated using the mean item response in perspective-taking and empathic-concern subscales for each vignette (Physical health α = .72; mental health α = .77) and used as a dependent variable.

2.3.1.3 Balanced Inventory of Desirable Responding Short Form (BIDR-16: Hart, Ritchie, Hepper, & Gebauer, 2015).

The BIDR-16 was used to measure social desirability responding using the impression management (IM) subscale (α = .72). Example item: "I sometimes tell lies if I have to". Participants rate how much they agree with the statement on an eight-point scale (1 = *totally disagree*; 8 = *totally agree*). IM was included as a possible covariate.

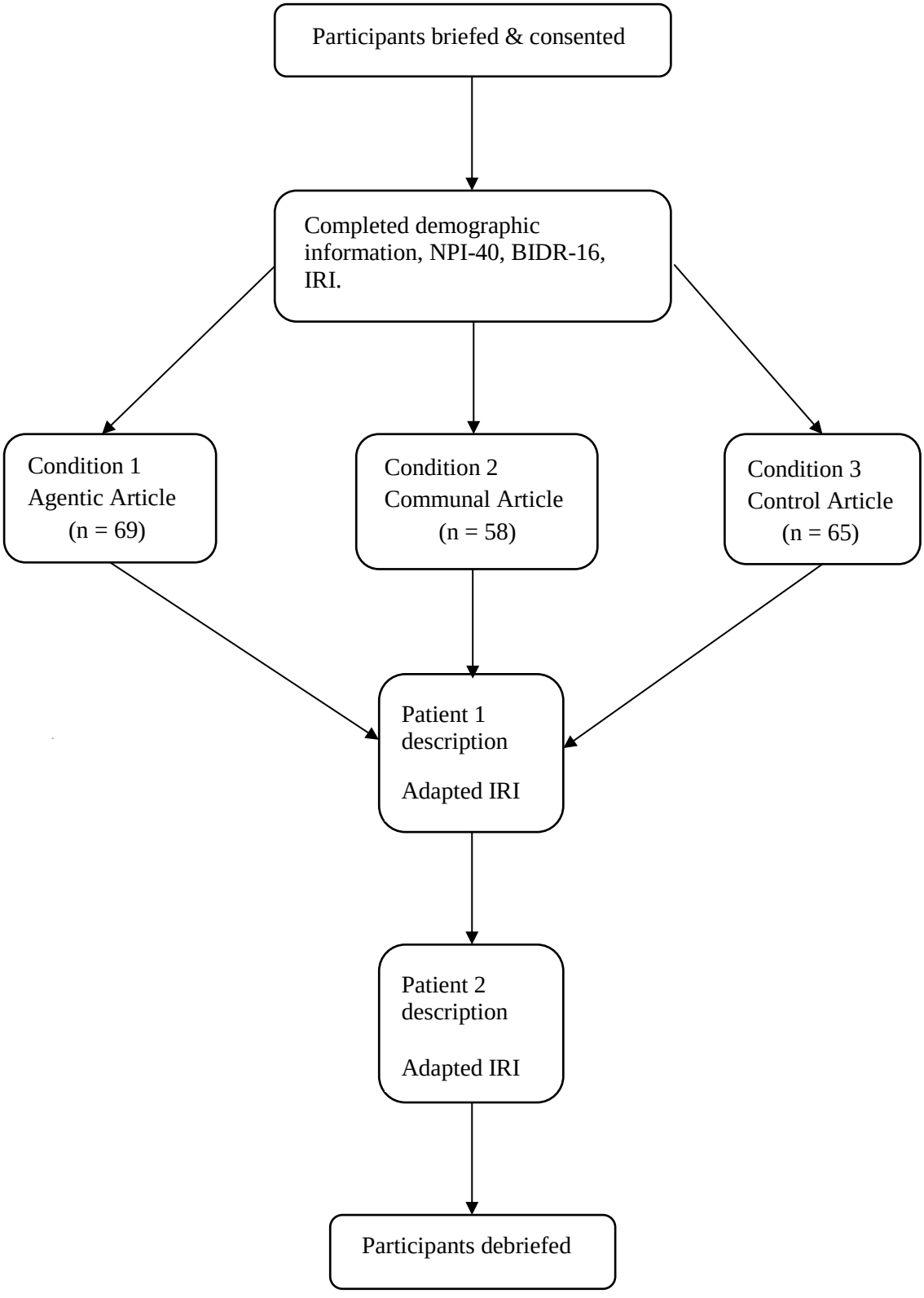


Figure 4. Flow chart illustrating study procedure[2]

[2] Additional measures were completed by participants (Rosenberg Self-Esteem Scale; Rosenberg, 1965, and Hypersensitive Narcissism Scale; Hendin & Cheek, 1997). These have not been included as they were not of interest to this project.

2.3.2 Analytic Plan

2.3.2.1 Sample Size

Due to the complexity of the main analyses to be used it was not possible to compute a reliable power calculation. Green (1991) offers two rules of thumb for the minimal sample size when using regression type analyses based on the number of predictors (i.e. 50 + 8*k*, or 104 + *k*, where *k* is number of predictors). Using Greens' (1991) calculations indicated a minimum sample size of 111 participants for this study. Based on this, and previous research sample sizes (Hepper, Hart, & Sedikides, 2014), a sample size of 200 was sought.

2.3.2.2 Statistical Analysis

One-way ANOVAs were computed to establish if there were significant differences in demographic variables between participants exposed to each of the three conditions (agentic, communal, control). There were no significant differences between group means on variables such as Age ($F(2,187) = 1.13$, $p = .33$), Gender ($F(2,187) = 0.21$, $p = .82$) Organisation Type ($F(2,188) = 0.26$, $p = .77$), Length of Service ($F(2,188) = 1.66$, $p = .19$), Profession ($F(2,188) = 1.27$, $p = .65$), or proportion of Trainees/Students ($F(2,185) = 0.10$, $p = .64$). However, there was a significant difference between groups regarding Education Level ($F(2,188) = 3.84$, $p = .02$) and therefore this will be entered as a covariate.

To establish the main effect of narcissism on state empathy, and any interaction between narcissism and article condition on empathy towards the hypothetical patients, multicategorical moderation was employed using PROCESS Version 3 (Hayes, 2017; Hayes & Montoya, 2017). Due to condition containing three levels, it was not possible to compare all three levels simultaneously in one model. Thus, it was necessary to create dummy variables such that the two intervention conditions (agency, communion) were separately compared against control group which served as the reference group, i.e., agentic versus control and communal versus control (coded using Helmert coding; Hayes & Montoya, 2017). The decision to code this way was made based on the hypotheses and to provide the most meaningful comparisons (Hayes & Montoya, 2017). Conditional effects are estimated at the sample mean, and plus and minus one standard deviation from the mean, when the moderator is quantitative. Recognising the symmetrical nature of interactions, Hayes and Montoya (2017) also recommend examining models and probing

interactions twice by reversing the predictor and the moderator, and therefore this approach was used in the analysis.

2.4 Results

86 participants partly completed the study and therefore were excluded from the sample. 17 participants were excluded from the sample due to their locations being outside of the UK. Two participants were excluded due to being multivariate outliers on two or more variables as advised by Tabachnick and Fidell (2007). Univariate outliers were transformed as advised by Tabachnick and Fidell (2007). Any missing data was excluded listwise for each analysis. Normality of data was checked and satisfied, skew and kurtosis values were < 2 as advised by George and Mallery (2010). Demographic information can be seen in Table 4.

2.4.1 Descriptive Statistics

The data (see Tables 5 and 6) showed a broad range of NPI-40 scores (*range* = 0-25), and the overall sample mean (M = 7.94, SD = 5.06) was below the HCP mean (M = 12, 95% CI [11.3–12.7]) found in Bucknall et al.'s sample (2015). However, Bucknall and colleagues (2015) sample were all medics and nurses, whereas the current study included a broader range of professionals. It appeared the sample scored higher in Adaptive Narcissism as opposed to Maladaptive Narcissism, perhaps indicating HCPs being more likely to demonstrate adaptive facets of narcissism, such as leadership and authority.

Item-response means established that the sample scored above the median point in other-oriented Empathy, as measured by empathic-concern and perspective-taking subscales of IRI. The data indicates a range of Trait Empathy scores in the total sample, illustrating individual differences (see Table 5).

Table 4

Demographic Characteristics of Sample

Demographic Characteristic	N (%)	M (*SD*)
Gender		
Female	171 (90)	
Male	17 (8.9)	
Prefer not to say or missing	2 (1)	
Age		36.74 (9.81)
Service type		
Private	13 (6.8)	
Public	163 (85.8)	
Both	14 (7.4)	
Years in service		13.04 (9.86)
Education Level		
High school graduate (e.g., GED, GCSEs)	3 (1.6)	
1 or more years of college (e.g., AS levels)	10 (5.3)	
Associate degree (e.g., AA, AS, A Levels)	8 (4.2)	
Bachelor's degree (e.g., BA, BSc)	66 (34.7)	
Master's degree (e.g., MA, MSc, MPhil, MEng, MSW)	30 (15.8)	
Doctorate degree (e.g., PhD, EdD)	46 (24.2)	
Professional degree (e.g., MD, DDS, DVM, LLB, JD)	16 (8.4)	
Other	11 (5.8)	
Profession		
Nursing & Midwifery	56 (29.8)	
Medics	9 (4.8)	
Allied Health Professionals	95 (50.5)	
Clinical Support Staff	14 (7.4)	
Pharmacy	14 (7.4)	
Trainee/Student in one of the above professions	23 (12.2)	

Note: Job titles in each group. Medics: Doctor, anaesthetist, psychiatrist; Allied Health Professionals: Occupational Therapist, Physiotherapist, Radiographer, Paramedic, Social Worker, Psychologist, Other Therapist, Sonographer, Cardiac Physiologist, Dental Nurse, Diabetes Educator, Genetic Counsellor, Behavioural Coordinator; Clinical Support Staff: Support Worker, Clinical Porter, Carer, Rehabilitation Assistant, Occupational Therapy Assistant, Nursing Assistant; Pharmacy: Pharmacist, Pharmacy Technician.

Table 5

Mean Variable Scores for Total Sample

Variable	*M*	*SD*
NPI-40		
Total	7.94	5.06
Maladaptive	2.33	2.13
Adaptive	4.39	2.76
IRI		
Empathic-Concern	6.38	0.06
Perspective-Taking	5.89	0.07
BIDR-16	5.39	0.08

Note: *N* = 188-190. NPI-40: Narcissistic Personality Inventory, possible score 0-40. IRI: Interpersonal Reactivity Index. BIDR-16: Balanced Inventory of Desirable Responding. Item response mean (range 1-8) reported for IRI and BIDR-16.

2.4.2 Supplementary Analyses

To explore differences between professions, Table 6 illustrates mean values on a number of variables for each professional group. Differences between, and within, professional groups have been observed, however due to the small numbers in some groups (e.g., medics) conclusions cannot be drawn from this data. Differences between groups are to be interpreted with caution, however the data indicates medics scored highest in Narcissism, whereas pharmacy staff scored the lowest.

2.4.3 Manipulation Check

To establish if the agentic manipulation had been effective, we analysed the responses between groups on a manipulation check question, as stated in procedure. The question regarding the importance of perspective-taking in business settings produced significant differences between groups ($F(2,185) = 5.525$, $p = .005$, $\eta_p^2 = .06$). A post-hoc Tukey test indicated the answers to this question were significantly different ($p < .05$) when comparing agentic ($M = 6.53$) versus control ($M = 5.70$) conditions, however responses were not different when comparing agentic ($M = 6.53$) versus communal ($M = 6.18$), or communal ($M = 6.18$) versus control ($M = 5.70$) conditions. These results indicate that the agentic manipulation did not produce significantly different responses when

comparing agentic versus communal conditions and therefore the agentic manipulation may not have been effective in conveying the message that perspective taking is good for personal success at work. The lack of significant differences between responses in communal versus control conditions were expected due to the communal or irrelevant nature of the articles presented in these conditions.

2.4.4 Correlations

Table 7 indicates correlational relationships between variables in line with other research, such as a negative correlation between Narcissism and Trait Empathy (e.g., Andrew, Cooke, & Muncer, 2008; Delič, Novak, Kovačič, & Avsec, 2011; Jonason & Krause, 2013; Jonason, Lyons, Bethell, & Ross, 2013; Wai & Tiliopoulos, 2012; Watson & Morris, 1991), and a positive correlation between Adaptive and Maladaptive narcissism (e.g., Barry et al., 2007; Hepper, Hart, Meek, Cisek, & Sedikides, 2014; Hepper, Hart, & Sedikides, 2014). A negative correlation was also found between Narcissism and Empathy towards hypothetical targets, in line with this papers research aims and hypotheses, indicating those scoring higher in narcissism report less empathy towards a target similarly to Hepper, Hart, and Sedikides (2014). This analysis also indicated Impression Management had strong negative correlations with Maladaptive Narcissism, and strong positive correlations with Empathy towards a target patient. Due to these correlations Impression Management will be controlled for in our analysis.

Table 6

Mean Variable Scores by Professional Group

Profession	NPI-40			IRI		BIDR-16
	Total *M (SD)*	Adaptive *M (SD)*	Maladaptive *M (SD)*	Empathic-Concern *M (SD)*	Perspective-Taking *M (SD)*	*M (SD)*
Nursing & Midwifery (n = 56)	8.32 (5.33)	4.55 (2.80)	2.55 (2.30)	6.44 (0.92)	6.03 (1.09)	5.76 (1.02)
Medics (n = 9)	12.89 (6.13)	6.33 (2.35)	3.89 (2.67)	5.84 (0.60)	5.51 (0.86)	5.13 (0.63)
Allied Health Professionals (n = 95)	7.94 (5.10)	4.49 (2.83)	2.20 (2.11)	6.38 (0.70)	5.90 (0.87)	5.11 (1.16)
Clinical Support Staff (n = 14)	6.21 (2.94)	2.71 (1.68)	2.29 (1.49)	6.30 (0.66)	5.91 (0.92)	5.31 (1.25)
Pharmacy (n = 14)	5.79 (2.97)	3.64 (2.44)	1.21 (1.05)	5.59 (1.36)	5.59 (0.92)	6.04 (0.88)

Note: NPI-40: Narcissistic Personality Inventory, possible score 0-40. IRI: Interpersonal Reactivity Index. BIDR-16: Balanced Inventory of Desirable Responding. Item response mean (*range* 1-8) reported for IRI and BIDR-16.

Table 7

Correlations Between Variables

Variable	Adaptive (NPI)	Maladaptive (NPI)	IRI all	IM	MH empathy	PH empathy
NPI Total	.849**	.797**	.104	-.142	-.261**	-.224**
Adaptive (NPI)		.473**	-.260**	.000	-.181*	-.131
Maladaptive (NPI)			-.123	-.199**	-.214**	-.198**
IRI all				.021	.489**	.453**
IM					.191**	.238**
MH empathy						.779**

Note: MH: Mental Health; PH: Physical Health. * = Correlation is significant at 0.05 level (2 tailed). ** = Correlation is significant at 0.01 level (2 tailed).

2.4.5 Main analysis

Multicategorical moderation analyses (Hayes, 2017) were used to establish the relationship between Narcissism (as measured by Total NPI, Maladaptive, and Adaptive Narcissism scores), Condition (agentic versus control and communal versus control) and other-oriented Empathy towards hypothetical patients with physical health and mental health complaints. Impression Management and Education Level were controlled for in all subsequent analyses. In total, six models were generated. Tables of Standardised Beta Coefficients for all effects for the six models can be seen in Appendix I. As stated in Analytic Plan, conditional effects are estimated at the sample mean, and plus and minus one standard deviation from the mean, when the moderator is quantitative. This is referred to as 'low', 'average' and 'high' values of the moderator (e.g. levels of Narcissism).

2.4.5.1 The Relationship between Narcissism, Condition, and Empathy Towards a Patient with a Physical Health Complaint

Firstly, the relationship between NPI total and other-oriented Empathy for a physical health problem was explored using PROCESS V3, Model 1 (Hayes, 2017). Overall, the model was a good fit, $R^2 = .16$, $F(7,180) = 4.89$, $p < .001$. Together, Narcissism, Condition, Impression Management, and Education Level explained 16% of the variance in reported Empathy towards the patient. As expected, a significant main effect of Narcissism emerged $\beta = -.03$, $p = .01$, 95% CI [-.06,-.01], such that those scoring

higher in Narcissism reported feeling less Empathy toward the hypothetical patient. A main effect of Condition (Communal versus Control) also emerged β = .74, *p* = .02, 95% CI [.11,1.36], indicating those in the Communal Condition reported feeling more Empathy towards the patient than those in the Control Condition, however, there was no main effect of Condition (Agentic versus Control) β = .18, *p* = .59, 95% CI [-.47,.83]. A significant interaction also emerged between Condition (Communal versus Control) and Narcissism, β = -.06, *p* = .05, 95% CI [-.13,.00], but not between Condition (Agentic versus Control) and Narcissism, β = -.01, *p* = .84, 95% CI [-.08,.06]. These results indicate the interaction between Narcissism and Condition is able to predict reported Empathy towards a target, when comparing the Control and Communal Conditions. The interaction between Narcissism and Condition does not predict reported Empathy when comparing Agentic and Control Conditions.

The tests of higher order unconditional interactions were marginally significant, *p* = .06, and therefore the significant interaction will be cautiously probed further. One model used Condition as the moderator variable, and explored the effects of each Condition, with only the association between Narcissism and Empathy in the Communal Condition reporting significant effects β = -.06, *p* < .001, 95% CI [-.10,-.03], whereas the Agentic and Control Conditions were not significant. A second model using NPI as the moderator variable explored the effects of Condition at different levels of Narcissism, see Table 8 for empathy levels at Mean NPI and +/- 1 SD.

These results enabled exploration of this significant interaction further to understand that the Communal Condition was only significantly different from Control Condition in low-narcissists, β = .56, *p* = .03, 95% CI [.07,1.04], however there were no significant differences between the Agentic and Control Conditions. The results are also illustrated by Figure 5, showing that the differences between Empathy scores occur at low levels of Narcissism specifically in the Communal Condition. Participants lower in Narcissism showed significantly higher Empathy towards a patient with a hypothetical physical health condition when in the Communal Condition. Participants higher in Narcissism did not show higher Empathy in any of the three Conditions.

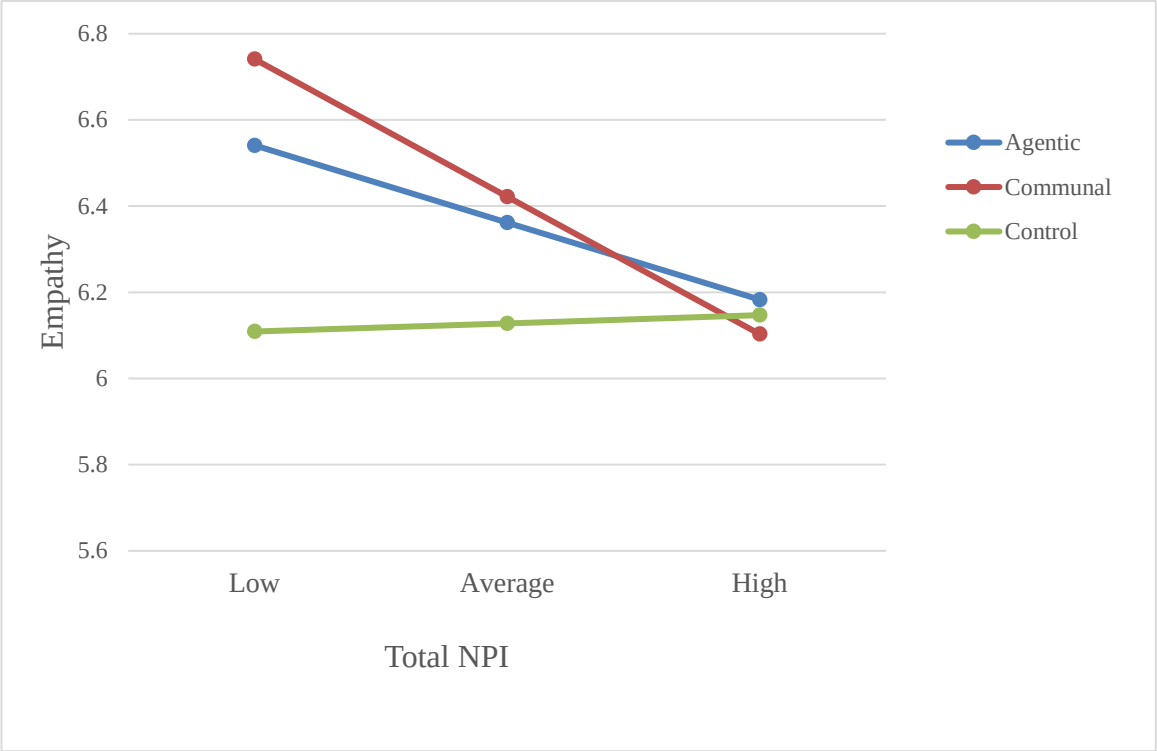


Figure 5. Graph showing the interaction between Narcissism, Condition and Empathy for a patient with a physical health complaint.

Table 8

Empathy Mean at Different Levels of NPI

Condition	NPI total	Empathy Value
Agentic	-1 SD	6.541
	Mean	6.362
	+1 SD	6.183
Communal	-1 SD	6.741
	Mean	6.422
	+1 SD	6.103
Control	-1 SD	6.109
	Mean	6.128
	+1 SD	6.147

2.4.5.2 The Relationship between Maladaptive Narcissism, Condition, and Empathy Towards a Patient with a Physical Health Complaint

The relationship between Maladaptive Narcissism and other-oriented Empathy for a physical health problem was explored using PROCESS V3, Model 1 (Hayes, 2017). Overall, the model was a good fit, $R^2 = .14$, $F(8, 179) = 3.68$, $p < .001$. Together, Maladaptive Narcissism, Condition, Impression Management, and Education Level explained 14% of the variance in reported Empathy towards the patient. Unexpectedly, there was no significant main effect of Maladaptive Narcissism, $\beta = -.05$, $p = .15$, 95% CI [-.11,.02], although this relationship was in the direction expected. A main effect of Condition (Communal versus Control) was found, $\beta = .57$, $p = .03$, 95% CI [.05,1.08], indicating participants in the Communal Condition reported feeling higher empathy towards the patient than those in the Control Condition, however there was no main effect of Condition (Agentic versus Control), $\beta = -.00$, $p = .99$, 95% CI [-.51,.51]. A marginally significant interaction also emerged between Condition (Communal versus Control) and Maladaptive Narcissism, $\beta = -.16$, $p = .06$, 95% CI [-.31,00], but not between Condition (Agentic versus Control) and Maladaptive Narcissism, $\beta = .06$, $p = .49$, 95% CI [-.11,.24]. These results indicate the interaction between Maladaptive Narcissism and Condition is able to predict reported Empathy towards a target, when comparing the Control and Communal Conditions. The interaction between Maladaptive Narcissism and Condition does not predict reported Empathy when comparing Agentic and Control Conditions.

The tests of higher order unconditional interactions were non-significant, $p = .15$, and therefore the marginally significant interaction will not be probed further (see Figure 6).

In summary, Maladaptive Narcissism did not predict Empathy towards a patient with a physical health complaint. Condition (communal versus control) predicted Empathy towards a patient with a physical health complaint. Participants higher in Maladaptive Narcissism did not show higher Empathy for a patient with a physical health complaint in any of the three Conditions.

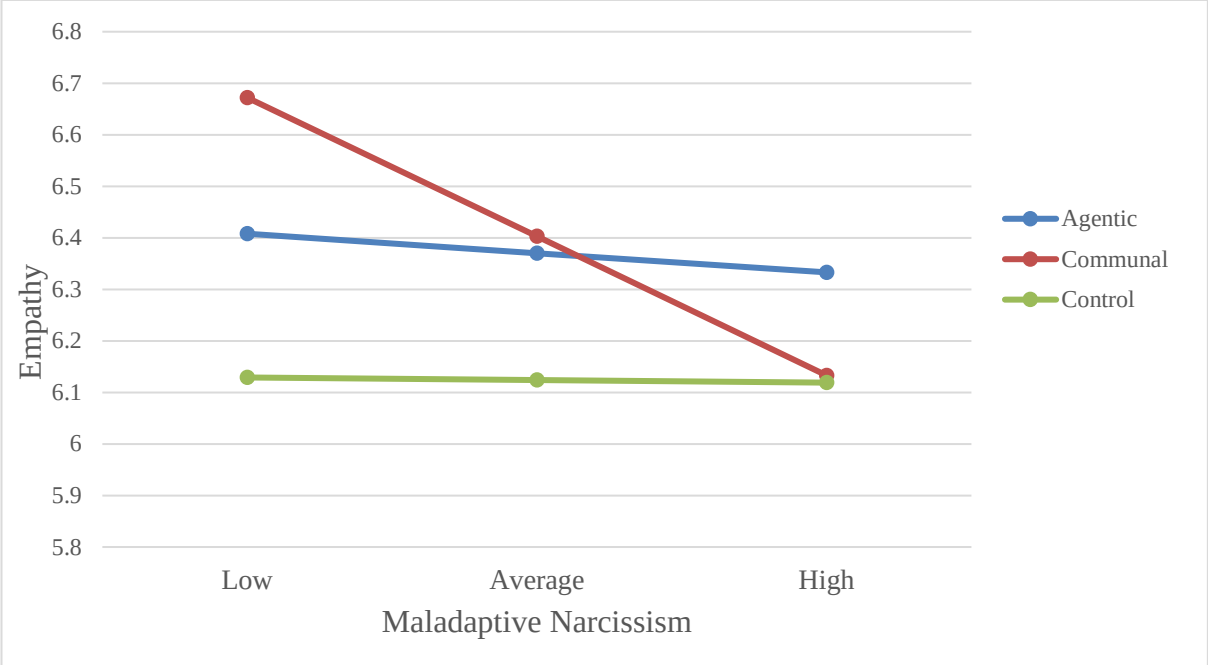


Figure 6. Graph showing the interaction between Maladaptive Narcissism, Condition and Empathy for a patient with a physical health complaint.

2.4.5.3 The Relationship between Adaptive Narcissism, Condition, and Empathy Towards a Patient with a Physical Health Complaint

The relationship between Adaptive Narcissism and other-oriented Empathy for a physical health complaint was explored using PROCESS V3, Model 1 (Hayes, 2017). Overall the model was a good fit, $R^2 = .15$, $F(8, 179) = 3.88$, $p < .001$. Together, Adaptive Narcissism, Condition, Impression Management, and Education Level explained 15% of the variance in reported Empathy towards the patient. There was no main effect of Adaptive Narcissism found, $\beta = -.02$, $p = .35$, 95% CI [-.07,.03]. A main effect of Condition (Communal versus Control) was found $\beta = .82$, $p = .015$, 95% CI [.16,1.47] showing participants in the Communal Condition reported feeling higher empathy towards the patient in comparison to those in the Control Condition, however there was no main effect of Condition (Agentic versus Control) $\beta = .00$, $p = .99$, 95% CI [-.63,.64]. A significant interaction also emerged between Condition (Communal versus Control) and Adaptive Narcissism, $\beta = -.14$, $p = .03$, 95% CI [-.26,-.01], but not between Condition (Agentic versus Control) and Adaptive Narcissism, $\beta = .03$, $p = .68$, 95% CI [-.10,.15]. These results indicate the interaction between Adaptive Narcissism and Condition is able to predict reported Empathy towards a target, when comparing the Control and Communal Conditions. The interaction between Adaptive Narcissism and Condition does not predict reported Empathy when comparing Agentic and Control Conditions.

The tests of higher order unconditional interactions were marginally significant, p = .07, and therefore the interactions will be cautiously probed further. One model used Condition as the moderator variable, and explored the effects of each Condition, with only the association between Adaptive Narcissism and Empathy in the Communal Condition reporting significant effects β = -.09, p = .02, 95% CI [-.17,-.01], whereas the Agentic and Control Conditions were not significant. A second model using Adaptive Narcissism as the moderator variable explored the effects of Condition at different levels of Adaptive Narcissism, see Table 9 for empathy levels at Mean Adaptive Narcissism and +/- 1 SD. These results enabled exploration of this significant interaction further to understand that the effect of the Communal Condition was only significantly different from Control Condition in low adaptive-narcissists, β = .59, p = .02, 95% CI [.09,1.09].

The results are also illustrated by Figure 7 below, showing that the differences between Empathy scores occur at low levels of Adaptive Narcissism specifically in the Communal Condition. Participants lower in Adaptive Narcissism showed significantly higher Empathy towards a patient with a hypothetical physical health condition when in the Communal Condition. In summary, participants higher in Maladaptive Narcissism did not show higher Empathy for a physical health patient in any of the three Conditions.

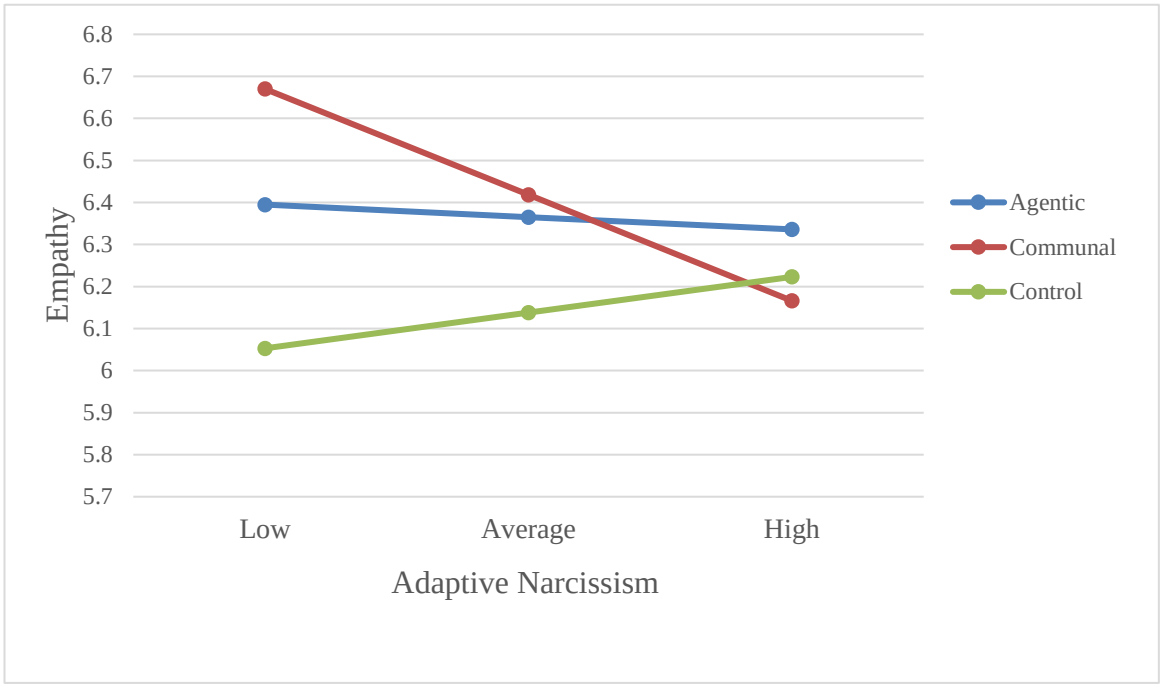


Figure 7. Graph showing the interaction between Adaptive Narcissism, Condition and Empathy for a patient with a physical health complaint.

Table 9

Empathy Mean at Different Levels of Adaptive Narcissism

Condition	Adaptive Narcissism	Empathy Value
Agentic	-1 SD	6.395
	Mean	6.365
	+1 SD	6.336
Communal	-1 SD	6.670
	Mean	6.418
	+1 SD	6.166
Control	-1 SD	6.053
	Mean	6.138
	+1 SD	6.223

2.4.5.4 The Relationship between Narcissism, Condition, and Empathy Towards a Patient with a Mental Health Complaint

The relationship between Narcissism and other-oriented Empathy for a mental health complaint was explored using PROCESS V3, Model 1 (Hayes, 2017). Overall, the model was a good fit, $R^2 = .15$, $F(7,179) = 4.57$, $p = .001$. Together, Narcissism, Condition, Impression Management, and Education Level explained 15% of the variance in reported Empathy towards the patient. As expected, a significant main effect of Narcissism emerged $\beta = -.041$, $p = .001$, 95% CI [-.07,-.02], such that those scoring higher in Narcissism reported feeling less Empathy toward the hypothetical patient. No main effects of Condition (communal versus control) $\beta = .51$ $p = .12$, 95% CI [-.13,1.14], or Condition (Agentic versus control), $\beta = -.01$, $p = .97$, 95% CI [-.13,.65] emerged. No significant interactions occurred between Condition (communal versus control) and Narcissism, $\beta = .-04$, $p = .24$, 95% CI [-.10,.03], or between Condition (agentic versus control) and Narcissism, $\beta = .01$, $p = .78$, 95% CI [-.06,.08], as illustrated by Figure 8. These results indicate the relationship between Narcissism and Condition is not able to predict reported Empathy towards a target.

These findings indicate Narcissism predicted Empathy towards a patient with a mental health complaint, however Condition did not. As indicated by the lack of

significant interactions, participants higher in Narcissism did not show higher Empathy for a patient with a mental health complaint in any of the three Conditions.

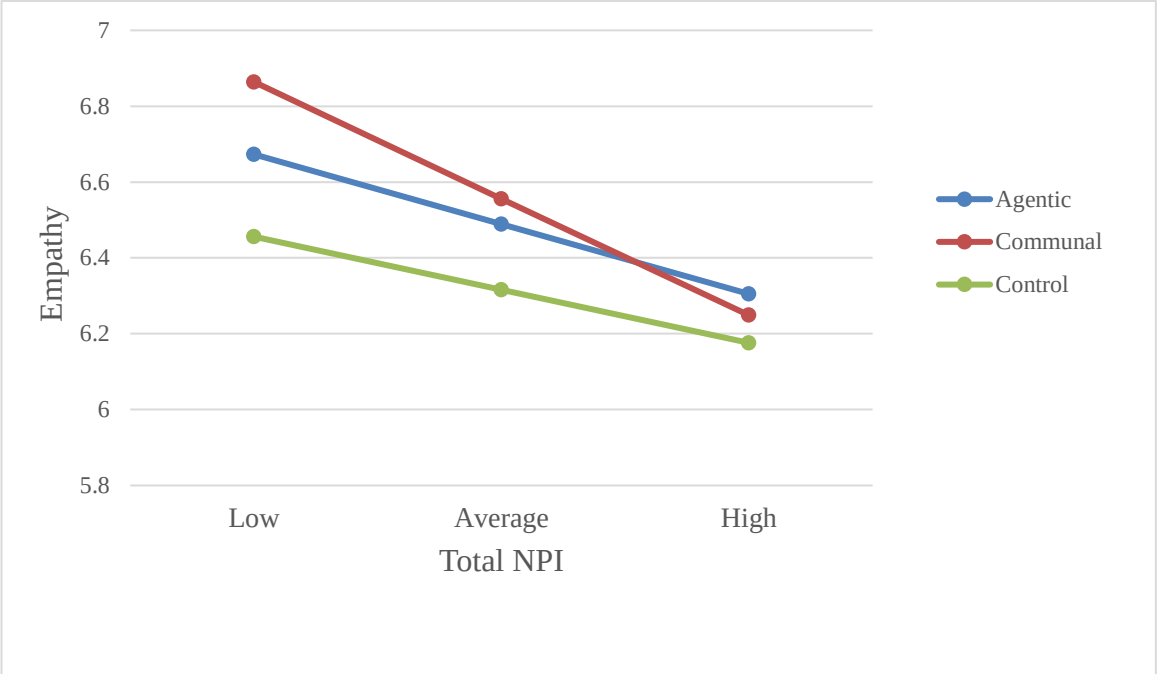


Figure 8. Graph showing the lack of interaction between Narcissism, Condition and Empathy for a patient with a mental health complaint.

2.4.5.5 The Relationship between Maladaptive Narcissism, Condition, and Empathy Towards a Patient with a Mental Health Complaint

The relationship between Maladaptive Narcissism and other-oriented Empathy for a mental health complaint was explored using PROCESS V3, Model 1 (Hayes, 2017). Overall, the model was a good fit, $R^2 = .15$, $F(8,178) = 3.88$, $p < .001$. Together, Maladaptive Narcissism, Condition, Impression Management, and Education Level explained 15% of the variance in reported empathy towards the patient.

Unexpectedly, there was no significant main effect of Maladaptive Narcissism, $\beta = -.05$, $p = .17$, 95% CI [-.11,.02], although this relationship was in the direction expected in that those scoring higher in Maladaptive Narcissism reported feeling lower Empathy towards the patient. A main effect of Condition (Communal versus Control) was found $\beta = .54$, $p = .04$, 95% CI [.03,1.06] showing participants in the Communal Condition reported feeling higher Empathy towards the patient in comparison to those in the Control

Condition, however there was no main effect of Condition (Agentic versus Control), β = -.16, *p* = .53, 95% CI [-.68,.35]. A marginally significant interaction also emerged between Condition (Communal versus Control) and Maladaptive Narcissism, β = -.16, *p* = .06, 95% CI [-.32,.00], but not between Condition (Agentic versus Control) and Maladaptive Narcissism, β = .11, *p* = .21, 95% CI [-.07,.29]. These results indicate the interaction between Maladaptive Narcissism and Condition is able to predict reported Empathy towards a target, when comparing the Control and Communal Conditions. The interaction between Maladaptive Narcissism and Condition does not predict reported Empathy when comparing Agentic and Control Conditions.

The tests of higher order unconditional interactions were non-significant, *p* = .16, and therefore the marginally significant interaction will not be probed further. The interaction can be seen in Figure 9.

These findings indicate Maladaptive Narcissism did not predict Empathy towards a patient with a mental health complaint. In summary, participants higher in Maladaptive Narcissism did not show higher Empathy for a patient with a mental health complaint in any of the three Conditions.

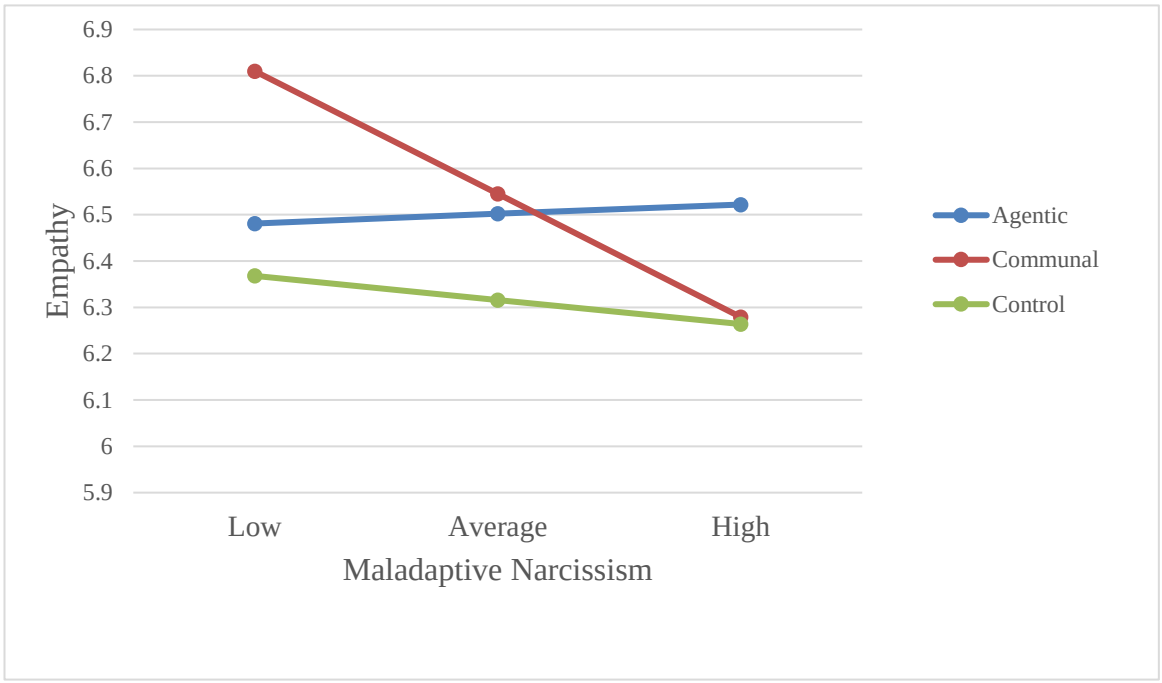


Figure 9. Graph showing the interaction between Maladaptive Narcissism, Condition and Empathy for a patient with a mental health complaint.

2.4.5.6 The Relationship between Adaptive Narcissism, Condition, and Empathy Towards a Patient with a Mental Health Complaint

The relationship between Adaptive Narcissism and other-oriented Empathy for a mental health complaint was explored using PROCESS V3, Model 1 (Hayes, 2017). Overall the model was a good fit, $R^2 = .14$, $F(8,178) = 3.76$, $p < .001$. Together, Adaptive Narcissism, Condition, Impression Management, and Education Level explained 14% of the variance in reported Empathy towards the patient. There was no main effect of Adaptive Narcissism found, $\beta = -.04$, $p = .09$, 95% CI [-.09,.01]. A main effect of Condition (communal versus control) was found $\beta = .66$, $p = .05$, 95% CI [-00,1.32] showing those in the Communal Condition reported higher Empathy towards the patient than those in the Control Condition, however there was no main effect of Condition (agentic versus control) $\beta = -.21$, $p = .53$, 95% CI [-.86,.44]. No significant interactions emerged between Condition (communal versus control) and Adaptive Narcissism, $\beta = -.11$, $p = .09$, 95% CI [-.23,.02], or between Condition (agentic versus control) and Adaptive Narcissism, $\beta = .06$, $p = .33$, 95% CI [-.06,.19]. These results are illustrated in Figure 10.

These findings indicate Adaptive Narcissism did not predict Empathy towards a patient with a mental health complaint, however those in the Communal Condition reported higher Empathy towards the patient. As indicated by the lack of significant interactions, participants higher in Adaptive Narcissism did not show higher Empathy for a patient with a mental health complaint in any of the three Conditions.

2.4.5.7 Summary of findings

In summary, two marginally significant interactions were identified. These indicated that those scoring lower in Narcissism and Adaptive Narcissism showed significantly higher Empathy towards a patient with a hypothetical physical health condition when in the Communal Condition. Participants higher in Narcissism were the target group for the intervention, however these participants did not show higher Empathy in any of the three Conditions.

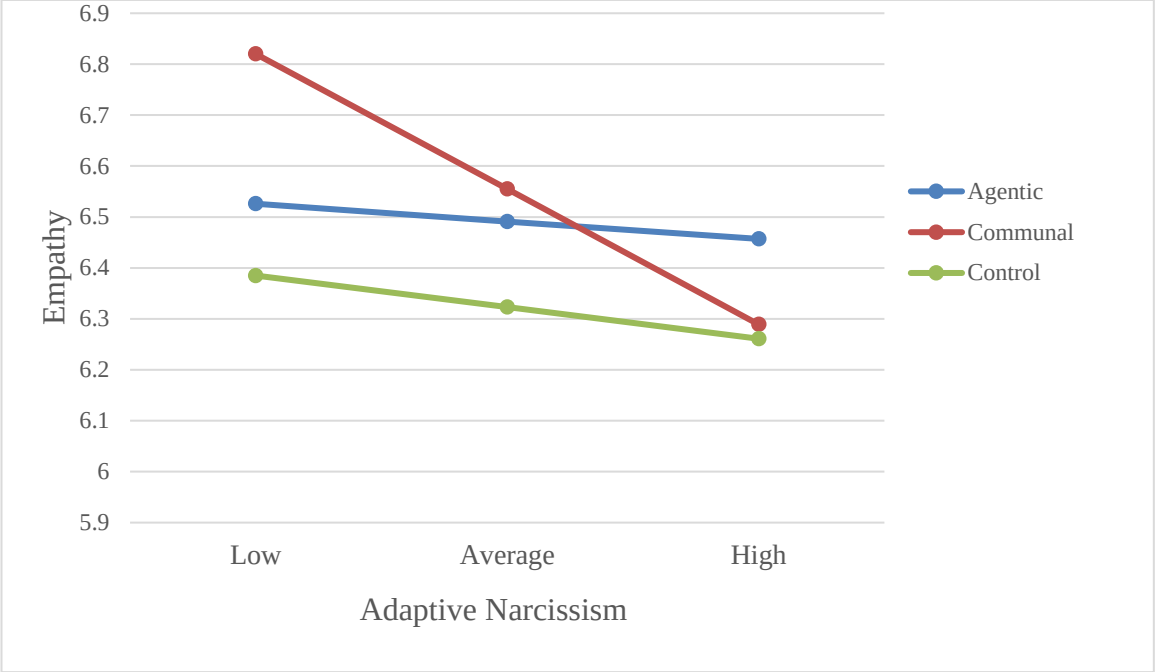


Figure 10. Graph showing the lack of interaction between Adaptive Narcissism, Condition and Empathy for a patient with a mental health complaint.

2.5 Discussion

The aims of the current study were to investigate the relationship between narcissism and empathy in healthcare professionals. Research aims also included exploring ways of making empathy appealing to those scoring higher in narcissism – by framing empathy as something that could be of benefit to them personally (agentic) as opposed to being a demonstration of caring for others (communal). The research also aimed to establish if results were robust across mental and physical health complaints.

The results supported the first hypothesis that there would be a negative main effect of narcissism (measured by NPI total) on empathy towards a hypothetical patient. This main effect was evident across both physical and mental health scenarios. There was no main effect of adaptive or maladaptive narcissism on empathy towards a target. It was hypothesised there would be an interaction between narcissism and condition on empathy for hypothetical physical health and mental health patients, such that those scoring high in narcissism in the agentic condition would report higher empathy for a target in comparison to those in the communal or control conditions. However, this was not present as predicted.

It was hypothesised there would be no main effect of condition on empathy towards a hypothetical patient, however a main effect of condition was found in five of the six analyses. This indicates condition alone was able to predict reported empathy towards a

target, in that those in the communal condition reported higher empathy towards a hypothetical patient. Those in the communal condition were primed with communality using an article stating the benefits of perspective-taking for interpersonal relationships, and therefore this intervention increased reported empathy of some participants. This finding is further explored and explained by the interactions. However, taken alone it could be suggested that HCPs are more likely to be responsive to priming of communality, perhaps related to high trait empathy.

This paper confirmed widely supported findings that narcissism is associated with lower empathy for others, even in HCPs. The results indicated that the agentic condition is not influential in changing participants' empathy towards a target as hypothesised, however the manipulation check was flawed and therefore conclusions cannot be drawn regarding the agentic condition.

A further finding indicated the communal condition increased empathy for a physical health complaint in those with low levels of overall narcissism and adaptive narcissism, although this needs to be interpreted with caution due to the marginal significance values of the statistics. These effects were not replicated in the mental health difficulty vignette. The findings do not support the hypothesis that the same pattern of results would be observed across physical and mental health vignettes, indicating possible differences in beliefs about, and empathy levels for, different presenting problem types. This finding is similar to previous work, which reported poorer HCP attitudes towards substance misuse (e.g., Boyle et al., 2010), or deliberate self-harm (McAllister et al., 2002). However, it would be valuable for future research to explore this further specifically regarding empathy for, rather than attitudes towards, different mental and physical health complaints.

The findings indicated that all three conditions were not able to change empathy towards targets in participants with high levels of narcissism, the target population. There are trends present in the data that require more power to investigate further. The lack of significant results in improving empathy in those scoring highly in narcissism suggests the short article intervention was not effective. The manipulation check used was flawed; therefore, it is unknown if the message within the article was clear to those in the agentic condition, thus raising more questions about the reasons for the failure of the intervention.

Exploration of further possible explanations for the results includes; participants were asked to express their state levels of empathy towards a patient who was described in

a vignette. In previous studies, Hepper, Hart, and Sedikides (2014) used a recording of a person talking about an empathic experience (relationship breakup), thus participants may have connected more with the target when they could hear or see them as opposed to just reading about them. Viewing a video vignette may be more akin to the experience of meeting a patient and perhaps participants would be more likely to experience empathic reactions towards a patient presented in this way. The manipulation check and the results indicated the agentic article was not as robust or authentic as the communal article, perhaps due to the manipulation check flaw. Further research including the correct check would need to be undertaken, prior to any development of the article or the use of video for the intervention.

Self-reported other-oriented empathy was observed to increase in low narcissists in the communal condition. The communal intervention described "success in relationships" as a positive outcome for perspective taking, indicating that those scoring low in narcissism respond to priming with communality. It could be suggested HCPs scoring low in narcissism are more likely to already be empathic towards others and therefore interventions to improve empathy in this group may not be required. Furthermore, interventions increasing empathy in these HCPs may have negative implications, as high levels of empathy have been found to be related to increased compassion fatigue (Duarte, Pinto-Gouveia, & Rbara Cruz, 2016; Slatten, David Carson, & Carson, 2011), which is understood as a form of burnout (Figley, 2002). Further investigation into the differences in empathy at baseline may aid understanding of these results.

The lack of significant interactions between different facets of narcissism, condition, and empathy indicated that there was no significant improvement in empathy for a patient with a mental health complaint. Considering possible reasons for this, there was a high proportion of psychologists/other therapists in the sample (35.8%) who can be assumed to have experience working with people with mental health difficulties. This experience may mean their empathy towards mental health difficulties is less susceptible to change or intervention. It could also be speculated that people have different ideas, attitudes and beliefs about mental health and physical health, perhaps influencing how they feel towards individuals with these difficulties. Therefore, further exploration of the differences in perception of physical and mental health difficulties, and how this is related to empathy towards others, may be valuable.

It could be argued there could be protective or functional reasons why some HCPs may not report high other-oriented empathy based on their job role. For example, Williams

and colleagues (2014) suggest paramedics encounter situations in which it may be difficult to build an empathic relationship, for example aggressive or extremely distressed patients. Empathy in a number of professions has been reported to decline over training (e.g., Chen et al., 2007; Diseker & Michielutte, 1981; Williams et al., 2016) and it could be beneficial to extend longitudinal research to qualified staff over the course of their careers. It may also be interesting to explore possible reasons for empathy decline, alongside narcissism, such as the demands of the job, and whether this has a self-protecting function for HCPs.

2.5.1 Clinical and theoretical implications

The exploration of baseline levels of narcissism and empathy confirm the negative correlation previously reported in the literature also occurs in a HCP population. There are interesting differences in levels of narcissism and baseline empathy across different healthcare professions, and these factors may impact upon patient experience. This research has added to the literature around HCP empathy and narcissism in general, these areas would benefit from further exploration. The findings are not in line with Hepper, Hart, and Sedikides (2014) who were able to increase empathy in students scoring highly in narcissism, although different manipulations and sample types were used.

If these results were replicated in a study using the correct manipulation check, it could be argued that HCPs scoring highly in narcissism do not respond to a brief intervention and may require more significant input to influence empathy levels. However, this cannot be argued as it is unclear whether the message in the article was clear and therefore interpreted as intended by participants. It may be that HCPs scoring high in narcissism are more reluctant to change, perhaps due to the personal benefits of not feeling empathy towards others, such as a lack of motivation to behave pro-socially (Hepper, Hart, & Sedikides, 2014) and therefore prioritising self-enhancement (Morf, Horvath, & Torchetti, 2011) or agentic goals (Campbell & Foster, 2007), however this would require further research. Further investigation is required to establish if the lack of change is due to the manipulation and whether it was successful in presenting perspective-taking as appealing, or perhaps it is more difficult to increase or change HCPs empathy levels when they score higher in narcissism.

The systematic review in Chapter 1 indicated effective interventions aiming to increase HCP empathy are much more time consuming and burdensome, perhaps suggesting a need for more intensive intervention. However, these interventions did not

measure narcissism, and therefore, it could not be inferred that these interventions would be effective with HCPs scoring higher in narcissism.

This research used hypothetical patients to establish empathy towards targets, however, Mercer and Reynolds (2002) identify it is the patient perception of the relationship that influences whether responses are experienced as empathic. Therefore, in self-report methods we are unsure how HCPs interact with patients and whether they are perceived as empathic even if they report low empathy towards them. Grandey, Foo, Groth, and Goodwin, (2012) explored "surface" acting in HCPs and whether the HCP experiences an empathic reaction or whether they are able to act as though they are. It could be suggested that Teng et al.'s (2017) findings, that self-reported empathy declined over time but empathic behaviour did not, could be explained using this understanding. If the patient perception of the HCP relationship is most influential in their experience of empathy, it may be that HCP self-reported empathy is not as important as HCP empathic behaviour towards patients. This would require further investigation using HCP self-report, patient self-report and coded behaviour methods.

The systematic review in Chapter 1 provided information regarding current interventions that aim to improve HCP empathy and our findings indicate there may be HCPs who could require interventions to increase empathy. However, the differences found in who responded significantly to which interventions indicate that a single intervention for all HCPs may not be beneficial and a more tailored approach could be necessary. For example, a short article intervention could be effective for those scoring low in narcissism, however not effective for those scoring high in narcissism. A tailored approach to training HCPs may also be a more cost-effective method in comparison to a single intervention for all approach.

2.5.2 Strengths and limitations

This research has a number of strengths and limitations. The exploration of narcissism in HCPs has not been widely researched and is therefore a new contribution to the limited literature. Additionally, the use of a HCP sample to explore narcissism and its relationship with empathy has not been explored previously. The sample size for this study is adequate, a strength when recruiting from non-student populations, however, further analyses could have been completed with a larger sample. The sample NPI mean was below the general population mean, it could be suggested a larger sample may have provided a more representative sample in terms of scores on the NPI-40. On the contrary,

the lower NPI mean may reflect the nature of the HCP sample, and a larger sample could enable confirmation of this.

The sample has a high proportion of psychologists/therapists, likely due to the professions of the researchers and a more diverse sample could have been beneficial. However, allied health professionals and therapists are often underrepresented in healthcare research so the high proportion may also be a relative strength.

Although the use of an online survey may have increased participation, the lack of experimenter presence or a laboratory setting raises issues around confirming participants engaged with the intervention article.

In addition to the limitations reported in the discussion, recruitment methods meant that the location of the participants is not known and due to the nature of recruitment the majority of the sample may have been from the South of England thus biasing the sample. It is also not possible to verify that participants are HCPs. Participants were required to self-select and it could be suggested those scoring low in narcissism are more likely to participate in research that does not benefit them (pro-social, communal behaviour) in comparison to those scoring high in narcissism. This may have led to HCPs scoring highly in narcissism choosing not to participate in the research. A key limitation is the lack of measurement of, and controlling for, burnout of HCPs as empathy could be lowered by this (Wilkinson et al., 2017b) and using an intervention with burnt-out HCPs could be ineffective.

2.5.3 Future research

Further research is recommended throughout the discussion and includes: correction of the manipulation check; replication of the findings of this paper; and exploration of the wider implications of any findings. A larger sample would be beneficial to increase the number HCPs from each profession, perhaps allowing further analysis of differences between professions on narcissism and empathy. A larger sample may also enable further analysis of marginally significant trends. Exploration of possible mediators would also be valuable, for example personal distress, burnout or anxiety in HCPs. Research suggests these factors have an impact on empathy levels in HCPs. This research did not explore possible differences between the physical health and mental health vignettes as this was not an initial aim, however further exploration of this would be important in future research to establish if the differences between these were maintained.

2.5.4 Conclusion

To conclude, this was the second known study to examine narcissism in HCPs and identified a range of narcissism scores in people currently working in healthcare settings. The well-known finding of higher narcissism being associated with lower empathy was replicated in a HCP sample. An intervention (article appealing to narcissists agentic aims) was not successful in increasing empathy in those scoring higher in narcissism towards targets. However, an intervention (article appealing to communality) increased empathy in those scoring low in narcissism towards targets although these individuals may not have had low empathy prior to intervention. Further investigation is required to replicate and explore these findings further.

Appendix A Quality Assessment Ratings

	Objective sufficiently described	Design evident and appropriate?	Method of subject selection is described and appropriate.	Subject characteristics or sufficiently described?	Random allocation to treatment group was described?	Interventional and blinding of investigators to intervention is reported?	Interventional and blinding of subjects to intervention was reported?	Outcome measures well defined and robust to measurement bias?	Sample size appropriate?	Analysis described and appropriate?	Some estimate of variance is reported for the main results/outcomes?	Controlled for confounding?	Results reported in sufficient detail?	Do the results support the conclusions?	Total score (%)
Asuero et al. (2014)	2	2	2	2	2	N/A	N/A	2	2	1	2	2	2	2	95.8
Barnfather & Amod, (2012)	2	2	1	2	N/A	N/A	N/A	1	1	1	0	N/A	1	1	60.0
Bry et al. (2016)	2	1	1	1	N/A	2	N/A	1	1	1	1	2	2	2	70.8
Eritz et al. (2016)	2	2	1	2	2	N/A	1	2	2	2	0	2	2	1	80.8
Hattink et al. (2015)	1	2	2	2	2	N/A	N/A	1	2	2	0	2	2	2	83.3

Appendix A

	Objective sufficiently described	Design evident and appropriate?	Method of subject selection is described and appropriate.	Subject characteristics or sufficiently described?	Random allocation to treatment group was described?	Interventional and blinding of investigators to intervention is reported?	Interventional and blinding of subjects to intervention was reported?	Outcome measures well defined and robust to measurement bias?	Sample size appropriate?	Analysis described and appropriate?	Some estimate of variance is reported for the main results/outcomes?	Controlled for confounding?	Results reported in sufficient detail?	Do the results support the conclusions?	Total score (%)
Johnson et al. (2013)	2	2	1	1	N/A	N/A	N/A	2	1	1	0	2	2	2	72.7
Johnston et al. (2015)	2	2	2	2	N/A	N/A	N/A	1	1	2	1	1	2	2	81.8
Kahriman et al. (2016)	2	2	1	2	0	N/A	N/A	2	1	1	1	1	2	1	66.7
Kemper & Khirallah, (2015)	2	2	2	1	N/A	N/A	N/A	1	2	1	1	N/A	2	2	80.0
Lases et al. (2016)	2	2	1	1	N/A	N/A	N/A	1	2	2	2	2	1	2	81.8

	Objective sufficiently described	Design evident and appropriate?	Method of subject selection is described and appropriate.	Subject characteristics or sufficiently described?	Random allocation to treatment group was described?	Interventional and blinding of investigators to intervention is reported?	Interventional and blinding of subjects to intervention was reported?	Outcome measures well defined and robust to measurement bias?	Sample size appropriate?	Analysis described and appropriate?	Some estimate of variance is reported for the main results/outcomes?	Controlled for confounding?	Results reported in sufficient detail?	Do the results support the conclusions?	Total score (%)
Passalacqua & Harwood (2012)	2	2	1	2	N/A	N/A	N/A	1	2	2	2	2	2	2	91.0
Pehrson et al. (2016)	1	1	1	1	N/A	N/A	N/A	1	2	2	0	N/A	2	2	65.0
Runyan et al. (2016)	1	1	1	1	N/A	N/A	N/A	1	0	0	0	N/A	1	1	35.0
Verweij et al. (2016)	2	2	2	2	1	N/A	N/A	1	1	2	2	2	2	2	87.5
Wacker et al. (2016)	2	2	2	2	N/A	N/A	N/A	2	2	1	2	2	2	2	95.5
Wilkinson et al. (2017a)	2	2	2	2	1	N/A	N/A	2	2	2	2	2	2	2	95.8

Appendix A

	Objective sufficiently described	Design evident and appropriate?	Method of subject selection is described and appropriate.	Subject characteristics or sufficiently described?	Random allocation to treatment group was described?	Interventional and blinding of investigators to intervention is reported?	Interventional and blinding of subjects to intervention was reported?	Outcome measures well defined and robust to measurement bias?	Sample size appropriate?	Analysis described and appropriate?	Some estimate of variance is reported for the main results/outcomes?	Controlled for confounding?	Results reported in sufficient detail?	Do the results support the conclusions?	Total score (%)
Yang & Yang (2013)	2	1	1	1	N/A	N/A	N/A	2	2	1	0	N/A	1	2	65.0

Appendix B Study Advertising Log

Facebook:

- Link to study shared on authors personal profile on eight occasions over the study recruitment period.
- Seven "friends" shared the link on their own pages.
- Link posted in Facebook group ("UK Clinical Psychologists").

Twitter:

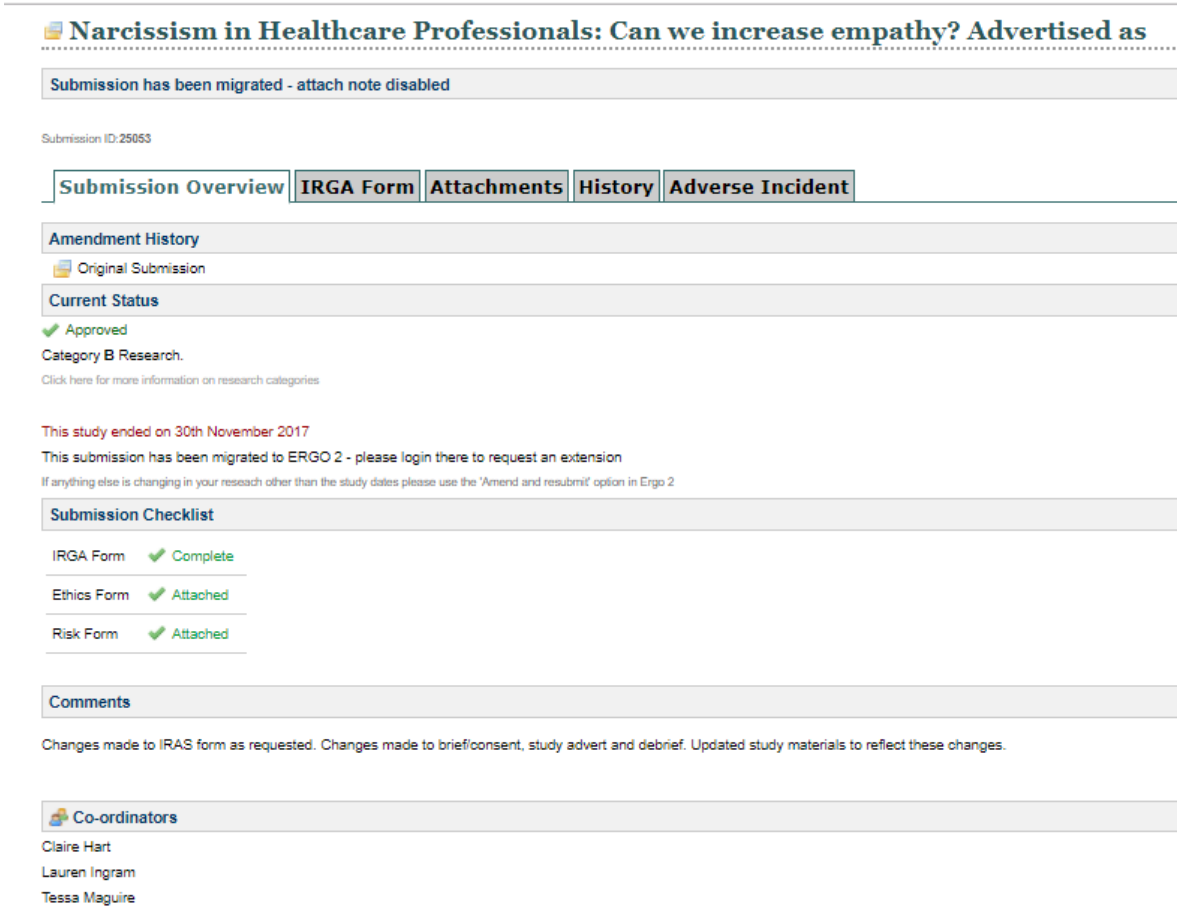
- Link to study shared on authors personal profile on ten occasions over the study recruitment period.
- 10 people/organisations retweeted (shared) the link on their own profile pages.
- Specific organisations/groups tweeted to (tweet contained link to study):
    - Faculty of General Dental Practice
    - NHS Research News
    - British Dental Journal
    - British Dental Association
    - BC Healthcare
    - Health and Care Work
    - British Dental Industry Association
    - AAGBI
    - Royal College of Anaesthetists
    - Junior Doctors
    - Nursing Times
    - WeNurses
    - BASW
    - HCPC
    - Royal College of Occupational Therapists
    - Royal College of Psychiatrists
    - The Nursing and Midwifery Council
    - Royal College of Nursing
    - Psychology News
    - Psychology Studies
    - Wiley Psychology
    - Psychology Today
    - ESRC
    - Health Research Authority
    - NIHR Research
    - NIHR CRN Wessex
    - NIHR Mental Health
    - DCP Pre-Qualification Group
    - OTalk
    - Guardian Social Care
    - The OT Show

- JCST
- ASiT
- Royal College of Surgeons
- British Dietetic Association
- Royal College of General Practitioners
- British Medical Association – GP's
- The BMA
- GMC
- Department of Health
- NHS England
- The RCP
- College of Paramedics
- London Ambulance
- RCPSG
- RCP Edinburgh
- Social Psychiatry
- Oxford Psychiatry
- WMRC
- Community Care
- PATRN
- BFirst
- StarSurg
- NIH
- BJS
- ACPGBI

Websites:

- Link to study shared on the following websites.
  - Inquisitive Mind: http://www.in-mind.org/content/online-research
  - Psychological Research on the Net: https://psych.hanover.edu/research/exponnet.html#Social

Appendix C Ethical Approval from the University of Southampton



Narcissism in Healthcare Professionals: Can we increase empathy? Advertised as

Submission has been migrated - attach note disabled

Submission ID: 25053

Submission Overview | IRGA Form | Attachments | History | Adverse Incident

Amendment History

Original Submission

Current Status

Approved

Category B Research.

Click here for more information on research categories

This study ended on 30th November 2017

This submission has been migrated to ERGO 2 - please login there to request an extension

If anything else is changing in your reseach other than the study dates please use the 'Amend and resubmit' option in Ergo 2

Submission Checklist

IRGA Form	Complete
Ethics Form	Attached
Risk Form	Attached

Comments

Changes made to IRAS form as requested. Changes made to brief/consent, study advert and debrief. Updated study materials to reflect these changes.

Co-ordinators

Claire Hart

Lauren Ingram

Tessa Maguire

Appendix D

Appendix D Ethical Approval from Proportionate Review from NHS Ethics

NHS
Health Research Authority

Miss Lauren Ingram
Trainee Clinical Psychologist
Taunton & Somerset NHS Trust
Musgrove Park Hospital,
Parkfield Dr,
Taunton
TA1 5DA

Email: hra.approval@nhs.net

02 June 2017

Dear Miss Ingram,

Letter of HRA Approval

Study title:	**(Narcissism in Healthcare Professionals: Can we increase empathy?) Advertised as "Personality and Healthcare".**
IRAS project ID:	**221402**
REC reference:	**17/HRA/1647**
Sponsor	**University of Southampton**

I am pleased to confirm that **HRA Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

Participation of NHS Organisations in England

The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

Appendix B provides important information for sponsors and participating NHS organisations in England for arranging and confirming capacity and capability. **Please read *Appendix B* carefully**, in particular the following sections:

- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* - this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* - this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

IRAS project ID	221402

It is critical that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details and further information about working with the research management function for each organisation can be accessed from www.hra.nhs.uk/hra-approval.

Appendices

The HRA Approval letter contains the following appendices:

- A – List of documents reviewed during HRA assessment
- B – Summary of HRA assessment

After HRA Approval

The attached document *"After HRA Approval – guidance for sponsors and investigators"* gives detailed guidance on reporting expectations for studies with HRA Approval, including:

- Working with organisations hosting the research
- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

Scope

HRA Approval provides an approval for research involving patients or staff in NHS organisations in England.

If your study involves NHS organisations in other countries in the UK, please contact the relevant national coordinating functions for support and advice. Further information can be found at http://www.hra.nhs.uk/resources/applying-for-reviews/nhs-hsc-rd-review/.

If there are participating non-NHS organisations, local agreement should be obtained in accordance with the procedures of the local participating non-NHS organisation.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/.

HRA Training

We are pleased to welcome researchers and research management staff at our training days – see details at http://www.hra.nhs.uk/hra-training/

Your IRAS project ID is **221402**. Please quote this on all correspondence.

IRAS project ID	221402

Yours sincerely

Alex Thorpe
Senior Assessor

Email: hra.approval@nhs.net

Copy to: *Diana Galpin, Sponsor's Representative*
Ms Penny Bartlett, Southern Health NHS Foundation Trust, Lead R&D Contact

IRAS project ID	221402

Appendix A - List of Documents

The final document set assessed and approved by HRA Approval is listed below.

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Advert]	2	15 February 2017
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [University of Southampton insurance]		14 July 2016
IRAS Application Form [IRAS_Form_20032017]		20 March 2017
IRAS Application Form XML file [IRAS_Form_20032017]		20 March 2017
IRAS Checklist XML [Checklist_20032017]		20 March 2017
Other [Statement of Activities]	1	02 June 2017
Other [Schedule of Events]	1	02 June 2017
Participant information sheet (PIS) [Brief and consent]	2	15 February 2017
Referee's report or other scientific critique report [Feedback from supervisor]	1	03 January 2017
Research protocol or project proposal [Research Protocol and Materials]	2	15 February 2017
Research protocol or project proposal [Protocol]	1	29 May 2017
Summary CV for Chief Investigator (CI) [CV Lauren Ingram]	1	17 March 2017
Summary CV for supervisor (student research) [CV Claire Hart]	1	14 March 2017

IRAS project ID	221402

Appendix B - Summary of HRA Assessment

This appendix provides assurance to you, the sponsor and the NHS in England that the study, as reviewed for HRA Approval, is compliant with relevant standards. It also provides information and clarification, where appropriate, to participating NHS organisations in England to assist in assessing and arranging capacity and capability.

For information on how the sponsor should be working with participating NHS organisations in England, please refer to the, *participating NHS organisations, capacity and capability* and *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* sections in this appendix.

The following person is the sponsor contact for the purpose of addressing participating organisation questions relating to the study:

Diana Galpin
rgoinfo@soton.ac.uk
02380595058

HRA assessment criteria

Section	HRA Assessment Criteria	Compliant with Standards	Comments
1.1	IRAS application completed correctly	Yes	No comments
2.1	Participant information/consent documents and consent process	Yes	No comments
3.1	Protocol assessment	Yes	No comments
4.1	Allocation of responsibilities and rights are agreed and documented	Yes	The applicant has provided a Statement of Activities and Schedule of Events, which are intended to be used as the agreement between the sponsor and participating site.
4.2	Insurance/indemnity arrangements assessed	Yes	University insurance applies to design, management and conduct at non-NHS sites. NHS indemnity applies to conduct at NHS sites. Where applicable, independent

IRAS project ID	221402

Section	HRA Assessment Criteria	Compliant with Standards	Comments
			contractors (e.g. General Practitioners) should ensure that the professional indemnity provided by their medical defence organisation covers the activities expected of them for this research study
4.3	Financial arrangements assessed	Yes	No funding will be provided to sites
5.1	Compliance with the Data Protection Act and data security issues assessed	Yes	No comments
5.2	CTIMPS – Arrangements for compliance with the Clinical Trials Regulations assessed	Not Applicable	No comments
5.3	Compliance with any applicable laws or regulations	Yes	No comments
6.1	NHS Research Ethics Committee favourable opinion received for applicable studies	Not Applicable	This is a staff survey and does not require REC
6.2	CTIMPS – Clinical Trials Authorisation (CTA) letter received	Not Applicable	No comments
6.3	Devices – MHRA notice of no objection received	Not Applicable	No comments
6.4	Other regulatory approvals and authorisations received	Not Applicable	No comments

Participating NHS Organisations in England

This provides detail on the types of participating NHS organisations in the study and a statement as to whether the activities at all organisations are the same or different.
Study documents will not be shared with participating NHS organisations in England because all research activities will be done by the student researcher or participants in their own homes. No specific arrangements are expected to be put in place at each organisation to deliver the study. If chief investigators, sponsors or principal investigators are asked to complete site level forms for

IRAS project ID	221402

participating NHS organisations in England which are not provided in IRAS or on the HRA website, the chief investigator, sponsor or principal investigator should notify the HRA immediately at hra.approval@nhs.net. The HRA will work with these organisations to achieve a consistent approach to information provision.

Confirmation of Capacity and Capability

This describes whether formal confirmation of capacity and capability is expected from participating NHS organisations in England.

The HRA has determined that participating NHS organisations in England **are not expected to formally confirm their capacity and capability to host this research,** because all research activities will be done by the student researcher or participants in their own homes.

- The HRA has informed the relevant research management offices that you intend to undertake the research at their organisation. However, you should still support and liaise with these organisations as necessary.
- Following issue of the HRA Approval letter, and subject to the two conditions below, it is expected that these organisations will become participating NHS organisations 35 days after issue of this Letter of HRA Approval (no later than 07/07/2017):
  - You may not include the NHS organisation if they provide justification to the sponsor and the HRA as to why the organisation cannot participate
  - You may not include the NHS organisation if they request additional time to confirm, until they notify you that the considerations have been satisfactorily completed..
- You may include NHS organisations in this study in advance of the deadline above where the organisation confirms by email to the CI and sponsor that the research may proceed.
- The document "Collaborative working between sponsors and NHS organisations in England for HRA Approval studies, where no formal confirmation of capacity and capability is expected" provides further information for the sponsor and NHS organisations on working with NHS organisations in England where no formal confirmation of capacity and capability is expectations, and the processes involved in adding new organisations. Further study specific details are provided the *Participating NHS Organisations* and *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* sections of this Appendix.

Principal Investigator Suitability

This confirms whether the sponsor position on whether a PI, LC or neither should be in place is correct for each type of participating NHS organisation in England and the minimum expectations for education, training and experience that PIs should meet (where applicable).

The Chief Investigator will be acting as the Principal Investigator for this single site study.

GCP training is not a generic training expectation, in line with the HRA statement on training expectations.

IRAS project ID	221402

HR Good Practice Resource Pack Expectations

This confirms the HR Good Practice Resource Pack expectations for the study and the pre-engagement checks that should and should not be undertaken
As this is an online survey, it is not expected that the researcher will require any HR Good Practice arrangements. However, if the researcher will be coming on site and will have access to areas where they may be patients, then the appropriate Letter of Access, DBS checks and Occupational Heath clearances would apply.

Other Information to Aid Study Set-up

This details any other information that may be helpful to sponsors and participating NHS organisations in England to aid study set-up.
The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix E Briefing Statement

Personality and Healthcare

How does your personality relate to your work?

Version 2, 23.01.2017

Thank you for visiting this study page. This study has been approved by the Ethics Committee at the School of Psychology, University of Southampton, UK (ref-25053).

Before deciding whether to participate, please read the following information. By ticking the box at the bottom of this page and clicking on 'Continue', you are consenting to participate in this survey.

About the Study

Researchers: Lauren Ingram (Trainee Clinical Psychologist), Dr Claire Hart (Lecturer in Social Psychology), Dr Tess Maguire (Clinical Psychologist) and Dr Erica Hepper (Lecturer in Social Psychology).

What is the research about?

The aim of this study is to look at different personality traits in Healthcare Professionals and how this may relate to their work.

Why have I been chosen?

Anyone who is aged above 18 can take part in this study if they are a healthcare professional currently working in a healthcare setting.

What will happen to me if I take part?

We will ask you to complete some online questionnaires about yourself and your personality. We will then ask you to read an article and some case studies regarding patients that might present to healthcare services. We will then ask you to complete some questions about these. In total this should take about 20-30 minutes.

Are there any benefits in my taking part?

You may benefit from participating because at the end you will learn about our specific research aims, as well as what scientists currently know about this area. You will also be told where to go for more information on this area of psychology. In addition, you will contribute to psychological science and our understanding of personality and healthcare. You have the option of entering into a prize draw to win one of four £50/one of eight £25 Amazon vouchers.

Are there any risks involved?

There are no significant risks involved in this study beyond those you would encounter in everyday life. Some of the questions you may be asked may ask you to think about personal or sensitive topics and although we have tried to ensure that the study does not cause distress some people may experience temporary feelings of negative emotion.

Will my participation be confidential?

All data are treated as confidential. Any personal information about you will be kept separately from your responses.

What happens if I change my mind?

Participation in this study is fully voluntary and you have the right to withdraw at any time with no penalty.

What happens if something goes wrong?

In the unlikely case that something goes wrong in this study we advise you to contact the chair of the Ethics Committee, Psychology, University of Southampton, SO17 1BJ, UK. Phone: 02380 593856, email: fshs-rso@soton.ac.uk

Also, we have tried to ensure that the questions in this study do not cause any distress. However, it is not uncommon to experience some anxieties or concerns when completing questionnaires about emotions, and support is available. If participating in this study raises any issues for you, we recommend that you contact one of the following resources:

- UK participants: find a counsellor at www.bacp.org
- Worldwide: www.allaboutcounseling.com

Where can I get more information?

At any time after participating you may contact the research team:

Lauren Ingram: lli1g15@soton.ac.uk

Consent

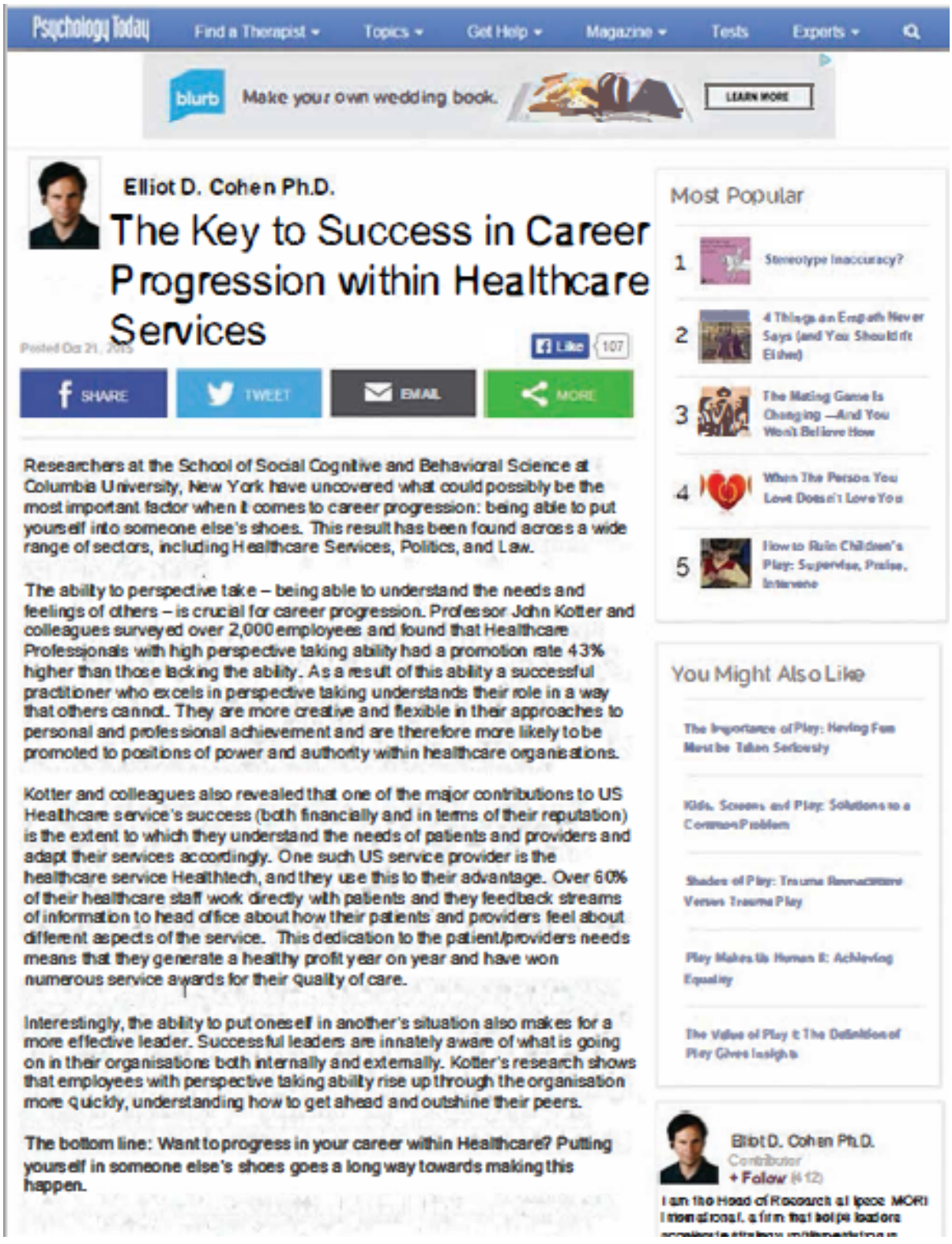
I have read and understood the information about this study. In consenting, I understand that my legal rights are not affected. I also understand that data collected as part of this research will be kept confidential and that published results will maintain that confidentiality. I finally understand that if I have any questions about my rights as a participant in this research, or if I feel that I have been placed at risk, I may contact the chair of the Ethics Committee, Psychology, University of Southampton, SO17 1BJ, UK. Phone: 02380 593856, email: fshs-rso@soton.ac.uk

I certify that I am 18 years or older. I have read the above consent form and I give consent to participate in the above described research.

☐ (Please check this box to indicate that you consent to taking part in this survey)

Appendix F Articles used for Agentic, Communal and Control Conditions

Agentic Condition:



Psychology Today Find a Therapist Topics Get Help Magazine Tests Experts

Elliot D. Cohen Ph.D.

The Key to Success in Career Progression within Healthcare Services

Posted Oct 21, 2015

Like 107

SHARE TWEET EMAIL MORE

Researchers at the School of Social Cognitive and Behavioral Science at Columbia University, New York have uncovered what could possibly be the most important factor when it comes to career progression: being able to put yourself into someone else's shoes. This result has been found across a wide range of sectors, including Healthcare Services, Politics, and Law.

The ability to perspective take – being able to understand the needs and feelings of others – is crucial for career progression. Professor John Kotter and colleagues surveyed over 2,000 employees and found that Healthcare Professionals with high perspective taking ability had a promotion rate 43% higher than those lacking the ability. As a result of this ability a successful practitioner who excels in perspective taking understands their role in a way that others cannot. They are more creative and flexible in their approaches to personal and professional achievement and are therefore more likely to be promoted to positions of power and authority within healthcare organisations.

Kotter and colleagues also revealed that one of the major contributions to US Healthcare service's success (both financially and in terms of their reputation) is the extent to which they understand the needs of patients and providers and adapt their services accordingly. One such US service provider is the healthcare service Healthtech, and they use this to their advantage. Over 60% of their healthcare staff work directly with patients and they feedback streams of information to head office about how their patients and providers feel about different aspects of the service. This dedication to the patient/providers needs means that they generate a healthy profit year on year and have won numerous service awards for their quality of care.

Interestingly, the ability to put oneself in another's situation also makes for a more effective leader. Successful leaders are innately aware of what is going on in their organisations both internally and externally. Kotter's research shows that employees with perspective taking ability rise up through the organisation more quickly, understanding how to get ahead and outshine their peers.

The bottom line: Want to progress in your career within Healthcare? Putting yourself in someone else's shoes goes a long way towards making this happen.

Most Popular

1 Stereotype Inaccuracy?

2 4 Things an Empath Never Says (and You Shouldn't Either)

3 The Mating Game Is Changing —And You Won't Believe How

4 When The Person You Love Doesn't Love You

5 How to Ruin Children's Play: Supervise, Praise, Intervene

You Might Also Like

The Importance of Play: Having Fun Must be Taken Seriously

Kids, Screens and Play: Solutions to a Common Problem

Shades of Play: Trauma Resources Versus Trauma Play

Play Makes Us Human II: Achieving Equality

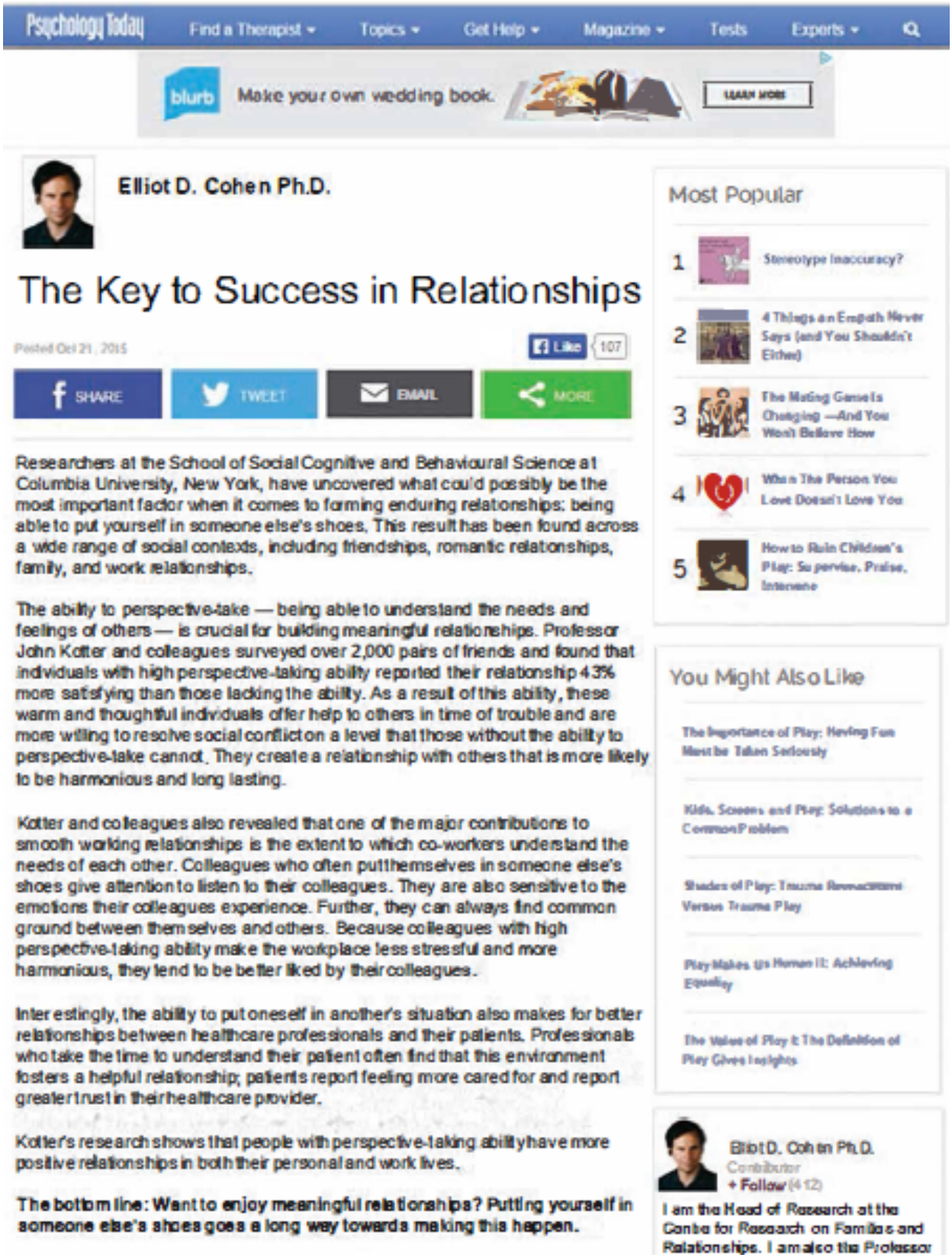
The Value of Play I: The Definition of Play Gives Insights

Elliot D. Cohen Ph.D.
Contributor
+ Follow (412)

I am the Head of Research at Ipsos MORI International, a firm that helps leaders

Appendix F

Communal Condition:



Psychology Today Find a Therapist Topics Get Help Magazine Tests Experts

Elliot D. Cohen Ph.D.

The Key to Success in Relationships

Posted Oct 21, 2015

Researchers at the School of Social Cognitive and Behavioural Science at Columbia University, New York, have uncovered what could possibly be the most important factor when it comes to forming enduring relationships: being able to put yourself in someone else's shoes. This result has been found across a wide range of social contexts, including friendships, romantic relationships, family, and work relationships.

The ability to perspective-take — being able to understand the needs and feelings of others — is crucial for building meaningful relationships. Professor John Kotter and colleagues surveyed over 2,000 pairs of friends and found that individuals with high perspective-taking ability reported their relationship 43% more satisfying than those lacking the ability. As a result of this ability, these warm and thoughtful individuals offer help to others in time of trouble and are more willing to resolve social conflict on a level that those without the ability to perspective-take cannot. They create a relationship with others that is more likely to be harmonious and long lasting.

Kotter and colleagues also revealed that one of the major contributions to smooth working relationships is the extent to which co-workers understand the needs of each other. Colleagues who often put themselves in someone else's shoes give attention to listen to their colleagues. They are also sensitive to the emotions their colleagues experience. Further, they can always find common ground between themselves and others. Because colleagues with high perspective-taking ability make the workplace less stressful and more harmonious, they tend to be better liked by their colleagues.

Interestingly, the ability to put oneself in another's situation also makes for better relationships between healthcare professionals and their patients. Professionals who take the time to understand their patient often find that this environment fosters a helpful relationship; patients report feeling more cared for and report greater trust in their healthcare provider.

Kotter's research shows that people with perspective-taking ability have more positive relationships in both their personal and work lives.

The bottom line: Want to enjoy meaningful relationships? Putting yourself in someone else's shoes goes a long way towards making this happen.

Most Popular

1 Stereotype Inaccuracy?

2 4 Things an Empath Never Says (and You Shouldn't Either)

3 The Mating Game Is Changing —And You Won't Believe How

4 When The Person You Love Doesn't Love You

5 How to Ruin Children's Play: Supervise. Praise. Intervene

You Might Also Like

The Importance of Play: Having Fun Must be Taken Seriously

Kids, Screens and Play: Solutions to a Common Problem

Shades of Play: Trauma Reenactment Versus Trauma Play

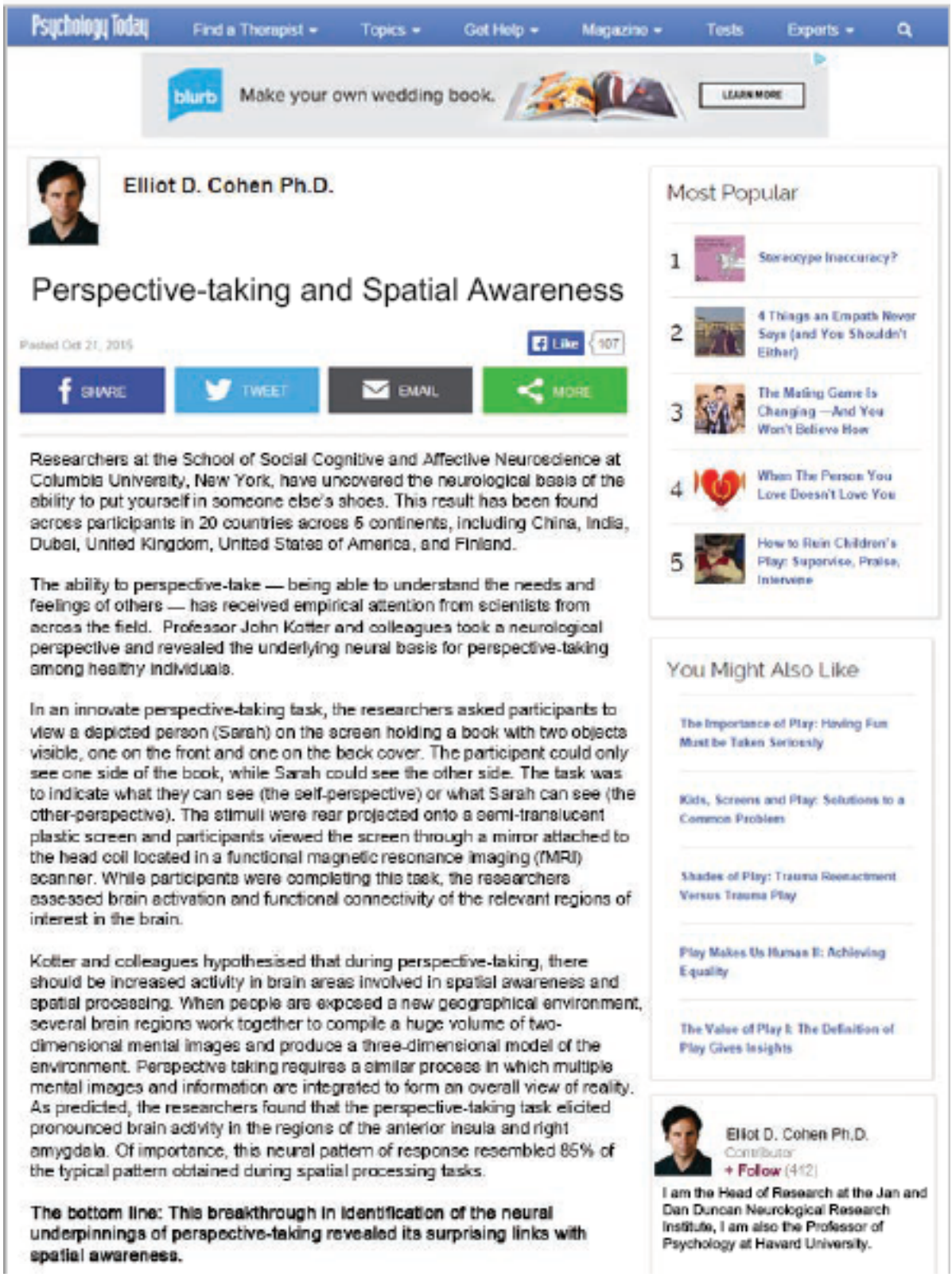
Play Makes Us Human II: Achieving Equality

The Value of Play I: The Definition of Play Gives Insights

Elliot D. Cohen Ph.D.
Contributor
+ Follow (412)

I am the Head of Research at the Centre for Research on Families and Relationships. I am also the Professor

Control Condition:



Appendix G Vignettes Describing Hypothetical Patients

Physical Health (M.A):

You are treating a new patient (M.A.) who is accessing your services. While you are discussing what has brought them to your service, M.A. tells you they are experiencing severe abdominal pain. The struggling patient tells you that they are in severe discomfort but don't know why. M.A. appears distressed, grimacing and clutching their abdomen. M.A. explains that they have had a sharp pain in their abdomen which has been hurting for 48 hours and has got worse over time. M.A. is struggling to stand up straight and grabs their abdomen when they take a step. M.A. is particularly worried because they have work early the next morning. M.A. gasps that they will have to work tomorrow even if they are still in pain because they can't afford to take a day off.

Mental Health (P.O):

You are treating a new patient (P.O.) who is accessing your services. While you are discussing what has brought them to your service, P.O. tells you that they are feeling low at the moment and that they have been finding things difficult for the past 2-3 weeks. P.O. is tearful when you meet them, struggling to explain their feelings and why they feel this way. P.O. tells you that they haven't been sleeping or eating well, and appears very tired. P.O. explains that they have been feeling worse as time goes on and that they sometimes have thoughts that life is not worth living. P.O. tells you that they are finding it difficult to go to work at the moment and are worried about losing their job.

Appendix H Adapted Interpersonal Reactivity Index

	Disagree Strongly	Disagree Moderately	Disagree a Little	Agree a Little	Agree Moderately	Agree Strongly
I would have tender, concerned feelings for M.A.	○	○	○	○	○	○
I find it difficult to see things from M.A.'s point of view.	○	○	○	○	○	○
In this situation, I would feel apprehensive and ill-at-ease.	○	○	○	○	○	○
When I hear how M.A. is feeling, I would feel kind of protective towards *him/her*.	○	○	○	○	○	○
I would feel helpless in this situation.	○	○	○	○	○	○
I would try to understand M.A. better by imagining how things look from *his/her* perspective.	○	○	○	○	○	○
When speaking with M.A., I would remain calm.	○	○	○	○	○	○
M.A.'s misfortune would not disturb me a great deal.	○	○	○	○	○	○
When I see M.A. in pain, I wouldn't feel very much pity for him/her.	○	○	○	○	○	○
To understand M.A. better, I would be able to put myself into *his/her* shoes.	○	○	○	○	○	○
When I see M.A. needing help, I would go to pieces.	○	○	○	○	○	○
Before criticising M.A., I would try to imagine how I would feel if I were in *his/her* place.	○	○	○	○	○	○
I would try to think like M.A. in order to render better care.	○	○	○	○	○	○

Appendix H

It would be important to my relationship with M.A. that I understood his/her emotional status.	⬭	⬭	⬭	⬭	⬭	⬭
Affectional ties to M.A. would be irrelevant to my treatment of him/her.	⬭	⬭	⬭	⬭	⬭	⬭
I would try not to pay attention to M.A.'s emotions when treating him/her.	⬭	⬭	⬭	⬭	⬭	⬭
I would take M.A.'s experiences seriously	⬭	⬭	⬭	⬭	⬭	⬭

Appendix I Standardised Beta Coefficients for six Multicategorical Moderation Analyses

Standardised Beta Coefficients Pertaining to the Relationships Between Narcissism and Condition on Empathy Towards the Physical Health Patient, Controlling for Impression Management and Education Level.

	β	*SE*	*t*	*p*	LLCI	ULCI
NPI total	**-.031**	**.012**	**-2.574**	**.011**	**-.055**	**-.007**
Agentic vs Control	.178	.329	.540	.590	-.472	.827
Communal vs Control	**.736**	**.317**	**2.319**	**.022**	**.110**	**1.362**
Interaction 1	-.008	.037	-.209	.835	-.080	.065
Interaction 2	**-.063**	**.032**	**-1.953**	**.052**	**-.126**	**-.001**
IM	**.153**	**.056**	**2.754**	**.007**	**.043**	**.263**
Education Level	.069	.037	1.876	.062	-.004	.141

Note: IM = impression management. Interaction 1 = agentic vs. control x NPI. Interaction 2 = communal vs. control x NPI. Significant results are in bold.

Standardised Beta Coefficients Pertaining to the Relationships Between Maladaptive Narcissism and Condition on Empathy Towards the Physical Health Patient, Controlling for Impression Management and Education Level.

	β	*SE*	*T*	*p*	LLCI	ULCI
Maladaptive Narcissism	-.049	.033	-1.458	.146	-.115	.017
Agentic vs Control	-.002	.258	-.008	.994	-.512	.507
Communal vs Control	**.567**	**.261**	**2.175**	**.031**	**.053**	**1.081**
Interaction 1	.063	.089	.699	.485	-.114	.239
Interaction 2	**-.155**	**.081**	**-1.921**	**.056**	**-.314**	**-.004**
IM	**.149**	**.058**	**2.566**	**.011**	**.034**	**.263**
Adaptive Narcissism	-.019	.026	-.757	.450	-.070	.031
Education Level	.064	.037	1.724	.086	-.009	.138

Note: IM = impression management. Interaction 1 = agentic vs. control x NPI. Interaction 2 = communal vs. control x NPI. Significant results are in bold.

Appendix I

Standardised Beta Coefficients Pertaining to the Relationships Between Adaptive Narcissism and Condition on Empathy Towards the Physical Health Patient, Controlling for Impression Management and Education Level.

	β	*SE*	*T*	*p*	LLCI	ULCI
Adaptive Narcissism	-.024	.025	-.944	.346	-.074	.026
Agentic vs Control	-.001	.321	.004	.996	-.632	.635
Communal vs Control	**.816**	**.332**	**2.459**	**.015**	**.161**	**1.472**
Interaction 1	.026	.064	.412	.681	-.099	.151
Interaction 2	**-.135**	**.061**	**-2.202**	**.029**	**-.256**	**-.014**
IM	**.158**	**.057**	**2.781**	**.006**	**.046**	**.269**
Maladaptive Narcissism	-.042	.033	-1.261	.209	-.108	.024
Education Level	**.069**	**.037**	**1.873**	**.063**	**-.004**	**.142**

Note: IM = impression management. Interaction 1 = agentic vs. control x NPI. Interaction 2 = communal vs. control x NPI. Significant results are in bold.

Standardised Beta Coefficients Pertaining to the Relationships Between Narcissism and Condition on Empathy Towards the Mental Health Patient, Controlling for Impression Management and Education Level.

	β	*SE*	*T*	*p*	LLCI	ULCI
NPI total	**-.041**	**.012**	**-3.340**	**.001**	**-.065**	**-.017**
Agentic vs Control	-.012	.334	-.036	.972	-.671	.647
Communal vs Control	.508	.322	1.581	.116	-.126	1.143
Interaction 1	.010	.037	.277	.782	-.063	.084
Interaction 2	-.038	.032	-.1.170	.244	-.102	.026
IM	**.119**	**.057**	**2.107**	**.037**	**-.008**	**.231**
Education Level	**.102**	**.037**	**2.729**	**.007**	**.028**	**.175**

Note: IM = impression management. Interaction 1 = agentic vs. control x NPI. Interaction 2 = communal vs. control x NPI. Significant results are in bold.

Standardised Beta Coefficients Pertaining to the Relationships Between Maladaptive Narcissism and Condition on Empathy Towards the Mental Health Patient, Controlling for Impression Management and Education Level.

	β	*SE*	*T*	*p*	LLCI	ULCI
Maladaptive Narcissism	-.046	.034	-1.379	.170	-.112	.020
Agentic vs Control	-.164	.260	-.630	.530	-.677	.350
Communal vs Control	**.542**	**.262**	**2.071**	**.040**	**.026**	**1.059**
Interaction 1	.112	.090	1.245	.215	-.065	.289
Interaction 2	**-.156**	**.081**	**-1.921**	**.056**	**-.315**	**.004**
IM	.113	.059	1.935	.055	-.002	.229
Adaptive Narcissism	-.038	.026	1.479	.141	-.089	.013
Education Level	.096	.038	2.554	.012	.022	.170

Note: IM = impression management. Interaction 1 = agentic vs. control x NPI. Interaction 2 = communal vs. control x NPI. Significant results are in bold.

Standardised Beta Coefficients Pertaining to the Relationships Between Adaptive Narcissism and Condition on Empathy Towards the Mental Health Patient, Controlling for Impression Management and Education Level.

	β	*SE*	*t*	*p*	LLCI	ULCI
Adaptive Narcissism	-.044	.026	-1.714	.088	-.094	.007
Agentic vs Control	-.206	.329	-.627	.532	-.855	.443
Communal vs Control	**.661**	**.336**	**1.965**	**.051**	**-.003**	**1.325**
Interaction 1	.062	.065	.968	.335	-.065	.190
Interaction 2	-.105	.062	-1.692	.092	-.227	.017
IM	**.127**	**.058**	**2.202**	**.029**	**.013**	**.240**
Maladaptive Narcissism	-.042	.034	-1.250	.213	-.109	.024
Education Level	**.102**	**.037**	**2.713**	**.007**	**.028**	**.175**

Note: IM = impression management. Interaction 1 = agentic vs. control x NPI. Interaction 2 = communal vs. control x NPI. Significant results are in bold.

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