Bangor University

DOCTOR OF PHILOSOPHY

Putting the 'me' in team: Narcissism, team processes, and emergent states

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Award date:
2021

Awarding institution:
Bangor University

Link to publication

Putting the 'me' in team: Narcissism, team processes, and emergent states

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Thesis submitted to Bangor University in fulfilment of the requirements for the

Degree of Doctor of Philosophy at the School of Sport, Health, and Exercise

Sciences, Bangor University.

May 2021

Yr wyf drwy hyn yn datgan mai canlyniad fy ymchwil fy hun yw'r thesis hwn, ac eithrio lle nodir yn wahanol. Caiff ffynonellau eraill eu cydnabod gan droednodiadau yn rhoi cyfeiriadau eglur. Nid yw sylwedd y gwaith hwn wedi cael ei dderbyn o'r blaen ar gyfer unrhyw radd, ac nid yw'n cael ei gyflwyno ar yr un pryd mewn ymgeisiaeth am unrhyw radd oni bai ei fod, fel y cytunwyd gan y Brifysgol, am gymwysterau deuol cymeradwy.

I hereby declare that this thesis is the results of my own investigations, except where otherwise stated. All other sources are acknowledged by bibliographic references. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree unless, as agreed by the University, for approved dual awards.

Acknowledgments

As I write this final section for my thesis, an unseasonably cold, wet and windy May Day Bank Holiday stares back at me from my home office. Due to the COVID-19 pandemic, working from home has been a staple of my life (and many others) for the past year or so. The working from home situation allows you to reflect and take stock of the all the people that have been there and supported me in a variety of ways throughout my PhD.

First, I want to say a big thank you to James Hardy and Ross Roberts. You guys have been wonderfully supportive and pushed high standards from day one. It has been a stressful yet worthwhile experience, one that I can look back on with pride, and no regrets.

Second, I want to say a massive, massive thank you to Mum and Dad. I am the first in the family to go through the university system, so I appreciate you guys have often felt like you were going in as blind to the experience as I was. However, your love, support, and interest has helped me no end throughout my PhD and for that I'm eternally grateful.

Also, I want to give a big shout out to my girlfriend, Dr Xinyi Qiu. We met each other before the start of the PhD so you have seen every step of it with me (maybe a co-author on it?). I will be forever indebted to you for moving down from Scotland to join me in North Wales. Well done on your Radiology post and here is to the next chapter!

Last, I want to give a mention to my uncle, Ralph Boulter. I will forever remember your way of making people feel the most special in the room, I can only aspire to have such an ability.

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Thesis Abstract

Narcissism represents a trait of particular relevance for teams given the propensity of narcissistic individuals to 'get ahead' rather than 'get along' in team settings. However, despite the relevance of narcissism to team research, it has received scant attention in the literature. Therefore, the aim of this thesis was to test narcissism in teams, examining how narcissism is related to intragroup conflict, as well as determining moderators which may give a contextual understanding of narcissism in teams.

This thesis presents four empirical studies (two in Chapter 2, one in Chapter 3 & 4, respectively). Chapter 2 examines an extended input-output-process model of narcissism in teams, using a cross-sectional and two-wave longitudinal study designs. I tested a conditional indirect effect model of narcissism on task cohesion via three intragroup conflict types (relationship, task, and process) moderated by the levels of narcissism in the team (narcissistic group composition). In both studies, results revealed that a significant conditional indirect effect via process conflict alone. More specifically, narcissism negatively impacted task cohesion via process conflict at low levels of perceived narcissistic group composition, with this effect weakened (Study 1) or diminished (Study 2) at high levels of narcissistic group composition. The findings of these studies point to the relevance of studying the contextual effects of team narcissism, as well as the importance of process conflict in teams.

Chapter 3 (Study 3) offered a more in-depth and realistic examination of the relationship between narcissism and intragroup conflict. In this study, I examined intragroup conflict in relation to distinct patterns of the three types (relationship, task, and process). This approach acknowledges the reality of the co-existence of conflict types within team environments. Applying latent profile analysis to conflict types allows insight into the distinct patterns of conflict whereby their antecedents (team-level narcissism) can be examined.

Results revealed five distinct profiles of conflict which differed in their composition of each type of conflict. Team mean and maximum narcissism scores predicted membership of medium and high TC-dominant profiles, and dysfunctional profiles. That is, high levels of team narcissism were associated with profiles that contained moderate to high levels of all conflict.

Finally, Chapter 4 investigated the interplay between follower and leader narcissism on follower commitment to group goals. Specifically, using polynomial regression with response surface analysis, I examined the linear and curvilinear between follower and leader narcissism on follower commitment. Results revealed that when follower and leader narcissism was matched follower commitment increased until a certain point, thereafter commitment then decreased. When leader and follower narcissism were mismatched commitment decreased, with the lowest levels of commitment evident when leader narcissism was low and follower narcissism was high. Results suggests that matching leader and follower narcissism may increase follower commitment until a certain point, after which it can then be detrimental. Further, it highlights mismatches in leader-follower narcissism that can impact follower commitment.

Chapter 5 summarises the results for the three empirical chapters, as well as addresses theoretical and applied implications of my findings. Strengths, limitations, and future directions are also discussed. This series of research adds to the extant literature of narcissism and teams and lays a strong foundation for more work in this area.

Chapter 1: General Introduction

Personality and teams – an overview

In sport settings, much like in organisations, teams are often the fundamental structure by which individuals work towards a common goal. Teams[1] can take on multiple forms such as task-interdependent teams (e.g., football and rugby) or refer to a group of individuals that train together but compete individually (e.g., track & field; Evans et al., 2012). Invariably within team environments, individuals possess their own unique sets of thoughts, feelings, and cognitions. Thus, it is reasonable to assume that there will be some interplay between the characteristics of each individual team member which will then influence a variety of team outcomes such as cohesion, satisfaction, and performance. In fact, the interplay between team members highlights the importance of considering team member personality and how it impacts team effectiveness. To date, there is a distinct lack of investigation of personality in teams in sports settings, despite the relevance personality has in team environments. Thus, the overarching theme of this thesis is to investigate personality in teams.

In order to navigate personality in teams research, there is a need to understand conceptualisations of team personality. To this end, there are two main perspectives to consider: *collective* personality and personality *composition*. Collective personality refers to trait terms that are used for individuals but are applied to teams more generally. For example, *collective* narcissism is measured by individuals rating the narcissism of their group as whole, (e.g., de Zavala et al. 2009). Whilst this is a valid perspective to investigate, it has yet to receive the same empirical attention as team personality *composition*, which will be the focus of this thesis. Team personality composition operationalises team personality by aggregating individuals' self (or informant)-rated personality scores to create a team score (e.g., individuals rate their *own* narcissism, which is then aggregated with fellow team members'

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[1] The terms 'team' and 'group' are used interchangeably throughout this thesis.

scores to create a team narcissism score). These team scores can be represented in a number

of ways such as mean, minimum/maximum, as well as variance scores (e.g., Barrick et al.,

1998; Bell, 2007). The variety of team aggregations permit a detailed look at specific aspects

of personality in teams. First, the mean approach represents the average level of a trait that

exists within a group. The minimum/maximum scores represent teams by their highest or

lowest scoring team member and reflects the influence of one individual on a teams'

outcome. Finally, variance scores represents how varied (or similar) a team is on a given trait.

Consequently, in this thesis, due to the flexibility of the approach and the wealth of research

(e.g., see meta-analytic review by Bell, 2007), team personality will reflect the *composition*

perspective.

Team personality research

In general, the Big Five personality traits: neuroticism/emotional stability,

extraversion, conscientiousness, agreeableness, and openness to experience (e.g., McRae &

Costa, 2004) are the most common traits team personality composition research employs. To

this end, Barrick et al. (1998) found evidence that team mean levels of conscientiousness,

agreeableness, and emotional stability positively predicted team performance. Minimum

scores of conscientiousness, extraversion, and agreeableness were also positively related to

team performance (see also van Vianen & De Dreu, 2001 for further evidence of minimum

conscientiousness scores predicting performance). Meta-analyses have also shown that Big

Five traits impact performance with Bell (2007) and Prewett et al. (2009) noting positive

associations for mean scores of all personality traits and performance.[2]

Beyond team performance, outcomes such as emergent states (Marks et al., 2001)

have also been examined in relation to personality traits. Emergent states can be considered

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[2] It is worth noting the omission of openness to experience in two of these studies. First, despite reporting
openness to experience as a measured trait, Barrick et al. (1998) do not report or discuss any findings related to
the trait. Second, Prewett et al. (2009) excluded openness to experience from analyses on theoretical grounds.

as an alternative type of outcome and are describe 'cognitive, motivational, and affective states of teams' (Marks et al., 2001, p. 357). Such examples include team cohesion (Carron et al., 2002) which refers to the 'tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs (Carron et al., 1998, p. 213). Barrick et al. (1998) demonstrated that (amongst other operationalisations) mean scores of agreeableness, extraversion, and emotional stability were positively related to social cohesion. Van Vianen and De Dreu (2001) expanded this research by incorporating task cohesion alongside social cohesion. Their reasoning was that task cohesion was not only more relevant to team performance than social cohesion, but it was also a better predictor of team performance. Results indicated that team mean scores of agreeableness were positively associated with task cohesion. Again, team mean extraversion and emotional stability scores were positively related to social cohesion.

Taken together, this brief review of Big Five traits in teams highlights that the personality of teams can impact on their effectiveness, whether this is directly on their performance or on motivational/cognitive-type outcomes such as cohesion. Whilst this work may reflect sufficient investigation for some, others posit that the study of personality traits beyond the Big Five allows for the development of a wider understanding of how personality can affect teams (Roberts & Woodman, 2017). To this end, this thesis aims to address team personality via a trait that has received limited investigation but has considerable relevance for teams: narcissism.

Narcissism – definitions, scope, and terminology

Narcissistic Personality Disorder (NPD; Kohut, 1968) is associated with a pathological tendency around a lack of empathy, need for admiration, and a grandiose self-image. However, narcissism can be considered as a sub-clinical personality trait (Miller & Campbell, 2008). Both of these conceptualisations share common characteristics, such as

need for admiration, entitlement, grandiose self-image, and a lack of empathy. However, the difference lies in that individuals with sub-clinical narcissism do not suffer from a pre-occupation of their grandiose fantasies or require their admiration for everyday functioning (Miller & Campbell, 2008). Another key difference is that NPD is assessed by diagnostic criteria (American Psychiatric Association, 2013), whilst sub-clinical narcissism is assessed on a spectrum where individuals can vary from low to high levels of sub-clinical narcissism. A commonly used assessment tool for sub-clinical narcissism is the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979), which measures the grandiose and agentic form of narcissism. Grandiose narcissism reflects traits associated with grandiosity, aggression, and dominance, as opposed to vulnerable forms of narcissism which reflect feelings of inadequacy and incompetence (Miller et al., 2011). The agentic form of grandiose narcissism stems from the agency-communion model of narcissism (Gebauer et al., 2012). This model corresponds to the means by which grandiose narcissists satisfies their core self-motives (e.g., grandiosity, power, and entitlement). Agentic forms of grandiose narcissism satisfy self-motives through displays of competency and social power, as opposed to communal types which reflect superiority through communion (e.g., prosociality and morality). Accordingly, this thesis examines sub-clinical narcissism in its grandiose and agentic form. This type of narcissism reflects a disposition whereby individuals are dominant, entitled, self-centred, and possess a manipulative interpersonal orientation (Morf et al., 2011). Thus, within the context of this thesis, the term 'narcissist' and individuals 'high in narcissism' will refer to the sub-clinical, grandiose, and agentic form of narcissism measured primarily by the NPI.

Narcissism and teams

        In team settings, narcissism has a complex relationship with various outcomes. To elaborate, narcissists often exhibit charming, charismatic behaviours which can be viewed as desirable attributes in teams (Back et al., 2013). However, they can also be aggressive when

they perceive an ego-threat, which in turn leads them to devaluing fellow team members. The extant literature appears to support this nuanced idea of narcissism in teams. For example, individuals high in narcissism dominate others (Morf & Rhodewalt, 1993), will look to better themselves at the cost of others (Campbell et al., 2005), and decrease in popularity over time in groups (Leckelt et al., 2015). These studies highlight the undesirable characteristics of narcissism in teams. On the other hand, narcissism appears to also somewhat benefit groups in some situations. For example, those high in narcissism may emerge as leaders in leaderless groups and are perceived as effective leaders early on in group formation (Ong et al., 2016). Furthermore, Goncalo et al. (2010) investigated how narcissism impacted group creativity and systematic thinking. Results showed that the average levels of narcissism and the number of narcissists in the group increased creative performance (e.g., number of creative outputs, quality of suggestions offered in group tasks) but only up to a certain point. After which, group creativity declined. The authors argued that a certain level of narcissism is optimal in groups (approximately half a group occupied by narcissists), as they attempt to 'sell' their ideas in the group in order to self-enhance. Seemingly this effect has the impact of boosting group creativity although this dissipates with too much narcissism. The authors attribute this decline to the fact that true group creativity is masked by narcissist's charisma and enthusiasm (to self-enhance) thus, more narcissists in a group will not necessarily improve overall group creativity. In summary, the research shows that narcissists can help teams at times due to their drive to 'get ahead' but can also be disruptive as they do not like to 'get along' (Brummelmann et al., 2016). However, to more appropriately understand how narcissism can impact teams, it is imperative to develop a conceptual framework of narcissism in team settings.

Modelling narcissism in teams

A common perspective to model personality in teams is the input-process-output (IPO) framework. Initially pioneered by McGrath (1964), team personality is often conceptualised as an input which then in turn impacts processes. These processes are often considered as the exchanges in which individuals engage in with team members. The processes finally impact outputs that involve subsequent team effectiveness (e.g., performance or emergent states; Carron & Spink, 1993; LePine et al., 2011; McEwan & Beauchamp, 2014). IPO frameworks can vary in their purpose but have a general structure and sequence about how team personality may impact outcomes via mechanisms. Thus, it is important to gain an appreciation for how IPO frameworks have been utilised in personality and group dynamics research more generally, before applying the framework to narcissism. In their IPO framework, Carron and Spink (1993) considered how group structures influence team communication, and in turn impacted team cohesion. Although the authors do not mention team personality as a specific group structure as an input, it is reasonable to assume that team personality composition could represent such a structure. Beyond this example, more contemporary frameworks have addressed team personality explicitly as an input (e.g., LePine et al., 2011). LePine and colleagues (2011) argue that previous frameworks have been overly simplistic and do not account for the level of the individual in teams. Thus, within their IPO model the authors incorporate the individual- and team-level personality effects that exist in teams. These two levels correspond to how individual team member personality (individual-level) and team personality (team-level) can independently impact teams through behaviours and processes. Further to these multilevel concerns, additional extensions are also worthy of consideration, such as the influence of moderators on processes and outcomes (Hardy et al., 2020). Indeed, some theories, such as trait activation theory (TAT; Tett & Guterman, 2000), suggest that the contextual effect of the environment can interact with an individuals' personality to change the strength of a relationship with a specified outcome.

Thus, the inclusion of moderators in an IPO framework has strong theoretical relevance. As such, Figure 1 serves as a conceptual framework to understand the extant literature of narcissism in teams. The conceptual model also provides the basis for the investigations in the empirical chapters.

To date, few investigations of narcissism within an IPO framework exist (see Grivilja et al., 2019; O'Neill & Adams, 2014 for exceptions). First, O'Neill and Adams (2014) investigated dark triad traits (including team mean narcissism) and their impact on team performance via task conflict resolution in project teams. Results showed that narcissism did not impact team performance via task conflict resolution, nor did narcissism correlate with any other team process or outcome variable within this study. In the second example, Grijalva and colleagues (2019) took a more nuanced conceptual design, by including different operationalisations of narcissism (team mean, maximum narcissism, as well as narcissism scores of individuals who they deemed central and important to the team, i.e., core role narcissism), and moderators (team familiarity) in their IPO framework. Overall, their conceptual model investigated the impact of narcissism on team performance via team coordination. The results showed that narcissism (all operationalisations) impacted performance negatively through team coordination. Further, there was also evidence of an interaction between narcissism (mean and core role) and team familiarity on team coordination. The authors observed a negative relationship between narcissism and team coordination at high levels of team familiarity, and a null relationship at low team familiarity. These results suggest the gains in coordination that usually occur from being in familiar teams do not occur for teams high in narcissism. In particular the authors suggest that higher levels of narcissism inhibits the positive social exchanges in a group that usually occurs when teams are familiar, as narcissists begin to wear on people over time (cf. Ong et al., 2016). Taken together, these investigations offer a mixed picture regarding the influence of

narcissism from an IPO perspective. One explanation for these mixed findings may be attributed to the relevancy of processes (team member interactions) in groups.

Consistent with the IPO framework, processes refer to the 'interactions such as communication, and conflict that occur among group members...' (Cohen & Bailey, 1997, p. 244). Member interactions relevant to high in narcissism may be disagreements and arguments that occur in groups, due to narcissists' inability to 'get along' (Brummelmann et al., 2016). For example, O'Neill and Adams (2014) noted correlations between narcissism and task conflict, however it is generally accepted that disagreements in groups exist in a variety of ways (de Wit et al., 2012). Thus, in this thesis, I investigate intragroup conflict more broadly, and examine the relationships it shares with narcissism. In doing so, I aim to shed light on intragroup conflict, a team process that has particular relevance to narcissism, and has remained a chronically understudied, yet theoretically important, variable.

Figure 1

Conceptual framework based on Hardy et al.'s (2020) IPO model
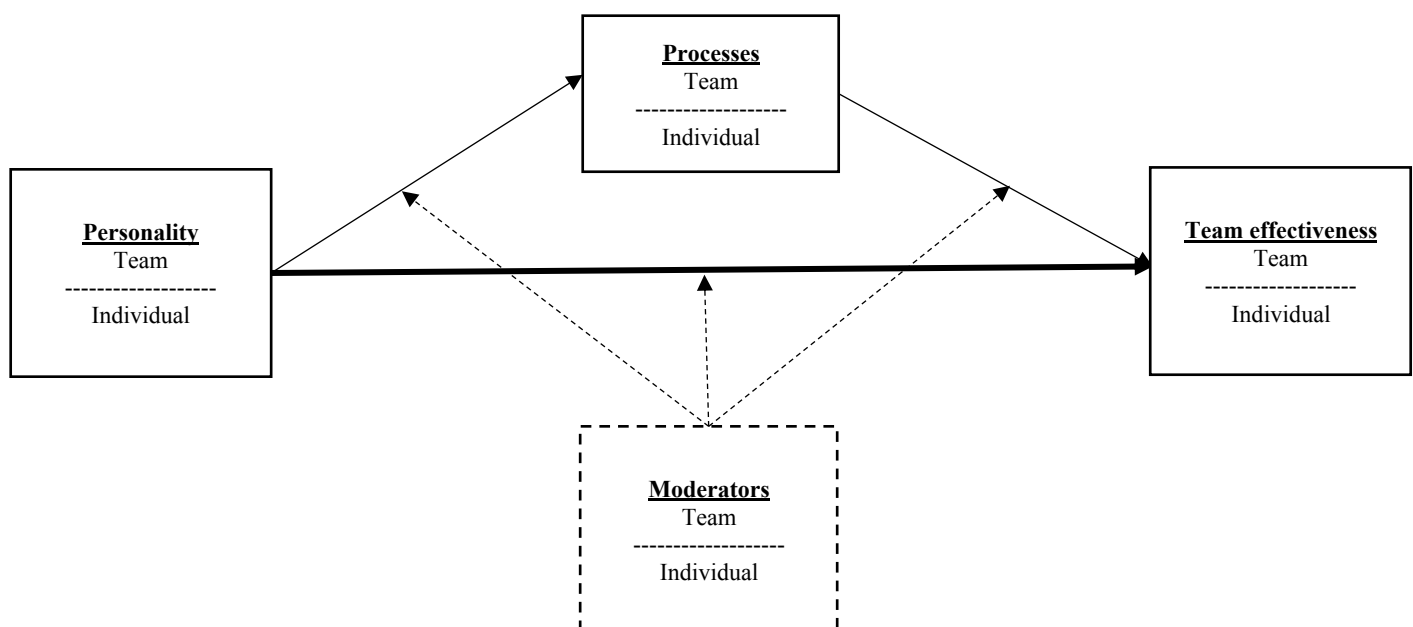
Intragroup conflict

Within the literature, *intragroup* conflict is defined as the "the process whereby two or more team members disagree over real or perceived differences" (de Dreu & Weingart, 2003, p.741). The current literature distinguishes between three types of conflict (de Wit et al., 2012): *relationship conflict* involves disagreements around personality difference or norms and values; *task conflict* includes arguments about the task outcomes for the team; and *process conflict* is concerned with disagreements regarding the logistics of the task, such as team member roles and responsibilities. Meta-analyses show that relationship and process conflict negatively influence group performance (de Wit et al., 2012). Furthermore, conflict also influences emergent states, as all three conflict types negatively influence team trust, satisfaction, commitment, identification, and organisational citizenship behaviour, with relationship and process conflict also negatively influencing cohesion (de Wit et al., 2012). Altogether, it is apparent that intragroup conflict can have a profound impact on teams. However, the vast majority of this body of work focusses on teams within organizational contexts.

In sports teams, research into conflict is far less expansive. To elaborate, intragroup conflict research in sports teams has focused on only single dimensions of conflict such as task conflict (e.g., Leo et al., 2015), or has considered alternative conceptualisations of conflict (cf. Paradis et al., 2014). Thus, there is an inability to assess the impact of intragroup conflict across the organisational and sport contexts. In order to investigate intragroup conflict accurately with a conceptualisation that is generally accepted, I modify an existing scale from the organisational literature (Behfar et al., 2011) to fit the sports setting. Chapter 2 presents measurement development and refinement for the intragroup conflict scale for sport (ICS-S) across two samples. In doing so, this thesis not only looked at novel investigations of narcissism and intragroup conflict in sports teams but provided a sport-specific measure of intragroup conflict.

The investigation of narcissism and intragroup conflict forms the basis of three studies across two thesis chapters (Chapter 2 & 3). These chapters investigate different perspectives of narcissism and intragroup conflict in teams (i.e., the individual- and team-levels). In doing so, these chapters provide detailed insight into how narcissism and intragroup conflict are related. In Chapter 2, the investigations centre around the intragroup conflict types (relationship, task, and process) as a mediator of the relationship between narcissism and task cohesion at the individual-level. This chapter offers the first examination of narcissism and all intragroup conflict types, whilst also embedding them within an IPO-inspired framework. Chapter 3 addresses team-level relationships between narcissism and intragroup conflict. Furthermore, in Chapter 3 I examine conflict in terms of distinct patterns (or profiles) of the three intragroup conflict types, rather than viewing them independently of one another. These conflict profiles offer an alternative to the traditional method of viewing conflict by more appropriately acknowledging that conflict types co-occur and can be expressed in a number of combinations. Conflict profiles have been examined in previous work (O'Neill et al., 2018) but no work on the antecedents to these profiles exists. Chapter 3 offers a natural extension to Chapter 2 in two ways. First, it offers alternative and ecologically valid ways of conceptualising intragroup conflict in teams. Second, it investigates how team-level narcissism is implicated with intragroup conflict, therefore it complements the understanding of individual narcissism and intragroup conflict.

In summary, intragroup conflict represents a process-type (mediator) variable that is related to narcissism as is addressed in the thesis across two chapters. However, consistent with Figure 1, the strength of a relationship may depend on the context of a situation or environment. Thus, the following section aims to shed light on moderators relevant to narcissism in team settings.

Moderators – the contextual nature of narcissism in teams

A wealth of evidence supports the idea that narcissists perform better than non-narcissists, when opportunities for self-enhancement are available (Geukes et al., 2012; 2013; Wallace & Baumeister, 2002). In other words, the context or the situation that narcissists are placed in can influence their subsequent behaviours and outcomes. The contextual effect of the situation/environment is a central component of trait activation theory (TAT; Tett & Guterman, 2000). That is an individual's standing on a trait (e.g., narcissism) and their current situation interact with one another to elicit the behavioural expression of a trait (e.g., narcissists perform well when the spotlight is on them, but perform poorly when it is not). According to TAT, such situations may arise from a number of different sources notably task (e.g., day-to-day responsibilities), organisational (e.g., the culture of the organisation), and social (e.g., interacting with others; Tett & Burnett, 2003) environmental factors. For this thesis, I focus on social-type cues in the environment. Such cues stem from 'working with others.. they include needs and expectations of peers, subordinates, supervisors…' (Tett & Burnett, 2003, p. 504). Investigating the social cues, particularly for a trait with interpersonal implications such as narcissism, is an important avenue of research as, to date, task relevant cues have been the predominant focus in this area (Wallace & Baumeister, 2002, Woodman et al., 2011). Further, social-type cues also play a major part in team success (Tett & Burnett, 2003) but investigations are still needed to develop a more detailed understanding.

To date, only one study has examined the moderation effects of social cues with narcissism, here team familiarity significantly moderated the narcissism-team coordination relationship (Grijalva et al., 2019). Given that narcissists are likely to be drawn to teams in order to self-enhance, it will likely lead to situations whereby narcissists are teammates, followers of- or leaders of- fellow narcissists. Investigations around how narcissists are influenced by fellow narcissists in groups have been lacking. Indeed, evidence suggests that narcissists tolerate the actions of likeminded individuals (Burton et al., 2017; Hart & Adams,

2014). Nevertheless, these investigations have limited scope in both their ability to be generalised beyond interpersonal dyads, and peer relationships. Therefore, in this thesis, I test moderators that represent the interpersonal relationships narcissists experience in team environments. Specifically, in Chapter 2, I focused on the perceptions of the number of fellow teammates who are narcissists. In Chapter 4, I considered the interaction between narcissistic leaders and followers.

In Chapter 2, I posited that team narcissism moderates the relationship between narcissism and intragroup conflict. This moderation analysis utilised an alternative, TAT inspired, view of team personality that reflects *the number* of individuals who are narcissistic. This approach differs from conventional methods of team narcissism such as the team mean levels. Investigating the number of individuals rather than the teams' mean levels allows for a more focused alignment on rationale and subsequent analysis that is missing from previous research. To elaborate, Schmidt et al. (2012) studied the relationship between individual personality (namely conscientiousness and extraversion) and performance, moderated by team mean levels of the corresponding trait. However, the authors refer to the number of individuals who possess a trait, rather than refer to average levels of the trait in their team. Using team mean levels does not discern the number of individuals who possess a trait. For example, teams who have identical mean levels could be represented by either two high scoring individuals or several moderately scoring individuals. Therefore, there is a gap in the literature that has yet to address how the number of individuals who possess a certain trait in teams impacts functioning. In order to capture the number of narcissists within a team more precisely, I advanced an alternative measure of team personality; narcissistic group composition (NGC) which aligns theory and measurement more accurately for team narcissism. This approach uses a vignette in which a hypothetical narcissistic team member is presented based on descriptions of narcissists in the literature (Gore & Widiger, 2016;

Wallace & Baumeister, 2002). Participants rate how many members on their team fit this description, then the number of perceived narcissists is standardised by dividing it by the roster size. To provide comparisons of this NGC measure, in Chapter 2, I test the measure alongside a team mean conceptualisation of narcissism. In doing so, I aim to display the differential effects that the NGC measure offers to team personality research, compared to more traditional approaches to team personality composition (e.g., team mean narcissism). Further in Chapter 2, I use the NGC measure to test the contextual effects of the number of narcissists on the indirect effect of narcissism on task cohesion via intragroup conflict. Using the narcissistic-tolerance hypothesis (Burton et al., 2017) as a basis, I suggest that the more fellow narcissists that are perceived the less likely an individual narcissist will perceive conflict in their team, which in turn will diminish the negative indirect effect on task cohesion. This mitigation of conflict in teams is driven by the acceptance and tolerance of fellow narcissists self-motives (e.g., grandiosity) in the group. Narcissists may contribute to more conflict when they perceive fewer likeminded individuals as their entitled disposition is more likely to be questioned by perceived social rivals. Thus, the development of the NGC measure in Chapter 2 allows for an original investigation of the contextual nature of narcissism in groups.

Chapter 4 offers another example of moderation, by exploring interactions between follower and leader narcissism. Specifically, I investigate how similarity of narcissism levels between leaders and follower influences follower commitment. In this instance, I posit that leader narcissism will moderate the relationship between follower narcissism and commitment. In doing so, this chapter addresses calls for the integration of both leader and follower characteristics in explaining outcomes (Steffens & Haslam, 2020). Signalling theory (Spence, 2002) suggests leaders signal their preferences for certain behaviours but also these signals are selectively interpreted by followers, based on their own characteristics. Viewing

narcissism through this lens, matching (or mismatching) the levels of leader and follower narcissism may influence followers' outcomes. Evidence from interpersonal research on narcissism suggests that narcissists perceive other narcissists as more likeable due to their perceived similarity (Burton et al., 2017; Hart & Adams, 2014). To date, little of this interpersonal work has focused on narcissism across different hierarchy levels (although see Westerman et al., 2016 for an exception). With this in mind, matching leaders and followers' narcissism may have theoretical and applied implications. Specifically, narcissistic followers are often disinterested in positions of followership due to their lack of perceived opportunities to self-enhance (Nevicka et al., 2011). Leaders who signal that these opportunities are acceptable in teams may increase narcissistic followers' engagement in the team. Thus, Chapter 4 addressed gaps in the literature around leader and follower narcissism and the interplay of narcissism at these two hierarchical levels for follower outcomes.

Aims of thesis

Chapter 1 has outlined key conceptual considerations for viewing narcissism within teams, specifically mechanisms of narcissism (intragroup conflict) and moderators (team and leader narcissism). Chapter 1 highlights the relevant gaps in the literature which I address in this thesis.

To address these aims, and for reasons of transparency, it is worth noting that datasets across the three empirical chapters have been reused at times in order to answer these very different research questions. Specifically, data from Chapter 2 and 4 (with additional data) were combined and used in Chapter 3. Use of data in this way is encouraged by UK Research Councils. Indeed, the Economic and Social Research Council encourages the re-use of data where possible as it promotes flexibility in a project for researchers and means that participant burden can be minimised because new data are not required to answer new research questions (Economic and Social Research Council, n.d.). It is worth emphasising

that although some data were re-used across the thesis the research questions being asked and subsequent analytical techniques are very different. As such each of these chapters represents a standalone investigation.

Structure of thesis

This thesis comprises of a general introduction, three empirical chapters, and a general discussion. As each of the empirical chapters have been prepared as standalone manuscripts, therefore some repetition of topics is unavoidable. However, I have taken steps to minimise the amount of repetition where possible. This approach of presenting chapters as standalone manuscripts is in line with the policy of the School of Sport, Health, and Exercise Sciences.

Chapter 2 investigates narcissism in an extension of the IPO framework. Across two studies (Studies 1 and 2), I test a conditional indirect effect model of narcissism on task cohesion via intragroup conflict, moderated by team narcissism. This chapter tests two novel sport setting specific measures, one for intragroup conflict and one for team narcissism.

Chapter 3 (Study 3) considers further relationships between narcissism and intragroup conflict, this time at the team-level. In this chapter, I derive distinct profiles of intragroup conflict and investigate team mean and maximum narcissism as antecedents to the profiles.

Chapter 4 (Study 4) investigates the interplay of leader and follower narcissism levels on follower commitment. In doing so this chapter addresses the potential moderating influence of leader narcissism on the undesirable outcomes associated with narcissistic followership.

Chapter 5 presents the general discussion. I discuss the results of all three empirical chapters. Further, I offer theoretical and applied implications of the work, as well as the strengths and limitations. Finally, I suggest future directions for research.

Chapter 2: Bulls in a china shop: Narcissism, intragroup conflict, and cohesion

Abstract

When given opportunities for personal glory in individual settings, those high in narcissism excel. However, less is known about narcissists' influence in team contexts. Across two studies (utilizing cross-sectional and two-wave longitudinal designs) involving 706 athletes from 68 teams in total, we tested a conceptual model linking narcissism to task cohesion, via intragroup conflict, moderated by narcissistic group composition. We tested a new sports-oriented measure of intragroup conflict using Bayesian estimation and evaluated our theorizing using a multilevel conditional indirect effect hybrid model. Across both studies, we found that narcissism influenced task cohesion via process conflict only; with a negative influence at low narcissistic group composition that was weakened (Study 1) or nullified (Study 2) at high narcissistic team composition. Collectively, these findings offer the first example of how narcissism influences task cohesion in team settings and the contextual effects of narcissistic group composition.

Keywords: Narcissism, team personality, intragroup conflict, Bayesian estimation

Bulls in a china shop: Narcissism, intragroup conflict, and cohesion

Narcissism, in its grandiose and agentic form, reflects a disposition to be dominant, entitled, self-centered, and to possess a manipulative interpersonal orientation (Morf et al., 2011). It has been the focus of increased research attention within sport and performance settings (see Roberts et al., 2018 for a review) with considerable evidence that the behaviors of those high in narcissism are dependent on perceived opportunities for personal glory (or self-enhancement). These investigations, however, have focused on individual narcissism only. Consequently, the influence of narcissism in team settings is poorly understood.

Within team settings, it is likely that narcissists' motivation to gain superiority and their myopic focus on the self can be detrimental to teams. Indeed, the limited investigations that have taken place within team settings support this position; narcissists become more hostile toward teammates and more unpopular within teams across time (Leckelt et al., 2015; Ong et al., 2016). However, beyond these initial forays, little is known about how narcissism influences team outcomes. To understand how personality influences group outcomes most research adopts an input-process-output (IPO) framework (e.g., LePine et al., 2011). In IPO frameworks, inputs (e.g., personality) impact the processes that teammates engage in, which in turn influence outputs. For example, O'Neill and Allen (2014) found psychopathy (input) influenced team conflict resolution (process), which subsequently impacted team performance (output). However, the utilization of an IPO conceptual framework for investigating personality generally, and narcissism more specifically, within the sports domain remains untested. Thus, in the present study we examine narcissism within an IPO framework and examine its influence on cohesion.

Cohesion is often viewed as the most important small group variable (Lott & Lott, 1965). In the present study we focus on task cohesion, which refers to the bonding and closeness of a team regarding performance-related goals (Carron et al., 2002). Task cohesion

is of particular relevance to agentic narcissism as the antagonistic interpersonal style and pursuit of self-enhancement of the narcissistic individual can lead to a misalignment between their own goals (for the good of the self) and goals for the good of the team. Conversely, perceptions of social cohesion (e.g., the closeness of emotional bonds with team members) are less applicable to agentic forms of narcissism, as displays of close emotional bonds do not afford the opportunity to self-enhance.

To complete our IPO framework, we conceptualize intragroup conflict as a process variable; intragroup conflict impacts the unity and bonding around team goals (de Wit et al., 2012). Conflict is also a product of the antagonistic disposition of narcissism. In the following sections, we expand on types of intragroup conflict and we propose a conceptual IPO model of narcissism, conflict and cohesion, which we test across two studies. Furthermore, underpinned by Trait Activation Theory (Tett & Guterman, 2000), we also propose and test an extension to the IPO framework in our model, which includes the moderating effect of team narcissism on the narcissism-conflict-cohesion relationship. The overall conceptual model is displayed in Figure 1.

Intragroup conflict

The current literature distinguishes between three types of conflict (de Wit et al., 2012): *relationship conflict* involves disagreements about interpersonal issues, such as personal values; *task conflict* includes arguments about the task outcomes for the team; and *process conflict* is concerned with disagreements regarding how to approach the task, such as team member roles and responsibilities. Meta-analyses have consistently shown negative relationships between intragroup conflict and a variety of indices of team functioning (e.g., commitment, trust, and cohesion; De Dreu, & Weingart, 2003; de Wit et al., 2012).

Despite the utility of considering the aforementioned three conflict types and their demonstrated impact on teams, there is inconsistency in the uptake of this approach in the

sport literature. For example, some studies have only investigated a single conflict type, such as task conflict (Leo et al., 2015), or have explored alternative conceptualizations of intragroup conflict based on environments where conflict occurs (Paradis et al., 2014). Consequently, incomplete conceptualizations of intragroup conflict impede our understanding of this rich vein of research in sports settings. One possible explanation for the limited research into conflict in sport is the lack of an appropriate sport-specific measure that assesses the three types of conflict. To resolve this issue, in Study 1 we developed a sport-specific conflict scale encompassing the three types of conflict (relationship, task, and process conflict) to enable us to investigate the associations of narcissism on task cohesion via intragroup conflict.

Conceptual model

Our extended IPO framework examines how narcissism indirectly influences task cohesion via intragroup conflict, with team narcissism moderating this relationship. In order to understand the precise nature of these relationships, first we discuss the simple indirect effects of narcissism on task cohesion, via the three intragroup conflict types. Second, we explain how team narcissism composition (the moderator variable) ought to influence these indirect effects.

Simple indirect effects

We would expect narcissism to negatively impact task cohesion via intragroup conflict. To expand, those high in narcissism generally lack consideration for others (Wai & Tiliopoulos, 2012), which leads to increased arguments around personal values (relationship conflict). This effect, combined with the negative influence of relationship conflict on cohesion (de Wit et al., 2012) leads to the likelihood of narcissism negatively impacting task cohesion through relationship conflict. Similar effects are also probable for process conflict. Process conflict centers on roles and responsibilities and consequently, personal competency.

Personal competency is central to narcissists' raison d'etre (Zeigler-Hill et al., 2017), thus disagreements in this area represent a threat to narcissistic individuals' grandiose sense of self, which results in aggressive and hostile responses, producing greater conflict (Back et al., 2013). Process conflict is also negatively associated with cohesion (de Wit et al., 2012), thus via process conflict, narcissism will negatively influence task cohesion. In contrast to relationship and process conflict, task conflict does not necessarily influence cohesion (de Wit et al., 2012). Consequently, even though we might expect narcissism to predict task conflict, as narcissists may well disagree with teammates about team tasks and roles (as they are focused on their own aims to self-enhance at the expense of the group), task conflict may not impact on cohesion. Therefore, narcissism impacting task cohesion via task conflict is unlikely. In summary, we expect narcissism to negatively impact task cohesion through relationship and process conflict, but not through task conflict. In the following section, we develop these hypotheses further with the inclusion of team narcissism as a moderator of these indirect effects.

Team narcissism as a moderator

Embedded within Trait Activation Theory (Tett & Gutermann, 2000), individuals' standing on a trait *and* the corresponding behaviors are activated by situational cues in their environment. These cues are found at task, social, and organizational levels and moderate the relationship between an individual's personality and outcomes. In a team setting, the personality composition of the team will confer to cues which likely moderates the relationship between individual levels of a trait and particular outcomes (cf. Schmidt et al., 2012; Tett & Burnett, 2003). Put simply, a narcissistic individual may behave differently in a team comprising more versus fewer narcissistic individuals. Interestingly, despite their lack of empathy and self-focus, narcissists (vs. non-narcissists) dislike their narcissistic counterparts less than those lower in narcissism (Burton et al., 2017; Wallace et al., 2015).

Indeed, the *narcissistic-tolerance hypothesis* suggests that narcissists are more likely to interpret other narcissists' actions in a less negative light, as they share the same core motives. Thus, narcissistic individuals tolerate the more undesirable behaviors of other narcissists (Burton et al., 2017). Extending this rationale to teams, an individual high in narcissism in a team consisting of a relatively high number of narcissists is more likely to tolerate the views and behaviors of those who are similar, as such they disagree less with teammates and produce less intragroup conflict. In contrast, a narcissistic individual in a team of relatively few narcissists is likely to view others less favorably, as teammates are perceived as social rivals due to their lack of similar core values (Back et al., 2013). The resulting reaction by the narcissistic individual is to defend their perceived superior status by behaving aggressively to sources of rivalry leading to more intragroup conflict. Considering this theorizing in relation to the indirect effects proposed earlier, in teams consisting of (relatively) few narcissistic individuals, we expected narcissism to negatively impact task cohesion via relationship conflict and process conflict. However, as the number of narcissistic individuals in the team increases, we expected the negative effect of narcissism on task cohesion through relationship and process conflict to be attenuated. Finally, we proposed that narcissism would have no relationship with task cohesion via task conflict regardless of the composition of narcissism within the team.

Figure 1

Overview of conceptual model tested in Study 1 and 2
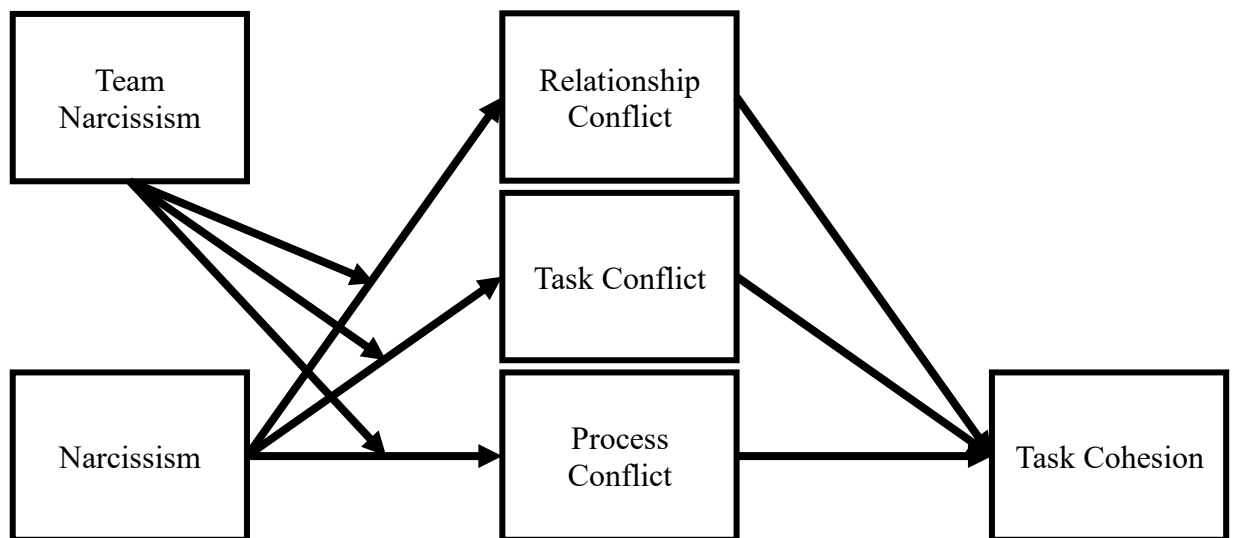
Overview

To summarize, in this study we offer a highly original examination of the influence of narcissism on task cohesion, via three intragroup conflict types, and moderated by team narcissism. The study is explicitly embedded within an extended IPO framework drawing from Trait Activation Theory principles. The conceptual model we propose (see Figure 1) offers several advances for team personality research. For example, we consider the level of the individual in teams, which has been often neglected in team personality research. Additionally, we test our model across two separate samples and research designs, utilizing a cross-sectional and a two-wave longitudinal design. In both studies we hypothesized that narcissism would have a negative indirect effect on task cohesion via relationship and process conflict (but not task conflict), at low narcissistic group composition, with the effect attenuated at high narcissistic group composition.

<div align="center">

Study 1

</div>

Participants

We recruited 306 participants (232 male, 74 female; $M_{age} = 24.03$, $SD = 7.60$) from 24 teams: soccer ($n = 138$), rugby ($n = 85$), cheerleading ($n = 29$), field hockey ($n = 26$), netball

(n = 16), and cricket (n = 12). Participants competed at a variety of competitive levels

including amateur (n = 104), county (n = 114), university (n = 47), national (n = 29 and semi-

professional (n = 12).

Measures

Narcissism

We used the 16-item Narcissistic Personality Inventory (NPI-16; Ames et al., 2006) to

measure narcissism. Each item consists of a narcissistic (e.g., 'I am an extraordinary person')

and a non-narcissistic statement (e.g., 'I am much like everyone else'), with participants

asked to choose one of the pair of statements for each item. Data collected on the NPI-16 has

previously demonstrated adequate construct and predictive validity (Ames et al., 2006). To

confirm the factorial validity of the NPI, we performed a Bayesian structural equation

modelling (BSEM; Muthén, & Asparouhov, 2012) approach to Confirmatory Factor Analysis

(CFA). Model fit was acceptable (PPP = .16, CI = -26.39, 78.64) as evidenced by a PPP

value close to > .1 and credibility intervals encompassing zero (Gelman et al., 2014).

Team Narcissism

Narcissistic group composition (NGC).

The measure consisted of a vignette of a hypothetical individual (in this case someone

high in narcissism). Participants rated whether target individuals fitted the description (see

Gore & Widiger, 2016). The vignette provides an example of a narcissistic player (although

this player was not explicitly described as a narcissist) drawing on several instances offered

in the literature (Gore & Widiger, 2016; Wallace & Baumeister, 2002). We provided sex and

sport type matched vignettes for participants (see Appendix A). Participants indicated the

number of individuals in their team that fitted this description. We then divided this figure by

the team roster size in order to standardize for team size.

This approach allows researchers to gauge the number of individuals that possess a certain trait.[3] Furthermore, by permitting individuals to assess their environmental factors (team narcissism composition), we consider a wholly intrapersonal perspective view of team personality accounting for the level of the individual in a team. In doing so, we acknowledge the 'person' within the team, a factor which is often neglected in team personality research (Hardy et al., 2020). For completeness, we also examined a more oft used measure of team personality, the team mean score (cf. Schmidt et al., 2012) and compared both of these approaches.

Team mean narcissism. Within each team, we used the NPI-16 scores to create a team mean narcissism score (cf. Schmidt et al., 2012).

Intragroup Conflict Scale for Sport (ICS-S)

The ICS-S is modified from the Intragroup Conflict Scale (Behfar et al., 2011) to fit sport settings. The current measure includes relationship conflict, task conflict and process conflict sub-scales. The ICS-S consists of 11 items: four relationship conflict items (e.g., *How much friction is there among your team members?),* three task conflict items (e.g., *To what extent does your team argue the pros and cons of different opinions?),* and four process conflict items (e.g., *How often do members of your team argue over who should do what?).* Items were measured using a 9-point scale from 1 (*none/never*) to 9 (*a lot/always*).

Following a BSEM process to CFA, the measure revealed excellent fit (PPP = .52, CI = -36.18, 34.98) as evidenced by a PPP value close to .5 and credibility intervals encompassing zero with good symmetry around the value. Sensitivity analysis indicated 47%

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[3] We believe this approach to be a more appropriate method to assess group composition than the oft used team mean aggregation approach (e.g., Schmidt et al., 2012), because aggregating individual scores to create a team mean fails to consider the make-up of that team. For example, two teams with the same mean score on a particular personality trait could have substantially different composition (with one team comprising individuals scoring close to the mean, whereas the other team comprises individuals who score substantially above and substantially below). Given that our theorizing relates to the number of individuals in a group, the NGC approach is more relevant.

of parameters stayed within ± 10% of their parameter estimates. Full details on item removal, model development, model fit statistics, and inter-factor correlations are found in Appendix B.

Task Cohesion

To assess task cohesion, we used the Group Environment Questionnaire-2 (GEQ-2; Eys et al., 2007). Nine items assess task cohesion in two subscales: five items assessing group integration (GI-T; e.g., *Our team is united in achieving its goals for performance*) and four items assessing individual attraction to group (AGT-T; e.g., *I am happy with the playing time I get*). Responses are assessed using a nine-point Likert scale from 1 (*strongly disagree*) to 9 (*strongly agree*). To provide consistency with the other measures we also tested the factor structure of the GEQ-2 using a BSEM CFA approach and obtained an excellent fit for the two-factor task cohesion measure (PPP = .0, CI = -27.99, 28.80).

Procedure

Following institutional ethical approval, we approached teams during training or via email early in the competitive season. We employed a cross-sectional design with participants completing the questionnaires in person, individually, and without discussing responses with other team members. Trained research assistants screened questionnaires to allow participants a second chance to complete any missing data points. All participants provided written informed consent.

Data Analysis

Using Mplus 8 (Muthén & Muthén, 1998-2017), we tested our conceptual model using Bayesian analysis, which confers a number of advantages compared to the Maximum Likelihood (ML) approach (see van de Schoot et al., 2014 for details). One such advantage of the Bayesian approach is the ability to incorporate prior beliefs into analyses. Following recommendations on prior belief formulation (Depaoli & van de Schoot, 2017), we

incorporated previous research (Burton et al., 2017; de Wit et al., 2012) and expert opinion

into our decision making. Our choice of priors reflected small-to-moderate effect sizes

(Gucciardi & Zyphur, 2016) for the path coefficients with a degree of uncertainty (Model 1).

We also performed a sensitivity analysis to determine if estimates were sensitive to change

(Model 1a & Model 1b). Model 1 priors are as follows: a-path priors were (.35, .03) which

reflects a mean effect size of .35, with a variance of .03 for all three pathways; b-path priors

were (-.35, .03) for relationship conflict and process conflict, and (.00, .03) for task conflict;

finally, moderator interaction paths were (-.35, .01). Priors for Model 1a (same mean, small

variance) and 1b (large mean, large priors) can be found in the Appendix C.

To test our hypotheses, we applied hybrid modelling and used a conditional indirect

effect approach. Hybrid modelling allows for the inclusion of measurement error with

variables whilst maintaining an observed variable model (Wang & Wang, 2012). This

approach therefore allows researchers the compromise of modelling some measurement error,

beyond a simple path analysis which treats variables as observed fixed entities with no error

but does not require the large datasets that latent variable BSEM approaches require.

Given that our hypotheses reflected a conditional indirect effect model, we calculated

the conditional indirect index (CIEI; Hayes, 2015) which tests whether a conditional indirect

effect is significantly different from zero. The CIEI is the product of the interaction (on the a-

path) and b-path via a specific mediator. Thus, for each analysis we produced three

conditional indirect indices. For details on calculations, see Hayes (2015).

Given the multilevel nature of the data (players nested within teams), we tested our

model using multilevel modelling. The proposed models comprised two levels: the individual

level (Level 1), namely narcissism, NGC, intragroup conflict, and task cohesion; and the

team level (Level 2), namely team mean narcissism. Narcissism and intragroup conflict

variables were group-mean centered to help interpret relationships at the level of the

individuals rather than the group (Enders & Tofighi, 2007). We modelled team personality

conceptualizations (NGC vs. team mean narcissism) in separate analyses to allow for

comparisons of results across the conditional indirect effect models.

Results

Descriptive statistics, bivariate correlations, and composite reliability estimates for all

variables are displayed in Table 1.

Conditional Indirect Effects

Team mean narcissism moderator. Model non-convergence issues (PSR >1.1)

became evident for our team mean NPI models, precluding our ability to interpret these

posterior parameter estimates. Non-convergence issues were also evident when iterations

were increased to 200,000 and reduced to one Markov chain Monte Carlo as opposed to two

chains.

NGC moderator. Model convergence was reached around 4200 iterations and

remained stable. Sensitivity analysis for the conditional indirect effect models (Model 1a and

1b) revealed no change in the direction or significance of parameter estimates for all path

coefficients. Thus, the choice of priors in the analysis did not influence the posterior

parameter estimation in this population. CIEI estimates via each mediator are displayed in

Table 3. Individual path coefficients are found in the Appendix C. Credibility intervals that

do not encompass zero are assumed to be significant effects in Bayesian estimation.

Group Integration – Task (GI-T). We obtained support for a conditional indirect

effect of narcissism on GI-T via process conflict as the conditional indirect effect index was

significantly different from zero (CIEI = .04, 95% Credibility Intervals (CrI) [.01, .07]). More

specifically, the indirect effect was negative at low levels of NGC (β = -.17, 95% CrI [-.33, -

.06]), became less negative at moderate levels (β = -.14, 95% CrI [-.27, -.05]), and less so

again at high levels of NGC (β = -.10, 95% CrI [-.21, -.03]). We did not observe a conditional

indirect effect via relationship conflict (CIEI = .00, 95% CrI [-.01, .01]) or task conflict (CIEI = .00, 95% CrI [-.02, .01]).[4]

Attraction to group – Task (ATG-T). Similarly to GI-T, we obtained a conditional indirect effect index via process conflict that was significantly different from zero (CIEI = .03, 95% CrI [.01, .05]) Again, the indirect effect was negative at low levels of NGC (β= -.15, 95% CrI[-.29, -.05]), and reduced in magnitude at moderate (β= -.12, 95% CrI [-.22, -.04]), and high levels of NGC (β= -.09, 95% CrI [-.22, -.03]). We did not observe a conditional indirect effect via relationship (CIEI = .00, 95% CrI [-.004, .01]) or task conflict (CIEI = .00, 95% CrI [-.02, .01])

Sensitivity analysis for GI-T and ATG-T. Table 4 displays conditional indirect effects for both sensitivity analyses. Model 1a and 1b did not change the nature or significance of the conditional indirect index or specific indirect effects for either dependent variable. This analysis suggests the results are robust to changes in prior beliefs.

Discussion

The aim of Study 1 was to test our conceptual model of narcissism, conflict and cohesion. Our predictions were somewhat supported, with narcissism impacting task cohesion via process conflict alone. Specifically, when NGC was low, narcissism negatively influenced both aspects of task cohesion (GI-T, and ATG-T) via process conflict, with this negative effect subsequently weakened at high NGC. We did not find any effect for narcissism on task cohesion via relationship or task conflict.

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[4] We also examined a simple indirect effects model by removing the NGC variable from analysis. Results of these analyses yielded significant negative indirect effects via process conflict for both task cohesion aspects: GI-T (β= -.13, 95% CrI [-.26, -.04]), and ATG-T (β= -.11, 95% CrI [-.20, -.03]). We examined indirect effects for Study 2 as well which replicated a significant negative indirect effect via process conflict alone; GI-T (β= -.07, 95% CrI [-.15, -.02]), and ATG-T (β= -.05, 95% CrI [-.12, -.01]). We did not find any evidence of indirect effects via relationship and task conflict in Study 1 and 2.

The findings from Study 1 provide initial support for our extended IPO-based model and highlight process conflict as a key mechanism underpinning narcissists' detrimental influence on task cohesion. An explanation for this effect lies in what narcissists' value the most, their ego. Whilst relationship conflict and task conflict reflect emotional and cognitive types of conflict respectively, process conflict is concerned with issues around personal ability and competency. Consequently, when narcissists perceive process conflict, they detect this as an ego-threat (Back et al., 2013). Thus, when narcissists perceive a threat to their ego or their efforts, they typically respond aggressively towards the source of the criticism (Barry et al., 2006), which then leads to lower task cohesion.

Our results also supported the moderation effect of NGC. As narcissists are more likely to tolerate other narcissists' pursuit of self-enhancement more readily, due to their perceived similarity to one another (Burton et al., 2017), any deleterious effects of narcissism on conflict and cohesion are reduced when NGC is high. Conversely, at low levels of NGC, narcissists perceive social rivals, as those in their team do not share the same values. Thus, when narcissists perceive fewer likeminded individuals in their team, process conflict is increased.

The NGC approach displayed differential effects to the team mean approach, as we observed effects for the NGC models but not for the team mean NPI approach, which suffered model non-convergence issues. A potential reason behind model non-convergence is that the team mean NPI model contains cross-level interactions and random effects which can increase model complexity and therefore the likelihood of non-convergence (Muthén & Muthén, 1998-2017).[5] In contrast, the NGC approach allows for both individual and team

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[5] To further understand our model non-convergence issue, we combined data from Study 1 and 2 to test whether sample size was a determining factor in model non-convergence. Results of these analyses again displayed model non-convergence for task cohesion types (Lowest PSR values for GI-T = 2.7; and ATG-T = 1.8). Thus, we have confidence in attributing model non-convergence issues to model complexity rather than sample size deficiencies.

variables to be modelled at Level-1, thereby removing the need for cross-level random-effects to be modelled which results in a simpler model that is more likely to converge.

Although our findings provided some support for the hypotheses of our model, Study 1 is limited by its cross-sectional design. In an attempt to replicate our findings, in Study 2 we utilized a two-wave longitudinal design, following teams across part of a season.

Table 1

Means, SDs, bivariate correlations, and composite reliabilities for Study 1 & 2

	Study 1			Study 2			1	2	3	4	5	6	7	8
	M	*SD*	Alpha	*M*	*SD*	Alpha								
1. NPI	4.18	3.12	.76	4.67	3.23	.76	-	.75**	.20**	.33**	-.48**	.21**	-.20**	-.22*
2. Team NPI	4.16	1.12	.76	4.65	2.41	.76	.41**	-	.21**	.40**	-.65**	.21	-.21**	-.23**
3. NGC	.07	.08	N/A	.09	.11	N/A	.13	.23**	-	.32**	-.10**	.29**	-.03	.04
4. RC	3.24	1.59	.91	3.02	1.59	.91	.21**	.14	.21**	-	-.38**	.68**	-.26**	-.15**
5. TC	4.50	1.52	.82	4.52	1.60	.82	.27**	.35**	.23**	.52**	-	-.06	.19**	.15
6. PC	3.87	1.60	.88	3.37	1.50	.88	.32**	.30**	.30**	.78**	.65**	-	-.39**	-.24**
7. GIT	7.07	1.19	.86	7.12	1.14	.86	-.07	-.00	-.07	-.36**	.-1	-.30**	-	.73**
8. ATGT	7.14	1.29	.86	7.14	1.31	.86	-.08	-.13**	-.11	-.18**	-.06	-.27**	.62**	-

Note: Study 1 correlations are displayed on lower position of matrix and Study 2 bivariate correlations are displayed on the upper side of the matrix.

NPI – Narcissistic Personality Inventory NGC – Narcissistic Group Composition RC – Relationship Conflict TC – Task Conflict GIT – Group integration – Task

ATGT – Attraction to group – Task

* one-tailed significance ** two-tailed significance.

Table 2

Item factor loadings including 95% credibility intervals for relationship, task, and process conflict

Item	Study 1			Study 2		
	Relationship	Task	Process	Relationship	Task	Process
How much friction is there amongst your team?	**.85 [.62, 1.07]**	.02 [-.15, .17]	-.02 [-.21, .167]	**.80 [.53, 1.02]**	-.02 [-.19, .14]	-.03 [-.23, .16]
How much personality conflict is evident in your team?	**.80 [.58, 1.04]**	.04[-.13, .20]	.04 [-.16, .23]	**.79 [.55, 1.01]**	.02 [-.15, .18]	.02 [-.18, .22]
How much tension is there among members in your team?	**.88 [.66, 1.10]**	-.04 [-.20, .12]	-.01 [-.20, .17]	**.87 [.65, 1.07]**	-.04 [-.20, .11]	.02 [-.18, .22]
How much emotional conflict is there among your team members?	**.84 [.62, 1.07]**	-.01 [-.17, .16]	.02 [-.19, .20]	**.78 [.54, 1.00]**	.05 [-.12, .21]	.02 [-.18, .21]
To what extent does your team argue the pros and cons of different opinions?	.02[-.17, .20]	**.74 [.42, 1.01]**	.00 [-.19, .19]	.02 [-.16, .20]	**.75 [.43, .98]**	.04 [-.14, .22]
How often do your team members discuss alternative viewpoints?	-.05 [-.23, .13]	**.82 [.52, 1.06]**	-.03 [-.22, .16]	-.04 [-.21, .13]	**.86 [.57, 1.03]**	-.07 [-.25, .10]
How frequently do members of your team engage in debate about different opinions or ideas?	.05 [-.14, .23]	**.79 [.54, 1.02]**	.04 [-.15, .23]	.03 [-.15, .20]	**.73 [.40, .95]**	.05 [-.13, .23]
To what extent do you disagree about the way to do things in your team?	.03 [.18, .23]	-.01 [-.20, .17]	**.78 [.52, 1.06]**	.02 [-.18, .22]	-.05 [-.23, .14]	**.74 [.45, .99]**
How often do members of your team disagree about who should do what?	.02 [-.19, .21]	.03 [-.15, .22]	**.79 [.52, 1.05]**	.01 [-.20, .21]	.09 [-.10, .26]	**.73 [.43, .99]**
To what extent is there tensions in your team caused by not completing their roles?	.02 [-.19, .21]	-.01 [-.20, .16]	**.81 [.54, 1.07]**	.01 [-.19, .20]	-.016 [-.19, .15]	**.79 [.52, 1.03]**
How much tension is there in your team caused by members not being 'mentally there' during practice?	-.03 [.22, .16]	.01 [-.17, .19]	**.80 [.52, 1.06]**	-.01 [-.21, .19]	-.01 [-.18, .18]	**.63 [.28, .93]**

Table 3

Conditional indirect effect indices via each conflict type.

	Relationship	**Task**	**Process**
Study 1		**Model 1**	
GI-T	.00 [-.01, .01]	.00 [-.02, .01]	**.04 [.01, .07]**
ATG-T	.00 [-.004, .01]	.00 [-.02, 0.1]	**.03 [.01, .05]**
Study 2			
GI-T	.02 [-.01, .07]	-.02 [-.07, .02]	**.08 [.01, .17]**
ATG-T	.02 [-.02, .06]	-.02 [-.07, .02]	**.06 [.01, .14]**
Study 1		**Model 1a**	
GI-T	.00 [-.01, .02]	.00 [-.01, .01]	**.03 [.01, .06]**
ATG-T	.00 [-.003, .01]	.00 [-.01, .01]	**.02 [.01, .04]**
Study 2			
GI-T	.05 [.01, .10]	-.06 [-.12,-.02]	**.09 [.04, .16]**
ATG-T	**.04 [.01, .09]**	**-.06 [-.11, -.02]**	.08 [.03, .14]
Study 1		**Model 1b**	
GI-T	.00 [-.01, .01]	.00 [-.02, .01]	**.04 [.01, .11]**
ATG-T	.00 [-.01, .01]	.00 [-.01, .01]	**.03 [.01, .10]**
Study 2			
GI-T	.00 [-.05, .05]	-.01 [-.09, .05]	**.10 [.004, .22]**
ATG-T	.00 [-.05, .05]	-.01 [-.07, .05]	**.08 [.01, .19]**

Note Model 1- small-moderate effect priors; Model 1a - small-moderate effect priors with small variance;

Model 1b – large effect size priors and large variance.

GI-T – Group integration – Task; ATG-T – Attraction to group – Task

95% credibility intervals contained in brackets.

Bold parameters denote estimates which do not encompass zero

Table 4

Specific conditional indirect through process conflict at different levels of NGC.

	Low NGC	Moderate NGC	High NGC
Study 1		**Model 1**	
GI-T	**-.17 [-.33, -.06]**	**-.14 [-.27, -.05]**	**-.10 [-.21, -.03]**
ATG-T	**-.15 [-.26, -.05]**	**-.12 [-.22, -.04]**	**-.09 [-.22, -.03]**
Study 2			
GI-T	**-.15 [-.29, -.05]**	**-.07 [-.15, -.02]**	.01 [-.08, .10]
ATG-T	**-.12 [-.24, -.03]**	**-.05 [-.12, -.01]**	.01 [-.06, .08]
Study 1		**Model 1a**	
GI-T	**-.16 [-.29, -.07]**	**-.13 [-.22, -.06]**	**-.10 [-.17, -.04]**
ATG-T	**-.10 [-.18, -.03]**	**-.08 [-.14, -.03]**	**-.06 [-.11, -.02]**
Study 2			
GI-T	**-.17 [-.27, -.08]**	**-.08 [-.14, -.03]**	.01 [-.05, .08]
ATG-T	**-.14 [-.24, -.06]**	**-.06 [-.12, -.03]**	.01 [-.04, .07]
Study 1		**Model 1b**	
GI-T	**-.33 [-.86, -.10]**	**-.29 [-.77, -.08]**	**-.24 [-.68, -.06]**
ATG-T	**-.20 [-.39, -.07]**	**-.17 [-.35, -.06]**	**-.14 [-.31, -.04]**
Study 2			
GI-T	**-.19 [-.38, -.06]**	**-.09 [-.20, -.01]**	.01 [-.05, .05]
ATG-T	**-.15 [-.31, -.03]**	**-.07 [-.16, -.01]**	.01 [-.08, .11]

Note Model 1- small-moderate effect priors; Model 1a - small-moderate effect priors with small variance;

Model 1b – large effect size priors and large variance.

NGC – Narcissistic group composition; GI-T – Group integration – Task; ATG-T – Attraction to group – Task

95% credibility intervals contained in brackets.

Bold parameters denote estimates which do not encompass zero

Study 2

Participants

We recruited 400 participants (232 male, 168 female; M_{age} = 22.94, SD = 5.92) from

44 teams from a variety of team sports: netball (n = 99), soccer (n = 120), field hockey (n =

74), lacrosse (*n* = 32), rugby (*n* = 40), and cricket (n = 35) competing at: amateur (*n* = 106), county (*n* = 25), university (*n* = 235), and semi-professional (*n* = 34) competitive standards.

Measures

We employed the same measures as in Study 1. Again, both the NPI (PPP=.31, CI=-37.34, 64.16) and our task cohesion measure (PPP=.50, CI=-28.53, 29.83) displayed good factorial validity in Study 2. The ICS-S obtained excellent fit (PPP = .52, CI = -32.88, 33.95), with sensitivity analysis yielding 45% of values within ±10% of the original value. Item loadings are in Table 2. ICS-S model fit statistics and inter-factor correlations are in Appendix B.

Procedure

As per Study 1, following institutional ethical approval, we approached teams during training or via email. We employed a two-wave longitudinal design with participants completing the NPI, NGC and ICS-S at the first wave early in the competitive season. In the second wave, approximately one month later (cf. Tekleab et al., 2009), participants completed the GEQ-2. Participants completed all questionnaires in person, individually, and without discussing responses with other team members. Trained research assistants screened questionnaires to allow participants a second chance to complete any missing data.

Results

Descriptive statistics, bivariate correlations, and composite reliability estimates are displayed in Table 1.

Conditional Indirect Effects.

Our analytical strategy was, again, to test our conditional indirect effect model. As with Study 1 we tested the two different conceptualizations of team personality (team mean NPI & NGC). We used the same priors as Study 1.

Team NPI moderator. As with Study 1, Model non-convergence issues (PSR >1.1) were evident for the team mean NPI models. We attempted the same resolutions as Study 1, but this did not aid convergence. Again, model non-convergence precluded our ability to interpret posterior parameter estimates for our team mean NPI models.

NGC moderator. Model convergence for the NGC moderator model was reached at around 1800 iterations. Conditional indirect effect index scores are displayed in Table 3. Path coefficients can be found in the Appendix C

Group Integration – Task (GI-T). We replicated the findings from Study 1 for GI-T. Again, we noted a significant conditional indirect effect via process conflict alone (CIEI = .08, 95% CrI [.01, .17]). As Table 4 shows, at low levels of NGC, the indirect effect was most negative (β= -.15, 95% CrI [-.29, -.05]), but this effect was weakened at moderate levels of NGC (β= -.07, 95% CrI [-.15, -.04]). At high levels of NGC, there was no indirect effect (β=.01, 95% CrI [-.08, .10]). Similar to Study 1, we did not observe a conditional indirect effect via relationship (CIEI = .02, 95% CrI) [-.01, .07]) or task conflict (CIEI = -.02, 95% CrI [-.07, .02]).

Attraction to group – Task (ATG-T). . A virtually identical pattern of results emerged for ATG-T with a significant conditional indirect effect via process conflict only (CIEI = .06, 95% CrI [.01, .14]). The indirect effect via process conflict was again negative at low levels of NGC (β= -.12, 95% CrI [-.24, -.03]), reduced in magnitude at medium levels of NGC (β= -.05, 95% CrI [-.12, -.01]), and disappeared at high levels of NGC (β= .01, 95% CrI [-.06, .08]).]). Similar to Study 1, we did not observe a conditional indirect effect via relationship (CIEI = .02, 95% CrI [-.02, .06]) or task conflict (CIEI = -.02, 95% CrI [-.07, .02]).

Sensitivity analysis for GI-T and ATG-T models. Model 1a (same mean, small variance) and 1b (large mean, large priors) did not change the nature of the conditional

indirect index or specific indirect effects for either dependent variable for process conflict. However, Model 1a displayed significant conditional indirect effects for both relationship and task conflict, although these estimates did not deviate meaningfully from the main analysis (see Table 4)

Discussion

The aim of Study 2 was to replicate the findings from Study 1 using a two-wave longitudinal design. Results largely confirmed the findings from Study 1, as narcissism impacted task cohesion via process conflict alone, with NGC moderating the indirect effect. The contextual nature of the effect was also replicated – that is, narcissism negatively impacted task cohesion via process conflict at low levels of NGC, with this effect attenuated at high NGC. However, in this instance we found that narcissism had no relationship with task cohesion at high NGC, as opposed to the weakened negative effect that we obtained in Study 1, thus suggesting high NGC diminished the negative influence of narcissism on task cohesion. Again, we found non-convergence issues with our team mean narcissism moderator, replicating issues in study 1. The findings for our NGC moderator are consistent with the narcissistic-tolerance hypothesis and provide further evidence that the negative influence of narcissism on task cohesion is mitigated when narcissists find themselves in teams of like-minded individuals. The minor differences in findings compared to Study 1 are most likely attributable to the difference in research design. Yet, providing conceptually similar findings across studies enables us to place more confidence in the robustness and generalizability of our findings.

General Discussion

Across two studies, we tested our novel IPO framework of narcissism on task cohesion, via intragroup conflict, conditional on NGC. Results from our Bayesian hybrid structural equation modelling were consistent across both studies and provided support for our conceptual model (Figure 1). More specifically, both studies revealed a negative indirect effect of narcissism on task cohesion via process conflict alone, with this effect weakened (Study 1) or diminished (Study 2) as the number of narcissists perceived on a team increased. To our knowledge, these data provide the first evidence of narcissists' influence on cohesion and show that the influence of narcissistic individuals within teams is heavily dependent on (narcissistic) group composition.

A key finding across the two studies was that narcissism impacted task cohesion only via process conflict, and we found no effects for relationship conflict or task conflict. On the one hand, these findings might be considered surprising; given narcissists' antagonistic nature (Leckelt et al., 2015) and proclivity to put forward ideas that serve the self, one might expect narcissism to impact cohesion via relationship conflict and/or task conflict. However, it seems that the role of process conflict is particularly relevant to narcissism in team settings. The disagreements around roles and responsibilities, that are a hallmark of process conflict, most likely reflect the outcome of narcissists' attempts to maintain their overly grandiose self-view. Narcissists are known to react aggressively to those who criticize their efforts (Barry et al., 2006) and also engage in antagonistic behaviors to protect their grandiose self (Back et al., 2013) which results in process conflict. Further, the negative impact of narcissism on task cohesion, via process conflict was evident in an environment with few likeminded individuals perceived in their team and attenuated when narcissistic individuals perceive (relatively) more likeminded individuals. Interestingly, this finding was in accord with the narcissistic-tolerance hypothesis (Burton et al., 2017) as, when in groups of similar individuals, narcissists had less of a detrimental influence on group cohesion. However, a

noteworthy subtlety across the two studies was that at no time did narcissism positively

influence task cohesion, rather the negative effects were only weakened or diminished. Thus,

the findings are suggestive of *only* a tolerance of individual narcissists' behaviors in teams

consisting of a high number of narcissists, rather than such behaviors positively impacting the

group. In contrast, when narcissists perceive few similar individuals in their team, they likely

perceive more social rivals, as team members (who are low in narcissism) are less tolerant of

their self-enhancement pursuits and more readily question their actions and competency

(Burton et al., 2017).

Although the findings relating to process conflict are clear, the effects of relationship

and task conflict within our model are less so. Inspection of the constituent paths of our

conceptual model leads to some complex interpretation of our results (see Appendix C).

Indeed, it appears that in Study 1, the lack of significant interaction between individual

narcissism and NGC for both relationship and task conflict is a contributing factor. In

contrast, in Study 2 it appears the issue was attributable to non-significant b-paths of

relationship and task conflict on cohesion. These inconsistencies across studies lead to

difficulty in interpreting the lack of effects for narcissism on task cohesion via both

relationship and task conflict types. However, one may consider that arguments around other

individuals' thoughts and feelings (relationship conflict), and task-related arguments (task

conflict) do not carry connotations of personal competencies as clearly as process conflict

(Greer et al., 2008); thus, it appears that narcissists are less likely to be sensitive to these

types of conflict.

At a broader level, our investigation highlights the importance of alternative

conceptualizations of team personality. We examined team personality composition by

measuring individuals' perceptions of the number of people in the team who fitted a

particular personality description (i.e., NGC). However, to provide some commonality with

existing literature that uses a team mean approach (cf. Schmidt et al., 2012), we also examined team mean narcissism scores as a moderator in separate analyses. From a conceptual perspective, the NGC approach enables closer alignment between the stated rationale *and* analysis of team personality, which often focuses on the number of individuals displaying a particular trait (cf. Schmidt et al., 2012). Further, the NGC approach also allows one to consider an intrapersonal perspective in team research by including an individuals' perceptions of their context. Indeed, the intrapersonal perspective is ignored in the team mean conceptualization, as it simply aggregates teams self-reported personality scores, thus does not account for individuals' perception of the team environment. In doing so, the NGC measure allows for a more nuanced understanding of team personality and its influences on individuals. From a statistical perspective, the NGC approach also has advantages over the team mean position, as it allows for a simpler approach to model testing as it focuses on one level of analysis (Level-1 only); thus, it overcomes model non-convergence issues that are sometimes present when examining team mean scores (as found here). The consistency of our findings across both studies lends support to the notion that this alternative conceptualization of team personality, NGC, is a relevant measure of group composition and warrants further consideration in future research. While we recognize that the team mean approach has benefits, we encourage the use of alternative conceptualization of group personality, similar to our NGC, when theory and hypotheses relate to the *numbers* of individuals in a team that possess a certain trait.

Finally, we note that it was necessary to develop the ICS-S for this study to allow us to appropriately measure conflict in line with the conceptualization of conflict that has been successfully employed in the organizational domain (Behfar et al., 2011; Jehn, 1995; 1997). Our 11-item three-factor scale displayed excellent fit across both studies. Currently, the ICS-S is the most complete measure of intragroup conflict in sport and provides researchers with a

valid tool to examine intragroup conflict comprehensively. Future research that further tests the validity of the measure would be worthwhile.

Applied Implications

In addition to their theoretical contribution, the results have potential applied implications for coaches and managers of sports teams. We suggest team managers and coaches should be mindful that intragroup conflict within teams can impact unity around the goals of the team. More specifically, process conflict, a new concept for the sports literature, appears to have particular importance to teams as conflicts around roles and responsibilities may result in negative affect among team members (Behfar et al., 2011). With these points in in mind, developing role clarity and acceptance are key in aiding effective team functioning as disagreements around roles and responsibilities appear to be detrimental to task cohesion. Secondly, our results support qualitative investigations that suggest difficult personalities (e.g., narcissists) contribute to team dysfunction (Heelis et al., 2020; Webster et al., 2017). Thus, we would suggest that developing coaches' awareness around athletes' personality (and particularly narcissism) should facilitate coaches' guidance to better resonate with athletes (Webster et al., 2017). Additionally, practitioners should consider the personality composition of the group and the associated (lack of) similarity between team members, as such differences can have a substantial bearing on team outcomes. Therefore, it is important for practitioners to consider these person-environment interactions when working in team settings.

Limitations and Future Directions

Despite multiple strengths of the current work – two studies, a two-wave longitudinal design, and Bayesian estimation – there are limitations to this research. First, it is evident that we did not measure the inputs, processes and outputs of our model at completely separate time points. Although this particular issue is less of a concern for our research question, as

personality is often conceptualized to influence thoughts, behaviors, and interactions (LePine et al., 2011), future research which tests the components of our extended IPO model at separate time points would be welcome (cf. Leckelt et al., 2015).

Future research in this area may also wish to investigate alternative conceptualizations of narcissism such as the self-inflated/dominant constructs for grandiose narcissism (Zhang et al., 2020), or Narcissistic Admiration/Rivalry Concept (NARC; Back et al., 2013). For example, the NARC suggests that narcissists maintain their grandiose self-image by either charismatic (admiration) or malevolent (rivalry) means. Analyzing these divergent pathways may conduce to differential effects regarding the association between narcissism, conflict and task cohesion compared to our unidimensional conceptualization of global narcissism. For example, rivalry components may be positively associated with conflict, whilst admiration components may have a negative or null effect. Furthermore, the influence of communal narcissism (Gebauer et al., 2012) may lead to different effects on group processes and outcomes compared to the agentic form of narcissism we utilized in the study. Communal narcissism shares the same underlying motives as agentic narcissism (i.e., a need for admiration) yet it differs in the means by which individuals achieve it. In comparison to agentic narcissists, who respond directly and aggressively to perceived threats, communal narcissists may respond using more communal methods (e.g., passive aggressiveness). Therefore, more communal types of conflict (i.e., relationship conflict) may be more salient to communal narcissists.

Beyond narcissism, the exploration of conflict management strategies and their links to specific conflict types would be a fruitful avenue of research. The identification of the type of conflict can be seen as a first step to managing conflict, whereby certain conflict management strategies can then be implemented to mitigate any effects. Future research may wish to explore the impact of different conflict management strategies on intragroup conflict

and subsequent team outcomes and also consider whether certain conflict management strategies are more or less effective for certain types (or groups) of individuals.

Summary

To summarize, utilizing Bayesian hybrid structural equation modelling we tested our conceptual model of the relationships between narcissism and task cohesion via intragroup conflict, with this effect moderated by NGC. Our findings suggest that narcissism impacts task cohesion via process conflict alone, with a negative influence at low levels of team narcissism, which is diminished at relatively high levels. These data provide unique and original insights into the influence of narcissism within teams and offers a platform for further work to begin to explore how individual personality and personality group composition influence teams for better or worse.

Chapter 3: At odds: Narcissism as an antecedent of latent conflict profiles

Abstract

The team-centric paradigm models all three intragroup conflict types (relationship, task, and process) simultaneously creating distinct conflict profiles, however little work has examined the different profiles that exist in teams. Further, exploration of antecedents of conflict profiles is lacking. In this study we examined the presence of conflict profiles in a large sample of sports teams (1107 athletes from 109 teams) and provide the first evidence of narcissism as a relevant antecedent of conflict profiles. Participants completed measures of intragroup conflict and narcissism. Latent profile analysis indicated five distinct conflict profiles which varied in patterns of relationship, task, and process conflict (*low-range, low TC-dominant, medium TC-dominant, high TC-dominant*, and *dysfunctional)*. Moreover, teams high in narcissism (both in terms of team mean and team maximum scores) were more likely to occupy the dysfunctional profile, compared to the low-range conflict profile. These findings underscore the importance of considering conflict profiles and provide the first evidence for narcissism as a contributing factor in the development of conflict profiles in teams.

Keywords: intragroup conflict, conflict, narcissism, team personality

At odds: Latent conflict profiles and narcissism

The success of teams is often reliant on the quality of interactions between team members. Whilst group dynamic research tends to focus on positive types of team interaction, such as intrateam communication (Smith et al., 2013), equal attention needs to be focussed on potentially negative interactions that exist within teams. Intragroup conflict represents an example of a negative team interaction and is defined as "the process whereby two or more team members disagree over real or perceived differences" (De Dreu & Weingart, 2003, p.741).

Within the organizational literature, intragroup conflict research distinguishes between three types of conflict (de Wit et al., 2012): *relationship conflict* (RC) involves disagreements about interpersonal issues, such as personal values; *task conflict* (TC) includes arguments about the task outcomes for the team; and *process conflict* (PC) is concerned with disagreements around roles and responsibilities of the task. Meta-analyses highlight the detrimental role of intragroup conflict on teams with all conflict types impacting negatively on various outcomes such as team commitment, cohesion, viability, and performance (De Wit et al., 2012). However, intragroup conflict research has historically considered each conflict type (RC, TC, and PC) in isolation, without recourse to consider the combined effects of different types of conflict. Such an isolated approach fails to adequately reflect the nature of conflict in groups, whereby conflicts can co-occur in teams. More recently, researchers have introduced the team-centric paradigm, a new approach which encapsulates all three conflict types simultaneously (O'Neill et al., 2018). This paradigm focuses on examining distinct patterns, or profiles, of conflict which represent team members' shared perception of conflict in their team, thereby providing a more complete and contextual perspective of conflict within groups. Further, using the team-centric paradigm allows researchers to be able to better study antecedents and outcomes of intragroup conflict. Indeed, the Input-Process-

Output (IPO) model of team research (see Chapter 2; LePine et al., 2011) highlights the importance of modelling antecedents, processes (such as conflict) and outcomes in the team context. In line with the IPO approach, O'Neill and colleagues (2018) offered the first empirical evidence for the utility of exploring conflict profiles with outcomes. Using the team-centric approach, in a sample of students working in groups for a project, they found a number of different conflict profiles and also found that conflict profiles predicted team potency (a team's collective belief in its own ability), with teams occupying a profile high in all conflict types having the lowest potency.

However, while this research provides evidence of the utility of considering conflict profiles, and also supports the process-outcome link in the IPO model, more work is needed. Specifically, there is a need to further examine the varying conflict profiles that are likely to exist in groups other than student project groups in order to establish the generalisability of different latent profiles. Furthermore, to date there has been no investigation of the antecedents (or inputs) to conflict profiles. In the present study therefore, we provide the first empirical evidence of factors that influence conflict profiles by addressing theoretically relevant antecedents. We deem narcissism to be relevant to conflict due to its antagonistic interpersonal style displayed in group contexts (Campbell et al., 2011). In the following sections we present the team-centric paradigm and underscore its importance, consider and derive domain-specific conflict profiles, and discuss the relevance of narcissism as an antecedent to conflict profiles.

Team-centric paradigm

An extensive body of intragroup conflict research has explored the consequences of RC, TC, and PC in isolation and independent of one another (de Wit et al., 2012). However, researchers now realize that exploring isolated effects of different types of conflict fails to reflect the realities of intragroup conflict in teams; that is, conflicts are likely to co-occur and

impact one another in a team environment (Mooney et al., 2007). As such, modelling conflict types simultaneously offers the researcher the ability to develop a deeper understanding of intragroup conflict and its implications for teams (de Wit et al., 2012). Despite the theoretical relevancy of such an approach, analytical limitations exist. In order to represent co-occurring conflict, a three-way moderated regression model is normally required. However, such interaction effects may be difficult to detect due to low power issues (Aguinis & Gottfredson, 2010). Low power issues can be resolved by collecting data from a large sample (Aguinis, 1995), however, samples sufficiently large enough to overcome power issues are challenging to obtain. Furthermore, interactions are inflexible in the model building process due to their inability to be modelled as an outcome, antecedent, or moderator (see O'Neil et al., 2018). Fortunately, an alternative analysis exists that addresses power issues and model building inflexibility - latent profile analysis (LPA). In the LPA approach, researchers identify patterns of variables that exist within the data which represent distinctive profiles. These derived profiles offer researchers a solution to low power issues and more flexibility in model building process. This is due to the ability for profiles to be positioned as an outcome, mediator, or antecedent (thus aligning with the IPO framework in the present example). Further, LPA provides model fit indices which allows researchers to evaluate the quality of model fit and make informed decisions about the appropriate number of profiles to retain for subsequent analysis.

Team conflict profiles.

One important issue in group dynamic literature is the type of team under investigation (e.g., industry project teams, sports teams, student working groups etc., Hollenbeck et al., 2012). Notably, most of the intragroup conflict literature uses student teams, working towards course grades. This emphasis on student groups focused on short-term outcomes, while useful, does prevent a full understanding of the extent to which conflict

types, and indeed conflict profiles, are replicable across different types of team. For example, tenure in student groups is often short-term with teams disbanding after work completion. Further, student groups can be put together rather arbitrarily (e.g., students randomly allocated to a project group) leading to limited group development and stability. In contrast, tenure in sports teams is commonly long-term, often lasting beyond the completion of an objective. Thus, sports teams are representative of more fully developed groups compared to student project groups. Additionally, sports teams are not arbitrarily assembled as membership is voluntary. Given the differences between these types of groups, differences may be evident in the type of conflict profiles derived. Therefore, it is important to assess the extent to which conflict profiles are relevant in true groups such as, sport teams.

Whilst many combinations of RC, TC, and PC could conceivably occur, we hypothesis three theoretically relevant profiles which may exist in teams (cf. O'Neill et al., 2018). *Low-range conflict* reflects a type of profile which is low in RC, TC, and PC. It is reasonable to expect that teams exist with low levels of all conflict; these teams tend to be cohesive and group members resolve tensions efficiently (Jehn et al., 2008). On the other hand, some teams may have a *dysfunctional* profile with high levels of RC, TC, and PC. Since RC and PC both represent conflict around interpersonal issues, they may increase the levels of threat perceived in the team which disrupts team functioning. Consistent with Information Processing Theory (Pelled, 1996), interpersonal threats that individuals perceive, will interfere with task-relevant information. Thus, teams occupying the dysfunctional profile are not close-knit units with high levels of conflict representing a threatening environment that is rife with interpersonal issues. *TC-dominant* conflict profiles may also exist, whereby TC is high with lower levels for RC and PC. This type of conflict profile refers to an environment where team members disagree on tasks and goals of the team but can do so without additional conflicts around personal values and competencies. The TC-dominant

profile represents an environment whereby group members feel safe to share their ideas without reprisal. Given the three profiles discussed, our first hypothesis was that we expected to see these three distinct profiles of conflict to emerge in our sample.

Narcissism as an antecedent to latent conflict profiles

From an IPO perspective it is important to investigate team characteristics as they have the ability to influence how team members interact (LePine et al., 2011). One example of a team characteristic is the personality composition of the team, whereby the personality of the team is represented as an aggregate of team members' personality scores (cf. Barrick, et al., 1998). Thus, in addition to examining conflict profiles, we explored a personality trait potentially relevant to the conflict profiles: namely narcissism.

In its grandiose and agentic form, narcissism refers to a self-centred, dominant, and entitled disposition, with a manipulative interpersonal style (Morf et al. 2011). Given this antagonistic disposition, it is not surprising to note that those high in narcissism have difficulty maintaining long-term relationships (Campbell et al., 2011), lack empathy (Wai & Tiliopoulos, 2012), and decrease in popularity over time (Leckelt et al., 2015). Such findings point to narcissism contributing to dysfunctional team interactions. Indeed, one of the few team-level investigations of this grandiose personality trait in sport found that narcissism negatively impacted team coordination across a season. (Grijalva et al., 2019). That is, teams were less likely to share task-relevant information due to the high levels of self-interest in the environment which, in turn, undermined performance. In the present study, we extend this line of research by suggesting the antagonistic interpersonal style central to narcissism can create disagreements within teams, thus, increasing all types of intragroup conflict. Specifically, we believe teams high in narcissism will create an environment which little effort is applied to maintaining harmonious relationships, thus, may lead to arguments around personal values, or relationship conflict (Foster & Campbell, 2007). Furthermore, as teams

high in narcissism are motivated by as looking for opportunities to express their grandiose self-image, which may not align with the team goals, thus disagreements around tasks or task conflict will increase in teams (Wallace & Baumeister, 2002). Finally, we expect narcissism to be associated with process conflict in teams, notably as these arguments centre around personal competency, it represents an ego-threat to individuals high in narcissism, thus, they respond aggressively to sources of criticism thus increasing process conflict (Back et al., 2013). Chapter 2 of the thesis also provides evidence across two samples that narcissism is associated with intragroup conflict. Accordingly, given the theoretical and empirical evidence, we expected team-level narcissism to contribute to profiles high in conflict such as the dysfunctional conflict profile.

Team personality perspectives of narcissism

In the literature, team personality has been operationalized in a number of ways including mean, variance, minimum, and maximum score perspectives, (e.g., Halfhill et al., 2005). Investigating different operationalizations of team-level narcissism is valuable in emphasizing how different perspectives of the same trait can influence team member interactions. In particular, team *mean* and team *maximum* scores have relevance to the current work. Team mean scores represent the average of individual personality scores in a given team, which, in our study, assesses a team's general level of narcissism. We expected a high mean score of narcissism in a team will lead to a self-centred and toxic environment whereby there is little effort applied in maintaining team member relationships. This type of environment leads to the transmissions of narcissistic actions throughout team members via the phenomenon of social contagion (Grijalva et al., 2019), whereby even those low in narcissism engage in antagonistic behaviors. Therefore, we believe that teams high in narcissism will engage in disagreements and exhibit high levels of RC, TC, and PC.

Consequently, we expected teams high in mean narcissism to occupy the dysfunctional conflict profile, compared to the low-range conflict profile.

As a compliment to the mean approach, we also examined the maximum score of narcissism in teams. The maximum score approach is useful in highlighting the potential impact one individual can have on the rest of the team. Those high in narcissism have the ability to negatively impact a team. 'Bad apples', that is, individuals who exhibit unethical behaviors have the ability to create an environment of dishonesty and distrust within groups (Gino et al., 2009). Indeed, research suggests those high in narcissism do not like others and consequently, others reciprocate the dislike towards the target narcissist creating an environment of mutual aversion (Rentzsch & Gebauer, 2019). Thus, this mutual dislike created by an individual high in narcissism likely spreads throughout the team producing high levels of RC, TC, and PC in teams. Accordingly, we also expected teams with individuals high in narcissism to occupy the dysfunctional conflict profile compared to the low-range conflict profile.

To summarize, the present study had two aims. First, we derived conflict profiles relevant to sports teams, and second, we examined the influence of team narcissism as an antecedent to conflict profiles. In doing so, we adopt a contemporary approach to conflict in teams and offer the first example of contributing factors to conflict profiles.

Method

Participants and Procedures

We recruited 109 teams of UK-based athletes ($N = 1107$, $M_{age} = 23.06$ years, $SD = 6.48$, 59% male) from 109 sports teams ($M_{team\ size} = 10.16$ athletes per team, SD= 5.14; soccer $n = 341$; rugby union; $n = 186$; netball $n = 146$; hockey $n = 141$; cricket $n = 59$; lacrosse $n = 55$; basketball $n = 51$; cheerleading $n = 48$; handball $n = 20$; American football $n = 18$; dodgeball $n = 15$; volleyball $n = 12$; rugby league $n = 9$; Gaelic football $n = 6$). The

competitive level of our participants varied (university $n = 568$; amateur $n = 483$; semi-

professional $n = 44$; international $n = 12$). Data was collected in person and early in the

competitive season. All participants provided written informed consent.

Measures

Intragroup conflict

We measured conflict using the Intragroup Conflict Scale for Sport (ICS-S; see

Chapter 2) This 11-item scale measures three types of conflict within sports teams. Four

items assess relationship conflict (RC; e.g., *how much friction is there amongst your team*),

three items assess task conflict (TC; e.g., *to what extent does your team argue the pros and*

cons of different opinions), and four items assess process conflict (PC; e.g., *to what extent do*

you disagree about the way you do things in your team). Item response is assessed using a 9-

point scale from 1 (none/never) to 9 (a lot/always). The factorial validity of the ICS-S has

been established (see Chapter 2). Composite reliability estimates from the present study for

the sub-scales ranged between .73 and .89 indicating high internal consistency across all sub-

scales.

Narcissism

To assess narcissism, we used the Narcissistic Personality Inventory-16. (NPI-16;

Ames et al., 2006). The NPI-16 is the shortened version of the original NPI-40 which

assesses agentic forms of grandiose narcissism. Each item consists of a narcissistic (e.g., *I am*

an extraordinary person) and a non-narcissistic statement (e.g., *I am much like everyone*

else), with participants asked to choose one of the two statements that they identify with most

from each pair. The total number of narcissistic statements that a participant endorses

represents the score of the participant. Composite reliability of the scale was .72, indicating

high internal consistency for the NPI-16.

Data analysis

Team-level aggregation

To identify conflict profiles, we aggregated individual-level scores for all conflict variables (RC, TC, PC) to create average scores for all teams (cf. O'Neill et al., 2018). Intra-class correlations indicated adequate between-team variance which supported our decision to aggregate conflict variables to the team-level (see Table 1). Similarly, for team narcissism, we aggregated NPI scores from the individual level to create team average scores. For maximum narcissism scores, we identified the highest scoring individual (on the NPI) per team and assigned this participants' NPI score to the team (cf. Halfhill et al., 2005).

Missing data strategy

In team research, missing team member data can have an impact on subsequent aggregation and analysis (Allen et al., 2007). To minimize the impact on aggregation and analyses, some researchers suggest the removal of teams based on a proportion of missing team member responses (Allen et al., 2007). Others advocate for the retention of all data (O'Neill et al., 2018; Stanley et al., 2011). Those who argue for retaining all data points suggest that even deleting a small proportion of teams from analysis can lead to a loss of statistical power and lead to an increase in Type II errors (Stanley et al., 2011). Furthermore, missing data may be meaningful theoretically, as missing data points may be indicative of conflict within teams (i.e., team members engaging in avoidance behaviours as conflict is prevalent in their team, cf. O'Neill et al., 2018). If teams with missing data are deleted from analysis, it may limit the detection of profiles high in conflict. Therefore, in line with the aforementioned statistical and theoretical reasons, we retained teams for analysis with more than one response per team.

Latent profile analysis

We used Mplus 8 (Muthén & Muthén, 1998-2017) to perform the LPA on intragroup conflict variables. In LPA analysis, sample sizes greater than 100 are deemed appropriate (cf.

Healy et al., 2020). Following model development recommendations on LPA, we specified a single-profile model, then added profiles to subsequent models (e.g., one-profile, then two-profiles, etc; cf. Nylund et al 2007). Ideal model solution criteria are based on lower values for Akaike Information Criteria (AIC), Bayesian Information Criteria (BIC), sample-adjusted Bayesian Information Critera (SSA-BIC), high values for entropy (> .70), and posterior class probabilities close to 100% (Lindwall et al., 2017). Additionally, significant p-values ($p <$ .05) for the bootstrap likelihood ratio test (BLRT) and Lo-Mendell Rubin likelihood ratio test (LMR) are also indicative of an optimal model (Nylund et al., 2007). The BLRT and LMR p-values provide information on the current model (k) versus the current model minus one class (k-1), where significant p-values suggest better model fit for k compared to k-1. Furthermore, optimal model identification takes into account the proportion of teams in each profile and theoretical relevancy of the derived profiles.

Modelling antecedents. After optimal model identification, we tested narcissism as an antecedent of the profiles by including narcissism (team mean and team maximum scores, independently) as an auxiliary variable in Mplus using the R3STEP command (Asparouhov & Muthen, 2014). This analysis uses logistic regression, whereby estimates reflect the log odds and odds ratios of being in a particular profile compared to being in a chosen reference profile.

As logistic regression coefficients are often difficult to interpret, researchers employ odds ratios (OR) to determine the nature of regression coefficients by comparing profiles against a reference profile. In our case we used OR to determine the odds of teams high in narcissism occupying particular conflict profiles, compared to a reference group (e.g., *low-range* conflict.) An OR estimate of 1 is equal to no association, an estimate < 1 suggests that teams high in narcissism are less likely to occupy a certain profile compared to reference group, and an estimate > 1 indicates they are more likely to occupy a certain profile

compared to the reference group. As the values increase, or decrease, away from 1 the

association grows stronger.

Results

Descriptive statistics and bivariate correlations for all study variables can be found in

Table 1. Bivariate correlations revealed team mean NPI scores were significantly and

positively associated with both RC ($r = .32$) and PC ($r = .28$) but not TC ($r = .17$). NPI

maximum scores correlated with all three conflict types ($r = .29-.36$). All three conflict types

correlated with one another ($r = .56-.87$) following a similar pattern reported in de Wit and

colleagues' (2012) meta-analysis. Intraclass correlations for conflict variables ranged from

.21 to .33 indicating that variance in conflict variables can be explained at the team-level.

Table 1

Means, standard deviations, and bivariate correlations

Variable	M	SD	1	2	3	4
1. NPI-16	4.27	1.96				
2. NPI-16$_{max}$	8.73	2.75	.57**			
3. RC	3.16	1.08	.32**	.33**		
4. TC	4.44	0.90	.17	.29**	.56**	
5. PC	3.54	1.03	.28**	.39**	.87**	.69**

Note. n=109 teams.

NPI-16 = Narcissistic Personality Inventory- 16; RC = relationship conflict; TC = task conflict; PC = process

conflict

* $p < .05$ ** $p < .01$.

We conducted confirmatory factor analyses (CFAs) to establish the discriminant

validity of all study variables (e.g., O'Neill et al., 2018). Results displayed that a four-factor

model, treating each variable as a separate construct, offered the best fit indices of all models

with a comparative fit index of .93, root mean square error of approximation of .04 and

standardized root mean square residual of .04. The delta chi-square value indicated a

significant improvement in fit over other comparative models, thus supporting the

discriminant validity of the measure (Williams et al., 2009). See Appendix D for full details

of these analyses.

Latent conflict profiles

Based on model fit indices a six-profile model appeared desirable (see Table 2).

However, on closer inspection of this model it became evident that only a single team

occupied one of the profiles. Consequently, we rejected this model based on its failure to

reflect reality or any substantive and theoretical meaningfulness (cf. Lindwall et al., 2017).

Thus, based on the next best model fit indices, we compared the five-profile model against

the four-profile model to better understand the theoretical distinctiveness of the models. The

five-profile model demonstrated superior model fit indices compared to the four-profile

model (namely lower AIC, BIC, and SSA-BIC values). Importantly, the five-profile solution

also included a low-level conflict profile (*low-range conflict*). Given our theorizing that

teams with low levels of all conflict types do occur, we retained the five-profile solution for

subsequent analysis. More specifically, the resulting five-profile model supported our three

hypothesised profiles and consisted of *low-range, low TC-dominant, medium TC-dominant,*

high TC-dominant, and *dysfunctional* conflict profiles in teams (see Table 3 and Figure 1),

with our hypothesised TC-dominant profile as three separate profiles distinct in conflict

levels. The *low-range* profile was characterized by low levels of RC, TC, and PC. All three

TC-dominant profiles revealed TC as the predominant conflict type, but they each reflected

increased levels of RC and PC across their respective profile. Finally, the *dysfunctional*

profile displayed high and similar levels of RC, TC, and PC. The five-profile solution

provided adequate spread of teams across each profile (see Table 3) with no profile

containing < 5% of teams. Posterior class probabilities of profile membership ranged from

88.1% to 99.9%, indicating that the five profiles were highly distinguishable from one another.

To provide further support to the distinctiveness of the profiles, we performed separate one-way analysis of variance and Tukey's HSD post-hoc comparisons on each conflict type across the different profiles. The results of these analyses confirmed the distinct nature of the profiles. Details can be found in Appendix E.

Table 2

Latent profile analysis for intragroup conflict variables

Classes	LL	AIC	BIC	SSA-BIC	Entropy	LMRT	BLRT	nC <10/5%
1	-462.91	937.81	953.96	935.00	-	-	-	-
2	-407.62	835.24	862.16	830.56	.78	.23	<.001	0/0
3	-368.11	764.21	801.89	757.65	.90	.001	<.001	1/0
4	-350.33	736.67	785.11	728.24	.86	.15	<.001	1/0
5	**-339.35**	**722.70**	**781.91**	**712.39**	**.87**	**.11**	**<.001**	**2/0**
6	-330.71	713.43	783.40	701.24	.90	.09	.02	2/1

Note. $N = 109$ teams.

LL= Log-Likelihood; AIC = Akaike information criterion; BIC = Bayesian Information Criterion; SSA-BIC = sample-size adjusted Bayesian Information Criterion; LMR = p-value of Lo-Mendell Rubin test; BLRT = p-value of Bootstrap Likelihood Ratio Test.

Bold denotes chosen model for further analysis

Table 3

Percentage of teams, means, and variances for five-profile model

Conflict Profile	% of teams in profile	Variable	Mean	SE
Low-range	6.5	Relationship	1.87	.11
M_{NPI-16} = 2.74		Task	2.51	.16
		Process	1.98	.11
Low TC-dominant	31.5	Relationship	2.36	.08
M_{NPI-16} = 3.49		Task	3.91	.14
		Process	2.66	.09
Medium TC-dominant	33.6	Relationship	3.10	.17
M_{NPI-16} =4.63		Task	4.70	.14
		Process	3.61	.16
High TC-dominant	21.3	Relationship	3.98	.23
M_{NPI-16} = 4.96		Task	5.05	.12
		Process	4.49	.15
Dysfunctional	7.1	Relationship	5.75	.30
M_{NPI-16} =5.07		Task	5.45	.19
		Process	5.67	.17

Narcissism and associations with latent conflict profiles

Team mean narcissism

Table 4 provides detailed results of the analyses. Findings were consistent with our hypothesis as team mean narcissism scores were significantly and positively associated with dysfunctional profiles. We also found that team mean narcissism was positively associated with medium TC-dominant and high TC-dominant profiles. Specifically, in comparison to the low-range profile, for every one unit increase in mean narcissism scores the odds of being in the dysfunctional profile increased 2.36 times (Cohen's d = 0.47), the odds of being in the medium TC-dominant profile increased 2.15 times (d = 0.42), and the odds of being in the high TC-dominant profile increased 2.13 times (d = 0.42), compared to the low-range profile. The equivalent Cohen's d scores for these OR indicate a medium effect-size (Chen, Cohen, & Chen, 2010).

Team maximum narcissism

As with mean scores, maximum scores were significantly and positively associated with the *dysfunctional, medium TC-dominant* and *high TC-dominant* conflict profiles, supporting our third hypothesis. Specifically, again in comparison to the low-range profile, for every one unit increase in maximum narcissism scores the odds of a highly narcissistic individual occupying the dysfunctional profile increased 1.75 times ($d = 0.31$), the odds of being in the medium-TC profile increased 1.45 times ($d = 0.21$), and the odds of occupying the high TC-dominant profile increased 1.75 times compared to the low-range profile ($d = 0.31$).[6] The equivalent Cohen's *d* scores for these OR indicate a small effect-size for all relationships (Chen, Cohen, & Chen, 2010).

Table 4.

Logistical regression for team narcissism mean and max scores, with low-range as the reference group

Narcissism type	Profile	Regression coefficient	SE	*P*	OR
Mean	Low TC-dominant	.36	.23	.12	1.44
	Medium TC-dominant	.76	.24	.002	2.15*
	High TC-dominant	.83	.23	<.001	2.30*
	Dysfunctional	.86	.29	.003	2.36*
Max	Low TC-dominant	.17	.16	.29	1.18
	Medium TC-dominant	.37	.15	.02	1.45*
	High TC-dominant	.56	.16	.001	1.75*
	Dysfunctional	.56	.20	.01	1.75*

*Note * p <.05*

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[6] We also examined two additional team-level narcissism operationalizations: team minimum and team variance scores. These two operationalizations were included to determine if there were any alternative team scores which drove the effect of narcissism on latent conflict profiles. Results of these analyses displayed no significant associations for the minimum or the variance approach on the latent conflict profiles.

Figure 1.

Latent conflict profiles for five classes
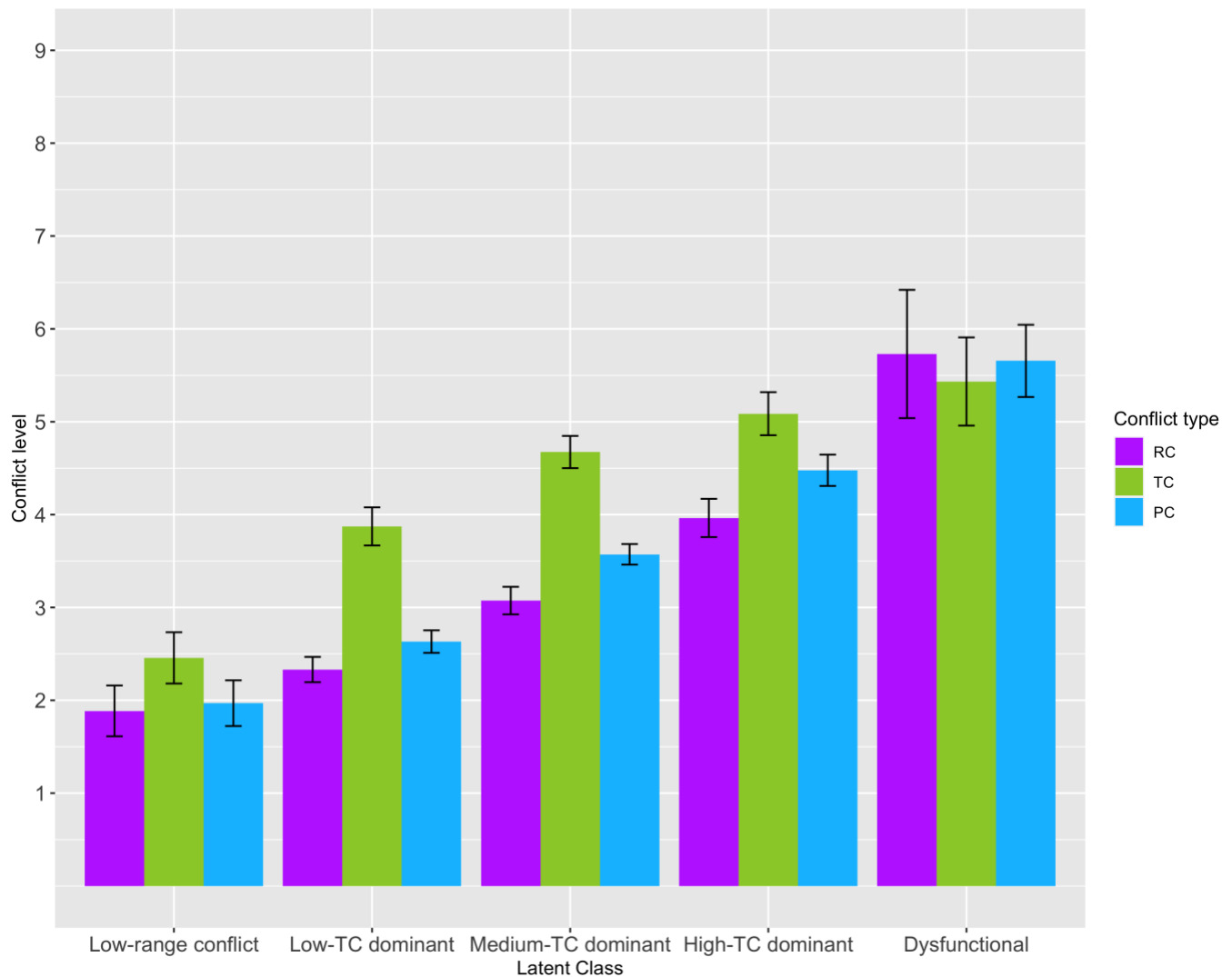
Discussion

We had two aims in this study. First, we examined the nature of conflict profiles in sports teams. We obtained a 5-profile solution for intragroup conflict which broadly supported for our hypothesis that *low-range*, *dysfunctional,* and *TC-dominant* conflict profiles exist. Second, we examined team-level narcissism as an antecedent to these conflict profiles, in which we found support of our further two hypotheses. More specifically, team-level narcissism (both mean and maximum scores) predicted membership of the

dysfunctional conflict profile, with mean and maximum scores also predicting membership of *medium TC-dominant* and *high TC-dominant* conflict profiles.

Our findings revealed five different conflict profiles that included the three we hypothesised. These profiles were: *low-range, low TC-dominant, medium TC-dominant, high TC-dominant*, and *dysfunctional*. Low-range conflict reflects a setting where teams are low in all three types of conflict, indicating a relatively harmonious team environment. The dysfunctional conflict profile represented the highest and comparable levels of conflict across all three types reflecting a highly hostile team environment. In between these two extreme profiles, three TC-dominant profiles emerged. Although TC was higher than RC and PC for all three TC-dominant profiles, these profiles differed on the absolute levels of all conflict types across the profiles, which may reflect different environments. We consider low TC-dominant to reflect a fairly harmonious environment, similar to low-range conflict, because low levels of relationship and process conflict allow team mates to discuss alternative viewpoints without fear of social consequences. In contrast, medium and high TC-dominant profiles may reflect a more hostile environment. Indeed, the reason as to why medium and high TC-dominant profiles could be construed as less harmonious is that levels of RC and PC are raised in these profiles. These types of conflict, as opposed to TC, represent more emotionally-laden, threatening types of conflict which contribute to group dysfunction. Higher levels of RC and PC suggest that arguments around personal values and competencies, which individuals perceive as threats, are likely. Consistent with Information Processing Theory (e.g., Pelled, 1996), such threats interfere with task relevant information in teams. Thus, because of the increased levels of RC and PC in teams with medium and high TC-dominant profiles, such teams are less likely to share information and act in more hostile ways to one another, meaning that these particular profiles are unlikely to conduce to harmonious environments..

The second aim of the study was to test antecedents of conflict profiles. Our decision to investigate narcissism was due to the substantial interpersonal implications of the trait for teams. Given that narcissism is associated with a lack of empathy, and decreased popularity over time (Roberts et al., 2018), we hypothesized that high team-level narcissism (team mean and team maximum scores) would be associated with membership of the dysfunctional conflict profile. We found support for our hypotheses here as teams high in narcissism (mean and maximum) were more likely to have dysfunctional conflict profiles. Beyond our specific hypotheses, we also found that mean and maximum narcissism scores predicted the membership of medium and high TC-dominant profiles. It is unsurprising to see narcissism predict membership of these two specific profiles as they reflect threatening team environments as evident with increased levels of RC and PC. These findings provide further evidence that the hostile disposition of narcissism is implicated in raised levels of intragroup conflict. Examining the results in more detail, we found that the team mean operationalization of team personality had a stronger effect on conflict profile membership compared to team maximum scores, This result is not entirely surprising since more individuals are implicated in the team mean conceptualization than the maximum, so will have a more pronounced impact on team interactions. However, this is not to say that maximum scores should be overlooked, particularly when considering the applied implications of this work.

The present study makes a number of original contributions to the existing literature. First, we replicate several conflict profiles from previous research (O'Neill et al., 2018) suggesting particular patterns of conflict exist regardless of team type. Further, we used teams that are real, naturalistic, and long lasting, which enhances the ecological validity of the conflict profiles. We also satisfy calls in psychology research to engage in more replication studies (Shrout & Rodgers, 2018). Second, this work is the first example of testing

antecedents to conflict profiles with results demonstrating the role of narcissism as an antecedent. Finally, we utilized a large sample ($N = 1107$ from 109 teams) to test these findings which adds a level of robustness, not only to the replication of profiles, but also to our original investigation of narcissism.

Applied Implications

The present study suggests a number of implications for teams. First, the conflict profiles reveal how all intragroup conflict types occur and co-occur in teams. Specifically, it suggests that RC and PC are particularly key conflict types in our profiles. Thus, establishing conflict management strategies that reduce the disagreements around personal values and roles would be conducive to effective team functioning. Second, the team mean approach to narcissism assess the general level of narcissism that exists within teams. In this instance, it is important to understand that the team composition of a trait like narcissism can be associated with conflict profiles high in levels of RC and PC. Therefore, it is worthwhile to team selectors to be mindful of the overall team composition of narcissism when making selection decisions, as too much narcissism in the group may lead to more RC and PC. Third, the maximum score approach to narcissism suggests that so-called 'bad apples' in teams can be particularly problematic in teams. Particularly individuals high in narcissism tend to be the target of reciprocal dislike that they themselves have projected in the team, thus creating a hostile team environment (Gino et al., 2009; Rentzsch & Gebauer, 2019). If managers (and sports coaches) can recognize highly narcissistic individuals in their team, they can tailor their coaching style, thus reducing the detrimental impact of narcissism on teams (cf. Roberts et al., 2018). Accordingly, identifying and managing a highly narcissistic individual allows managers and sport coaches to focus their efforts in a more targeted manner rather than trying to overhaul the team culture (represented by the team mean perspective).

Limitations and future directions

Despite the contributions to the literature and robustness of our findings, we also note the limitations of our work. Notably, our data are cross-sectional thus limiting the extent to which we can draw causality between narcissism and intragroup conflict. However, reverse causality is not likely, as it is generally understood in group dynamic literature that individual differences (i.e., team personality) influence how individuals interact and not vice versa (LePine et al., 2011). Finally, we only consider narcissism in its agentic and grandiose form, despite the recognition that narcissism can manifest in different ways (e.g., communal narcissism).

Given the limitations, future research may wish to adopt a longitudinal design to examine how conflict profiles develop across a season in relation to a team's win/loss record. For example, a low-range conflict profile may be evident at the beginning of a season, but a series of poor results could be associated with higher levels of RC and PC across the season. A further development would be to ascertain the way in which both team mean and maximum narcissism scores manifest in conflict profiles across the season. For example, narcissism is associated with positive outcomes initially in group formation, but the positive effects quickly decline (Ong, et al. 2016). Thus, it is possible that teams high in narcissism occupy a *low-range* profile initially but gradually move to the *dysfunctional* profile through the season. Beyond a longitudinal design, developing a detailed understanding of how narcissism is related to conflict profiles would be fruitful. In doing so, investigating alternative conceptualizations of narcissism, such as the Narcissistic Admiration/Rivalry Concept (Back et al., 2013) and communal narcissism (Gebauer et al., 2012) will shed light on different relationships with conflict profiles. For example, communal narcissism may be associated with conflict profiles lower in conflict levels, as the characteristics of this trait tends to be less focussed on a mutual dislike than agentic narcissism does (Rentzsch & Gebauer, 2019). Thus, less intragroup conflict will be present in groups.

Summary

To summarize, we investigated conflict profiles, within the team-centric paradigm, and their antecedents (team-level narcissism) in sports teams. Studying combinations of the three conflict types reveals a real-world approach to conflict that is intuitive to understand. Our large sample replicated similar conflict profiles to the only previous study (O'Neill et al., 2018), and also included the first investigation into conflict profile antecedents. Team-level narcissism (both team mean and maximum scores) predicted membership of t profiles high in conflict. Specifically, teams high in narcissism were more likely to occupy medium TC-dominant, high TC-dominant, and dysfunctional conflict profiles compared to low-range conflict. These findings suggest team-level narcissism is influential on the odds of teams occupying conflict profiles which are perceived as threatening. Thus, our study provides further evidence for the important role of the team-centric paradigm to conflict, and also for the influence of narcissism in teams.

Chapter 4: O' Captain, *My* Captain: Follower and leader narcissism interplay and the impact on follower commitment

Abstract

Those high in narcissism will inevitably occupy positions of followership in teams at one point or another. These positions of followership may clash with the grandiose self-image central to narcissism, consequently narcissistic followers may not be committed to their group. To this end, we investigated a relevant factor which may attenuate the lack of commitment of narcissistic followers, the personality of their leader. Drawing upon signalling theory, we posit that leaders who share similar levels of narcissism with followers would increase commitment to the team up to a certain point, thereafter commitment would diminish. To test this prediction, we analysed combinations of leader-follower narcissism and levels of commitment. Three hundred and twenty-two followers from 34 teams completed questionnaires on narcissism and group goal commitment, with team captains ($n = 34$) completing measures of narcissism. Polynomial regression with response surface analysis results revealed a curvilinear relationship indicating that when leaders and followers were matched on narcissism (i.e., scores were congruent), increasing values of narcissism led to an increase in follower commitment up to a certain point. As narcissism increased beyond moderate levels, commitment declined. Additionally, when leaders' and followers' values were incongruent, there were negative linear and curvilinear relationships with commitment. This study highlights that matching (or mismatching) leaders' and followers' narcissism can impact follower commitment.

O' Captain, *M* Captain: Follower and leader narcissism interplay and the impact on follower commitment

Within teams, individuals can occupy a number of different roles. One of the most common roles occupied is that of follower, defined as the "characteristics, behaviors, and processes of individuals acting in relation to leaders" (Uhl-Bin et al., 2014, p.96). In order for teams to function, understanding follower characteristics that influence their commitment is pivotal. One characteristic of particular interest regarding followership, that is the subject of the present study, is narcissism.

Research indicates that narcissists find positions of followership particularly unappealing (Benson, Jordan, et al., 2016). Indeed, narcissistic individuals report that subordinate roles do not match their abilities and often express dissatisfaction with such roles (Benson, Jordan, et al., 2016). Additionally, narcissists regularly engage in counterproductive work behaviours when placed into roles that restrict opportunities to validate their grandiose self-image (Penney & Spector, 2002). Further, narcissistic individuals do not appear to make for favourable mentees, with research revealing that mentoring relationships involving followers high in narcissism tend to be short lived and rated negatively by mentors (Allen et al., 2009). Taken together, these studies suggest followership is at odds with narcissistic tendencies, which often leads to undesirable outcomes. Thus, understanding factors which may alleviate the negative outcomes of narcissistic followership is an important avenue of research. In this regard, one potential candidate variable is the extent to which the (narcissistic) follower shares characteristics with the leader. Indeed, narcissism has been the focus of considerable research effort in the leadership literature, in terms of examining narcissists as leaders (e.g., Nevicka et al., 2011; Ong et al., 2016). However, the literature almost exclusively considers narcissism from the perspective of either the leader or follower and ignores the interplay between leader's and follower's narcissism (Roberts et al., 2018). It

is apparent that both leader and follower characteristics interact to impact follower outcomes (Uhl-Bien et al., 2014). Indeed, recent calls in the literature have advocated for the integration of leadership *and* followership characteristics within research (e.g., Steffens & Haslam, 2020). Thus, investigating the interplay between leaders' and followers' characteristics, such as narcissism, requires attention.

In the present study, we examined the relationship between leader and follower narcissism, and how their interplay influenced follower's commitment to group goals. In doing so, we shed light on factors that influence and attenuate the undesirable consequences of narcissistic followership. We contribute to the literature by offering, to our knowledge, the first study of leader and follower narcissism simultaneously in sports teams. Further, we investigate leader-follower relationships that are closer in distance (i.e., team captains and their followers), which extends research beyond leader-follower relationships that have a large degree of distance between the two parties (i.e. faculty and student; Westerman et al., 2016).

Joint effects of follower and leader narcissism

Leadership research often draws on signalling theory (Spence, 2002) to explain how leaders impact followers. More specifically, signalling theory proposes that leaders' actions and behaviours help to communicate leader preferences and intentions to their followers. Such cues and signals can be transmitted verbally or non-verbally by leaders which help to reduce the ambiguity between leaders' intentions and followers' understanding. However, signalling theory also suggests that such signals can be construed differently by different individuals. The personality of followers is, therefore, likely to influence how they perceive these signals. Indeed, research examining employee-supervisor dyads (e.g., Xu et al., 2019) reported desirable outcomes when both employee and supervisor personality are congruent (i.e., matched) as individuals who possess similar personalities and characteristics understand

each other's behavioural intentions. Although this position has not been investigated with narcissism regarding leaders and follower specifically, research into narcissists' interpersonal relationships implies that such a view is plausible. Narcissists tend to befriend fellow narcissists (Maaß et al., 2016), and view other narcissists more favourably (or less unfavourably) due to their perceived similarity (Burton et al., 2017). Consequently, they are more accepting of each other's motives to self-enhance. Extending this reasoning to leader-follower dyads, leaders and followers who are similar may lead to increases in follower commitment.

However, the relationship between leader and follower narcissism may exhibit some nuances at varying levels of the trait. Behavioural threshold theory (Grijalva et al., 2013) suggests that those low-to-moderate in narcissism are likely to display adaptive aspects of narcissism (i.e., charm and charisma; Ackerman et al., 2012). Therefore, we would expect that moderately narcissistic leaders signal their preference for more adaptive, charismatic behaviours from similar followers. Thus, followers feel the group goals align with their pursuits of self-enhancement which may well elicit an increase in their group goal commitment (cf. Nevicka et al., 2011). However, it is likely that such increases will only occur up to a certain point after which commitment may decrease when leaders' and followers' narcissism is high and congruent. At higher levels of narcissism there is a tendency for narcissists to exhibit more maladaptive and exploitative behaviours (cf. Grijalva et al., 2013). If both leaders and followers display these tendencies then aggressiveness and exploitation may take precedence to self-enhance rather than using the achievement of groups goals as a platform to lionize the self. Based on this theorising, we expected that the leader-follower narcissism dynamic would exhibit a curvilinear relationship with group goal commitment. Specifically, when leaders and followers are congruent in narcissism and

increasing in values, we would expect follower commitment increase up to a certain point after which it would decline.

We also expected an incongruence between follower and leader narcissism to impact follower commitment. For example, low follower and high leader narcissism may also impact follower commitment as the self-serving leadership preferences signalled does not resonate with followers low in narcissism. Additionally, high follower and low leader narcissism should lead to the lowest levels of commitment due to lack of acceptance signalled by the leader for the narcissistic followers' pursuits of self-enhancement (Nevicka et al., 2011). Therefore, we expected there to be lower commitment in the low-leader, high-follower narcissism combination, than in the high-leader, low-follower condition, as highly narcissistic followers disengage from groups that do allow from them to self-enhance.

In summary, we investigated the joint effect of leader-follower narcissism, and follower commitment. We proposed that leaders' narcissism (when congruent) with their followers' narcissism will lead to increased follower commitment, but only up to a certain point (that is a curvilinear relationship are expected). When incongruent, we expected follower commitment to be lowest in the low leader-high follower condition (a linear relationship is expected).

Method

Participants and Procedure

Participants were 322 athletes from 34 teams (148 males, 174 females; M_{age} = 21.87 years, SD = 5.20). These athletes were from a variety of sports: rugby (n = 67); netball (n = 22); hockey (n = 46); basketball (n = 29); cricket (n = 3); American football (n = 17); lacrosse (n = 15); ultimate frisbee (n = 5); Gaelic football (n= 5); cheerleading(n = 18); dodgeball1 (n = 14); handball (n=18); football (n= 60); swimming(n= 3). Athletes competed at amateur (n =110), university (n = 171), national (n = 25) and semi-professional

($n = 12$) levels of competition. While athletes represented followers, leaders were the team captains of each team ($N = 34$; $M_{age} = 23.21$ years , $SD = 6.30$). All participants completed personality and commitment measures in person at training sessions early in the competitive season and provided informed written consent . Trained research assistants collected screened questionnaires to allow for participants to fill in incomplete responses.

Measures

Narcissism

To assess narcissism, we used the Narcissistic Personality Inventory-16 (NPI-16; Ames et al., 2006). The NPI-16 is the shortened version of the original NPI-40 which assesses agentic forms of grandiose narcissism. Each item consists of a narcissistic (e.g., *I am an extraordinary person*) and a non-narcissistic statement (e.g., *I am much like everyone else*), with participants asked to choose one of the two statements that they identify with most from each pair. The total number of narcissistic statements that a participant endorses represents the score of the participant. Mean scores were $M_{follower} = 3.60$ ($SD = 3.09$) and $M_{follower} = 4.06$ ($SD = 2.48$). A combined sample of leader and follower narcissism revealed a composite reliability of .77, indicating acceptable internal consistency.

Group goal commitment (GGC)

We assessed group goal commitment using a three-item measure based on work by Weingart and Weldon (1991) and Greenlees et al. (2000). Participants first wrote down their perception of the group's main goal. Using their reference goal, participants rated items using a 6-point Likert type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Example items were 'I am highly motivated to help my group meet this goal' and 'It is very important to me that the group achieves this goal'. We utilized Bayesian structural equation modelling (BSEM; Muthén, & Asparouhov, 2012) to conduct a confirmatory factor analysis (CFA) to test the factor structure of the GGC. Bayes CFA revealed excellent model fit (PPP= .50, 95%

CI = -12.44, 12.32, average standardized factor loading = .62). Composite reliability for the

scale was .81 indicating high internal consistency; mean score for the scale was 3.74 (*SD* =

0.62).

Control variables

Due to the temporal effect of leader narcissism (Ong et al., 2016), we controlled for

the amount of time a captain had been involved with a team by including captain tenure as a

covariate. On average captains had spent 4.38 (*SD* = 4.40) seasons with their team.

Furthermore, due to the inclusion of several teams where the captain and follower sex were

discrepant, and the documented effects of difference in perceptions of narcissistic leaders due

to their sex (De Hoogh et al., 2015), we controlled for the sex of the captain too.

Data Analysis

To investigate curvilinear relationships narcissism may exhibit, while also accounting

for nested data (players nested within leaders), we employed the multilevel polynomial

regression and response surface analysis R package, MLRSA (Nestler et al., 2019).

Following guidelines from Nestler et al. (2019), we grand mean-centred both predictor

variables (follower and leader narcissism), thereafter creating and adding the squared and

interaction terms to the dataset. Our model estimation employed random effects modelling as

per previous cross-level leader-follower personality work using polynomial regressions (Xu

et al., 2019). This resulted in the following equation:

$$GGC_{ij} = b0 + b_1X_{follower\ narcissism} + b_2X_{leader\ narcissism} + b_3X_{follower\ narcissism}^2 + b_4XY_{follower\ narcissism\ \times}$$
$$_{leader\ narcissism} + b_5X_{leader\ narcissism}^2 + b_6X_{leader\ sex} + b_7X_{leader\ tenure} + \varepsilon$$

Following multilevel polynomial regression analysis, we plotted the response surface

analysis (RSA) to present a three-dimensional visualization of the results. To examine the

average response surface, several key parameters help explain the nature of the surface (for

details on how these parameters are derived, see Nestler et al., 2019). First, the nature of the

congruence between follower and leader is observed by following the *line of congruence* (LOC). This parameter examines the outcome variable (GGC) along the level of predictors that follow the X = Y line whereby for every unit increase in X there is an identical increase in Y. Along this axis, one can observe commitment as an outcome of the combination of predictor variables when both leader and follower narcissism are at similar levels. For the LOC, the RSA has a linear parameter (represented by a_1) and a curvilinear parameter (a_2). Second, the response surface also contains a *line of incongruence* (LOIC) whereby the outcome variable (GGC) requires levels of the predictor variables that follow the X = -Y principal; that is, for every one unit increase in follower narcissism, leader narcissism is matched by an equal in magnitude but opposite in sign. The LOIC allows us to observe the low-high/high-low follower-leader values and their subsequent relationship with GGC. Similarly, for the LOIC, there is a linear (a_3) and curvilinear (a_4) parameter. The final feature is the first principal axis. This parameter refers to the combined level of predictors that leads to the peak of the outcome variable (Nestler et al., 2019). The first principal axis is understood to run along the 'floor' of the three-dimensional illustrative cube with follower narcissism on the x-axis, and leader narcissism on the y-axis. The parameter (a_5) corresponds to how much, or little, the first principal axis deviates from the LOC. When $a_5 = 0$, then the first principal axis is equal to the LOC.

For a strict congruence effect to be evident a_1, a_2 and a_5 must be equal to zero, and a_4 must be less than zero (Nestler et al., 2019). However, broad congruence effects involve more nuanced interpretation, with some researchers suggesting that a_1 should be greater than zero, and a_4 less than zero, with the other parameters non-significant (Nestler et al., 2019). In our analysis, we used these broad congruence effects as guidelines rather than test a strict congruence hypothesis. Indeed, a strict set of congruence parameters may mask understanding around alternative (asymmetric) combinations of predictor variables which

leads to optimal outcomes (Edwards & Cable, 2009). As a result, we use the a_1-a_5 parameters as detailed descriptors of the relationship between follower and leader narcissism and their effect on follower commitment, rather than an explicit test a strict congruence hypothesis.

Results

Bivariate correlations of all study variables are displayed in Table 1. One notable correlation suggests the sex of the leader is negatively correlated with follower narcissism (r = - .28, $p < .01$), meaning there is lower follower narcissism when the leader of the team is female, compared to male. In order to interpret the results, we plotted the average response surface analysis using the a_1 to a_5 estimates from Table 2 to produce Figure 1.

Table 1

Bivariate correlations of study variables

Variable	1	2	3	4
1. Follower NPI				
2. Leader NPI	.12*			
3. GGC	-.11	-.12*		
4. Leader sex[a]	-.28**	-.11	-.01	
5. Leader tenure	.12*	.11	.05	-.20**

Note. NPI – Narcissistic personality inventory; GGC - Group goal commitment. [a] 1 = males; 2 = females

* $p < .05$ ** $p < .01$;

Our prediction was supported as we observed a curvilinear parameter estimate on the LOC (a_2 = -.03, $p = .002$) but not a linear effect (a_1 = .14, $p = .56$). This effect suggests that follower-leader narcissism congruence increases GGC up to a point. Our second prediction supported the notion of a negative relationship on the LOIC, as we noted negative linear (a_3 = -.17, $p = .02$) and negative curvilinear (a_4 = -.02 , $p = .04$) relationship along the LOIC. These findings suggest that GGC decreased as follower narcissism increased and leader narcissism decreased. Thus, the lowest level of GGC was found at high follower and low leader

narcissism. Furthermore, results did not show evidence of a strict congruence effect between leader and follower narcissism as the first principal axis significantly differed from the LOC (a_5 = .02, p = .03). The first principal axis, represented by the solid line running along the ridge of the surface in the three-dimensional figure, suggests that moderate levels of leader narcissism, irrespective of follower narcissism, leads to peak follower commitment (see Figure 1).

Figure 1

Response surface analysis plot for the joint effect of leader-follower narcissism on group goal commitment.
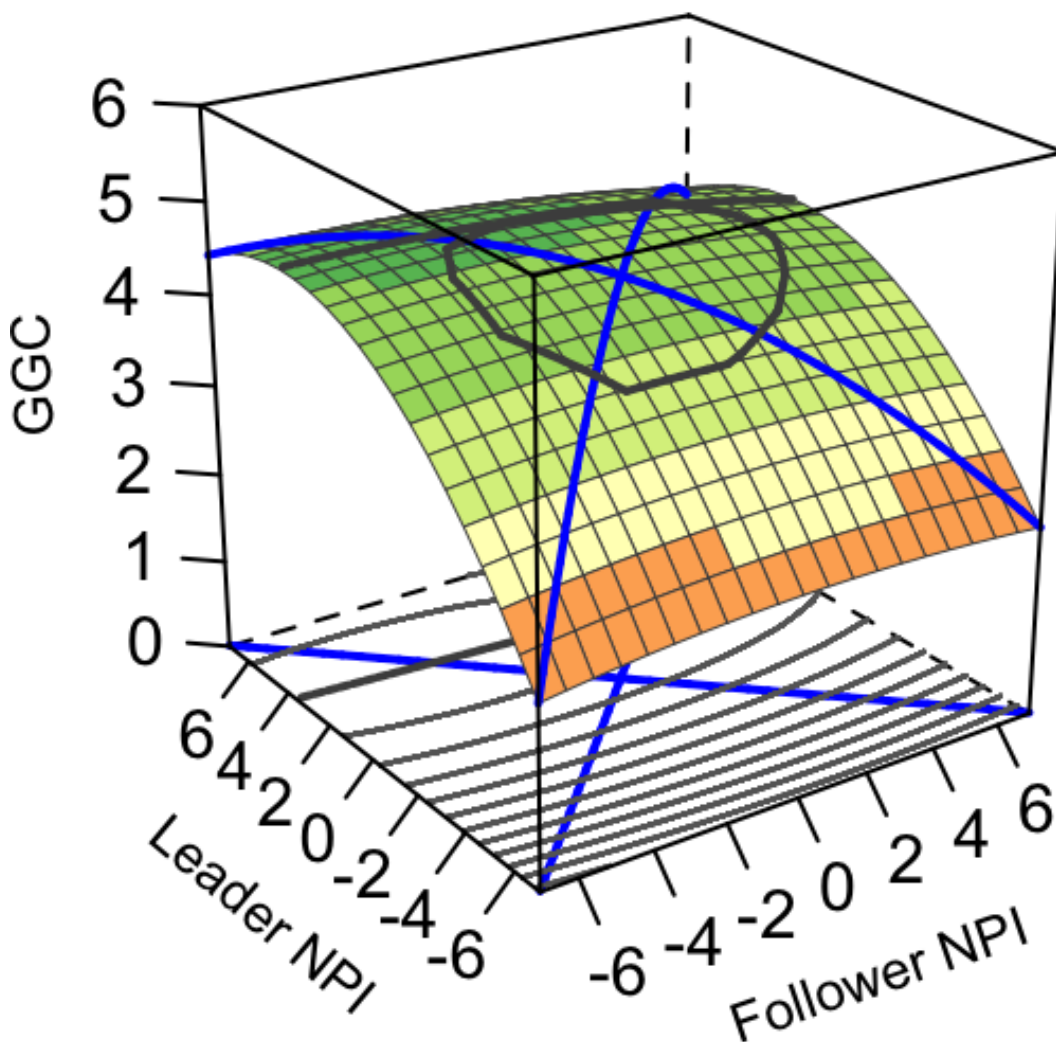
Table 2

Cross-level polynomial regression for leader and follower narcissism.

Variable	Parameter estimates	
Constant	4.48 (0.30)**	
Leader sex	-0.17 (0.11)	
Leader tenure	0.01 (0.01)	
b_1 Follower NPI	-0.01 (0.02)	
b_2 Leader NPI	0.15 (0.07)*	
b_{11} Follower NPI^2	0.00 (0.004)	
b_{12} Follower NPI * Leader NPI	0.00 (0.01)	
b_{22} Leader NPI^2	-.02 (0.01)*	
	Marginal $R^2 = .12$	Conditional $R^2 = .25$

Response surface parameters		Level-2 variance
a_1 (LOC slope)	0.14(0.07)	0.06
a_2 (LOC curvature)	-0.03(0.01)**	0.01
a_3 (LOIC slope)	-0.17(0.10)*	0.05
a_4 (LOIC curvature)	-0.02(0.01)*	0.01
a_5 (first principal axis deviance)	0.02(0.01)*	0.00

Note. Standard error in parentheses.

$* p < .05$ $** p < .01$

Discussion

In the present study, we investigated the joint effect of leader and follower narcissism on follower commitment. We hypothesised that when leader-follower narcissism was congruent and increasing in value, GGC would increase up to a certain point, whereby it would then decrease. When looking at incongruence, we hypothesised lower levels of GGC in the low leader-high follower narcissism combination. Results supported both predictions, however, peak levels of follower commitment appeared to at moderate levels of leader narcissism irrespective of follower narcissism levels.

The curvilinear results in the present study suggest that peak commitment is found at moderate levels of leader and follower narcissism. However, the response surface analysis allows for a deeper examination into the nature of leader-follower narcissism and how it is implicated at congruent and incongruent situations. First, when considering the LOC, the curvilinear effect is best explained by behavioural threshold theory (Grijalva et al., 2013). As

both parties increase in narcissism, it is likely that leaders signal their preference for adaptive ways to self-enhance from similar (at least in personality terms) followers. Thus, followers likely feel that group goals align with their drive to maintain their grandiose self-image which will increase their commitment towards the group. However, the inflection point appears to happen at high levels of narcissism, as higher narcissism scores tend to reflect more maladaptive and exploitative behaviours (Grijalva et al., 2013). Indeed, if leaders signal that maladaptive behaviours are acceptable then likeminded followers deem it to acceptable to self-enhance in more exploitative ways which are less focussed on the group, and so are less committed to the group. Another potential explanation as to why follower commitment decreases at matched and high narcissism levels is that narcissistic individuals, regardless of role in the team, may feel that there is only room for one 'unique' or 'special' individual in the group (cf. Roberts et al., 2018). Consequently, interpersonal conflict may arise between leaders and followers, which in turn negatively impacts the highly narcissistic followers' commitment. Second, when considering the LOIC, follower commitment decreased when leaders decreased, and followers increased in narcissism. This decrease is likely as leaders signal that group goals do not align with the goals of the narcissistic follower. Thus, narcissistic followers disengage from group activities as the group goals do not satisfy their need to self-enhance (cf. Nevicka et al., 2011). Lastly, we noted that peak follower commitment levels were found at moderate levels of leader narcissism, irrespective of follower narcissism, as evidenced by the first principal axis (the line along the floor of Figure 1). Indeed, this finding may be a consequence of the more adaptive tendencies (i.e. charismatic) exhibited at moderate levels of narcissism. Followers tend to display preferences for charismatic leaders as they deem them more trustworthy and more motivating (Antonakis et al., 2016). Thus, moderately narcissistic leaders may be able to signal sufficient charisma to satisfy followers across all narcissism levels in followers. However, to aid this theoretical

explanation, explicit testing of leader-follower narcissism and perceptions of charismatic leadership is necessary.

Applied implications

The present study promotes new avenues to alleviate the disruptive nature of narcissistic followers. In particular, we highlight that follower commitment can vary as a functioning of the matched and mismatched levels of leader and follower narcissism. Coaches and team selectors should be mindful of the mismatches of leaders' and followers' narcissism in groups when recruiting leaders and/or followers to avoid undesirable outcomes. Additionally, when narcissism is congruent and high, follower commitment appears to decrease. Again, team selectors should be aware of the costs when matching leaders and followers when they are both high in narcissism, and to try and avoid these situations. Despite the matching (and mis-matching) levels of narcissism, leaders with moderate levels of narcissism corresponds to optimal levels of follower commitment, regardless of follower narcissism levels. This finding may have implications for leader selection when there are several individuals vying for leadership positions; selecting those who are moderately narcissistic may well have a beneficial impact on follower commitment across all follower narcissism levels.

Limitations and future directions

Despite being a novel investigation with a number of strengths (e.g., multi-level design, integration of leader and follower personalities), we note some limitations. First, our research design is cross-sectional, this limits causal inference. However, as personality is typically considered to be an antecedent of team outcomes (e.g., Hardy et al., 2020), we can be reasonably confident in our causal claims. Regardless, given that narcissists tend to lose popularity over time (cf. Ong et al., 2016), considering combinations of follower and leader narcissism and commitment across time using this dyadic perspective of narcissism would be

a suitable extension of the literature. Second, common conceptualisations of personality in the group dynamics literature often involve an input-process-output (IPO) perspective when investigating personality, to ascertain how individuals influence group processes and outcomes (see Chapter 2; Hardy et al., 2020; LePine et al., 2011). With an IPO outlook in mind, future research would do well to consider process-type variables that may mediate the relationship between leaders and followers, and follower commitment. For example, investigations which include leader-member exchange (Zhang et al., 2012) as a process between narcissism and commitment would help to develop a more fine-grained perspective into the leader-follower narcissism relationship and how it impacts outcomes. Third, in the present study we considered only grandiose agentic narcissism. Considering other grandiose types of narcissism, such as communal narcissism (Gebauer et al., 2012), may lead to differential outcomes with commitment. Indeed, followers who are high on communal narcissism may demonstrate more commitment to the group as they seek self-enhancement in more communal domains, such as being the most committed team member (although such perceived exceptional communality is not *always* received favourably by others (cf. Gebauer et al., 2012). How these communal followers interact with their communal leaders, and the impacts on follower outcomes is a worthwhile avenue for future research. Fourth, investigating alternative sources of leadership beyond team captains (e.g., coaches) that have a greater distance to the follower may further understanding of interpersonal relationships between narcissists in sports teams beyond the current close psychological proximity (i.e., between captains and followers).

Summary

In summary, we demonstrate the importance of the joint effects of leader and follower narcissism on follower commitment. Despite the often-undesirable outcomes associated with narcissistic followership, such problems can be somewhat mitigated when matching leader

and follower personality. However, the interplay between leaders and followers becomes

detrimental to commitment when both leaders and followers are high in narcissism or

mismatching high and low levels of leader and follower narcissism.

Chapter 5: General Discussion

Summary of chapters

This chapter consists of five main sections. In the first section, I summarise the findings for each of the empirical chapters. In the second section, I present theoretical implications of the findings. In the third section, I focus on the applied implications. In the fourth section, I discuss the strengths and weaknesses of the research. I offer suggestions for future directions in the final section.

Summary of main findings

In Chapter 2, I examined narcissism within an extended IPO framework. Specifically, across two studies, I investigated narcissism's influence on task cohesion via intragroup conflict, moderated by narcissistic group composition (NGC). Results indicated that narcissism had a negative indirect effect on task cohesion via process conflict alone, and that this indirect effect was moderated by NGC. Particularly, there was a negative indirect effect of narcissism on task cohesion at low NGC, which was weakened at high NGC in Study 1, and diminished in Study 2. These findings highlight the contextual effect of narcissism in team settings; when narcissists perceive more likeminded individuals in their team there are fewer conflicts around important roles and responsibilities (process conflict), which reduces problems with task cohesion . The results of Studies 1 and 2 also emphasise the importance of process conflict in sports teams as this was the only aspect of conflict to explain the indirect effect across both studies.

In Chapter 3, I sought to extend the findings from the previous chapter by investigating conflict profiles and narcissism, both at the team level. To this end, I investigated the relationship between distinct patterns of conflict types and team mean and maximum scores of narcissism. Results indicated that, within teams, five distinct conflict profiles existed, each with varying levels of relationship, task, and process conflict.

Furthermore, logistic regression results revealed that teams high in narcissism (both in terms of mean and maximum scores) were more likely to have conflict profiles higher in relationship and process conflict. These findings suggest that conflict profiles are a valid way of investigating conflict in teams. Additionally, it highlights that team narcissism is positively associated with raised levels of relationship and process conflict in groups. Taken together, Chapter 2 and 3 highlight the associations that narcissism shares with intragroup conflict in sports teams.

In Chapter 4, I investigated the interplay of leader and follower narcissism and its effects on follower commitment. In doing so, I utilised polynomial regression with response surface analysis to examine potential non-linear relationships between narcissism and commitment, and to explore how (in)congruence in narcissism between leaders and followers influences commitment. Results of this study showed that congruent and increasing levels of narcissism were associated with increased follower commitment up until a certain point, thereafter commitment decreased. Further, the incongruence between leader and follower narcissism negatively influenced commitment, with the lowest levels of commitment found at high follower and low leader narcissism. In addition to these findings, results also indicated that moderate levels of leader narcissism were associated with optimal follower commitment, irrespective of follower narcissism. Taken together, the results from Chapter 4 indicate that different combinations of leader and follower narcissism can influence follower commitment and narcissism's relationship with commitment in teams is non-linear in nature.

Theoretical implications

The findings across the three empirical chapters raise a number of interesting theoretical implications. Collectively, the findings from the thesis show that narcissism is particularly relevant to team settings via associations with group processes (e.g., conflict) and emergent states (e.g., cohesion and commitment). Further, the work from the thesis adds to

the extant literature on narcissism in teams by providing evidence that the extended IPO

framework suggested in Chapter 1 is a sound conceptual basis to investigate how narcissism

impacts teams. In doing so, the extended IPO framework provides three clear areas worthy of

discussion: a) narcissism and intragroup conflict; b) the contextual effects of the social cues

in the team environment and c) alternative conceptualisations of team personality

composition.

Narcissism and intragroup conflict

Both Chapter 2 and 3 offer novel investigations of the influence narcissism has on

intragroup conflict. More specifically, Chapter 2 highlighted across two studies that

narcissism indirectly influenced task cohesion via intragroup conflict, but only through

process conflict. These findings suggest that narcissism's impact on teams is caused by

disagreements around roles and responsibilities. Indeed, these arguments carry connotations

of personal competency (Greer et al., 2008) which may be of particular relevance to

narcissists as maintaining a grandiose self of self (via demonstrating personal competency or

by devaluing others' abilities) is central to narcissists' raison d'etre (cf. Back et al., 2013).

Therefore, narcissists will likely contribute to these disagreements and arguments as an

aggressive tactic to protect themselves against ego-threats that exist in team settings. This

idea is supported by Barry and Chaplin (2006) who found narcissists respond aggressively to

and devalue sources of criticism. Thus, the current findings add to the literature by

suggesting that process conflict is a mechanism by which narcissists maintain their grandiose

self-image in team settings.

It is also worth noting that Chapter 2 emphasised the role of process conflict in how

narcissism impacts cohesion. To date, no such investigation in the sport literature has

investigated process conflict in influencing teams, despite clear theoretical grounds that roles

and responsibilities in teams are important for effective team functioning (cf. Benson, Eys et

al., 2016). Indeed, the findings from Chapter 2 (both Study 1 and 2) confirm that process

conflict can negatively impact team functioning, in this case task cohesion, similar to what

has been found in organisational settings (de Wit et al., 2012). Therefore, this thesis adds to

the extant literature on intragroup conflict in sport by promoting the relevancy of process

conflict.

Furthermore, it is possible that the relationship between narcissism and process

conflict shares a temporal sequencing element. To elaborate, there is clear evidence that

narcissists decline in popularity and likeability in group settings over time (Leckelt et al.,

2015; Ong et al., 2016), due to their antagonistic disposition that creates team dysfunction.

Similarly, process conflict also leads to more team dysfunction over time, as process conflict

predicts relationship and task conflict at later points in team life cycles (Greer et al., 2008).

Taken together, narcissism may cause dysfunction in groups over time by contributing to

process conflict, which then breeds other types of conflict over the stages of group

development. Whilst the temporal sequence of narcissism and process conflict was not tested

within this thesis, there are clear theoretical grounds that narcissism may contribute to team

dysfunction in such a way. However, this position would benefit from explicit testing and is

suggested as a future research direction (see Future Directions section).

In Chapter 3, I extended the findings from Chapter 2 by suggesting that team levels of

narcissism are associated with distinct patterns of conflict within groups. Thus, the findings

suggest team-level narcissism is also implicated with intragroup conflict. Further, Chapter 3

adds to the extant literature by highlighting that intragroup conflict in teams manifest as

distinct patterns of all three conflict types. This work goes beyond Chapter 2's findings,

which investigated intragroup conflict as separate mediators, by modelling combinations of

conflict that exist within teams. Arguably using latent profile analysis to explore the

prevalence and influence of intragroup conflict enhances the ecological validity of the

research programme as it accounts for the realistic nature that all three conflict types will simultaneously occur in team environments. Findings observed team-level narcissism was associated with conflict profiles containing elevated levels of relationship and process conflict. A more detailed examination of the results indicated that team mean and maximum levels of narcissism predicted membership of the same conflict profiles (i.e., medium TC-dominant, high TC-dominant, and dysfunctional conflict profiles). The findings suggest that higher levels of narcissism within teams may lead to the creation of an environment whereby selfish exploitative behaviours spread throughout the group and conflicts result. This picture is also complimented by the maximum score findings, suggesting that a 'bad apple' (cf. Cope et al., 2010) can upset group dynamics by creating more conflict, similar to findings in Chapter 2. However, when comparing the influence of the mean and maximum scores, it was evident that mean narcissism scores had stronger associations with conflict profiles than the maximum scores, as evidenced by the strength of effect sizes. This finding implies that the average levels of narcissism in a team may potentially be more disruptive to team unity than a single narcissistic individual. Taken together, both Chapters 2 and 3 highlight the importance of considering narcissism as an antecedent to intragroup conflict and potentially wider sport team functioning.

The contextual effects of the team environment

Consistent with the extended IPO model, another key area that this thesis contributes to the literature is the importance of contextual factors moderating the influence of narcissism in teams. Drawing from Trait Activation Theory (Tett & Guterman, 2000), trait behaviours are elicited by certain environmental cues that can be task- or socially-oriented. Specific to narcissism, previous literature has considered how task relevant cues are implicated (e.g., difficulty of task, private vs. public evaluation; cf. Roberts et al., 2018; Wallace & Baumeister, 2002). However, social cues (e.g., peer relationships, leader-follower

relationships) can be relevant to narcissism as well. Chapter 2 and 4 offer evidence that different social-type cues can impact narcissism in teams, specifically the perceived narcissistic group composition and the (dis)similarity between follower and leader narcissism scores. In Chapter 2, I observed that when those who are high in narcissism perceive few similar individuals around them they are disruptive in groups, but as they perceive more fellow narcissists in their group this effect is mitigated. Further, Chapter 4 focussed on the interplay between leader and follower levels of narcissism. In investigating how leader's and follower's narcissism interact, it extends the extant literature on the interpersonal relationships and narcissism, by viewing narcissism beyond peer-to-peer relationships. To this end, the findings suggested that matched and increasing levels of narcissism between leaders and followers benefitted follower outcomes (in this case commitment) until a certain point, after which increasing levels of narcissism in both parties became detrimental. Thus, there appears to be optimal levels of matched narcissism that can lead to positive outcomes.

This work extends the literature in a number of ways. Namely, it offers one of the first pieces of evidence on the interactions between leader and follower narcissism and the impact on followers. Particularly, the contextual effect exhibits a non-linear (curvilinear) relationship with outcomes, this suggests that matching leaders and follower's narcissism can have positive and negative effects contrary to previous leader-follower narcissism work (Westerman et al., 2016). This leader-follower work also has implications in relation to previous theorising (see Roberts et al., 2018). Indeed, Roberts et al. (2018) suggested that matching highly narcissistic leaders and followers may have equally plausible positive or negative effects, which the authors termed boom-or-bust. Indeed, my findings support the idea that the 'bust' element may be more applicable to high matched leader and follower levels of narcissism. However, beyond this, the findings also suggest that the relationship

between leader and follower narcissism and commitment is rather nuanced and perhaps the boom-or-bust hypothesis is overly simplistic.

In addition, the findings from Chapters 2 and 4 are relevant in relation to the narcissistic-tolerance hypothesis (Burton et al., 2017; Hart & Adams, 2014) and indicate that this model may warrant extension in the context of group functioning. Briefly, this hypothesis examines the dyadic relationships between narcissists and suggests that they tolerate each other's pursuits of self-enhancement and the negative consequences that it often entails because they share the same set of values of 'getting ahead'. An important tenet of this hypothesis is not that narcissists necessarily *like* fellow narcissists, rather they do not *dislike* them, as liking others and high levels of empathy are not features of grandiose agentic narcissism. My thesis offers two extensions to this hypothesis. First, the findings from Chapter 2 indicate that this idea of tolerance can be extended from dyadic relationships to team settings. Indeed, results from the moderator analysis highlighted that when narcissists perceived more fellow narcissists in their team they engaged in less process conflict. However, the nature of the positive relationship between narcissism and process conflict never reversed, rather it became less positive (or diminished) suggesting that narcissists engage in less conflict when around fellow narcissists but being around likeminded individuals does not lead to them necessarily getting along with one another. Chapter 4 offered a further extension of the hypothesis by suggesting a tolerance for each other's narcissism but only up until a certain point. Indeed, when examining the curvilinear relationship between matched levels of leader and follower narcissism, there was a positive relationship up to a certain point whereby it then became detrimental to commitment. This finding suggests that leaders and followers may tolerate one another to a certain point but when both parties are high in narcissism they may not tolerate each other. The idea that they tolerate one another is also evident when examining the linear component of follower

commitment when leader-follower narcissism is matched. In this instance, the linear component displayed a null effect, suggesting there was no overall positive (or negative) relationship on follower commitment as matched leader-follower levels of narcissism increased, thus one could assume they remain overall neutral, or tolerate the actions of each other within teams. Thus, Chapter 4 demonstrates that narcissistic-tolerance in dyadic relationships can exist beyond peer relationships and extend to different levels of hierarchy (leaders and followers) but also that they may only tolerate one another until a certain point.

In summary, there is undoubted support for the inclusion of moderators in the extended IPO framework postulated. Moreover, narcissism displays contextual effects in team contexts contingent on the social cues provided by the number of fellow likeminded individuals in a given team, or the narcissism levels of the leader. Particularly, these findings suggest that narcissists tolerate other likeminded individuals in their teams whether they are fellow teammates or leaders.

Alternative conceptualisations of team personality composition

Lastly, it is also worth noting the theoretical implications of the NGC variable used in Chapter 2. More traditional approaches to personality composition in groups use aggregations of individual trait scores to represent the team levels of personality (cf. Barrick et al., 1998) and can be viewed a number of ways such as average team scores, those who are highest/lowest scoring on a team, or the dispersion/variability of a trait in a team. Whilst all of these approaches are conceptually-sound and have relevance for particular research questions, none of the aforementioned operationalisations offer the ability to capture the *number* of individuals who possess a certain trait. To date, researchers who have been interested in how the number of individuals who possess a certain trait influences team outcomes have utilised traditional methods with ensuing suboptimal conceptual accuracy (cf. Schmidt et al., 2012). The new NGC variable approach addresses this shortcoming by

offering a way of measuring the number of those who possess high levels of a trait (in my case, narcissism). In doing so, the NGC-type approach bridges the gap between theory and analysis more accurately on questions around the number of individuals who possess a trait compared to traditional measures.

Although the current programme of research only focusses on narcissism it is worth highlighting that the type of aggregation that is chosen to research personality is also contingent on the type of trait being examined (LePine et al., 2011). Thus, viewing the number of individuals who possess a particular trait perhaps play a pivotal role with personality traits with a strong interpersonal focus. Such examples may include extraversion, due to the social perceptiveness and sociability inherent within the trait. Finally, rather than suggesting the NGC-type approach is a superior method to viewing team personality composition compared to traditional methods (e.g., team mean, minimum/maximum, variance), the NGC-type variable offers a complimentary view of personality in teams which shows promise in adding to the team personality literature. To summarise, the NGC variable offers another interpretation to observing team personality composition that sits alongside traditional conceptualisations and has particular relevance to narcissism. Such an approach may also have relevance to other traits, so future research in this area is warranted.

Applied Implications

Beyond contributions to theory, this programme of research also provides some applied implications for teams and those working in team settings. First, it is clear managing narcissism in teams is important. Overall, this body of work aligns with Cope et al.'s (2010) work on team cancers, whereby the term 'cancer' refers to a disruptive individual that often exhibits narcissistic tendencies in team settings. Practical advice, derived from coaches' interviews, suggest a number of ways in how to manage team cancers (or narcissists), which include pre-screening individuals who may be disruptive but are often invaluable team

members. In this thesis, I highlight practical advice which may aid how to pre-screen these disruptive individuals in order to best work with them individually, and to minimise group disruption in doing so. Across all studies there is evidence that narcissism is implicated with intragroup conflict at the individual-and team-level. To this end, Chapter 2 suggests a contextual effect of the narcissistic group composition on the individual narcissists, whilst Chapter 3 highlights that team-level narcissism plays a role. Thus, team selectors, coaches, and managers should be mindful as to the narcissistic make-up of the group. Specifically, Chapter 2 suggests that a narcissistic individual in a group contributes to less (process) conflict in the group when likeminded individuals are present, but such conflict is increased when they perceive fewer likeminded individuals. However, Chapter 3 emphasises that high mean levels of narcissism in groups can still lead to high levels of conflict. Taken together, the findings suggests there may be minimal impact of selecting an individual narcissist into a team as they may tolerate the actions of fellow narcissists in teams, there is still a clear negative impact for the team as a whole as conflict will increase at the team-level. Therefore, team selectors should be aware that selecting a narcissistic individual into a narcissistic group may not be as disruptive, as they (somewhat) tolerate one another's desires to self-enhance. Nevertheless, this suggestion should be heeded with caution suggests there are still broader implications for the group on the whole as high team levels of narcissism are associated with high levels of intragroup conflict. Furthermore, Chapter 4 emphasises how leader narcissism can impact followers. Accordingly, leader selection processes would benefit from considering leader candidates' narcissism levels and avoiding potential issues with narcissistic followers which lead to team dysfunction. It is recommended that avoiding instances where leader's and follower's narcissism are mismatched is a priority, for example when leaders and followers are high in narcissism, as this combination leads to decreased levels of commitment to the group. Consequently, this may lead to a 'bad apple' effect

permeating throughout the group whereby highly narcissistic individuals distract fellow team members from the tasks of the group (cf. Cope et al., 2010). Additionally, it is also important to consider that, even if leaders and followers have similar levels of narcissism, if both parties are highly narcissistic then this combination can lead to negative outcomes. Thus, whilst it is important that leader selection decisions account for mismatches of narcissism, equally it is important to consider that high and matched levels are avoided in groups too. One interesting caveat to Chapter 4 is that moderate levels of leader narcissism leads to optimal commitment from followers across most followers' levels of narcissism. Thus, leader selectors would do well to consider leader candidates who are moderately narcissistic as they are likely to benefit a wide spectrum of followers' levels of narcissism in teams.

Second, the research programme highlights the impact of intragroup conflict in sports teams. More specifically, there are implications for the influence of process conflict. This thesis offers the first example of how disagreements around roles and responsibilities influence functioning in sports teams. Thus, identifying these conflicts and developing strategies to mitigate against process conflict is vital to avoid group dysfunction. Here, conflict management strategies that are more cooperative (e.g., collaboration), rather than competitive (e.g., avoiding; DeChurch et al., 2013) may be particularly useful. More generally, in line with the results from Chapter 3, considering that conflict profiles in teams may prove a relevant way of dealing with intragroup conflict, the identification of particular patterns of all three conflict types provides practitioners with the ability to observe how conflict manifests in the team environment and which patterns of conflict will likely to lead to disruption. Therefore, understanding conflict profiles in teams can enable a more targeted approach for conflict management strategies. Taken together, identifying particular conflicts and their co-existence in teams, and adopting correct conflict management strategies can aid

coaches and practitioners in understanding group dynamics and troubleshooting issues in an efficient manner.

Strengths and weaknesses

Strengths of studies

The empirical studies within this thesis contain several strengths worth highlighting. First, the analyses used across all the chapters reflected contemporary approaches that are at the cutting edge of statistical analysis in psychology literature. In Chapter 2 I used Bayesian estimation for both measurement development and for conceptual model testing. The use of Bayesian estimation for developing the ICS-S reflects a more accurate representation of how factors in measures are conceptualised (cf. Muthén & Asparouhov, 2012). That is, all three factors in the ICS-S (relationship, task, and process conflict) share variance and conceptual overlap which Bayesian approaches account for, whilst traditional maximum likelihood approaches do not. Added to this, the replication of the factor structure and model fit indices across two samples indicate replicability and generalisability of the measure. Accordingly, the ICS-S measure used in Chapter 2 and 3 represents a conceptually strong and statistically robust measure of intragroup conflict in sport. Further strengths in Chapter 2 include the incorporation of prior beliefs in both Study 1 and 2 which allows for integration of theory into the IPO model. Additionally, the use of hybrid modelling that blends the error variance associated with a full structural equation model and the model simplicity of a path analysis is another strength. This compromise between modelling approaches that hybrid modelling permits enabled the development of a superior model over a path analysis approach, whilst accounting for the limitations of sample size requirements for a structural equation model for the complex model in Chapter 2. In Chapter 3, I utilised latent profile analysis (LPA) to examine how conflict types co-occur and interact in sports teams. Using this approach is particularly relevant given that conflict types simultaneously occur in groups. Not only was

the LPA relevant for the development of conflict profiles, but the LPA allows for the incorporation of antecedents to these profiles, in my case, narcissism. Chapter 4 employed polynomial regression with response surface analysis which permitted the non-linear effects of narcissism on follower commitment to be observed. Thus, this analytic approach acknowledges and suggests that the relationship between leader and follower narcissism in nuanced. In summary, the novel methods of analysis used across all studies led to important discoveries within the personality and group dynamics literature.

The extended IPO framework also provided an intuitive understanding of how narcissism can impact teams. As such, the modelling of both the individual- and team-level, and the social-oriented moderators of narcissism develop a deeper understanding of narcissism in groups. Therefore, a further strength of this thesis is that it goes beyond evaluating simple relationships from only one perspective (e.g., team-level), in doing so it addresses calls in the literature that IPO frameworks have been overly simplistic in group dynamic research and have disregarded the multi-level nature of teams, and the cross-level (moderator) effects that exist in team settings (LePine et al., 2011).

Weaknesses of studies

Despite the clear strengths evident in the thesis there remains some weaknesses that are worthy of attention. First, all measures in the thesis rely on single-source self-report responses which may increase common method variance (Podsakoff et al., 2003). However, this is a common critique in both the personality and group dynamics literature but does not preclude the ability to interpret the findings in the current thesis. I made attempts to mitigate against sources of common-method variance, by including team aggregation of narcissism scores (Chapter 3), and including separate sources of narcissism (i.e., leader and follower narcissism; Chapter 4). Second, with the exception of Study 2 in Chapter 2, all studies utilise a cross-sectional design. Again, this sort of design could introduce biases with findings such

as the simultaneity bias (Reed, 2015), however it is unlikely to hinder causality in the thesis as reverse causality, such as intragroup conflict contributing to narcissism, appears theoretically and conceptually implausible.

At a theoretical level, it is worth considering that despite the focus of narcissism throughout this thesis, all findings are based on the grandiose and agentic form of the trait. Vulnerable and communal forms of narcissism (Gebauer et al., 2012; Miller et al., 2011) are alternative conceptualisations of narcissism unexplored in the current thesis that would likely play different roles in team settings compared to grandiose, agentic narcissism. Given these gaps of the current research, there is clear scope for future research directions.

Future directions

When considering the agency-communion model of grandiose narcissism (Gebauer et al., 2012), this thesis has only considered the 'agency' component of the model. Communal narcissists are concerned about satisfying the same core motives as agentic narcissists (e.g., need for admiration) however they achieve it through different means. Specifically, communal narcissists display superiority through communal means (e.g., warmth and gregariousness), as such communal narcissism may have different implications for groups compared to agentic narcissism. Indeed, the tit-for-tat hypothesis suggests interpersonal relationships for agentic and communal narcissism function differently based on their liking of others and the reciprocal liking from others (Rentzsch & Gebauer, 2019). Investigating how communal narcissism is implicated within group processes and emergent states, therefore, may lead to differential relationships compared to agentic narcissism. For example, communal narcissism may be associated with more communal types of conflict (i.e., relationship conflict), and social cohesion. Other considerations regarding narcissism may include studying the interactions between self-inflated and dominant forms of agentic narcissism (cf. Zhang et al., 2020). Doing so may help to elucidate the specific aspects of

agentic narcissism that are implicated in group functioning. For example, the combination of high self-inflated and high dominant forms of agentic narcissism may have a particularly negative effect on groups, due to the overly inflated sense of self and desire for dominance associated with these facets of narcissism. Future research would also do well to analyse this more fine-grained approach to narcissism using the Narcissistic Admiration/Rivalry Concept (NARC; Back et al., 2013) which focuses on the behavioural dynamics of the 'dark' and 'bright' sides of narcissism. For example, admiration may be positively associated with (some aspects of) team functioning, and rivalry negatively related.

Regarding the temporal effects of narcissism, the current data investigated narcissism in the context early competitive season. The extent to which narcissism impacts teams on aspects such as conflict and cohesion is not captured, despite the relevance of such an late life-cycle effect for narcissism (e.g., Benson, Jordan et al., 2016). Thus, future research could consider the implementation of longitudinal designs (cf. Bell & Outland, 2017). Such designs have particular relevance to sports teams given the temporal effects narcissism has with a number of outcomes including leadership effectiveness (Ong et al., 2016), popularity (Leckelt et al., 2015), and performance (Grijalva et al., 2019). Similarly, intragroup conflict has implications across time (Greer et al., 2008). Thus, future investigations should consider the temporal sequences of narcissism and intragroup conflict across time. For example, those high in narcissism often decrease in popularity over time, whilst process conflict predicts relationship and task conflict over time. By determining the temporal associations between narcissism and different aspects of conflict, a more detailed understanding of the interplay between narcissism, conflict and group outcomes can be developed.

In addition, this thesis highlights the role of process conflict and its relationship with narcissism and cohesion. Indeed, the work here offers the first examination of process conflict in the sports literature. However, the organisational literature recognises that process

conflict consists of two components: logistical (e.g., coordinating individual's efforts) and contribution (e.g., the equality of effort; Behfar et al., 2011). By examining the constituent parts of process conflict, a more detailed understanding of process conflict in sport would be developed. Future research may investigate these components to determine whether narcissism is related to arguments involving roles (i.e., contributions) or responsibilities (i.e., logistical). For example, narcissism may be associated with contribution conflict, as they denigrate and devalue others' efforts more readily in order to inflate their self-image.

Further future directions should also look beyond intragroup conflict states, to other aspects of conflict such as conflict expression or conflict management strategies. To elaborate, conflict expression is a new area of the literature that looks how conflict is expressed by an individual through verbal and non-verbal cues (Weingart et al., 2015). These expressions have the ability to influence perceptions of fellow team members, thus may impact outcomes. This conceptualisation of conflict explores the *how* of conflict rather than the *what*, whereby both the direction of the expression (e.g., directly or indirectly towards a recipient) and the intensity (e.g., aggressive or passive) is observed. Whilst narcissists are often direct and aggressive towards sources of criticism (Barry & Chaplin, 2006), there may be more subtle ways in which they express conflict in groups such as passive aggressive behaviours or attempting to discredit a fellow team member through other channels (e.g., to their coach). Thus, investigations around narcissism and conflict expression offer a fruitful avenue for future research and has the potential to inform conflict management strategies. To this end, how conflict management strategies are implicated with narcissism offers another area of future research that has clear applied implications. Lynch et al. (2021) investigated how narcissism is related to conflict management processes such as competitive and cooperative strategies. Findings suggested that narcissistic rivalry was associated with decreased cooperative and increased competitive strategies as groups approached their

project deadline. How narcissism and these strategies are associated in groups with no fixed deadline, such as sports teams, warrants further investigation.

Finally, another future avenue of research would be to explore group variables beyond cohesion and commitment as outcomes. Whilst cohesion, specifically task cohesion, is important to team functioning and performance (cf. van Vianen & De Dreu, 2001), various emergent states also warrant investigation. Such examples include, but are not limited to, team viability, team potency, and collective efficacy. Expanding investigations of narcissism to different outcome variables has the potential to develop the extant literature on narcissism in teams comprehensively.

Summary

In summary, this thesis set out to investigate narcissism in team settings. Using an extended IPO framework as the conceptual basis for the three empirical chapters, the research programme highlights a number of areas particularly relevant to narcissism in team settings. This thesis demonstrated that narcissism is related to intragroup conflict; specifically process conflict and conflict profiles high in relationship and process conflict. Furthermore, the team environment and the social cues of fellow narcissists, and the levels of narcissism of the leader both moderate the effects of narcissism in team settings. Due to this moderation effect, assumptions of the narcissistic-tolerance hypothesis can be extended beyond interpersonal relationships to reflect relationships with multiple team members and also interpersonal relationship across hierarchy levels. Taken together, these findings offer a comprehensive examination of narcissism in team settings yet offer multiple avenues to expand this area in future research project.

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Appendices

Appendix A – Narcissistic group composition (NGC) vignette

Please read the following description of a sportsperson. Then consider this description in relation to members of your current team.

Andre/Andrea is an extremely confident player and is one of the biggest characters in the dressing room. However he/she has a reputation for being a flashy player who shows off. He/She has often been able to make difficult, spectacular plays at crucial times in important games. When the stakes are high and the spotlight is bright, Andre/Andrea is at his best. Andre has also developed a reputation as a moaner who complains when the ball is not passed to him/her. On one infamous occasion, Andre/Andrea, who feels he/she is the team's superstar, got visibly upset with his/her teammate for passing the ball to another player – even though the pass resulted in a goal that won the game. Andre/Andrea also tends to apply little effort and blow easy plays, especially during practice and in games that are relatively unimportant. One of his/her teammates once explained to a reporter, "Andre/Andrea can be a real pain in the neck. He/She is always late to practice, struts around like he's/she's God's gift to SPORT and I don't think I've ever seen him/her cover for another player. But when the game is on the line, we're all happy to have Andre/Andrea on our team."

With the above description in mind, **please indicate the number of players on your current team who resemble Andre/Andrea**:

_____ players out of a total number of _____ players in the squad

Appendix B - Model development for Intragroup Conflict Scale for Sport (ICS-S)

To assess the factor structure of the ICS-S, we employed a Bayesian structural equation modeling (BSEM) approach to confirmatory factor analysis (CFA) (Muthén, & Asparouhov, 2012). Whilst the maximum likelihood approach to CFA views parameters as constants, the BSEM approach treats parameters as variables with means and distributions. The BSEM approach, therefore, allows researchers to specify more realistic and accurate measurement models that do not treat variables as fixed constants. Instead, variables are allowed small cross-loadings, small variances, and correlated residuals between other variables in a specified model (Niven & Markland, 2016 for further details). The first step in this process requires testing model convergence, which is assessed by potential scale reduction (PSR) factor. Model convergence is evident when the PSR value falls between 1.1 and 1.0. Whilst there is not a strict cut off, PSR values > 1.1 suggest that the multiple parallel Markov chain Monte Carlo chains that Bayesian analysis employs have converged to different values leading to difficulty with posterior parameter interpretation. BSEM model fit is assessed by using the posterior predictive p value (PPP). An excellent fitting model is indicated by a value close to .5, with values around .0 indicating poor fit (Gelman et al., 2014). Additional fit indices include examining the symmetry of the 95% confidence intervals for the difference between the observed and replicated χ^2 values. Credibility interval values that are symmetrical and centred closely to zero are also indicative of excellent model fit (Muthén, & Asparouhov, 2012).

It is also recommended that sensitivity analysis is performed on the measured parameters. This sensitivity analysis permits researchers to verify that their prior beliefs are robust (Depaoli & van de Schoot, 2017). Fundamentally, sensitivity analysis assesses how much impact the magnitude of the prior belief has on the posterior distribution of a parameter estimate. Whilst no strict guidelines are currently prescribed, for reasons of transparency, we

include our approach to sensitivity analysis. Using similar to methods used by Niven &

Markland (2016), we used smaller (.005) and larger (.015) prior variances on the cross-

loadings and residuals, we then examined how many parameters deviated ± 10% from the

original estimate.

Study 1

We followed contemporary procedures for Bayesian CFA were followed in line with

previous research (Gucciardi & Zyphur, 2016). Model strategy focused on developing three

models, the first model included no residuals or cross-loadings. The second model

incorporated cross-loadings only. Finally, the third model incorporates cross-loadings, and

correlated residuals between items. The third model (with cross-loadings and correlated

residuals) on the 14-item questionnaire provided adequate convergence and excellent fit, with

a PPP value of around .50 and symmetrical confidence intervals around zero (PPP = .52, CI =

-46.180, 42.89, see Table S1 for all model fit statistics).

However, some items were problematic due to low factor loadings (i.e., < .6), and had

correlated residuals that were high (i.e., items significantly correlating with non-intended

factors beyond the level of the prior). Consequently, we removed items based on a

combination of statistical grounds and theoretical relevance. This practice of item removal

based on theory and data is accepted in measurement development (Biddle et al., 2001;

Markland, 2007) and resulted in the removal of two task conflict, and one process conflict

item. We removed the process conflict item *'How often is there tension in your team caused*

by members not performing?' due to significant correlated residuals with several relationship

conflict items. Therefore, we determined that this item did not adequately reflect process

conflict. We removed the task conflict item *'To what extent are there differences of opinion in*

your team?' as it was thought to be overly vague regarding any task conflict variable as

'opinions' could be relevant any one of the three conflict variables. Finally, we removed the

task conflict item *'How frequently are there conflicts about ideas in your team?'* due to a combination of ambiguity (similar to the other removed item and a low factor loading on the task conflict construct.

Following the item removal process, the 11-item measure (with cross-loadings and correlated residuals) yielded excellent model fit (PPP = .52, CI = -36.18, 34.98). All items loaded on to their intended factors, these were significant and were above .70. Inter-factor correlations were as follows: Task with Process (r = .66 [.46, .79]), Task with Relationship (r = .53 [.30 .70]), and Relationship with Process (r = .80 [.67 .89]).

To provide further confirmation that the three-factor structure best fitted the data, we ran a series of two-factor models (i.e., we ran models with task and relationship conflict, task and process conflict, and process and relationship conflict, with the third conflict variable as a distinct factor, in three separate analyses) which displayed relatively inferior model fit statistics (PPP values ranged between .30-.45). A single factor model displayed excellent model fit (PPP = .53, CI = -36.15, 33.40). However, all item loadings were < .1 and non-significant, thus items did not sufficiently represent a single-factor structure. Thus, we retained our 11-item three factor measure for use in Study 1.

Study 2

We assessed the 11-item ICS-S model fit in a confirmation sample, which yielded similar results to Study 1 with an excellent model fit evident (PPP = .52 CI = -35.88, 33.95). Inter-factor correlations were as follows: Task with Process (r = .33, [.04, .57]), Task with Relationship (r = .28 [.02, .51]) and Relationship with Process (r = .74, [.58 .84]). All items loaded on to their intended factors, these were significant and were above .60.

Again, we compared alternative factor structures with various two-factor models exhibiting lower PPP values than our three-factor structure (values ranged between .35-.45). We also found, similar to Study 1, that a single-factor structure yielded excellent model fit

(PPP = .50, CI = -36.18, 34.98), but again all item loadings on the factor structure were < .1

and non-significant.

Table B1

Model fit Statistics for ICS-S for Study 1 and Study 2

	Model	PPP	Confidence Intervals	
			Lower 2.5%	Higher 2.5%
Study 1	14-item Model 1	.00	174.23	249.51
	14-item Model 2 (cross-loadings)	.00	109.46	193.13
	14-item Model 3 (cross-loadings + residual correlations)	.52	-46.18	42.89
	11-item Model 1	.00	41.67	104.62
	11-item Model 2 (cross-loadings)	.01	7.97	77.79
	11-item Model 3 (cross-loadings + residual correlations)	.52	-.36.18	34.98
Study 2	11-item Model 1	.00	59.88	123.11
	11-item Model 2 (cross-loadings)	.02	3.31	72.59
	11-item Model 3 (cross-loadings + residual correlations)	.52	-32.88	33.95

Appendix C – Model priors and coefficients for conditional indirect effects

Table C1

Priors employed for conditional indirect effects and sensitivity analysis.

Path	Model 1		Model 1a		Model 1b	
	μ	σ²	μ	σ²	μ	σ²
NPI →RC	.35	.03	.35	.01	.70	.12
NPI →TC	.35	.03	.35	.01	.70	.12
NPI →PC	.35	.03	.35	.01	.70	.12
RC→Task Cohesion	-.35	.03	-.35	.01	-.70	.12
TC→Task Cohesion	.00	.03	.00	.01	.00	.12
PC→Task Cohesion	-.35	.03	-.35	.01	-.70	.12
NPI×NGC →RC	-.35	.03	-.35	.01	-.70	.12
NPI×NGC →TC	-.35	.03	-.35	.01	-.70	.12
NPI×NGC →PC	-.35	.03	-.35	.01	-.70	.12

Note μ = mean; σ² = variance; NPI= Narcissistic Personality Inventory; RC = Relationship

conflict; TC =Task conflict; PC = Process conflict NGC = Narcissistic Group Composition

All priors reflect a mean and variance on a normal distribution curve.

Table C2

Bayesian estimates for path coefficients with 95% credibility intervals for Model 1.

Parameter	Study 1		Study 2	
	GI-T	ATG-T	GI-T	ATG-T
NPI →RC	**.40 [.28, .56]**	**.40[.28, .55]**	**.12 [.02, .23]**	**.12 [.02, .23]**
NPI → TC	**.32 [.21, .45]**	**.32[.21 .45]**	.02 [-.07, .10]	.01 [-.07, .10]
NPI →PC	**.43 [.31, .60]**	**.43[.30, .59]**	**.15 [.04, .26]**	**.15 [.04, .26]**
RC → Task cohesion	-.18[-.37, .002]	-.04[-.21, .13]	-.13 [-.36, .09]	-.12 [-.34, .11]
TC → Task cohesion	**.23[.06, .39]**	**.23[.06, .39]**	.17 [-.14, .47]	.16 [-.15, .46]
PC → Task cohesion	**-.32[-.53, -.11]**	**-.29[-.46, -.11]**	**-.50 [-.73, -.26]**	**-.38 [-.62, -.14]**
NGC → RC	.03 [-.16,.22]	-.01[-.17,16]	**.10[.01,.18]**	**.10[.01,.18]**
NGC → TC	-.20[-.41,.004]	-.24-.42,-.06]	**.08[.02,.15]**	**.08[.02,15]**
NGC → PC	-.15[35,.05]	-.10[-.27,.08]	**.12[.03,.21**	**.13[.03,22]**
RC NPI×NGC	.-01[-.06, .04]	.00 [-.04, .04]	**-.15 [-.28, .-.03]**	**-.16 [-.28, -.03]**
TC NPI×NGC	-.02[-.07, .03]	-.01 [-.06, .04]	**-.12 [-.22, -.02]**	**-.12 [-.22, -.02]**
PC NPI×NGC	**-.12 [-.18, -.05]**	**-.10 [-.15, -.04]**	**-.17 [-.30, -.03]**	**-.18 [-.31, -.04]**

Note: RC = Relationship Conflict; TC = Task Conflict; PC = Process conflict; GI-T = Group integration – Task; ATG-T = Attraction to group – Task; NPI = Narcissistic Personality Inventory; NGC = Narcissistic group composition

Estimates in **bold** denote estimates which do not encompass zero

Appendix D - Discriminant validity for study variables in latent profile analysis

We performed CFAs in order to test the discriminant validity of the study variables. Our

strategy followed previous work on latent conflict profiles with auxiliary variables (O'Neill et

al., 2018). We analyzed a number of models which included a one-factor model with all

items loaded onto single factor, and a two-factor model with all RC, TC, and PC items loaded

onto the first factor and NPI on the second factor. We also included a three-factor model

whereby both RC and PC items are combined into a single factor, with TC and NPI items

representing the remaining two factors. We combined RC and PC as they have been noted to

correlate highly with one another in meta-analysis (de Wit et al., 2012), we also noted a

significant and large correlation in the present study ($r = .87$), thus RC and PC may represent

one factor. Finally, we measured a four-factor model with all variables loading onto separate

factors. We hypothesized that the four-factor would offer a superior fit compared to

alternative models as all study variables are hypothesized to be independent of one another.

Results support our hypothesized four-factor model as the best-fitting comparatively to

alternative models (Table S1).

Table D1

Model fit statistics for factor models

Model	χ^2	$\chi^2\ df$	CFI	RMSEA	SRMR	$\chi^2\Delta$	$\chi^2\Delta\ df$
1-factor	2598.00	324	.72	.08	.08	-	-
2-factor	1430.40	323	.87	.06	.05	1167.60*	1
3-factor	1069.00	321	.91	.05	.04	361.40*	2
4-factor	854.38	318	.93	.04	.04	214.62*	3

Note. N = 1107. The 1-factor model had all items loaded onto a single factor; the 2-factor model loaded RC, TC, and PC

items on the first factor and NPI on the second factor; the 3-factor model loaded TC and NPI onto the first two factors and

RC and PC together on the third factor; the 4-factor model loaded RC, TC, PC and NPI onto separate factors. Each model is

compared to the preceding model using chi-square difference tests. *$p< .00$

Appendix E - Post-hoc test on for conflict types across profiles

Table E1

Tukey's post-hoc comparisons for relationship conflict across profiles

Class	Difference estimate	*p*-value
Low TC-Lo-range	0.45	.15
Med TC-Lo-range	1.19	<.001
High TC-Lo-range	2.08	<.001
Dys-Lo-range	3.84	<.001
Med TC-Low TC	0.74	<.001
High TC-Low TC	1.63	<.001
Dys-Low TC	3.40	<.001
High TC- Med TC	0.89	<.001
Dys- Med TC	2.66	<.001
Dys- High TC	1.77	<.001

Note: Dys – Dysfunctional

Table E2

Tukey's post-hoc comparisons for task conflict across profiles

Class	Difference estimate	*p*-value
Low TC-Lo-range	1.42	<.001
Med TC-Lo-range	2.22	<.001
High TC-Lo-range	2.63	<.001
Dys-Lo-range	2.98	<.001
Med TC-Low TC	0.80	<.001
High TC-Low TC	1.21	<.001
Dys-Low TC	1.56	<.001
High TC- Med TC	0.41	.03
Dys- Med TC	0.76	<.01
Dys- High TC	0.35	.52

Note: Dys – Dysfunctional

Table E3

Tukey's post-hoc comparisons for process conflict across profiles

Class	Difference estimate	*p*-value
Low TC-Lo-range	0.66	<.001
Med TC-Lo-range	1.60	<.001
High TC-Lo-range	2.51	<.001
Dys-Lo-range	3.69	<.001
Med TC-Low TC	0.94	<.001
High TC-Low TC	1.85	<.001
Dys-Low TC	3.02	<.001
High TC- Med TC	0.91	<.001
Dys- Med TC	2.08	<.001
Dys- High TC	1.18	<.001

Note: Dys – Dysfunctional