TEAMS

A SOCIAL IDENTITY APPROACH

Thesis submitted by William Edward Blake Thomas to the University of

Sussex for qualification of Doctor of Philosophy in Psychology.

September 2016

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Signature:……………………………………………………………..

University of Sussex

Doctor of Philosophy in Psychology

Teams

A Social Identity Approach

SUMMARY

Through a series of three papers, this thesis explores identity processes in 52 teams, ranging from amateur volleyball teams in Italy through to elite-level Olympic, professional and military teams. Paper 1 takes a multilevel approach to social identification and team performance, demonstrating that when identification occurs across the whole team (i.e., team level identification) this predicts an increase in both perceived and actual team performance. Paper 2 uses motivated identity construction theory (MICT, Vignoles, 2011) as an integrative framework to explore *why* people identify with teams. In doing so, this paper helps resolve confusions about the relationship between "personal" and "group level" identity motives that have troubled social identity researchers for almost four decades. Paper 3 extends this theorising by investigating these identity processes in a unique sample of elite-level teams. A longitudinal multilevel approach is used throughout these three papers, enabling us to explore team level effects as well as making causal inferences regarding the direction of relationships between identity motives, team identification and team performance. An example of how this series of papers led to a team development tool implemented within Great Britain Olympic men's and women's hockey teams is discussed.

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

ACKNOWLEDGEMENTS

INTRODUCTION

Upon starting my doctoral studies, I was fortunate to be given the academic freedom to explore how the social identity approach – now considered by many as *the* main theoretical framework for understanding group behaviour (e.g., Haslam, 2014; Reicher, Spears, & Haslam, 2010) – can be theoretically developed and practically implemented within a team context. As I enthusiastically delved into the depths of my reading, what became apparent is that answers to two fundamental questions, crucial for a social identity approach to teams, remained unclear. Firstly, *how is social identification related to team performance*? Secondly, *what motivates individuals to identify with a team*?

Exploring these questions acted as a catalyst to study much deeper concepts that speak to the very core of what social identity is, how it was originally framed, and how it occurs in the first place. An important aspect of this deeper study was to investigate identity processes as *multilevel constructs*. Using social identification itself as an example, identification can be seen as a self-representation of the group (i.e., individual level social identification) *as well as* an emergent property of the whole group (i.e., team level identity). Having a clearer understanding of this multilevel nature of identity processes has proved crucial in answering the above questions and helped to clarify debates that have plagued social identity researchers for almost four decades (see Tajfel, 1979; Taylor & Brown, 1979).

With this in mind, the present commentary starts by describing the social identity approach, its theoretical origins and recent developments in the theory. Here, I also present how a multilevel interpretation of social identification may impact on team performance outcomes. In the following section, I outline motivated identity construction theory (Vignoles, 2011), which will be used as a theoretical framework to

explore identity motives in group situations. Again, I pay particular attention to how identity motives can operate from different motivational 'levels'. It should be noted that these sections are not intended to be comprehensive literature reviews, but rather critical appraisals of the key theoretical concepts that will provide a road map from which the reader can approach the following three papers.

Social Identity Approach

The social identity approach is a combination of social identity theory (Tajfel & Turner, 1979, 1986) and self-categorisation theory (Turner, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Social identity theory puts forward the idea that, as well as having a personal identity, individuals also have different *social* identities. Seen in this way, individuals derive part of their self-concept from their knowledge and attachment to group membership. Tajfel and Turner (1979) posited that individuals are motivated to identify with groups in order to derive *"positive in-group distinctiveness"* (p. 44). Since then, there have been numerous motivational extensions to the theory at different 'levels' – something we will come back to in more detail later. For now, we will focus on those aspects of social identity theory that are relevant to the relationship between the individual and the group. Thus, although social identity theory was originally an *inter*group theory that stemmed from Tajfel's experience as a Jew in World War II, here we will concentrate on *intra*group phenomena.

Self-categorisation theory extends social identity theory and focuses on the role of group formation and action. It looks at the process that leads individuals to categorise themselves as part of a group and how it affects their behaviour and perceptions (Brown, 2000). It seeks to explain the distinction between social identity and other aspects of the self-concept. In particular, how the self is organised and what makes any one part of this psychological process active in a given context. In doing so, it broadens the scope of

social identity research from intergroup relations to group process, and even social behaviour in general.

One important aspect of social identity is that it should be considered *both* individual and social. While a social identity can form an important part of who I am – "I am a man" or "I am a Tottenham Hotspur supporter" – these identities cannot be reduced solely to my own individuality. Instead, these identities represent a myriad of historical, cultural and political meanings (see Brown, 2016; Reicher et al., 2010). Seen in this way, social identities reflect much broader notions that enable groups to act in coherent ways with reference to shared group beliefs. This is especially relevant in a team context, as sharing of information, team climate and effects of shared leadership have been shown to influence identification beyond the individual (see Fransen et al., 2015; Kerr, Aronoff, & Messé, 2000; Kerr & Hertel, 2011; Postmes, Haslam, & Swaab, 2005; van Dick, Grojean, Christ, & Wieseke, 2006). Thus social identification is not simply an intrasychic process that occurs in each separate individual, but is also an emergent property of the group as a whole. In order to fully explore this individual-group dichotomy, and its potential theoretical and practical implications, a multilevel approach to social identity processes is required.

Multilevel Approach to Social Identification

At a conceptual level, the notion of a "*social* identity" implies that identification is not purely an individual-level phenomenon. Indeed, social identity theory originally posited that identification was a group process that treated individuals as group members, rather than individuals as individuals (Tajfel & Turner, 1979). Yet, later conceptualisations have typically treated social identification as an individual difference variable that occurs between people (e.g., Ashmore et al., 2004). Although these conceptualisations often acknowledge that social identification is derived from group

processes (Brown, 2000), it has nevertheless led some authors to criticise the social

identity approach of reducing complex group phenomena to an individual level (see Farr,

1996). This reductionist accusation was very same flaw that Tajfel pointed out in other

group process theories (Tajfel, 1974). Indeed, in an exchange between Tajfel (1979) and

Taylor and Brown (1979), Tajfel explicitly stated that in order to understand social

behaviour in groups, we must look to understand the way groups are constructed and the

psychological effects of these constructs. Thus, despite later conceptualisations in the

theory, social identity was originally positioned to explain both individual *and* group

level effects.

Many statisticians have argued that group processes in general necessitate a

multilevel approach (e.g., Hoffman, 2014; Hox, 2010). This is because individuals are

influenced by group factors such size or status, and groups are formed of individuals.

Seen in this way, within-group (individual level) and between-group (team level) factors

should be considered *together* when relating to group processes (see also Arrow,

McGrath, & Berdahl, 2000). When running a multilevel analysis, two separate concepts

are formulated. Although both of these concepts are derived from individual responses,

multilevel analysis enables one to distinguish between effects attributed to individual

and those influenced by the group. The individual level component should be

interpreted as intraindividual processes that are independent of group level effects.

Equally, the group level component should be interpreted as a macro level group

process that is independent of individual level effects. Put simply, the individual level

component describes the individual, and the group level component describes the group.

In terms of behaviour (or indeed performance), the individual level component

represents how much the individual displays that behaviour. Conversely, the group level

component represents the degree to which group members display the behaviour as a

whole.

Imagine examining passing performance data from Premier League players and teams. In such a sample, the individual passing performance of a player is not independent of the team they play for. The style of the team (e.g., possesssion based versus 'long ball'), effects of shared leadership and general performance environment means that players in the same team tend to be more similar to each other than players in general. As a result, the average correlation (termed intraclass correlation) of passing performance between players from the same team will be higher than passing performance of players in general. Given that standard statistical tests rely on the assumption that observations are independent, analysing team data solely at an individual level could potentially lead to an incorrect 'significant' effect (see Hox, 2010). Despite this, there has been a tendency to take either an individual *or* a team level analytic strategy when analysing team data in general (see Bliese, 2000).

This is also true within the social identification literature, whereby identification has typically been treated at an indvidual level (see Ashmore et al., 2004). Although a few researchers have also investigated group level identity processes (e.g., Solansky, 2011), rarely have both individual and group level identity processes been studied together (although see Jans, Leach, Garcia, & Postmes, 2015 and Ozeki, 2015, discussed in more detail later). Without explicit attention to the multilevel nature of the team processes, the degree to which identification is based on the team, or indeed on the indeosynchatic representation of the team, cannot be distinguised. With this mind, the present thesis argues that a multilevel approach is both conceptually *and* statistically necessary to fully understand a social identity approach to teams.

In order to take a multilevel approach to social identity processes, we must first be clear about some possible confusions within the existing literature. Haslam and

colleagues (Haslam, 2012; Haslam, 2001; Haslam & Reicher, 2012) refer to a "shared social identity" that is described as a sense of identification that is shared and developed with other group members. Although this could be perceived at the group level, they imply that shared social identity should be considered as an internalised sense of "us-ness" (Haslam & Reicher, 2012, p. 174). Accordingly "shared social identity" should not be considered as a feature of the group, but instead operating at the individual level. Equally, Postmes, Baray, Haslam, Morton, and Swaab (2006) proposed an interactive model of social identity formation that referred to individual and group level components. This model sought to explain how the individual constructed their identity from the conflict between identity as a member of a social group and an identity independent of a group. Although a 'group level' term was used to describe ones identity to a social group, this was in fact still at an individual level. Consequently, although Postmes and colleagues (see also Leach et al., 2008; Postmes & Jetten, 2006), refer to a 'group level' identity, they only deal with intraindividual processes at the individual level. In contrast, by using multilevel analysis, we are able to separate social identification into two theoretically and statistically different constructs.

Individual Level Social Identification and Team Level Identity.

Identification at the individual level – or what we will term *individual level social identification (ILI)* – refers to variance in identification that can be attributed to individual differences. Treated in this way, ILI is independent of the team and of other members in the team and instead reflects an idiosyncratic representation of the team that is anchored in personal self-perceptions (van Veelen, Hansen, & Otten, 2014; van Veelen, Otten, & Hansen, 2011). Thus, ILI is equivalent to the current conceptualisations that treat social identification as an individual difference variable (e.g., Ashmore et al., 2004).

Identification at the team level – or what we will term *team level identity (TLI)* – refers to the variance in social identification that can be attributed to differences between teams. TLI (also termed "group level group identity", see Ozeki, 2015) represents the emergent identity of the group or team, rather than the intrapsychic processes of each separate individual. Therefore TLI is the team or group level component of social identification and is a statistically different variable from ILI.

In recent years, a few researchers are have begun to take a multilevel approach to social identification. Ozeki and colleagues (Ozeki, 2015; Ozeki & Yoshida, 2009) propose that researchers should refer to typical group identity as *individual level group identity* (equivilant to ILI) and to clearly distinguish it from *group level group identity* (equivilant to TLI). Ozeki and Yoshida (2009) show that TLI interacts with ILI to construct the perception of deviation in groups. In doing so, Ozeki and Yoshida (2009) demonstrate that ILI and TLI are separate constructs with different functions. Ozeki (2015) extended this research, showing that TLI had a positive influence on interaction, interdependence and emotional bonds between members. Ozeki concluded that TLI (or 'group level group identity' as she termed it) was an essential element necessary for a collection of individuals to be considered a group.

In a series of three multilevel studies, Jans, Leach, Garcia and Postmes (2015) explored the development of group influence on group identification using longitudinal designs with newly formed groups. The results of the three studies confirmed that identification occurs at both an individual and group level. Jans and colleagues also find that the influence of the group on identification increased as a function of interaction with group members. For instance, in online groups, Jans et al. (2015, study 3) found that the idiosynchratic representation of the group was the sole source of identification (i.e. ILI). This supports research by van Veelen and colleagues, indicating that an

individual will use themselves as an anchor for social identification when a group is unknown (van Veelen et al., 2014, 2011). Thus, identification becomes an increasingly group level property (i.e.., TLI) the more group members interact with each other.

The results of Jans et al. (2015) and Ozeki (2015) are consistent with self-categorization theory (Turner et al., 1987), whereby group formation is based on the emergence of a social category in which people belong. People first categorize themselves as a group member, and then develop that social identity within the group. This developing of an identity reaffirms group level processes such as cohesiveness and cooperation (Turner & Reynolds, 2012). Therefore self-categorization acts as the starting point for the development of ILI. From here, the effects of shared group influence and shared cognition of members within the group lead to the subsequent development of a group level component of identification that is essential for a collection of individuals to be considered a group (or team, i.e., TLI). Building on Jans et al. (2015) and Ozeki (2015) the present thesis explores how ILI and TLI influences a behavioural outcome – namely team performance.

Team Level Identity and Team Performance.

Given that team climate, sharing of social information and effects of shared leadership influence identification beyond the individual (e.g., Fransen et al., 2015), solely focusing on ILI is unlikely to give a complete understanding of team performance. Yet, within the social identity literature, identification and performance have typically been measured at an individual level (Riketta, 2005). As clarified above, this may be misleading, as ignoring the multilevel structure of group processes is likely to lead to an overestimation of individual effects.

Conceptually, when members strongly identify with a team, they take responsibility for the outcome of *team* goals and tasks (Ellemers, De Gilder, & Haslam,

2004). Thus, ILI actually predicts a focus on *team level* performance outcomes. For example, a strongly identified rugby team member is more likely to pass a ball to a team mate if they have a greater chance of scoring a try. In this situation, the measure of *team* performance would improve (i.e., the team as a whole is more likely to score tries) but his or her individual performance might actually decrease (i.e., score fewer individual tries). Since the tendency for identification to promote an increase in team performance, the team level component of identification (i.e., TLI) should predict team performance outcomes. Equally, *team level processes* that transpire as a result of a strong TLI are also likely to influence team performance. For instance, the All Blacks (New Zealand national rugby union team) have an identity that is partly based on the philosophy of "pass the ball". This identity influences how they train (passing drills), who they select for the team (players that are able to pass in all positions) and ultimately their performance on the pitch (see Kerr, 2013). Thus, TLI influences team level processes that may impact on team performance outcomes, further suggesting that examination of identification solely at an individual level may lead to inaccurate or misleading findings.

There are less than a handful of studies that have investigated how TLI is related to performance outcomes. Solansky (2011) ran two longitudinal studies with 42 teams, finding that teams with a high TLI performed better than those with low TLI. Yet, despite the clustered longitudinal nature of the data structure, Solansky only reported a correlation between TLI and performance, making it impossible to draw causal inferences between ILI, TLI and performance outcomes. A more recent multilevel study by Dietz et al. (2015) investigated 'performance prove goal orientation', and the potential moderating role of TLI (or as they term, 'shared team identification'). They describe 'performance prove goal orientation' as how motivated people are to outperform *others*. Dietz and colleagues find that TLI moderates who 'others' are

defined as, such that it directs performance prove goal orientation at either an individual or team level. They show that salespeople with high performance prove goal orientation, are more motivated to achieve high team performance with a higher TLI. Yet, this research again failed to investigate ILI and was only cross-sectional, making it difficult to draw definitive conclusions regarding the influence of ILI and TLI on performance outcomes.

To our knowledge, the only other research investigating group level identity and performance was conducted by van Dick et al. (2006, Study 2). Their longitudinal research found that organisational identity (at the group level) marginally predicted organisational citizenship behaviour (e.g., helping colleagues, making innovative suggestions). However, organisational identification has been shown to be both theoretically and practically different concept to team identification. For example van Knippenberg and van Schie (2000) demonstrate that work-group (i.e., team identification) is stronger and more predictive of behaviour than organisational identification. Thus, van Dick and colleagues finding may actually underplay the role of group level identity in predicting performance. Nevertheless, they also failed to investigate or control for identification at the individual level. As we argued in the previous section, studying *either* ILI or TLI in isolation leaves researchers unable to distinguish between team and individual level effects (Hox, 2010). Thus, while theory and tentative research findings hint that TLI may be strongly related to team performance outcomes, a robust empirical evaluation of this is lacking.

Limitations of a Multilevel Approach

For a number of practical reasons multilevel analyses is not always easy. Having enough teams and participants in order to run such analyses requires large data sets and large number of teams. This, coupled with the need for longitudinal data in order to

make predictive inferences, makes data collection particularly difficult. There are also some statistical complications in observing group level effects when groups have few members (typically less than 5, see Kenny, Kashy, & Bolger, 1998). Even when these conditions are met, team or group level effects are generally underpowered. This is because there will always be more individuals than groups, meaning effects at the individual level are more likely to achieve significance (i.e., a much larger effect size is needed for a group level effect to achieve significance).

Although not relevant to a team context, there are also further problems when trying to measure group level effects for larger social categories such as organisational identity. Not only are the above problems exemplified, but other issues such as subgroup identities (e.g., different teams within an organisation), add extra layers of complexity that needs to be considered. Moreover, a multilevel approach can only be taken when group boundaries are clear and distinct. This is due to a methodological limitation in actually running a multilevel model, whereby each group must be specifically identified. When group boundaries are abstract or fuzzy, a multilevel model cannot be applied (Hox, 2010). Taken together, these factors may explain the comparative lack of multilevel research in this area. Nevertheless, in order to have a more complete understanding of social identity processes and how they relate to team performance, a multilevel approach is required.

Summary

Although social identification is typically treated as a characteristic that varies across people, this does not mean that it is solely an individual level concept. Indeed, both the original theorists (Tajfel & Turner, 1979) and recent multilevel research (Jans et al., 2015; Ozeki, 2015) indicate that social identification is more than an idiosyncratic representation of the group. With many statisticians also arguing that group processes in

general necessitate a multilevel approach (e.g., Hox, 2010), treating identification at a single level appears to be both conceptually and statistically problematic. Instead, team identification should be viewed as a multilevel construct that occurs both within (*individual level social identity – ILI*) and between teams (*team level identity –TLI*).

When concerning performance, inattention to the team level component of identity may inadvertently reinforce the belief that identification at the individual level predicts performance. Equally, focusing solely at a group level ignores potentially important variance between individuals and leaves us questioning how individual levels of identification may influence results. Thus, it appears crucial to examine how social identification is related to performance using a multilevel approach. With this in mind, the first paper in this thesis will explore how TLI and ILI relate to team performance outcomes. This will not only further our understanding of social identity as a multilevel construct, but also shed light on how social identity processes and performance relate. Yet, in order to increase social identification, and harness its potential benefits, we must also understand *why* individuals identify with a team or group. What are the motives underlying team identification?

Team Identity Motives

The understanding of identity motives in group situations has been a fundamental question ever since Tajfel and Turner's (1979) original proposition that group members are driven to maximise their "positive in-group distinctiveness" (p.44). One particular discussion within this literature has been the discrepancy between "personal" and "group" motives. In referring to this point, Hogg and Abrams (1993), ask *"Are group motivational constructs qualitatively different from individual motivational constructs?"* (p. ix).

Despite this question being posed over two decades ago, numerous motivational

extensions at various motivational 'levels' have made current motivational landscape convoluted and complex, with no clear answer to Hogg and Abrams initial question. Building on the above theorising, a multilevel approach to identity motives may also be required to answer this question. With this mind, I will give a brief overview of the current motivational extensions of social identity theory, introduce motivated identity construction theory (Vignoles, 2011) as an overarching identity framework, and discuss the potential for motives to operate at different motivational 'levels'.

Motivational Extensions of Social Identity Theory

Tajfel and Turner's (1979) "positive in-group distinctiveness" became a key motivational principle for the social identity approach and was later understood to represent motives for "esteem" and "distinctiveness" (see Mummendey, 1995). However, further conceptualisation departed from the "distinctiveness" aspect by focusing solely on the "positive" aspect at an individual level. Thus, Abrams and Hogg (1988) advocated the "self-esteem hypotheses" that suggested individuals identify with a group because of the personal need to feel good and positive about themselves.

Later theorising and research further extended the list of motives. Brewer's (1991) 'Optimal Distinctiveness Theory' (ODT) posits that individuals are motivated by two opposing needs for inclusion (or *belonging*) and differentiation (or *distinctiveness*). Hogg and colleagues (Hogg, 2000; Hogg, 2007; Hogg & Adelman, 2013), argue that social identity is driven by the individuals' need to reduce uncertainty, which can be ameliorated by creating certainty or *meaning*. Other research has found evidence that people are motivated to identify with a group in order to gain some sense of self *continuity* (Smeekes & Verkuyten, 2013). Research from self-determination theory (Deci & Ryan, 1985) has also found that satisfaction of personal needs for autonomy and competence can impact on group identification (Amiot & Aubin, 2013; Amiot &

Sansfaçon, 2011; Legault & Amiot, 2014).

Motivated Identity Construction Theory

Motivated Identity Construction Theory (MICT, Vignoles, 2011) is a general

theory of identity enactment, construction and defence that has been shown to be well

suited to the study of group identification as it incorporates the above six motives into

one holistic framework (Easterbrook & Vignoles, 2012; Vignoles, Regalia, Manzi,

Golledge, & Scabini, 2006, Study 2; Vignoles, 2011). MICT proposes that people are

motivated to identify with a group in order to feel positively about themselves (*self-*

esteem motive); to feel that they are distinguished from other people (*distinctiveness*

motive); to feel that they are included and accepted (*belonging motive*); to feel that their

lives are meaningful (*meaning motive*); to feel that their past, present and future are

connected (*continuity motive*); and to feel that they are competent and capable of

influencing their environments (*efficacy motive*). Research investigating MICT with

groups has primarily focused on *personal identity motives*, assuming that individuals

identify with a group in order to satisfy their own psychological needs. However, as

alluded to earlier, identity motives may be instantiated at more than one level.

Motivational 'Levels' – Personal, Social and Collective Identity Motives

Despite there being a broad and diverse list of identity motives, researchers have

been much less clear about the level at which these motives operate. The research

described so far has largely been at the individual level – or what we have termed

personal identity motives. Yet, as described previously, the focus on individual level

identity processes led some authors to accuse social identity theory of a reductionist

interpretation of group level processes (e.g., Farr, 1990). Indeed Tajfel himself argued

that in order to understand how social identity is constructed, we must move beyond

individual needs and desires (Tajfel, 1979).

Notably, various researchers have reaffirmed the relevance of "group" motives for social identity processes. For example, Spears and colleagues have referred to "group distinctiveness" and "group meaning" to explain why individuals identify with a group (Spears, Jetten, & Scheepers, 2002; Spears, Jetten, Scheepers, & Cihangir, 2009). Using optimal distinctiveness as a framework, Pickett, Silver and Brewer (2002) also demonstrate that identification may change not only as it satisfies the individuals need for belonging and distinctiveness, but also as features of the group or intergroup context change. Others have found that individual perceptions of group potency and group continuity are also associated with group identification (Lee, Farh, & Chen, 2011; Smeekes & Verkuyten, 2014).

Accordingly, the extent to which an *individual perceives the group* as having a satisfactory identity – or what we will term *social identity motives* – may also influence their identification with that group. However, although some authors have referred to social identity motives as "group motives", social identity motives are, in actuality, the *individual's perception of the group*. In other words, they are measured at the individual *not* the group level. Thus, although social identity motives are conceptually very different from personal identity motives, they should not be considered to represent group level motives as they still pass through individual awareness.

Nevertheless, as with TLI described in the above section, a group is not solely based on the idiosyncratic representation of the group, but also influenced by group level processes. This suggests that it could be entirely possible that motives also operate at the level of the group (or team). For example, a group as a whole cannot be considered distinctive solely on the basis on one member's perception of group distinctiveness. However, if on average, group members perceive the group to be distinctive then one can more confidently conclude that the group is indeed distinctive.

In other words, the identity processes of each group member may influence each other leading to an emergent identity process that is greater (or less) than the sum of its parts. We will term this type of identity motive as *collective identity motives*.

Different Motives for Different Teams?

An important feature of MICT is that different motives are important for different identity processes. Following (Reicher, 2000), Vignoles (2011) makes the distinction between identity definition and identity enactment. Identity definition refers to the cognitive process of defining oneself, whereas identity enactment refers to acting out behaviourally certain aspects of one's identity. Using a longitudinal design, Easterbrook and Vignoles (2012) demonstrated that satisfaction of the *personal* identity motives involved in identity enactment (self-esteem, belonging and efficacy) predicted within-person changes in identification with interpersonal network groups (flatmates). Conversely, satisfaction of personal identity motives involved in identity definition (meaning, self-esteem, and distinctiveness) predicted within-person changes in identification with a more abstract social category (halls of residence). In other words, different personal identity motives may be involved when people identify with a group, which is dependent on the properties of that group and the context in which it operates (see also Capozza, Brown, Aharpour, & Falvo, 2006; Deaux & Martin, 2003).

As highlighted by Easterbrook and Vignoles (2012), broadly speaking there has been a distinction within the group literature between groups as social categories (mainly defined upon shared characteristics) and dynamic entities or interpersonal network groups (defined on the social interactions and common bonds of group members; Deaux & Martin, 2003; Prentice, Miller, & Lightdale, 1994). While Easterbrook and Vignoles's research demonstrates that different motives are thought to be involved with social categories or interpersonal network groups, teams do not neatly

fit either of these definitions. Instead teams appear to have properties of both social categories and interpersonal network groups. For example, team members form strong bonds with one another and interact on a regular basis (interpersonal network groups), as well as forming distinct categories that are different from other teams (social categories). Thus, following Easterbrook and Vignoles, *personal* identity motives involved in both enactment and definition may predict team identification.

Motivational involvement for different groups also hints at the possibility that different motives may predict identification with different types of teams. For instance, the underlying motivational mechanisms behind the identification of an elite Olympic level team may be different from those occurring in amateur or university-level teams. Indeed, one may expect that, given the performance culture of elite-level sport, motives such as social identity efficacy may be more involved in elite team identification (rather than amateur team identification). Thus, while one would expect many similarities in the motivational involvement of teams in a different context, it is also quite conceivable that different motives are involved in identification with different types of teams.

Summary

The current motivational literature is rich and diverse. Yet one could argue that it is also somewhat convoluted and fragmented. In particular, confusions remain about "personal" or "group level" motives that have plagued social identity researchers for almost four decades (see debate between Taylor & Brown, 1979 and Tajfel, 1979). Moreover, although both personal and social identity motives have been studied, they have rarely been done so together. Too often researchers have studied a singular motive at one motivational level, making it difficult to discount the impact of other motives or indeed motivational levels. There has also been no research investigating the potential for motives to operate at the group level (i.e., collective identity motives). The

combination of several different motivational extensions, and the confusion between two very different forms of "groupiness", has left the existing motivational landscape in a precarious position. Indeed the current literature seems to be someway off being able to answer Abrams and Hogg's (1988) initial question on whether group motivational constructs are qualitatively different from individual motivational constructs.

Having a clearer understanding of identity motives in team situations not only helps to clarify important theoretical questions, but also gives us a greater theoretical toolkit necessary to increase team identification. Given that an increase in team identification has been linked to performance, resilience and learning ability, having a more effective lever to foster social identification has potentially important implications (Haslam, Jetten, O'Brien, & Jacobs, 2004; Morgan, Fletcher, & Sarkar, 2013, 2015; Rees et al., 2013; Van Der Vegt & Bunderson, 2005). With this in mind, Paper 2 will investigate which of the six motives proposed by MICT (self-esteem, distinctiveness, meaning, belonging, continuity and efficacy) and operating at which motivational instantiation (personal, social or collective identity) best predicts identification in amateur sports teams. Paper 3 will support Paper 2 by using a similar methodological design but with elite level Olympic, military and professional teams. In doing so, it is able to offer broader conclusions about the differences in motivational involvement with different types of teams.

Research Overview

In the above review, I have described why social identity should be considered a multilevel construct and suggested that this could have important implications for understanding team performance. I have also argued that the current landscape for identity motives in group situations is somewhat fragmented and in need of an integrative approach that considers multiple motives from multiple motivational

instantiations. In order to investigate these team identity processes, two longitudinal studies were run across three different countries involving 52 teams and 16 different sports. Data from these two studies constitute the three papers within this thesis. Papers 1 and 2 are based on University of Sussex sports teams and amateur sports teams in Italy, which were collected in collaboration with researchers in Milan. This sample used a four-wave clustered longitudinal design with data collection taking place over a six month period. Paper 3 used a smaller but interesting sample of elite teams ranging from Great Britain Olympic hockey and synchronised swimming teams, through to the Royal Air Force Parachute display team and a Danish championship winning volleyball team. This sample used a three-wave clustered longitudinal design with data collection taking place over a four month period.

Paper 1 investigates how social identification and team performance are related. Our clustered longitudinal design enabled us to explore *both* individual level social identification (ILI) and team level identity (TLI). We asked participants how they perceived both their individual and team performance, as well as the score of their last match. By standardising these team scores across 14 different sports, we were able to measure actual team performance. Thus Paper 1 explores how TLI is related to perceived and actual team performance, whilst controlling for the effect of ILI and perceived individual performance. As expected, multilevel cross-lagged models revealed that TLI predicted both perceived and actual team performance over and above any aggregated effect of ILI on performance. These results suggest that TLI is indeed distinct from ILI and has important behavioural implications.

Paper 2 seeks to resolve confusions about the relationship between *personal identity motives* and two very different forms of 'group' motives – *social identity motives* and *collective identity motives*. By using MICT as a theoretical framework, we

also explore how each of the MICT motives can be instantiated at each of these motivational levels. Multilevel change modelling investigated the unique effect of each motive over and above the effects of all other motives. Multilevel cross-lagged regression models revealed that identity motives appear to have a bidirectional relationship with team identification. Thus, Paper 2 extends MICT to include social and collective identity motives and further demonstrates the importance of identity motives for team identification. In doing so, this paper is the most comprehensive evaluation of identity motives in group situations to date and serves as a model (in terms of measurement, method and analysis strategy) for how identity motives and identification can be studied at different levels simultaneously.

Paper 3 investigates how personal and social identity motives are related to elite level sport teams. Having a clearer understanding of these two different motivational pathways supports Paper 2 and furthers our knowledge of identity processes in team situations. Due to only having eight elite level teams, we were unable to explore collective identity motives. Nevertheless, this paper offers a novel insight into elite level sport that is not often investigated, and is able to make more definitive conclusions about the generality of identity motives to different types of teams. Taken together, Papers 2 and 3 give us a greater theoretical toolkit necessary to harness the potential benefits of an increase in team identification – something we will come back to in more detail in the discussion section.

PAPER 1: Team Level Identity Predicts Perceived and Actual Team Performance:

A Longitudinal Multilevel Analyses with Sports Teams.

William E. Thomas, Rupert Brown, Matthew J. Easterbrook, Vivian L. Vignoles

University of Sussex, UK

Claudia Manzi, Chiara D'Angelo

Catholic University of the Sacred Heart

Jeremy J. Holt

Centre for Team Excellence

Reference:

Thomas, W. E., Brown, R. J., Easterbrook, M., Vignoles, V. L., D'Angelo, C., Manzi, C., & Holt, J. (2016a). Team level identity predicts perceived and actual team performance: A longitudinal multilevel analyses with real teams. Manuscript submitted for publication, University of Sussex.

Abstract

Social identification and team performance literature typically focuses on the relationship between individual differences in identification and individual-level performance. By using a longitudinal multilevel approach, involving 369 members of 45 sports teams across England and Italy, we examine how team-level identity (TLI) and individual-level social identification (ILI) predict team and individual performance outcomes. As hypothesised, TLI predicted subsequent levels of both perceived and actual team performance in cross-lag analyses. Conversely, ILI did *not* predict subsequent levels of perceived individual performance. Taken together, these findings both support recent calls for social identity to be considered a multilevel construct and highlight the influence of (shared) social identification on group-level processes and outcomes, over and above its individual-level effects.

Introduction

Teams and groups form the foundations of human society. From the work-place to space exploration, teams are interwoven within our social organisation and are at the forefront of many human accomplishments. Given this, understanding what drives high *team* performance is crucial to a multitude of societal, sporting and organisational functions. Yet, it is notable that society and psychological research has a strong individual-centric perspective when attempting to understand team performance (see Baumeister, Ainsworth, & Vohs, 2015; Brown, 2016; Kozlowski & Ilgen, 2006; Nielsen, Hrivnak, & Shaw, 2009).

In the social identity literature, identification has typically been treated at the individual level, especially in relation to performance (Riketta & Dick, 2005). Yet, given that sharing of information, team climate, and effects of shared leadership have been shown to influence identification beyond the individual, studying identification solely from an individual-centric perspective is unlikely to give a complete understanding of team performance (see Fransen et al., 2015; Kerr, Aronoff, & Messé, 2000; Kerr & Hertel, 2011; Postmes, Haslam, & Swaab, 2005; van Dick, Grojean, Christ, & Wieseke, 2006). With this in mind, the present paper treats social identification as a *multilevel* construct and explores the relationship between *individual-level social identification* (ILI, variance in identification that can be attributed to individual differences), *team-level identity* (TLI, variance in identification that can be attributed to differences between teams) and performance outcomes.

Multilevel Nature of Social Identification

Current conceptualisations of social identification typically state that identification occurs when an *individual* strives to attach him or herself to a social group (i.e. ILI, see Haslam, 2014; Hogg, van Knippenberg, & Rast, 2012). Although this

conceptualisation assumes that ILI is, at least to some extent, derived from group level processes, it essentially treats social identification as an individual difference variable rather than a property of the group concerned (e.g., Ashmore, Deaux, & McLaughlin-Volpe, 2004). Yet, as Tajfel (1979) argued, reducing social identification to an individual level is to ignore some of the most important aspects of human functioning. Despite this original group-orientated spirit, the subsequent operationalisation of social identity as an individual-level construct has even led some to accuse the social identity perspective of the exact same flaw that it points out in others – namely, reducing complex group phenomena to an individual level of analysis (Farr, 1996).

In recent years, research has begun to resolve this individual-group dichotomy by treating social identity as a multilevel construct (Jans, Leach, Garcia, & Postmes, 2015; Ozeki, 2015). TLI (also referred to as "group-level group identity", Ozeki, 2015) refers to the variance in social identification that can be attributed to the team level. Treated in this way, TLI represents the emergent identity of the group or team, rather than the intrapsychic processes of each separate individual (i.e. ILI) (see Khan et al., 2014). Ozeki (2015) found that TLI was an essential element in group formation, and had a positive effect on interactions, emotional bonds and interdependence among group members. Recent longitudinal multilevel analyses confirmed that identification is more than an individual difference and is, at least partly, based on group-level processes (Jans et al., 2015; Thomas et al., 2016b).

Notably, Jans et al. (2015) also found that, for face-to-face groups, the influence of the group on identification increases as a function of interaction between group members (see also van Veelen, Hansen, & Otten, 2014; van Veelen, Otten, & Hansen, 2011). This development of TLI over time may occur through two separate but related processes – group "consensualization" and/or group "polarization". Group

consensualization entails that, as members interact, they become increasingly similar in their levels of identification (see Haslam, Turner, Oakes, McGarty, & Reynolds, 1997). On the other hand, group *polarization* entails that groups, as a whole, become increasingly different from one another in their levels of identification (see Turner, 1991). Jans and colleagues found some support for group polarization and consensualization in levels of identification, but their results were inconsistent across different kinds of group studied. Research by Ozeki (2015) and Jans et al. (2015) also exclusively focused on artificial groups or study groups at University, so there is a need to explore other types of groups that might be expected to foster a stronger sense of identification. Overall then, both the original social identity theorists (Tajfel & Turner, 1979), and recent multilevel research (Jans et al., 2015; Ozeki, 2015; Thomas et al., 2016b), suggest that social identification is more than an idiosyncratic representation of the group but instead occurs at *both* an individual (ILI) and team level (TLI).

TLI and Team Performance

Many potential influences on identification, such as team climate, team leadership and team prestige, are typically shared influences that occur *for the whole team* (Fransen et al., 2015; Kerr, Aronoff, & Messé, 2000; Postmes, Haslam, & Swaab, 2005; van Dick et al., 2006). Moreover, when studying group phenomena, ignoring a multilevel structure may lead to an overestimation of individual level effects (e.g., Hox, 2010). Thus ILI approaches to team performance are unlikely to provide a complete or accurate prediction of performance. Despite this, the vast majority of social identity research has only investigated how ILI is associated with performance outcomes, giving little recognition to the role of group or team level processes (see Riketta & Dick, 2000, for meta-analysis).

A strong identity at the team level will be likely to influence team-level

processes that subsequently impact on team performance. For example, Barcelona

Football Club is known for having a strong team identity, characterized by their "tiki-

taka" style of soccer (involving short passing and movement of players), which is

derived from a shared history, coaching and leadership of the team (Gyarmati, Kwak, &

Rodriguez, 2014). The development of this TLI may influence factors such as

coordination between players and increased collective efficacy, which in turn may affect

team performance (see Fransen et al., 2015). Notably, this identity may also influence

team-level processes beyond in-game situations. This can be seen in Barcelona's team

training and coaching (e.g., short passing and movement drills), youth development

(focus on technical and passing abilities) and even player recruitment (players who are

comfortable in possession). Thus their team identity influences various team-level

processes that may impact on the team's performance well before players step onto the

pitch. Perhaps this is an extreme example of a team with a strong identity, but the

influence of TLI on team-level processes may also be reflected in amateur sport. As

members strive towards a common goal (e.g., a promotion), an amateur team may

develop a strong TLI that creates an improved performance environment – leading to

effects such as increased effort and participation in team training, as well as better

coordination among team members – that ultimately lead to an increase in team

performance outcomes. Seen in this way, a strong TLI may increase a team's

performance, even if the competitive performance is attributed to the individual level

(e.g., a university tennis team).

At the individual level, social identification shifts the focus from individual to

team-oriented goals (e.g., Ellemers et al., 2004). Thus, a strongly identified team

member may sacrifice his or her own performance targets (e.g., a small chance of

scoring a goal), if there is a superior outcome for the team as a whole (e.g., passing to a

team member, who then has a greater chance of scoring a goal). Take a recent soccer game between Barcelona and Celta as a case in point. When Lionel Messi, widely considered to be one of the best soccer players ever (Jenson, 2015), lined up to take a penalty and score his 300th league goal for Barcelona, spectators expected him to reach the landmark. Instead, he unselfishly passed the ball to his teammate Luis Suarez, who had a relatively simple tap-in (see West, 2016). Thus, a strong team identification could hypothetically lead to a *decrease* in observed individual output, but an *increase* in the output of other team members. Given that ILI itself predicts a focus on team objectives, the variance in identification attributed to the team level – TLI – should predict team performance.

Both theoretically and methodologically, it is evident that evaluating the influence of social identification on performance solely at an individual level ignores an important aspect of social identity processes. To our knowledge, only a few studies have investigated the association between TLI and team performance (Solansky, 2011; Van Der Vegt & Bunderson, 2005; van Dick et al., 2006). In two longitudinal studies, Solansky (2011) found that teams with high TLI performed better than teams with low TLI. However, despite the longitudinal multilevel nature of the data collected, Solansky only reported a correlation between TLI and team performance at a single level of analysis, making it impossible to draw inferences about the respective roles of ILI and TLI.

More recently, Dietz, van Knippenberg, Hirst and Restubog (2015) found that TLI motivated team performance for people with what they called 'performance-prove goal orientation' (people who tend to focus on performance related outcomes). Conversely, when TLI is low, 'performance-prove goal orientation' motivated individual level performance. This suggests that, for people who are driven to achieve

performance goals, a high TLI focuses their performance orientation at the team level.
However, again this study only investigated TLI (not ILI) and was cross sectional in
nature, making it difficult to draw definitive conclusions regarding the direction of
relationships.

Only one previous study demonstrates a directional relationship between a group
level identity and performance. Van Dick et al., (2006; Study 2) found a small,
marginally significant cross-lag relationship between organisational identity and
organisational citizenship behaviour (e.g., helping colleagues, making innovative
suggestions). However, this result did not use multilevel modelling analysis and
focused on organisational rather than team identity (which may be a different construct:
van Knippenberg & van Schie, 2000). Thus, although theory and tentative research
findings hint that TLI may be an important predictor of team performance, there is a
paucity of robust empirical research in this area.

The Present Study

This study has three main aims: (1) to quantify the extent of systematic variance
in TLI among sports teams and investigate the underlying processes of
consensualization and polarization, (2) to investigate the directionality of effects
between TLI and team-level performance, and (3) to explore whether these effects are
over and above those of ILI on individual-level performance. In order to explore these
aims, we take a multilevel approach that enables us to decompose identification and
performance into within-team and between-team variance. Within-team variance
represents the variance in performance and identification that is attributable to the
individual level. Conversely, between-team variance represents variance that is
attributable to differences between teams. As shown in Table 1.1, this decomposition of
variance gives us five performance outcomes.

Perceived individual performance (within-team variance). This refers to the component of variance in individuals' ratings of their own performance that can be attributed to individual differences. This was considered our main outcome variable for individual performance.

Perceived individual performance (between-team variance). This refers to the component of variance in individuals' ratings of their own performance that can be attributed to differences between teams—thus representing systematic effects of team membership on individuals' (self-rated) performance. Note that the target for evaluation in this measure is still the individual's personal performance, and this measure does not take into consideration how members perceive the team as a whole as performing.

Perceived team performance (within-team variance). This refers to the variance in individuals' ratings of their team's performance that can be attributed to individual differences. Since a team cannot be considered to have performed well solely on the basis of one member's perception of team performance, this was not considered one of our primary performance outcomes.

Perceived team performance (between-team variance). This refers to the variance in member's ratings of team performance that can be attributed to differences between teams. As this concerns the perception of team performance attributed to the team level, we consider this variable to be the best subjective estimate of how the team performed.

Actual team performance. Due to positivity bias, perceptions of team performance may not necessarily reflect accurately how well the team actually performed. Thus, we sought to gain a measure of actual team performance. By standardising team score differences within the 14 different sports in our sample, we were able to achieve an actual performance measure that is comparable across our

sample (see Smith, Bellamy, Collins, & Newell, 2001; Wolfe & Box, 1987, for similar

analyses). Consequently, although actual performance could not be measured at two

levels (there was no measure of actual individual performance), we are able to explore

how TLI relates to actual team performance whilst accounting for the multilevel nature

of our team identity data.

      Hypotheses. Based on the above theoretical reasoning, we hypothesise that TLI

will predict perceived (H1), and actual team performance (H2). Moreover, we

hypothesise that TLI will predict team-level variance in individual performance ratings,

over and above any aggregated individual-level effect of ILI on individual performance

ratings (H3). Thus, we expect TLI will predict all team-level performance outcomes,

and that these effects will not be reducible to effects of ILI on individual performance

Table 1.1: *Individual and team performance outcomes.*

	Perception of Individual Performance	Perception of Team Performance	Actual Performance
Individual Level	Perceived individual performance (within-team variance): *Variance in perceived individual performance attributed to the individual level*	Perceived team performance (within-team variance): *Variance in individual rating of team performance attributed to the individual level*	No measure available
Team Level	Perceived individual performance (between-team variance): *Variance in perceived individual performance attributed to the team level*	Perceived team performance (between-team variance): *Variance in individual rating of team performance attributed to the team level*	Actual team performance: *Standardised team scores.*

Method

Participants and Design

Participants were approached during team training sessions and asked to complete a short questionnaire on team psychology. The questionnaire also included items that were relevant to another study that investigated identity motives in group situations and was not related to performance in any way (see Thomas et al., 2016b). Four hundred and one team members completed the questionnaire on at least one time-point. We excluded 31 participants who only completed one wave and one participant who reported belonging to a team that included only himself (male trampolining team). This left a total of 369 participants clustered within 45 teams. One hundred and eighty-eight were from a university on the south coast of England (106 men, M = 20.80 years, SD =2.63 and 82 women, M = 20.27 years, SD =1.75); the remaining 181 were from recreational sports teams in Italy (100 men, M = 22.52 years, SD =7.01 and 81 women, M = 22.85 years, SD =6.77). Both the English and Italian teams would typically have one training session and one match per week.

A total of 1,202 occasions of data were collected across all four time points (T0 = 312, T1 = 290, T2 = 309, T3 = 291) with 274 missing occasions. Participants were from 14 different sports (basketball, hockey, netball, fencing, tennis, football, volleyball, trampolining, ultimate Frisbee, badminton, water polo, synchronised swimming, swimming and cycling), which comprised 45 different teams (M_{size} = 8.2, SD_{size} = 3.54). Thus, we had a clustered longitudinal design, with individuals nested within teams over time.

Procedure

The four waves of data collection took place for both the English and Italian samples over a 6-month period during the same sports season from the beginning of

October 2014 through to mid-March 2015. In order to allow team members to be stably

allocated, the initial data collection for the English sample took place 2 weeks into the

academic term. Data collection took place at approximately 8-week intervals and at

identical time periods for both samples. Once participants had completed the

questionnaire, they were given a small confectionary item and thanked for their time.

Measures

Social identification with the team was recorded using a 6-item measure of

identification on a 7-point scale (see Table 1.2 for items and scale anchors). These six

items, covered various facets of social identification, including feelings of solidarity,

cognitive centrality and self-stereotyping with the group (see Ashmore et al., 2004;

Leach, van Zomeren, Zebel, Vliek, Pennekamp & Doosje 2008) as well as Postmes,

Haslam and Jans's (2013) single item measure of identity. This scale showed good

reliability (T0-T3: α = .85-.90).

Individuals' perception of their own performance was measured using the

following single item: "Irrespective of the result, how do you rate your *individual*

performance?" Individual perceptions of team performance were recorded using the

following single item question: "Irrespective of the result, how do you rate your *team*

performance?" As a measure of actual performance, participants were asked to record

the score of their last team match. Actual team performance was subsequently

calculated as the score difference for each match (e.g., 3-1 loss would be recorded as -2).

As these scores were identical for the whole team, actual performance was calculated

only at the team level.[1] These score differences were then standardised by creating Z-

---

[1] There were a few discrepancies in actual performance scores that participants recorded,
whereby a team member recorded a different score from the rest of the team. In these situations,
the majority score (i.e., mode) was used.

scores for the score differences within each sport (Smith et al., 2001; Wolfe & Box, 1987).

Items were translated from English into Italian, then independently back-translated by translators naïve to the aims of the study (Brislin, 1970). Original and back-translated versions were compared, any discrepancies were discussed and adjusted where necessary (Sireci, Yang, Harter, & Ehrlich, 2006)

Table 1.2: *Social identification items*

I feel loyal to this team.
I often think about the fact that I am a member of this team.
I have a lot in common with other team members.
Being a member of this team is important to who I am.
I feel committed to this team.
I identify with this team.

Note. All questions were rated on a 7-point scale ranging from 0-6. Scale anchors were 0 = Strongly disagree, 3 = Neither agree nor disagree, 6 = Strongly agree

Results

Our analytic approach consisted of two phases. First, we sought to validate the construct of TLI by exploring intraclass correlations and within and between variance in identification. Thus, we examined whether members of the same team become increasingly similar in their levels of identification over time (i.e., consensualization), or whether teams become increasingly different in their levels of identification (i.e., polarization). Our main analyses then investigated how ILI, TLI and performance outcomes are related using multilevel cross-lagged models. This allowed us to examine prospective, directional relationships between social identification and performance outcomes at both the individual and team level. We dealt with missing data by using full information maximum likelihood estimation (e.g., Allison, 2003) in Mplus 6.0 for all our analyses. Descriptive statistics are displayed in Table 1.3. Within-person and between-person zero order correlations for identification and performance outcomes are shown in Table 1.4.

Validating TLI

Intraclass correlations. In order to explore the proportion of the variance in individuals' responses to identification that can be attributed to the group or team level, intraclass correlations (ICC's) of identification were examined. ICCs estimate the extent to which individuals within the same team are more similar in their levels of identification than are individuals in general (Hox, 2010). An ICC of 0 would show that individuals in the same team would be no more similar in their degree of identification than individuals in general. Equally, an ICC of 1 would show that individuals in the same team are completely identical in their level of identification. Thus the ICC represents the proportion of systematic team-level variance in identification (i.e., TLI). The ICC's for our data show that 16% of the total variation in identification can be

Table 1.3: *Means and standard deviations for team identification, perceived individual performance, perceived team performance and actual team performance at each time point. ICC's for identification and perceived performance outcomes are also shown.*

	Time 0			Time 1			Time 2			Time 3		
	Mean	(SD)	ICC	Mean	(SD)	ICC	Mean	(SD)	ICC	Mean	(SD)	ICC
Team Identification	4.36	(0.90)	16.0%	4.30	(0.96)	26.2%	4.25	(0.99)	33.6%	4.28	(1.06)	8.9%
Perceived individual performance	3.70	(1.33)	9.5%	3.80	(1.24)	11.1%	3.89	(1.29)	14.7%	3.63	(1.43)	15.8%
Perceived team performance	3.91	(1.22)	24.2%	3.93	(1.10)	19.7%	4.08	(1.09)	26.7%	3.88	(1.44)	27.2%
Actual team performance	0.08	(0.94)		0.02	(0.70)		0.01	(1.06)		0.02	(1.02)	

Table 1.4: *Between-person and within-person correlations*

	1	2	3	4
1 Team Identification	-	.17	.20	.07
2 Perceived individual performance	.27	-	.56	.15
3 Perceived team performance	.36	.61	-	.15
4 Actual team performance	.10	.13	.16	-

Note: Within-person correlations (based on participant-centered items) are shown above the diagonal.
Between-person correlations (based on averaged scores across time points) are shown below the diagonal.

attributed to the team at T0. This appeared to increase over time to 26.2%, 33.6% and 38.9% from T1 to T3 respectively. These ICC's are considered quite high for small groups (Hox, 2010).

Within and between team variances. TLI can be examined even more precisely by distinguishing two variance components used to calculate the ICC – within-team variance (individual level) and between-team variance (team level). A reduction over time in within-team variance would indicate that the influence of the team on identification occurs as individuals in the same team become closer in their levels of identification over time (i.e., consensualization). On the other hand, the influence of the team on identification could also be the result of an increase in between team variance in the levels of identification over time (i.e., polarization).

As shown in Figure 1.1, within-team variance in identification appears to be stable over time, whereas between-team variance appears to increase. In order to test this statistically, we first created a baseline model that allowed within and between variances in identification to be freely estimated. Next, we examined whether individuals become more similar in their levels of identification over time by constraining within team variance to be equal across all time points and comparing this to our freely estimated baseline model. Chi-square difference testing, using the Satorra-Bentler Scaled Chi-Square (S-B χ^2: Bryant & Satorra, 2012), revealed that constraining within team variance to be equal across all time points did not significantly reduce model fit: Δ S-B χ^2 (3) = .673, p = .82. Further analyses showed that there were also no significant differences in the size of within-team variance between adjacent time points (e.g., from T0 to T1): Δ S-B χ^2 (1) $\leq$ 0.447; all $p \geq$ .50. This suggests that the apparent increase in ICCs shown above is *not* the result of team members becoming more similar in their levels of identification over time.
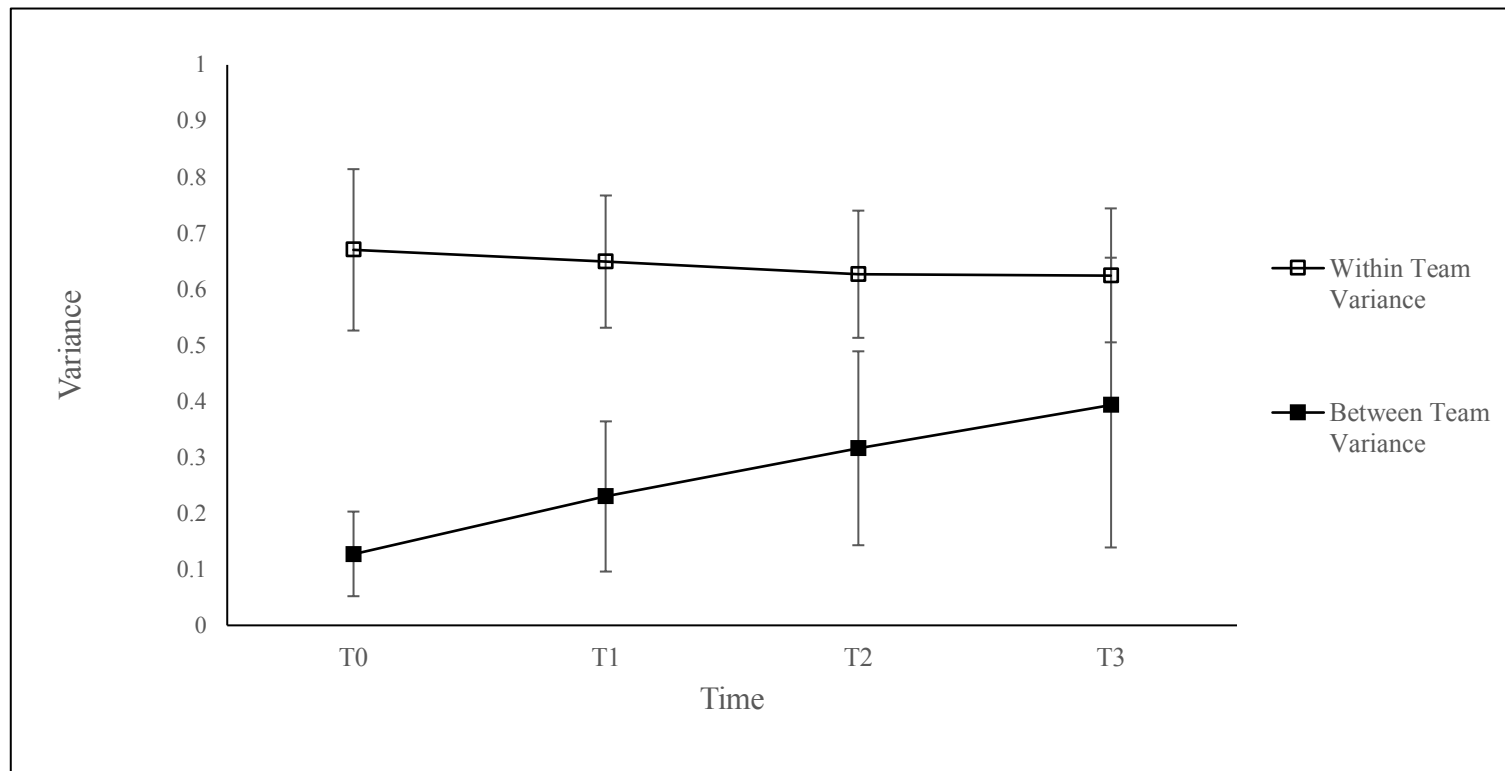
Figure 1.1: Within and between variance for social identification across 4 time points with 95% confidence intervals.

Conversely, constraining the between-team variance across all time points did significantly decrease model fit compared to our freely estimated baseline model: Δ S-B χ^2 (3) = 32.362, $p < .001$. Exploring this further, we tested the effects of constraining between-team variance across pairs of adjacent time points. This showed a significant increase in between-team variance from T0 to T1 (Δ S-B χ^2 (1) = 49.696, $p < .001$), a marginal increase from T1 to T2 (Δ S-B χ^2 (1) = 3.144, $p = .076$), and a significant increase from T2 to T3 (Δ S-B χ^2 (1) = 8.00, $p = .005$)[2]. Thus, the influence of the team on identification (i.e., TLI) appears to be due to teams becoming increasingly different in their levels of identification over time.

Predicting Individual and Team Performance

Our main analyses examined prospective, directional relationships between social identification at each level (ILI and TLI) and performance (perceived individual, perceived team and actual team performance), by using multilevel cross-lagged structural equation models (see Figure 1.2). We accounted for variance due to specific measurement occasions by correlating residual variances within waves (e.g., the residual of TLI at Time 1 with the residual of team performance at Time 1). In order to gain statistical power and parsimony, these residual covariances were constrained to be equal at T1, T2 and T3. For the same reasons, the stability (autoregressive) and cross-lagged coefficients were also constrained to be equal across time (i.e. each T0 to T1 path was constrained to be equal to the corresponding T1 to T2 path and the corresponding T2 to T3 path). This gave one instead of three parameters to test each of the predicted effects.

Due to sample size constraints, two separate multilevel cross lag models were

---

[2] The weaker increase from T1 to T2 coincided with the Christmas holidays.
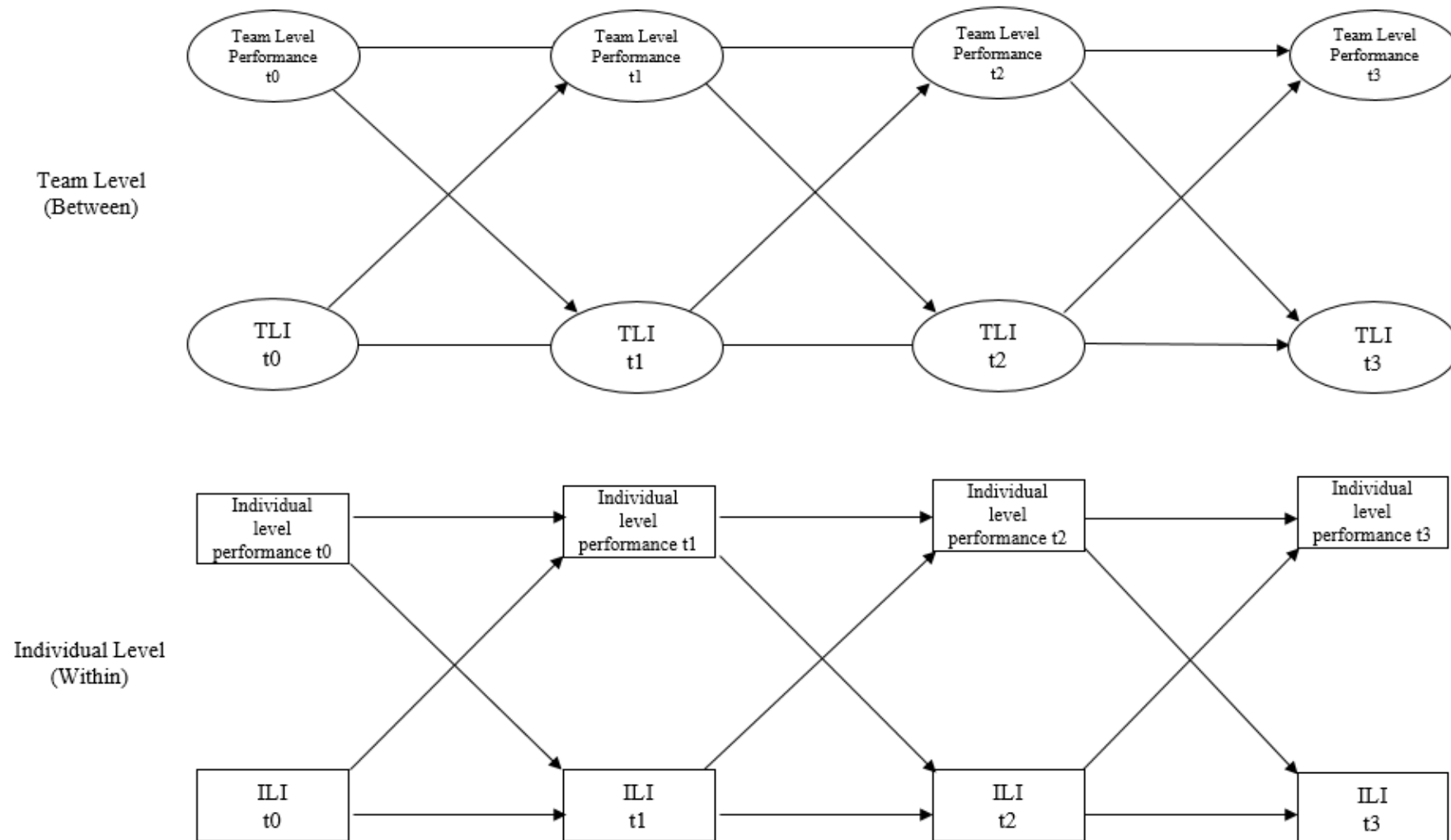
Figure 1.2: An example of a multilevel level cross-lag regression model for relations between social identification and performance at the team (between) and individual level (within) across four time points (t0-t3). For each level (team and individual), the relations between factors are specified as cross-lag effects, which indicate the prospective effect of one variable on the other (e.g. the effect of TLI t0 on Team Level Performance t1) after controlling for their stability across time (e.g. the autoregressive path of TLI t0 to TLI t1). Residual covariances are included in the model, but are not shown in the figure to aid clarity.

run for "perceived individual performance" and "perceived team performance", with actual team performance added to both models. Actual team performance could be included in both models as it was only at the team level and therefore required fewer parameters. Fit was assessed by comparative fit index (CFI, good fit > 0.95, acceptable fit > 0.90), the Tucker-Lewis index (TLI, good fit > 0.95, acceptable fit > 0.90), the root-mean-square error approximation (RMSEA, good fit < 0.06, acceptable fit < 0.08) and the standardised root mean square residual (SRMR, good fit < 0.08, acceptable fit < 0.10, see Hu & Bentler, 1999; Kline, 2005).

This analytic approach allows us to compare individual and team-level effects of social identity on performance, as well as vice versa. However, it should be noted that, since there are fewer teams ($N = 45$) than individuals ($N = 369$), a larger effect size is required for team-level parameters to achieve statistical significance. [3]

Model Results. As shown in Table 1.5, fit indices for both models were judged to be satisfactory (Hu & Bentler, 1999; Kline, 2005).[4] Table 1.5 also reports the estimates for the autoregressive and cross-lagged coefficients.[5] The results show a consistent picture: Supporting our hypotheses, perceived team performance (H1) and actual team performance (H2) were both prospectively predicted by TLI. Results also demonstrate that ILI predicts an individual's perception of team performance and TLI

---

[3] In order to assess if there were country level differences, we represented countries as dummy covariates and regressed our between level dependent variables on this binary covariate. Results were largely unchanged, but the additional parameters led to model nonidentification. We have therefore not included country in subsequent analyses.

[4] The initial Tucker-Lewis index scores on both models were not acceptable (< .90). This was corrected by adding two additional autoregressive paths into the perceived individual performance model. One from identity at T1 to identity at T3 and another from perceived individual performance T1 to perceived individual performance T3. Perceived Team Performance was corrected by adding one additional autoregressive paths from identity at T1 to identity at T3.

[5] Although the coefficients were constrained to be equal across time intervals, the constraints were imposed on unstandardized coefficients (Kenny, 2005), which led to slight variation in the resulting standardised coefficients.

predicts team- level variation in perceived individual performance (H3). Conversely, perceived individual-level performance was not predicted by ILI. As also shown in Table 1.5, these effects were only significant in one direction, with TLI prospectively predicting performance but performance not predicting TLI.[6]

In order to explore whether the effects of TLI were significantly stronger than would be expected from aggregating the individual-level effects of ILI on performance outcomes, we tested whether model fit decreased once the paths from ILI and TLI to perceived performance outcomes were constrained to be equal in both models. Chi-square difference testing, using the Satorra-Bentler Scaled Chi-Square (Bryant & Satorra, 2012), revealed that these constrained models were significantly different for both the perceived individual and perceived team performance models (Δ S-B χ^2 (1) = 11.76, $p < .001$ and Δ S-B χ^2 (1) = 9.22, $p < .001$, respectively), indicating that the effect of TLI was significantly stronger than the effect of ILI on perceived performance outcomes. Thus, the observed effects of TLI on performance cannot be reduced to an individual level of explanation.

---

[6] Because social identity was a scale and performance ratings were single items, one could argue that this effect is driven because the scale creates a more stable construct over time (as displayed by the higher regression coefficients for the autoregressive paths). This leaves less variance to be explained by the lagged relationship from performance to identity, than there is to be explained by the lagged relationship from identity to performance. To rule out this alternative interpretation, we used Postmes and colleagues' (2013) single-item measure of social identification and re-ran the analyses. The patterns of main findings remained consistent, giving us confidence in the original analyses and results.

Table 1.5: *Cross-lagged and autoregressive effects of performance and social identification*

Model	Social identity level	Performance Measure	Cross-lagged effects		Autoregressive effects		Fit Indices			
			SI → P	P → SI	SI → SI	P → P	CFI	T-LI	RMSEA	SRMR
Perceived Individual Performance	ILI	Perceived individual performance (within-team variance)	.052	.037	.682**	.293**	.929	.914	.050	.058
	TLI	Perceived individual performance (between-team variance)	.442*	.016	.955**	.335*				
	TLI	Actual Team Performance	.290*	-.035		.293*				
Perceived Team Performance	ILI	Perceived team performance (within-team variance)	.106*	.022	.699**	.250**	.922	.906	.050	.067
	TLI	Perceived team performance (between-team variance)	.628**	-.013	.967**	.215				
	TLI	Actual Team Performance	.304*	-.026		.301*				

Note. The table shows standardised regression coefficients. P = Performance, SI = Social Identification. * *p* < 0.05, ** *p* < 0.001.

Discussion

Supporting our main hypotheses, TLI predicted perceived (H1) and actual team performance (H2). We also found that TLI predicted systematic team-level variance in individual performance ratings (H3). Thus, our findings show a consistent picture: TLI is empirically separable from ILI, and prospectively predicts perceived and actual team performance. Equally, ILI does not predict perceived individual performance, and performance does not predict ILI or TLI. Our results also validate the construct of TLI by showing that the influence of the team on identification becomes stronger over time. We further show that this effect is due to group polarization, rather than group consensualization, indicating that teams becoming increasingly different in their levels of identification over time. Taken together, these findings support calls for a multilevel interpretation of social identification and highlight the significant influence of shared social identification on group-level processes and outcomes, over and above its individual-level effects.

Theoretical Implications

By treating social identity as a multilevel construct, we have demonstrated the considerable differences in how TLI and ILI can influence performance. This suggests that previous research, that has tended to ignore TLI, may have drawn misleading conclusions regarding the effect of ILI on performance (e.g., Riketta & van Dick, 2005). Although these findings diverge from the current ILI performance landscape, they are nevertheless in accordance with social identity predictions (Ellemers et al., 2004). As argued by Ellemers et al. (2004), high levels of social identity will cause team members to strive to achieve team- rather than individually-orientated performance goals. It follows that, as long as performance is a goal, high TLI will cause high levels of team performance (Dietz et al., 2015; Haslam, 2004; van Knippenberg, 2000). Equally, a

team with a strong TLI may benefit from improved team environments that facilitate training, engagement and ultimately performance. Seen in this way, the influence of TLI on team performance outcomes appears to be due to team-level processes. Exploring exactly how TLI influences team-level performance outcomes may be a fruitful avenue for future research.

Given the individualistic perspective that typifies some social identity research over the past few decades, our findings also represent a growing movement towards a more complete interpretation of social identity processes (Jans et al., 2015; Ozeki, 2015). This line of research is not a new understanding of social identity, but rather a reaffirmation of the group-orientated spirit proposed by the original authors (Tajfel, 1979; Tajfel & Turner, 1979). While it falls beyond the scope of this paper to speculate on how a multilevel approach to social identity may influence other research findings, we urge future researchers to carefully consider the multilevel facets of social identity processes.

Practical Implications

Given that TLI seems to impact performance, and social identification is considered highly malleable (Onorato & Turner, 2004), targeting TLI could be an important strategy for leaders, coaches and team building facilitators. One possible approach would be to evaluate social identity motives, such as a sense of collective continuity, as they have been shown to predict social identification (Thomas et al., 2016b). Facilitated team level discussions could then be used to target and attempt to increase satisfaction of those motives that are poorly satisfied. For instance, if a team-level evaluation illustrated that a team has a poor sense of continuity, the team should focus on discussions and strategies for increasing continuity for the whole team. According to this proposition, increasing satisfaction of social identity motive(s) across

the whole team will lead to an increase in TLI, which will in turn lead to an increase in team performance. Since team-orientated performance outcomes are often more important than individual ones (e.g., Salas, Cooke, & Rosen, 2008), such interventions may be particularly important in organisational, as well as sporting, settings.

Research Strengths and Limitations

The current research has several notable strengths. Our multilevel and longitudinal design has enabled us to draw conclusions regarding the influence of individual and team-level effects. In view of the reduction in power at the team level (i.e., smaller number of teams than individuals, $N = 369$ individuals, $N = 45$ teams), the influence of TLI is particularly notable and demonstrates the potential for team-level effects to influence behaviour. This methodology appears crucial to the study of teams and groups in general, and we strongly encourage future research in this area to take a similar approach.

Unlike some previous research in organisational settings (e.g., Riketta & van Dick, 2005), the use of sports teams as our sample enabled us to investigate both perceived *and* actual team performance. However, one possible limitation with this approach is that our findings may not be applicable to teams in different environments. For example, Jans et al. (2015) found that group identity in online groups was based mainly on individual representations of the group (i.e. ILI). This raises the question as to whether our findings are transferable to teams that do not interact on a regular basis (such as virtual teams, see Gibson & Cohen, 2003). Nevertheless, our sampling of sports teams did span 14 different sports across two countries, and therefore should have some generality to other small group environments where team members interact on a regular basis.

Concluding Remarks

Our main finding, that TLI predicts perceived and actual team performance over and above possible aggregated effects of ILI, embodies a much needed movement towards more team-level (or, more generally, group-level) research within the social identity literature (Jans et al., 2015; Ozeki, 2015). This research also speaks to the original group-level spirit of the social identity approach, and serves as an important reminder that humans operate as part of a complex social organisation with higher-order frames of reference. Our hope is that future research further establishes TLI as a construct, and that this leads to teams fostering TLI and improving team performance. As teams and groups form the foundations of our society, taking this small step could have positive impacts on an array of sporting, organisational, and other collective ventures.

PAPER 2: Social Identification in Sports Teams: The Role of Personal, Social and Collective Identity Motives

William E. Thomas, Rupert Brown, Matthew J. Easterbrook, Vivian L. Vignoles

University of Sussex, UK

Claudia Manzi, Chiara D'Angelo

Catholic University of the Sacred Heart

Jeremy J. Holt

Centre for Team Excellence

Abstract

Using motivated identity construction theory (MICT, Vignoles, 2011), we offer an integrative approach that is the first to examine the combined roles of six identity motives (self-esteem, distinctiveness, belonging, meaning, continuity and efficacy) instantiated at three different motivational levels (personal, social and collective identity) as predictors of group identification. These identity processes were investigated among 369 members of 45 sports teams from England and Italy in a longitudinal study over 6 months with 4 time points. Multilevel change modelling and cross-lagged analyses showed that satisfaction of four personal identity motives (individuals' personal feelings of self-esteem, distinctiveness, meaning, and efficacy derived from team membership) and of three social identity motives (individuals' feelings that the team identity carries a sense of belonging, meaning, and continuity) predicted group identification. When testing for group-level effects (i.e. collective identity motives), a shared belief in group distinctiveness significantly predicted identification. Theoretical and practical implications are discussed.

Introduction

> *"This is our land that rumbles*
> *It's my time! It's my moment!*
> *This defines us as the All Blacks"*

> Translated extract from the haka – dance of war
> (Kapa o Pango, NewZealand.com, 2015)

When the All Blacks perform their famous haka, they know they are more than a collection of 15 players – they are seen to have a sense of tradition, purpose and belonging that goes beyond them as individuals – they have a *team identity.* This could be one of the reasons why they are the most successful rugby team in history (e.g., Wilson, 2011) and arguably the most successful professional team in any sport ever (e.g., Kerr, 2013). Yet, why do the All Blacks have such a strong team identity? More generally, what motivates people to form a team identity and identify with a team or group? This is the question that we seek to answer in this paper.

Social identity theory (SIT, Tajfel & Turner, 1979) is now considered by many as *the* major theoretical framework for understanding group phenomena (e.g., Brown, 2010; Haslam, van Knippenberg, Platow, & Ellemers, 2014; Reicher, Spears, & Haslam, 2010). When an individual identifies with a group they incorporate it into their self-concept, which has been shown to have wide reaching implications for behaviours (e.g., Brown, 2000), cognitions (e.g., Abrams & Hogg, 1999), beliefs (e.g., Brown, 2010), and even health (e.g., Haslam, Jetten, Postmes & Haslam, 2009). Given the influence of SIT across theoretical and applied domains, researchers have striven to understand the underlying motivations that are involved when people identify with a group. However, little consensus exists with regard to which identity motives are most prominent in group identity construction, and on which levels they operate.

By combining insights from SIT, motivated identity construction theory (MICT,

Vignoles, 2011), and other motivational theories in the social identity literature (e.g., Brewer, 1991; Hogg, 2007; Smeekes & Verkuyten, 2015), we offer the most comprehensive evaluation to date of motives for social identification, comparing the role of multiple identity motives across different levels of identity and across different levels of analysis. Using a 4-wave clustered longitudinal design involving 45 sports teams from England and Italy, we explore how satisfaction of different identity motives, instantiated at different motivational levels, predicts identification with a group.

Early Theorising: Positive Group Distinctiveness and The Self-Esteem Hypothesis

Tajfel and Turner (1979) originally proposed that group members are driven to maximise their group's "positive distinctiveness", which became the key motivational principle behind SIT (see Mummendey, 1995). However, further conceptualisations departed from this notion by exclusively focusing on the "positive" aspect and reducing it to an individual level. Thus, Abrams and Hogg (1988) proposed the "self-esteem hypotheses" that advocated an *individual-level need* for self-enhancement as a primary basis for group identification. Yet, this instantiation of identity motives as personal needs – or what we will call *personal identity motives* – neglects the role of group motives and even prompted some theorists to accuse SIT of the same shortcomings that it points out in others, namely reducing complex group phenomenon to individual wants and desires (e.g., Farr, 1996).

Subsequent theorising and research in the social identity tradition has extended the list of potential social identity motives beyond the original focus on positive distinctiveness (Brewer, 1991; Hogg, 2007; Vignoles, 2011). However, there has been much less clarity about the level at which these motives operate—or even what it means for identity motives to operate at a 'group' rather than an 'individual' level. As Hogg and Abrams (1993) put it, "Clearly, if we talk about group motivation, we need to know whether we are talking about distinctly *group* as opposed to personal motivation, or

whether we are talking about basic individual motivation that is mutated in some way by group membership" (p x). Below, after a brief review of motivational perspectives in the social identity literature, we describe two very different ways in which identity motives might be said to operate 'at a group level'—one focused on group content and the other on group processes.

Extending the List of Motives

Various motivational extensions of SIT have emerged over the past few decades. Brewer's (1991) optimal distinctiveness theory states that individuals are motivated by two opposing needs for inclusion and differentiation. This interplay between motives for inclusion or *belonging* and differentiation or *distinctiveness* can be resolved through group membership, where belonging is satisfied by in-group inclusion, and distinctiveness through intergroup differentiation. Another line of thinking, proposed by Hogg and colleagues (Hogg, 2000; Hogg, 2007; Hogg & Adelman, 2013), argues that group identification is driven by the individual's need to reduce uncertainty, which can be ameliorated by creating certainty or *meaning*. A more recent motivational expansion of SIT proposes that feelings of self-*continuity* can predict national identification when controlling for other identity motives (Smeekes & Verkuyten, 2013). Lastly, although not directly synonymous with identity motives, research from self-determination theory (Deci & Ryan, 1985) has suggested that satisfaction of personal needs for autonomy and competence can impact on group identification (Amiot & Sansfaçon, 2011; Amiot & Aubin, 2013; Legault & Amiot 2014).

Combining insights from these and other theoretical perspectives into one integrated theory, MICT provides a general theory of identity enactment, construction and defence that draws together various motivational constructs (Vignoles, 2011). Specifically, MICT states that people are motivated to identify with a group in order to feel positively about themselves (*self-esteem motive*); to feel that they are distinguished

from other people (*distinctiveness motive*); to feel that they are included and accepted (*belonging motive*); to feel that their lives are meaningful (*meaning motive*); to feel that their past, present and future are connected (*continuity motive*); and to feel that they are competent and capable of influencing their environments (*efficacy motive*). MICT has been shown to be well suited to the study of group identification as it incorporates six social identity motives into one holistic framework (Easterbrook & Vignoles 2012; Vignoles et al., 2006, Study 2).

MICT suggests that different motives are important for different identity processes. Following Reicher (2000), Vignoles (2011) makes the distinction between *identity definition* and *identity enactment*. Identity definition refers to the cognitive process of defining oneself, whereas identity enactment refers to acting out behaviourally certain aspects of one's identity. Using a longitudinal design, Easterbrook and Vignoles (2012) demonstrated that satisfaction of personal identity motives involved in identity enactment (self-esteem, belonging and efficacy) predicted within-person changes in identification with interpersonal network groups (flatmates). Conversely, satisfaction of personal identity motives involved in identity definition (meaning, self-esteem, and distinctiveness) predicted within-person changes in identification with an abstract social category (halls of residence). In other words, different *personal identity motives* may be involved when people identify with a group, which is dependent on the properties of that group. This study was among the first to integrate MICT with SIT, and it provides one of the few comparisons between the influence of different motives on group identification (see also Vignoles, 2006, Study 2).

To date, research investigating MICT with groups has primarily focused on personal identity motives, assuming that individuals identify with a group in order to satisfy their own psychological needs. However, as Vignoles (2011) has theorised, identity motives may be instantiated at more than one level.

Identity Motives at Different 'Levels'

In an exchange between Tajfel (1979) and Taylor and Brown (1979), Tajfel explicitly criticised the notion that identification with a group is purely based on the assumption that individuals prefer a positive self-image. He reasoned that one of the aims of SIT was to understand social behaviour in groups, and to do this we must understand how group identities are constructed and the psychological effects of these constructions. It follows that, in order to understand the way a group identity is constructed, identity motives must encompass more than individual needs. Thus, the idea that social identity processes can be understood sufficiently in terms of personal identity motives departs from the original spirit of the social identity perspective, as described by Tajfel himself.

Social identity motives (group content, individual processes). In an attempt to reconcile the apparent departure from a group-orientated approach, Spears and colleagues have reaffirmed the relevance of "group distinctiveness" for social identity processes (Scheepers, Spears, Doosje & Manstead, 2002; Spears, 2011; Spears, Jetten, Scheepers & Cihangir, 2009). They reason that, although occurring in individual minds, a focus on group distinctiveness is more in accordance with the original spirit of SIT. This is consistent with self-categorisation theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), which posits that an individual can catergorise themselves as an interchangeable group member, and therefore experience the group's identity as defining who they are. When an individual's sense of self is defined by their group membership, their personal identity will also become less salient; hence, it will be the group's positive distinctiveness (or other properties of the group's identity), rather than their personal distinctiveness (or other properties of their personal identity) that they are motivated to protect. Accordingly, the extent to which an individual *perceives the group* as having a satisfactory identity may influence their experience of group membership

and hence their subsequent group identification – irrespective of their sense of personal identity. This could be particularly true for social groups that require frequent and enduring involvement from group members (see Haslam & Ellemers, 2011). Thus, as Tajfel advocated, what we will call *social identity motives* – involving the *individual's perception of the group*, rather than individual wants and desires (personal identity motives) – may also explain group identity construction.

Notably, each of the six identity motives proposed within MICT have been studied separately as social identity motives, but rarely in combination. For example, as well as the influence of self-esteem noted above, numerous researchers have demonstrated that collective self-esteem (i.e. social identity esteem) is also an important factor in intergroup relations and social identity construction (e.g., Ellemers, Kortekaas & Ouwerkerk, 1999). Elsewhere, Pickett, Silver and Brewer (2002) demonstrated that group identification is not only a function of an individual's need for belonging and distinctiveness (i.e. personal identity motives) but also in response to changes in the features of the group (i.e. social identity motives) (see also Baumeister & Leary, 1995; Scheepers et al., 2002; Vignoles, Chryssochoou, & Breakwell, 2000).

Spears et al. (2009; see also Scheepers et al., 2002) used an experimental design that manipulated the meaningfulness of minimal groups, demonstrating that group meaning (i.e. social identity meaning) positively influences group identification. They concluded that meaning should not be reduced to an individual property, but is instead "irreducibly groupy" (p. 36, Spears et al., 2009). Similar work has also shown that perceptions of group continuity (i.e. social identity continuity) predict stronger emotional attachment to the group and increased group identification (Sani, Bowe, & Hererra, 2008; Sani, Herrera & Bowe, 2009; Smeekes & Verkuyten, 2014). Meanwhile, in research by Lee, Farh and Chen (2011), feelings of group potency or *efficacy* have also been associated with group identification.

Only rarely have personal and social identity motives been studied together, which makes it difficult to understand the relationship between them. Notably, there is evidence that satisfaction of personal and social identity motives may sometimes be interchangeable—for example, individuals made to feel *personally* indistinctive show increased identification with distinctive *groups* as well as tightening of *group* boundaries (Pickett et al., 2002). This raises the possibility that social identity motives may be no more than routes to satisfying personal identity motives, and not "irreducibly groupy" after all. To confirm that social identity motives are not reducible to personal identity motives – as suggested by our extrapolation from self-categorisation theory above – it would be necessary to study both together and show that the effects of social identity motives persist while controlling for corresponding effects of personal identity motives.

Collective identity motives (group content, group processes). However, there is an important distinction to be made between two different forms of "groupiness" that SIT theorists often conflate when referring to identity motives. For example, although Spears and colleagues refer to and treat "group distinctiveness" and "group meaning" as a group level motive, it is in actuality the *individual's* perception of the group that they focus on (i.e. a social identity motives), and thus the motivational processes that they refer to are still occurring within the individual. But what of the perceptions of the group by other group members? In contrast to social identity motives, motives operating as a *group-level process* refer to motivational processes that occur *at the level of the whole group*. To illustrate this point, a group as a whole cannot be considered distinctive solely on the basis of one member's perception of group distinctiveness. However, if across the whole group, group members on average perceive the group as distinctive then one can more confidently claim that the group does indeed see itself as distinctive (i.e. collective distinctiveness).

This notion is supported by recent multilevel research indicating that an individual's identification with a group is not solely based on an idiosyncratic representation of the group, but is also influenced by group level processes (Jans, Leach, Garcia & Postmes, 2015). Thus, social identification is not simply an intrapsychic process of each separate individual but also an emergent property of the group as a whole (see also Hopkins, Reicher, & van Rijswijk, 2015; Khan et al., 2014). Seen in this way, the motivated identity processes of group members may influence each other, leading to an emergent motivated identity process that occurs at the collective or group level and is "greater than the sum of its parts" (i.e. collective identity motives).

By studying such aggregate or contextual phenomena, researchers are able to make discoveries that would otherwise have been overlooked by solely focusing at an individual level (e.g., Ozeki, 2015; Thomas et al., 2016a). For example, recent multilevel longitudinal research by Christ and colleagues demonstrated that the contextual effect of intergroup contact on outgroup prejudice was greater than the effect of individual contact (Christ et al., 2014). This and similar research demonstrates that collective or contextual phenomena can influence individual-level processes (e.g., Becker et al., 2012, 2014; Kokkonen, Esaiasson & Gilljam, 2015). The vast majority of research to date within the SIT literature has focused on the influence of individual process motives (personal and social identity motives). Given that SIT was created to explain group level phenomena, it is entirely possible that motives operating at a group level are also influencing group identity construction.

Summary. Based on the reasoning above, a given identity motive can be *instantiated* not only on multiple levels of self-representation (personal and social identity motives) but also on multiple levels of analysis (individual and group levels).

Accordingly, three instantiations of the same identity motives can hypothetically influence group identity construction: personal, social and collective.[7] Thus, for example, I might identify with a group because it makes me feel distinctive (*personal identity motive*), because I perceive the group as distinctive (*social identity motive*), or because the group members collectively perceive the group as distinctive (*collective identity motive*). These instantiations of identity motives hint at the complex construction of identification with a group. Unravelling the unique effects of each identity motive, instantiated on each of these levels, is crucial to our understanding of group identification, but this requires multivariate and multilevel research studying the interplay of multiple identity motives on both personal and social levels of self-representation and at both individual and group levels of analysis.

The Present Study

The identity motive literature offers a diverse and interesting range of constructs that have been shown to have theoretical and practical importance. However, taken as a whole, these motivational expansions of SIT can appear somewhat fragmented, with researchers too often focused on their particular motive(s) and motivational level of interest, offering little cross-reference or comparison with other motives or motivational levels. Since motives are highly correlated, this leaves existing research in a precarious position, as results are likely to be confounded by other unmeasured motives (Vignoles et al., 2006, Table 2). Moreover, we are aware of no previous research investigating the potential of motives to operate on the level of group processes (i.e. collective motives),

---

[7] There is another possible motivational level that considers personal identity motives averaged for the whole group. This would indicate that an individual identifies with a group that satisfies the personal needs of the group as a whole. Intuitively it is difficult to envisage that someone would identify with a group based on whether other group member's personal identity motives are being satisfied. Exploratory analyses of results also revealed that this potential motivational level had no impact on group identity construction. We therefore excluded it from discussion and further analyses.

even though researchers have often theorised that motives such as distinctiveness are a property of the group, not of the individual (e.g., Spears et al., 2009). Accordingly, it is unsurprising that little agreement exists with regard to which identity motives are most prominent in predicting group identification or from which motivational level (e.g., Ormiston & Wong, 2008; Jaspal & Breakwell, 2014).

In order to address this research void and explore the interplay between the satisfaction of different identity motives instantiated at differing motivational levels, we conducted longitudinal research with 45 sports teams from England and Italy over a 6 month period with 4 time points. This longitudinal multilevel design allows us to explore group processes and to draw tentative conclusions about causality regarding the relationship between satisfaction of multiple identity motives instantiated at different levels (personal, social and collective) and group identification. These methodological advantages allow us to go beyond previous cross-sectional, single-level research (e.g., Johnson et al., 2006).

Sports teams represent meaningful social groups that have parallels to many other kinds of groups across various situations. For example, they contain established and new group members, have a team history and future, contain a team leader (team captain) and compete on a regular basis. Team members also interact outside of sporting functions, with social activities being held throughout the year. Accordingly, for some team members, the sports team they join can form an integral part of their lives.

Our aim was to investigate which of the six identity motives proposed by MICT (meaning, belonging, self-esteem, continuity, distinctiveness and efficacy), instantiated at which motivational level (personal, social or collective identity), predict group identification. In addition, we are interested to understand which motivational level is the most important in group identity construction, irrespective of the particular motives at play.

Method

Participants and Design

A total of 401 team members participated in the research. We excluded 31 participants who completed the questionnaire at only one wave, and one participant who reported belonging to a team that included only himself (male trampolining team), leaving a total of 369 participants. Of those 369 participants, 188 were from a university on the south coast of England (106 men, $M = 20.80$ years, $SD = 2.63$ and 82 women, $M = 20.27$ years, $SD = 1.75$). A further 181 participants were from recreational sports teams in Italy (100 men, $M = 22.52$ years, $SD = 7.01$ and 81 women, $M = 22.85$ years, $SD = 6.77$).

There was a total of 1,202 occasions of data collection (T0 = 312, T1 = 290, T2 = 309, T3 = 291) with 274 missing occasions. At time 0, participants had been part of their team for an average 6.48 ($SD = 9.54$) months. Participants were from 45 different teams ($M_{size} = 8.2$, $SD_{size} = 3.54$) from 14 different sports (basketball, hockey, netball, fencing, tennis, football, volleyball, trampolining, ultimate Frisbee, badminton, water polo, synchronized swimming, swimming and cycling). Thus, we had a clustered longitudinal design, with individuals nested within teams over time.

Procedure

The English teams held training sessions during the first 6-7 months of an academic year (late September through to mid-March), while Italian teams have a 9 months sport season (from mid-September through to late May). In order to allow the teams to settle (i.e. members to be stably allocated into 1st or 2nd teams), the first wave of data was collected 2 weeks after the initial training sessions in both samples. Subsequent waves were collected at approximately 8-week intervals. Therefore 4 waves

of data were collected over a 6-month period at parallel times for the English and Italian

samples. Data collection involved approaching team members at the start of their

training sessions and asking them to complete a short questionnaire on team psychology.

On completion of the questionnaire, participants were thanked for their time and given a

small confectionary item.

Questionnaire

Group identification was recorded using a 6-item measure of identification with

a 7-point response scale (see Table 2.1 for items and scale anchors). The six items,

adapted in part from previous work by Easterbrook and Vignoles (2012), covered

various facets of group identification including feelings of solidarity, cognitive

centrality and self-stereotyping with the group (see Ashmore, Deaux, & McLaughlin-

Volpe, 2004; Leach et al., 2008) as well as Postmes, Haslam and Jans's (2013) single

item measure of group identification. This scale showed excellent reliability (T0-T3: α

= .85-.90).

Items measuring personal identity motives were adapted from Easterbrook and

Vignoles (2012). Items measuring social identity motives were formed on the basis of

discussion among the authors, adaptation of the items measuring personal identity

motives, and use of relevant literature[8] (Smeekes & Verkuyten, 2014). All questions

were developed in English and then back translated into Italian for the Italian sample

(Brislin, 1970). Full questions with scale anchors are recorded in Table 2.1.

---

[8] Single items were used to reduce participant load, as is well established when participants are required to make repeated ratings on the same dimension (e.g. Easterbrook & Vignoles, 2012; Vignoles et al., 2006)

Table 2.1: *List of constructs and questions in the questionnaires*

Construct	Questions English version	Questions Italian version
Personal Identity Motives		
Esteem	Being a member of this team makes me see myself positively.	Essere un membro di questa squadra mi fa vedere me stesso positivamente.
Distinctiveness	Being a member of this team distinguishes me from other people.	Essere un membro di questa squadra mi distingue dalle altre persone.
Belonging	Being a member of this team gives me a sense that I "belong"	Essere un membro di questa squadra mi dà un senso di appartenenza.
Meaning	Being a member of this team gives me a sense that my life is meaningful	Essere un membro di questa squadra mi fa sentire che la mia vita ha un senso.
Continuity	Being a member of this team makes me feel that my past, present and future are connected.	Essere un membro di questa squadra mi fa sentire che il mio passato, presente e futuro sono connessi.
Efficacy	Being a member of this team makes me feel competent and capable.	Essere un membro di questa squadra mi fa sentire competente e capace.
Social Identity Motives		
Esteem	I see this team positively.	Vedo questa squadra positivamente
Distinctiveness	I see this team as having a distinctive identity—different from other teams.	Vedo che questa squadra ha un'identità distinta, differente dalle altre squadre.
Belonging	I see this team as forming a cohesive 'whole'.	Vedo che questa squadra forma un insieme coeso.
Meaning	I see this team as having a clear and meaningful sense of identity.	Vedo che questa squadra ha un'identità chiara e ricca di significato.
Continuity	I see this team having an identity that persists over time—from past to present to future.	Vedo che questa squadra ha un'identità che persiste nel tempo, dal passato, al presente al futuro.
Efficacy	I see this team as competent and capable.	Vedo questa squadra competente e capace.
Group Identification Items		
1	I feel loyal to this team.	Mi sento fedele a questa squadra.
2	I often think about the fact that I am a member of this team.	Penso spesso al fatto che io sono membro di questa squadra.
3	I have a lot in common with other team members.	Ho molto in comune con gli altri membri della squadra.
4	Being a member of this team is important to who I am.	Essere un membro di questa squadra è importante per chi sono io.
5	I feel committed to this team.	Mi sento impegnato in questa squadra.
6	I identify with this team.	Mi identifico con questa squadra.

Note. All questions are rated on a 7-point scale ranging from 0-6. For motive items, scale anchors were 0 = Not at all, 3 = moderately, 6 = completely. For identification items, scale anchors were 0 = Strongly disagree, 3 = Neither agree nor disagree, 6 = Strongly agree

Results

Descriptive statistics for items are shown in Table 2.2. Within-person and between-person zero order correlations are shown in Table 2.3.

In order to be able to *compare* motives at different motivational levels, our first analytic approach involved multilevel change modelling. This approach demonstrates the unique contribution of a particular identity motive over and above the effect of all other motives. However, it only accounts for contemporaneous or concurrent relations between the satisfaction of motives and group identification, making it impossible to draw conclusions regarding the causal direction between motive satisfaction and group identification. In order to investigate potentially causal relationships, a second analytic approach involved multilevel cross-lagged models. Accordingly, this two-stage analytic approach enabled us to compare the effects of different identity motives on different levels of identity and levels of analysis (multilevel change analyses) and to examine potential causal directions between motive satisfaction and group identification (multilevel cross-lagged analyses). Within both analyses, it is important to note that team level effects (collective motives) require larger effect sizes in order to achieve significance (i.e. because of the differences in power: teams $N = 45$, individuals $N = 369$).

Table 2.2: *Means and standard deviations for identity motives and group identification scales at each time point.*

	Time 0		Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Personal Identity Motives								
Esteem	4.41	1.13	4.27	1.15	4.24	1.17	4.11	1.23
Distinctiveness	3.65	1.53	3.63	1.49	3.68	1.45	3.78	1.37
Belonging	4.31	1.16	4.17	1.15	4.09	1.18	4.04	1.23
Meaning	3.91	1.39	3.83	1.24	3.93	1.25	3.89	1.28
Continuity	3.59	1.57	3.52	1.43	3.66	1.41	3.72	1.35
Efficacy	4.22	1.12	4.06	1.18	4.05	1.18	4.01	1.21
Social Identity Motives								
Esteem	4.90	1.02	4.62	1.11	4.53	1.19	4.37	1.29
Distinctiveness	4.15	1.34	4.17	1.30	4.13	1.32	4.09	1.37
Belonging	4.23	1.27	4.16	1.26	3.95	1.27	4.03	1.35
Meaning	4.21	1.31	4.16	1.29	4.05	1.24	4.13	1.34
Continuity	4.03	1.28	4.04	1.30	3.91	1.30	3.97	1.35
Efficacy	4.44	1.12	4.40	1.10	4.20	1.15	4.30	1.29
Group Identification	4.36	0.90	4.30	0.96	4.25	0.99	4.28	1.06

Table 2.3: *Between-person and within-person correlations*

	Personal Identity Motives						Social Identity Motives						GI
	1	2	3	4	5	6	1	2	3	4	5	6	
Personal Identity Motives													
1 Esteem		0.29	0.49	0.36	0.32	0.34	0.30	0.21	0.22	0.22	0.22	0.22	0.33
2 Distinctiveness	0.52		0.30	0.30	0.24	0.37	0.15	0.27	0.17	0.25	0.21	0.19	0.22
3 Belonging	0.51	0.45		0.54	0.28	0.36	0.30	0.28	0.25	0.26	0.19	0.19	0.28
4 Meaning	0.68	0.50	0.75		0.30	0.28	0.16	0.22	0.15	0.16	0.18	0.09	0.17
5 Continuity	0.51	0.38	0.46	0.49		0.35	0.15	0.18	0.15	0.15	0.14	0.17	0.19
6 Efficacy	0.44	0.54	0.56	0.55	0.53		0.26	0.30	0.23	0.27	0.22	0.22	0.30
Social Identity Motives													
1 Esteem	0.40	0.32	0.51	0.44	0.29	0.45		0.30	0.38	0.32	0.32	0.37	0.30
2 Distinctiveness	0.47	0.45	0.56	0.51	0.34	0.49	0.57		0.32	0.40	0.32	0.38	0.24
3 Belonging	0.50	0.32	0.51	0.41	0.29	0.42	0.63	0.59		0.47	0.40	0.38	0.33
4 Meaning	0.52	0.37	0.53	0.47	0.31	0.47	0.61	0.68	0.73		0.36	0.49	0.31
5 Continuity	0.42	0.34	0.47	0.42	0.37	0.42	0.53	0.61	0.64	0.67		0.25	0.25
6 Efficacy	0.46	0.31	0.44	0.39	0.30	0.45	0.64	0.62	0.65	0.73	0.56		0.30
Group identification	0.67	0.52	0.69	0.66	0.45	0.59	0.60	0.63	0.59	0.65	0.58	0.57	

Note: Within-person correlations (based on participant-centered items) are shown above the diagonal. Between-person correlations (based on averaged scores across time points) are shown below the diagonal.

Analytic Approach 1 – Multilevel Change Modelling

Group identification across 4 occasions was examined in 369 team members who were nested within 45 teams, for a total of 1202 occasions of data. Given the clustered longitudinal design, three-level multilevel models for change were estimated using full maximum likelihood estimation in MLwiN version 2.31 (Rasbash, Browne, Healy, Cameron & Charlton, 2014). Level-1 occasions were nested within level-2 individuals, within level-3 teams. This analytic approach enabled us to model both individual-level and team-level variance, permitted the use of time-varying predictors at level 1, allowed us to test for any between-country differences in the results, and allowed participants who completed less than 4 waves to be included in the analyses (Hoffman, 2015).

       Intercept only and unconditional growth models. Intercept-only (i.e., empty means) models were first examined to partition the variance in identification scores across levels. This three-level model produced an estimate of the grand intercept $b = 4.398$ ($SE = 0.084$), which represents the grand mean of identification. The total variance across levels $= 0.913$ was calculated as the sum of the level 3 random intercept variance $\sigma^2_{u0} = 0.239$ ($SE = 0.084$; 26.18% of total) representing variation across teams, a level-2 random intercept variance $\sigma^2_{v0} = 0.423$ ($SE = 0.04$; 46.33% of total) representing variation among team members in the same team, and a level-1 residual variance $\sigma^2_{e0} = 0.251$ ($SE = 0.012$; 27.49% of total) representing variation across occasions from the same team member.

       The level-2 intraclass correlation for the proportion of total variance due to individuals and teams was $ICC_{L2} = .725$. To partition the individual variance, we then calculated a level 3 intraclass correlation for the proportion of individual variation actually due to variation across teams $ICC_{L3} = .361$. Likelihood ratio tests indicated significant variance at each level (Δ-2LL(1) 778.5, $p <.001$ and Δ-2LL(1) $= 87.4$, $p = <.001$, respectively). Together, these ICCs indicate that of the total variation in group identification over time, 72.5% represented stable individual or team differences, and

36.1% of this stable variance was actually across teams.

We then specified unconditional growth (i.e., time only) models, beginning with a saturated means, unstructured variances model in which all possible variances and covariances across waves were estimated, and in which any linear change was fixed across individuals or teams. These models estimate the linear change in identification over time by including time as a level-1 predictor variable[9]. Compared to this random-intercept unconditional growth model, the model fit improved when we then allowed the slope of time to vary across level-2 individuals (σ^2_{v1}), Δ-2LL(2) = 270.5, $p < 0.001$, as well as across level-3 teams (σ^2_{u1}), Δ-2LL(2) = 107.5, $p < 0.001$, indicating that the size and/or direction of linear changes in identification significantly varied both across individuals and across teams. Results from the final unconditional growth model are given in the first set of columns in Table 2.4 and act as a baseline for our main analyses.

Final conditional model. All personal and social identity motives were centred at the grand mean and added as predictors of identification at level 1 (Hoffman, 2015). Collective motives were constructed using the team average for social identity motives. These were then centred at the grand-mean and entered into the same model as level 1 predictors. Using the unconditional growth model as a baseline (in which time was centred at the first wave), conditional growth models including all 6 motives instantiated at 3 levels (18 predictors) were examined. Unsurprisingly, adding all predictors dramatically increased model fit Δ-2LL(18) = 727.9, $p < .001$.

In order to examine the amount of variation explained by the model, pseudo-R^2 scores, which can be interpreted in a similar way to the partial R^2 statistic in ordinary least squares regression (Hoffman, 2015; Singer & Willett, 2003), were calculated. These showed that the identity motives accounted for 70.3% of the individual (i.e. level

---

[9] Effects of time2 and time3 on team identity were also investigated. Neither effect was significant and therefore these are excluded from further analyses.

2) variation in initial levels of group identification (σ^2_{v0}), and 75.0% of the individual

variation in linear change in group identification (σ^2_{v1}). At the team level (i.e. level 3),

the identity motives accounted for 88.6% of variation in initial levels of group

identification (σ^2_{u0}), and 84.2% of the team variation in linear change in group

identification (σ^2_{u1}). The model also accounted for 17.5% of unexplained non-linear

residual variance (σ^2_{e0}).

Identity motives. As shown in the second set of columns in Table 2.4,

satisfaction of *personal identity motives* for self-esteem, distinctiveness, belonging,

meaning and efficacy predicted group identification. However, there was a strong

interaction effect of country with the belonging motive[10] ($p < .001$), with simple slope

analyses revealing that the effect of belonging was significant in the English sample (p

$< .001$) but not the Italian sample ($p = .572$). Satisfaction of *social identity motives* for

meaning, belonging and continuity also predicted group identification. Finally,

distinctiveness was the only *collective identity motive* to positively predict group

identification. Although collective belonging negatively predicted group identification,

there was again a country interaction effect, with simple slope analyses revealing that

the negative effect of belonging was significant in the Italian sample ($p = .045$), but not

the English sample ($p = .739$). Accordingly, focusing on those effects that replicated in

both English and Italian samples[11], satisfaction of personal identity motives of self-

esteem, distinctiveness, meaning and efficacy, social identity motives of meaning,

belonging and continuity, and collective distinctiveness all uniquely predicted group

identification.

---

[10] Except where stated, the effects reported did not differ significantly between British and Italian teams.

[11] From this point forward, only motives that were significant for both English and Italian teams will be referred to as significant predictors.

Table 2.4: *Longitudinal multilevel analyses predicting concurrent changes in group identification.*
Level 1= Time points (N = 1,202), Level 2= Students (N = 369), Level 3 = Teams (N = 45)

Parameters	Unconditional Growth Model			Conditional Model		
	Est	*SE*	*p*	*Est*	*SE*	*p*
Fixed parameters						
Intercept	4.390	0.072	<.001	4.256	0.033	<.001
Time	0.009	0.026	0.729	0.025	0.017	0.141
Personal Identity Motives						
Esteem				**0.130**	**0.020**	**<0.001**
Distinctiveness				**0.062**	**0.014**	**<0.001**
Belonging				0.091	0.022	<0.001†
Meaning				**0.072**	**0.020**	**<0.001**
Continuity				0.027	0.014	0.054
Efficacy				**0.055**	**0.019**	**0.004**
Social Identity Motives						
Esteem				0.034	0.021	0.105
Distinctiveness				0.025	0.019	0.188
Belonging				**0.074**	**0.020**	**<0.001**
Meaning				**0.076**	**0.022**	**<0.001**
Continuity				**0.051**	**0.017**	**0.003**
Efficacy				0.043	0.022	0.051
Collective Identity Motives						
Esteem				0.067	0.050	0.180
Distinctiveness				**0.129**	**0.050**	**0.010**
Belonging				-0.119	0.058	0.040 †
Meaning				0.073	0.061	0.231
Continuity				-0.017	0.049	0.729
Efficacy				-0.026	0.059	0.659
Random effects						
Individual level						
Random intercept variance (σ^2_{v0})	0.510	0.053		0.151	0.023	
Random Linear Time Slope Variance (σ^2_{v1})	0.024	0.006		0.006	0.004	
Intercept-Time Slope Covariance (σ^2_{v01})	-0.041	0.014		-0.016	0.008	
Team level						
Random Intercept Variance (σ^2_{u0})	0.141	0.049		0.016	0.011	
Random Linear Time Slope Variance (σ^2_{u1})	0.019	0.006		0.003	0.002	
Intercept-Time Slope Covariance (σ^2_{u01})	0.019	0.012		0.000	0.003	
Residual Variance (σ^2_{e0}),	0.177	0.011		0.146	0.009	
-2LL	2385.287			1657.386		

Note: † denotes country interaction effect.

Analytic Approach 2 – Multilevel Cross-Lagged Analyses

Building on our multilevel change analyses, cross-lagged models were computed for those instantiations of identity motives that had been found to predict group identification concurrently in the above analyses[12]. Full information maximum likelihood estimation was used to fit models directly to the raw data to deal with missing values in Mplus 7.3 (e.g., Allison, 2003). Fit was assessed by the comparative fit index (CFI, good fit > 0.95), the Tucker-Lewis index (TLI, good fit > 0.95), the root-mean-square error approximation (RMSEA, good fit < 0.06) and the standardised root mean square residual (SRMR, good fit < 0.08), based on the recommendations of Hu and Bentler (1999).

Figure 2.1 provides a generic illustration of the models tested (Finkel, 1995). A significant cross-lagged effect indicates the prospective effect of one variable on the other (e.g., the effect of an identity motive at T0 on group identification at T1) after controlling for their stability across time (e.g., the effect of group identification at T0 on group identification at T1). We accounted for variance due to specific measurement occasions by allowing residual variances to covary within waves (e.g., the residual of identity motive at T1 was allowed to covary with the residual of group identification at T1). To gain statistical power and parsimony, the autoregressive (stability) and cross-lagged coefficients were constrained to be equal across time (i.e. each T0 to T1 path was constrained to be equal to the corresponding T1 to T2 path and the corresponding T2 to T3 path), giving one parameter rather than three parameters to test each of the predicted effects. For the same reasons, residual covariances were also constrained to be

---

[12] The number of parameters needed for multiple identity motives to be included in a cross-lagged analysis exceeded our sample size.

equal at T1, T2 and T3.[13]

For individual-level motives (i.e. personal and social identity motives) the 'complex' command was used in Mplus allowing us to take account of the clustering of individuals within teams. For collective distinctiveness (the only significant team-level effect in the above analyses), a multilevel cross-lagged analyses using collective distinctiveness was computed.

In order to assess if there were any country level differences in our cross-lagged analyses, we compared two multi-group models for each motive (i.e. by specifying countries as groups). For the initial model, all autoregressive and cross-lagged coefficients were constrained to be equal across countries. As we were only interested in country differences between autoregressive and cross-lagged effects, residual covariances were not constrained to equality across countries. In the subsequent model, autoregressive and cross-lagged coefficients were allowed to be different for each country. Chi-square difference testing, using the Satorra-Bentler Scaled Chi-Square (Bryant & Satorra, 2012), showed that these two multi-group models were not significantly different for any motive (Δ S-B χ^2 (4) $\leq$ 8.67; all p $\geq$ .07). Given that there were no significant differences between English and Italian samples for any motive, results displayed are for single-group models.

---

[13] Imposing these equality constraints caused a significant decrease in fit in the personal identity distinctiveness model only (p = .014). However, the resulting model was more parsimonious, and still provided a good fit to the data (see Table 2.5).
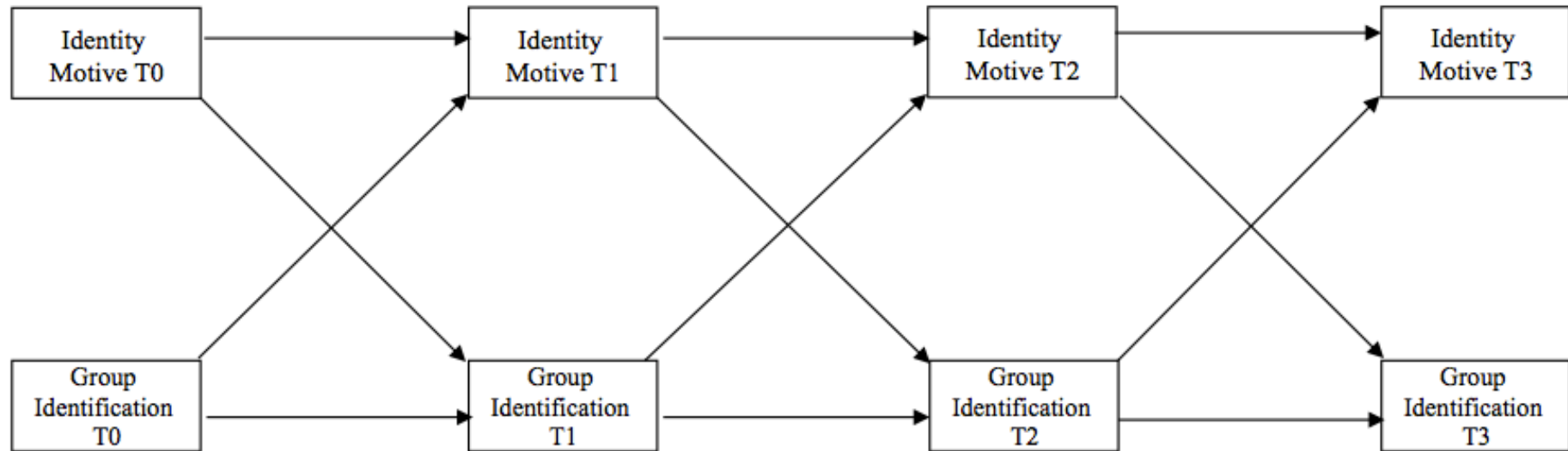
Figure 2.1: Cross-lagged model of the relations between identity motives and group identification across four time points (T0-T3). The relations between factors are specified as cross-lagged effects, which indicate the prospective effect of one variable on the other (e.g., the effect of Identity Motive T0 on Group Identification T1) after controlling for their stability across time (e.g., the autoregressive path of Group Identification T0 to Group Identification T1). Residual covariances are included in the model, but are not shown in the figure to aid clarity.

Model results. Although the fit values in some models were slightly worse than those proposed by Hu and Bentler (1999), we judged the fit of the models to be overall satisfactory. CFI values ranged from 0.950 to 0.992, the TLI values ranged from 0.932 to 0.991, the RMSEA values ranged from 0.039 to 0.093[14] and the SRMR values ranged from 0.043 to 0.065 (see Table 2.5 for full fit values).

Table 2.5 reports the estimates for the autoregressive and cross-lagged coefficients[15]. For individual-level motives (personal and social identity motives), the cross-lagged effects showed a consistent picture: in each case, motive satisfaction significantly predicted group identification across all time points. Group identification also predicted motive satisfaction across all time points, demonstrating a bidirectional relationship between satisfaction of identity motives and group identification. As also shown in Table 2.5, collective distinctiveness showed no significant cross-lagged relationships.

In all cases, the effect of group identification on motive satisfaction was larger than the effect of motive satisfaction on group identification. However, as group identification was a scale measure and identity motives were single item measures, it difficult to draw definitive conclusions regarding the strength of these cross-lagged effects. This is because the greater reliability of the scale results in higher regression coefficients for the autoregressive paths, leaving less variance to explain in the cross

---

[14] The initial RMSEA scores on 2 models (social identity belonging and social identity continuity) were not acceptable (> .10). This was corrected by adding additional stability paths between group identification T1 and group identification T3 in both cases.

[15] Although the coefficients were constrained to be equal across time intervals, the constraints were imposed on unstandardized coefficients (as is usually recommended), which led to slight variation in the resulting standardised coefficients.

lagged relationship from motive satisfaction to group identification[16].

In order to explore this further, we tried replacing the social identification scale with Postmes and colleagues' (2013) single item social identification measure, which has been shown to be a reliable measure of group identification, and re-ran all the models. Fit for these models were again satisfactory: CFI values ranged from 0.927 to 0.985, the TLI values ranged from 0.910 to 0.981, the RMSEA values ranged from 0.050 to 0.097, and the SRMR values ranged from 0.057 to 0.078. Using this single item measure, the strength of the cross-lagged relationships for the individual level motives changed, with motive satisfaction predicting group identification (all *ps* < .001) more strongly than group identification predicted motive satisfaction (all *ps* < .05) in all cases. Because the single item measure produces a more comparable variance component over time to the single item identity motive measures, this may be a more appropriate basis for comparing the cross-lagged effects of group identification and identity motives.

---

[16] In order to test whether the difference in autoregressive paths was statistically different, we constrained the paths to be equal. Satorra-Bentler Scaled Chi-Square test (Bryant & Satorra, 2012), revealed that the autoregressive paths were statistically different in all models (*p* < .05).

Table 2.5: *Cross-lagged and autoregressive effects of identity motives and group identification*

Identity Motive	Cross-lagged effects		Autoregressive effects		Model Fit			
	IM → GI	GI → IM	IM → IM	GI → GI	CFI	TLI	RMSEA	SRMR
Individual level								
Personal Identity Esteem	0.115**	0.267**	0.496**	0.713**	.978	.973	.074	.048
Personal Identity Distinctiveness	0.050*	0.156**	0.618**	0.789**	.973	.966	.082	.057
Personal Identity Meaning	0.136**	0.223**	0.596**	0.715**	.992	.991	.039	.051
Personal Identity Efficacy	0.062*	0.232**	0.471**	0.745**	.964	.956	.088	.064
Social Identity Meaning	0.141**	0.211**	0.594**	0.697**	.967	.957	.096	.062
Social Identity Belonging	0.071*	0.253**	0.524**	0.737**	.957	.967	.087	.064
Social Identity Continuity	0.100**	0.295**	0.476**	0.708**	.961	.939	.093	.065
Team level								
Collective Distinctiveness	0.168	0.384	0.590**	0.737**	.950	.932	.073	.043

Note. The table shows standardised regression coefficients. IM = Identity Motives, GI = Group identification.
* $p < 0.05$, ** $p < 0.001$

Discussion

Our findings show that satisfaction of personal identity motives (self-esteem, distinctiveness, meaning, and efficacy) and social identity motives (belonging, meaning, and continuity) predicted group identification (individual process motives). Further cross-lagged analyses supported these findings by demonstrating a bidirectional relationship between group identification and these identity motives. When motives were operationalised at a group process level (i.e. collective motives), only distinctiveness significantly predicted group identification.

Motivational Levels

Motives instantiated on the level of personal identity appear to be strong predictors of group identification, giving further validity to their use in group situations (e.g., Easterbrook & Vignoles 2012; Vignoles, 2011; Vignoles et al., 2006). Thus, participants identified with their teams to the extent that the team provided them with a personal sense of self-esteem, distinctiveness, efficacy and meaning.

However, our analyses also demonstrate the substantial and unique influence on group identification of motives instantiated on the level of social identity. Thus, over and above the effects of personal identity motives, participants also identified with their teams to the extent that they perceived the team itself as having a cohesive (i.e. belonging), temporally persistent (i.e. continuity) and meaningful identity. This finding is important, as SIT came to prominence because it purported to describe processes that occur within and across groups, yet it has been accused of the same shortcomings that it points out in others; namely, reducing complex group phenomenon to individual wants and desires (Farr, 1996). By becoming preoccupied with a person-centric outlook, some motivational expansions of SIT are not immune to this charge (e.g., Abrams & Hogg, 1988; Hogg, 2000). Although occurring in individual minds (i.e. still an individual

process), social identity motives are more akin to the original spirit of SIT first proposed by Tajfel and Turner, as they focus on an individual's perception of the group's identity. Thus, motivational extensions of SIT should not be constrained to individual needs (e.g., Spears et al., 2009; Spears, 2011; Tajfel, 1979).

Collective motives are defined operationally as social identity motives averaged for each group, and can thus be considered as operating strictly at the group level, when their effects are tested in tandem with those of social identity motives (e.g., Hofmann & Gavin, 1998). Over and above the effects of their *own* perceptions of the team, participants identified with their team to the extent that team members *on average* perceived the team as distinctive. Given the original focus of SIT on group distinctiveness, it is notable that collective distinctiveness was the one collective motive that significantly predicted group identification. This intriguing result (although not supported by cross-lagged analyses) supports the argument by Spears and colleagues (Scheepers et al., 2002; Spears et al., 2009), that collective distinctiveness may also be an important factor in group identity construction.

Admittedly, the effects of collective motives overall were weaker than motives instantiated at an individual level, suggesting that the motivational predictors of group identification generally have to pass through individual awareness (i.e. personal and social identity motives) to be effective. Nevertheless, because collective motives were tested at the group level of analyses, such direct comparisons between individual-level (personal and social identity motives) and group-level motives (collective motives) are difficult to make because of the differences in power, $N = 369$ individuals, $N = 45$ teams. Thus, future research into collective motives would benefit from an even larger number of groups.

Motive Satisfaction

Motive satisfaction for personal identity motives of self-esteem, distinctiveness, meaning, and efficacy, and social identity motives of belonging, meaning, and continuity predicted group identification (see Table 2.6 for full representation). Further cross-lagged analyses supported these findings by showing strong evidence for the bidirectional relationship between group identification and motive satisfaction. Our finding that personal identity motives for self-esteem and distinctiveness predicted group identification, supports the original "positive distinctiveness" proposition first proposed by Tajfel and Turner (1979). However, perhaps surprisingly, these two "original" motives were not found in the form of social identity motives, suggesting that an individual is driven to identify with a group in order to satisfy their *personal* need to feel positive and distinctive, rather than their perception of the group as positive or distinctive. This resonates with previous findings that individual differences in ingroup bias are more strongly associated with personal, rather than collective self-esteem (for a meta-analysis, see Aberson, Healy & Romero, 2000).

Table 2.6: *Identity motives on each level that were found to significantly predict group identification with the team.*

Motivational level	Social Identity Motive					
	Esteem	Distinctiveness	Belonging	Meaning	Continuity	Efficacy
Personal Identity Motives	✓	✓		✓		✓
Social Identity Motives			✓	✓	✓	
Collective Motives		✓				

Interestingly, the satisfaction of meaning was the only motive that was comparably influential across personal and social levels of identity. Although the finding that feelings of personal meaning predict group identification lends supports for meaning as an individual need (e.g., uncertainty identity theory, Hogg, 2000), the approximately equivalent influence of social identity meaning also supports the notion that theorising around meaning should not be solely constrained to the level of personal identity (e.g., Spears et al., 2009). The finding that the satisfaction of personal identity efficacy uniquely predicted group identification supports the proposal that efficacy is an important individual-level motive for group identity processes (Amiot & Sansfaçon, 2011; Amiot & Aubin, 2013; Legault & Amiot 2014). This influence of personal identity efficacy may also be particularly true for sports teams (Feltz, Short & Sullivan, 2008). Satisfaction of the belonging motive was found to predict group identification when it was instantiated as a social identity motive, suggesting that individuals identify with a group that they view as inclusive and cohesive (e.g., Pickett, Silver & Brewer, 2002), even if they do not necessarily derive a personal sense of belonging from the group.

Lastly, our finding that social identity continuity predicts group identification supports research by Smeekes and Verkuyten (2014) who similarly found that social identity continuity is an important predictor of national identification. However, in our study, feelings of personal identity continuity derived from group membership did not uniquely predict group identification, which is contrary to earlier findings from the same authors (Smeekes & Verkuyten, 2013). One possible explanation for this difference is in terms of our unique approach that considers all motives from three motivational levels, indicating that the influence of personal continuity on group identification may be confounded with that of other motives or from different

motivational levels. Alternatively, it may be simply that individuals look to other kinds of groups, such as family and nation, rather than sports teams to provide a sense of personal continuity. Indeed, many of the participants in our study were relatively new members of the teams in question, providing little opportunity to derive a personal sense of continuity from team membership; yet, even new members could identify with a team identity that they recognised as having persisted over time since before their own personal involvement in the team.

Further comparisons of personal identity motives can be drawn between Easterbrook and Vignoles (2012) and the current findings. They demonstrated that satisfaction of personal identity motives involved in identity enactment (self-esteem, belonging and efficacy), predicted within-person changes in identification with interpersonal network groups (flatmates). Conversely, satisfaction of motives involved in identity definition (meaning, self-esteem, and distinctiveness) predicted within-person changes in an abstract social category (halls of residence). One could argue that sports teams have properties of both interpersonal network groups and social categories. For example, sports team members interact on a regular basis (as is the case with interpersonal network groups) in addition to forming separate social categories that are different from other related categories (i.e. distinct and meaningful teams). Accordingly, our finding that satisfaction of personal identity motives of self-esteem and efficacy (identity enactment motives) and meaning and distinctiveness (identity definition motives) predicts group identification is consistent with theory and previous research.

Strengths, Limitations and Future Research

The present study has several notable strengths. Our finding that a high percentage of variation in group identification is explained by satisfaction of identity motives (e.g., 70.3% of the individual intercept variation), emphasises that motivational

processes are vital to our understanding of group identification. This is also the first study to focus simultaneously on multiple motives instantiated on multiple levels of self-representation and multiple levels of analysis, and thus it avoids potentially confounded conclusions regarding the influence of motives that arise from the study of single or dual motivational theories.

Our four-wave clustered longitudinal design also has several methodological strengths over previous research (e.g., Amiot et al., 2010; Easterbrook & Vignoles, 2012; Johnson et al., 2006). The number of groups enabled us to explore group-level processes and make the novel discovery that collective distinctiveness may be involved in group identity construction. Moreover, our analyses examined concurrent motivational predictors of identification *as well as* cross-lagged relationships, allowing us to draw stronger conclusions regarding the causal relationships between group identification and identity motives than previous research. These two advantages are crucial to the study of group identification, and we strongly encourage future researchers in this area to take a similar approach.

One limitation is that we focused only on amateur sports teams, which makes it unclear whether our findings can be generalised to other group identities. For example, previous research has shown that personal identity continuity uniquely and strongly predicts national identification (Smeekes & Verkuyten, 2013). This notion that different motives are at play for different groups is supported by previous research (Easterbrook & Vignoles, 2012). For example, sports teams are formed of members that have chosen to be part of that group. This may explain the prominence of social identity motives (i.e. members join teams because of how they perceive them). Furthermore, as sports teams have a performance orientation, certain motives, such as personal identity efficacy, may be more prominent (see Feltz et al., 2008). Accordingly, we must be cautious not to

draw sweeping conclusions regarding the generalisability of the specific pattern of motivational effects demonstrated here to other kinds of groups. Nevertheless, our broad range of teams and sports, across two countries, gives some confidence in the potential generality to our findings to at least some other small group environments. Future research should adopt a similar methodological approach to test parallel predictions in other types of groups.

Implications

Having a more complete theoretical toolkit for understanding motivated identity processes could prove particularly important in applied domains. For example, in order to foster group identification, team-building interventions could be implemented that are designed to target certain identity motives. As group identification is considered highly malleable, such team interventions could prove beneficial for teams across a wide variety of contexts (Onorato & Turner, 2004). Given the positive outcomes of group identification, these approaches could improve performance (e.g., Haslam et al., 2014, Thomas et al., 2016), wellbeing (e.g., Haslam et al., 2009) and decision-making (e.g., Brown, 2000) amongst team members. Accordingly, having an empirically grounded basis for focusing on particular identity motives lays the foundations for harnessing more effectively the spectrum of benefits of group identification already established in SIT research.

Concluding Remarks

Given the somewhat fragmented motivational landscape within the group literature, it is clear that an overall evaluation of identity motives was long overdue. By moving beyond single motives at one motivational level, our more comprehensive approach enabled us to draw more definitive conclusions regarding the influence of motives instantiated on multiple levels of self-representation and multiple levels of

analysis within the teams that we studied. In particular, we showed the prominence of personal and social identity motives (individual processes), as well as some evidence for the role of a collective motive for distinctiveness (group process) in shaping group identification. In doing so, we have connected a diverse motivational literature and taken a step towards an integrative understanding of identity motives in group situations.

PAPER 3: Athletes' Identification with Elite Sports Teams: The Role of Personal and Social Identity Motives

William E. Thomas, Rupert Brown, Matthew J. Easterbrook, Vivian L. Vignoles

University of Sussex, UK

Jeremy J. Holt

Centre for Team Excellence

Reference:

Thomas, W. E., Brown, R. J., Easterbrook, M., Vignoles, V. L., & Holt, J. (2016).
Athlete identification with elite sports teams. The role of personal and social
identity motives. Manuscript in preparation, University of Sussex.

Abstract

The social identity approach is beginning to inform our understanding of behaviour and performance in sport team contexts. Yet, there is almost no research investigating *why* athletes identify with an elite team. Our integrative approach uses motivated identity construction theory (MICT, Vignoles, 2011) to investigate the role of six identity motives (self-esteem, distinctiveness, belonging, meaning, continuity and efficacy) operating from two different motivational instantiations (personal and social identity) in predicting identification with the team. We investigate these identity processes using a longitudinal multilevel design involving a unique sample of elite-level Olympic, professional and military sports teams. Multilevel change modelling and cross-lagged analyses revealed that satisfaction of three personal identity motives (athletes' personal feelings of distinctiveness, belonging and meaning) and two social identity motives (athletes' perception of the team as having a sense of belonging and efficacy) predicted team identification. Theoretical and practical applications for coaches and team-building facilitators are discussed.

Introduction

"(GB) Hockey has given me a space in the world…where I feel I belong"

Kate Richardson-Walsh – GB Women's Hockey captain and most capped player.
(BBC Sport, 2016)

The social identity approach is now considered by many to be *the* main theoretical framework for understanding group behaviour (Haslam, 2014; Reicher, Spears, & Haslam, 2010). It is therefore not surprising that sports psychologists are beginning to draw upon its principles to understand behaviour, performance and resilience of sports teams (Morgan, Fletcher, & Sarkar, 2013, 2015; Rees, Haslam, Coffee, & Lavallee, 2015; Thomas et al., 2016a). Yet, in order for teams to harness the potential benefits of an increase in team identification, we must first understand *why* individuals identify with a team. As Kate Richardson-Walsh alludes to (above), identification with a team may be motivated by how it satisfies our *personal identity motives* (in her case a sense of belonging). Alternatively, we may identify with a team because of how we view the team as a whole (i.e., *social identity motives*). Using a longitudinal multilevel design, we seek to answer this question by studying a unique sample of elite athletes from Olympic, professional and military teams.

Social Identity Approach to Sports Teams

The social identity approach comprises social identity theory (Tajfel & Turner, 1979, 1986) and self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). A social identity is described as part of an individual's self-concept that arises from membership of a social group. When referring to sports teams, a psychological shift occurs whereby the athlete moves from seeing themselves as an isolated individual to becoming part of the team. This shift can be observed by a change in language from "I" and "me" to "we" and "us", demonstrating that their sense of who they are is

defined by their team identity, rather than their individual identity (Lembke & Wilson, 1998).

This psychological process can have a profound effect on behavioural outcomes. Recent research involving amateur sports teams has shown that, when team identification occurs across the whole team (team level identification), this predicts an increase in perceived and actual team performance (Thomas et al., 2016a). In addition to performance gains, there is also much research demonstrating the beneficial effects of team identification, including: buffering stress (e.g., Haslam, Jetten, O'Brien, & Jacobs, 2004), greater resilience (Morgan et al., 2013, 2015) and increased team learning (Van Der Vegt & Bunderson, 2005). Despite the potential benefits for elite sports, there is almost no research investigating what motivates athletes to identify with an elite team.

Identity Motives

Social identity theory originally proposed that group members are motivated to achieve or maintain "positive distinctiveness" (Tajfel & Turner, 1979). This has later been understood to represent identity motives of esteem and distinctiveness (see Mummendey, 1995). Within the sports literature, many theorists continue to assume that athletes identify with a team in order to feel positive and distinctive (e.g., Bruner, Dunlop, Beauchamp, Beauchamp, & Eys, 2014). Yet, since Tajfel and Turner's seminal work, there have been numerous motivational extensions. For example, Brewer's (1991) optimal distinctiveness theory argues that individuals identify with groups in order to satisfy basic motivations of inclusion and distinctiveness, while Hogg's (2007) uncertainty identity theory suggests that the need for subjective meaning motivates identification in groups. Others have proposed that people identify with groups that provide continuity between past, present and future (Sani et al., 2007; Smeekes & Verkuyten, 2013, 2014, 2015), and that give them competency or autonomy over their

environment (Amiot & Aubin, 2013; Amiot & Sansfaçon, 2011; Legault & Amiot, 2014).

Motivated identity construction theory. Motivated identity construction theory (MICT, Vignoles, 2011) integrates these motives into a single theory of identity construction, enactment and defence. MICT states that people are motivated to identify with a team in order to feel positively about themselves (*self-esteem motive*); to feel that they are distinguished from other people (*distinctiveness motive*); to feel that they are included and accepted (*belonging motive*); to feel that their lives are meaningful (*meaning motive*); to feel that their past, present and future are connected (*continuity motive*); and to feel that they are competent and capable of influencing their environments (*efficacy motive*). Thus MICT draws together six identity motives into one holistic framework. Recent research by Thomas et al. (2016b) has further extended MICT in group situations by demonstrating that these six motives can be instantiated in two different ways.

Motivational instantiations - personal and social identity motives. As outlined above, MICTs primary focus has been on *personal identity motives* that concern how being a team member satisfies an *individual's psychological needs*. In their longitudinal multilevel design investigating amateur sports teams, Thomas and colleagues (2016b) found that the same six motives can also be instantiated as *social identity motives*. Social identity motives refer to *how the team is perceived* by the individual. If the team is perceived as having a satisfactory identity, it can influence team members' experience of being in the team and hence their subsequent identification with it. Using the belonging motive as an example, an athlete may identify with a team not only because it satisfies his or her personal need for belonging (i.e., personal identity belonging), but also because they *view the team* as a whole as

inclusive (i.e., social identity belonging). Thus the degree to which an individual *perceives the team* as having a satisfactory identity may also impact on their identification with that team, independently of their sense of personal identity.

Thomas et al. (2016b) demonstrated that satisfaction of *personal identity motives* of self-esteem, distinctiveness, belonging, meaning, and efficacy, and *social identity motives* of belonging, meaning, and continuity, predicted identification in amateur sports teams. By considering multiple identity motives from different motivational instantiations, Thomas et al.'s (2016b) research was the first to draw definitive conclusions regarding the influence of motives on team identification. This distinction between personal and social identity motives is essential to fully understand the underlying psychological processes involved in team identification. Using the meaning motive as a further example, identifying with a team because it *makes you feel* that you have an important purpose and role within the team (i.e., personal identity meaning) is very different from identifying with a team because you *view the team* as having an important purpose or cause (i.e., social identity meaning). Having a clearer understanding of these two different motivational pathways not only furthers our knowledge of identity processes in team situations, but also gives us a greater theoretical toolkit necessary to harness the potential benefits of an increase in team identification (Haslam et al., 2004; Morgan et al., 2013, 2015; Thomas et al., 2016a; Van Der Vegt & Bunderson, 2005).

Yet, what is not clear from Thomas et al. (2016b) research, is whether these motives apply to all teams, or whether they are solely applicable to amateur sports teams. Given the performance culture of elite level teams, one might expect other motives, such as social identity efficacy (i.e., how competent and capable athletes view the team), to be involved in identification with the team. A study on a 'personal-

disclosure mutual-sharing' intervention, whereby athletes publically disclose personal information to previously unknown team members, found that an increase in "collective efficacy" was also accompanied by an increase in identification with an elite youth cricket team (Barker, Evans, Coffee, Slater, & McCarthy, 2014). Although the authors investigate both collective efficacy and identification as outcome variables, it nevertheless suggests that identification with an elite team may be related to whether it is perceived as capable of achieving its goals. In exploring a large sample of elite and amateur teams, Fransen et al., (2014) suggests that team identification may provide a mechanism though which leaders are able to foster 'collective efficacy'. However, Fransen and colleagues' cross-sectional design makes the direction of the relationship between collective efficacy and identification with the team unclear.

To our knowledge there is only one study investigating how motive satisfaction may influence team identification in elite sports. Using self-determination theory as a framework, De Backer et al. (2011) investigated the influence of coach behaviours on identification with elite level volleyball and handball teams in Belgium and Norway. They demonstrated that when a coach created an environment that supported psychological needs of autonomy, competence and relatedness, athletes reported identifying with the team more strongly. Although this research suggests that these psychological needs are involved in team identification processes, Backer and colleagues use a composite measure of need satisfaction, including all three psychological needs into one measure. This makes it impossible to establish which specific needs were related to team identification. Moreover, their cross-sectional design makes it difficult to draw directional inferences between team identification and psychological needs.

Using MICT as a framework, we sought to address the limitations of this

research and test our theoretical perspective that multiple identity motives at different

motivational instantiations are involved with elite team identification. We measured

athletes' identification with elite sports teams together with the satisfaction of the six

identity motives proposed by MICT from two motivational instantiations. This allowed

us to draw conclusions about which of the six motives proposed by MICT (esteem,

distinctiveness, belonging, meaning, continuity and efficacy) and from which

motivational instantiations (personal or social identity) are involved in identification

with elite teams.

The Present Study

Given the benefits of team identification on performance, wellbeing and

resilience (Haslam et al., 2004; Morgan et al., 2013, 2015; Thomas et al., 2016a; Van

Der Vegt & Bunderson, 2005), there is a somewhat surprising lack of research that

directly investigates *why* athletes identify with elite teams. In order to address this gap,

the present study explored the interplay between the satisfaction of different identity

motives operating from different motivational instantiations with a diverse selection of

elite level teams. These identity processes were investigated with national men's and

women's hockey teams, a national synchronised swimming team, a military parachute

display team, a military (national) rugby team, a UK handball team (Super 8

champions), a Danish championship winning volleyball team and an English

Premiership football (soccer) club's youth academy team.

This unique and heterogeneous sample of elite teams was studied using a

longitudinal design with 3 time points over a 4 month period. This allowed us to explore

potentially causal relationships between identity motives and team identification that go

beyond previous cross-sectional research (e.g., De Backer et al., 2011). Thus, the aim of

the present study was to investigate which identity motives proposed by MICT (esteem,

distinctiveness, belonging, meaning continuity and efficacy) and from which

motivational instantiation (personal or social identity motives) predict identification

with elite teams.

Method

Participants and Design

One hundred and fifty nine participants (106 men, $M = 27.25$, $SD = 7.45$ and 53

women, $M = 23.04$, $SD = 5.19$) from eight different elite teams (as described above)

participated in the research. Each of these teams competed at the highest level in their

chosen discipline. Teams were recruited via known contacts of two of the authors and

via direct email communications. As an incentive for taking part in the study, teams

were given a detailed breakdown of how their identity motives compared to other teams

in the sample. On average, participants had been involved with their teams for 30.59

months ($SD = 25.81$) at Time 0. Across the 3 time points, there was a total of 281

occasions of data collection (T0 = 112, T1 = 83, T2 = 86)[17], with 196 missing occasions.

Thus, we had a clustered longitudinal design with athletes nested within teams over

time.

Procedure

Teams were invited (via email communication) to complete an online

questionnaire using QuestionPro. It was the responsibility of the team's management

(e.g., coach or performance director) to distribute the online questionnaire to team

members. Teams were then sent two follow up emails at approximately 8-week

intervals. Therefore, three waves of data were collected over a 16-week period. The

beginning of each questionnaire detailed the aims of the research and informed

---

[17] The rugby team only completed 2 waves. The team was deployed for duty before the final
wave could be collected.

participants of their right to withdraw. Once teams had completed all three waves, they were thanked for their time and given a report of how their identity motives compared to other elite teams in our study.

Measures

  Team identification. Identification with the team was recorded using a 6-item measure. The six items represented various facets of identification, including solidarity, cognitive centrality and self-stereotyping with the group (see Ashmore, Deaux, & McLaughlin-Volpe, 2004; Leach et al., 2008), as well as Postmes, Haslam and Jans's, (2013) single item measure of group identification. Items were recorded on a 7 point Likert scale from "Strongly disagree" to "Strongly agree". This scale showed good reliability (T0-T2: α = .82-.87).

  Identity motives. We developed new items for each motive (self-esteem, distinctiveness, belonging, meaning, continuity and efficacy) represented at both motivational instantiations (i.e., 12 separate measures). These included items adapted from previous single item measures, (see Thomas et al., 2016b), discussion among the authors, and use of relevant literature (Chiang, Suen, & Hsiao, 2013; Easterbrook & Vignoles, 2012; Sani et al., 2007; Smeekes & Verkuyten, 2013, 2014).

  Each measure included four to six items with two negatively worded items. *Personal identity motive* items had the question stem: "How much does being a member of this team make you feel…". Items included: "positive about yourself" (personal identity esteem) and "separate from others" (negatively worded personal identity belonging). *Social identity motive* items did not have a question stem. Example items are: "Your team is different from other teams" (social identity distinctiveness) and "Your team is divided" (negatively worded social identity belonging).

  Participants were asked to indicate "The extent to which each statement

describes your feelings" and respond using a 7-point Likert with scale anchors "Not at all", "Moderately" and "Completely". Internal consistency across time points (T0-T2) were as follows: personal identity esteem α = .81-.85, personal identity distinctiveness α = .38-.64[18], personal identity belonging α = .80-.83, personal identity meaning α = .69-.74, personal identity continuity α = .67-.81, personal identity efficacy α = .64-.75, social identity esteem α = .81-.85, social identity distinctiveness α = .65-.75, social identity belonging α = .81-.83, social identity meaning α = .77-.79, social identity continuity α = .81-.88, social identity efficacy α = .73-.77.

Results

Our analyses comprised two separate stages. Firstly, we conducted multilevel change modelling that sought to establish which motives made a unique contribution to team identification. While this multilevel change modelling establishes the relationship of each motive to identification over and above the effect of all other motives, it only accounts for concurrent relations between the satisfaction of motives and team identification. In order to establish potentially causal relationships, we ran multilevel cross-lagged regression models. These cross-lagged models were only computed for the motives that were found to uniquely predict identification in the multilevel change modelling analyses.

Multilevel Change Modelling

Table 3.1 reports descriptive statistics for all scales. Table 3.2 reports within and between person zero order correlations.

---

[18] Some alphas within waves were below recommended 0.7 cut-off criteria (Nunnally & Bernstein, 1994). However the average alpha across waves was greater than 0.7 for all measures, apart from personal identity distinctiveness, indicating that the scales had good overall internal consistency. While removing items for personal identity distinctiveness would have increased this alpha, we considered that this post-hoc approach would decrease the validity of the results and therefore retained all items.

Given our longitudinal design, two-level multilevel models for change were estimated using full maximum likelihood estimation in MLwiN version 2.31 (Rasbash, Browne, Healy, Cameron & Charlton, 2014). This analytic approach treats longitudinal data as multilevel with level-1 occasions nested within level-2 individuals, allowing us to include participants who completed less than three waves and enabled the use of time varying predictors at level 1. In order to control for the clustering of individuals within teams, we represented teams as dummy variables at level 2.

Unconditional growth model. An unconditional growth model (i.e., time only) was specified with a saturated means and unstructured variances model. This allowed all possible variances and covariances to be estimated, and any linear change was fixed across individuals. This model estimated the linear change in identification over time by including 'time' (coded 0-2 for time-points 1-3) as a level 1 predictor variable. Compared to this random-intercept unconditional growth model, the model fit improved when we allowed the slope of time to vary across level-2 individuals, Δ-2LL(2) = 7.4, p = .025. This indicated that the size and/or direction of linear change in identification significantly varied between individuals. This final unconditional growth model is reported in the first set of columns in Table 3.3 and will act as a baseline for our main model.

Conditional models. Using the unconditional growth model as a baseline, we first examined the effects of teams. In order to control for the small number of teams, they were added as level 2 fixed effects with the largest team used as the reference category (i.e., instead of creating an additional level, see Hoffman, 2014). Adding seven dummy variables with one reference category increased model fit, Δ-2LL(8) = 33.2, p < .001, and were therefore retained. Next, all identity motives were grand mean centred and added as predictors of identification at level 1. Unsurprisingly, adding all personal

and social identity motives dramatically increased model fit Δ-2LL(12) = 177.3, *p* < .001.

To assess the amount of variation explained by the model, pseudo-R^2 scores were calculated. These can be interpreted in a similar way to partial R^2 statistic in ordinary least squares regression (Hoffman, 2015; Singer & Willett, 2003). This revealed that, once the team dummies and time variables were included in the model, identity motives accounted for 55.1% of the individual (i.e. level 2) variation in initial levels of team identification (σ^2_{u0}), and 48.3% of the individual variation in linear change in team identification (σ^2_{u1}). The final conditional model is displayed in Table 3.3. Results reveal that satisfaction of *personal identity motives* for distinctiveness, belonging and meaning[19] uniquely predicted identification with the team. For *social identity motives*, satisfaction of belonging and efficacy also uniquely predicted identification with the team.

---

[19] The effect of personal identity efficacy was marginally significant. However, given the fairly large sample size, we elected to report marginally significant effects as non-significant.

Table 3.1: *Means and standard deviations for identity motives and team identification scales at each time point.*

	Time 0		Time 1		Time 2	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
Personal Identity Motives						
Esteem	5.54	(1.10)	5.56	(1.06)	5.67	(0.98)
Distinctiveness	4.72	(0.88)	4.78	(0.72)	4.97	(0.87)
Belonging	5.38	(1.13)	5.58	(1.03)	5.52	(1.02)
Meaning	5.69	(1.06)	5.71	(0.98)	5.85	(0.90)
Continuity	5.02	(1.04)	4.94	(1.22)	4.99	(1.13)
Efficacy	5.47	(0.86)	5.47	(0.95)	5.70	(0.86)
Social Identity Motives						
Esteem	5.54	(0.99)	5.48	(1.00)	5.83	(0.88)
Distinctiveness	5.41	(0.81)	5.32	(0.88)	5.18	(0.90)
Belonging	5.16	(1.14)	5.15	(1.05)	5.32	(0.94)
Meaning	5.85	(0.92)	5.87	(0.87)	5.91	(0.82)
Continuity	4.92	(1.24)	4.40	(1.42)	4.18	(1.30)
Efficacy	5.63	(0.83)	5.64	(0.82)	5.89	(0.78)
Team Identification	5.99	(0.96)	5.93	(0.99)	6.18	(0.78)

Table 3.2: *Between-person and within-person correlations*

		Personal Identity Motives						Social Identity Motives						TI
		1	2	3	4	5	6	1	2	3	4	5	6	
Personal Identity Motives														
1	Esteem		.20	.50	.53	.23	.46	.09	.23	.24	.09	.00	.01	.11
2	Distinctiveness	0.43		.08	.36	.16	.13	.16	.20	.19	.21	.11	.12	.13
3	Belonging	0.69	0.34		.34	.14	.40	.14	.14	.35	.18	.00	.14	.15
4	Meaning	0.66	0.54	0.57		.16	.42	.09	.29	.29	.19	.13	.27	.15
5	Continuity	0.47	0.32	0.35	0.47		.06	.06	.24	.12	.06	.12	-.02	.00
6	Efficacy	0.71	0.44	0.61	0.66	0.45		.13	.19	.23	.29	-.02	.34	.13
Social Identity Motives														
1	Esteem	0.43	0.26	0.39	0.36	0.31	0.44		.30	.48	.52	.26	.50	.07
2	Distinctiveness	0.21	0.25	0.21	0.23	0.33	0.25	0.38		.23	.48	.36	.21	.07
3	Belonging	0.48	0.31	0.61	0.46	0.31	0.45	0.61	0.31		.56	.15	.58	.16
4	Meaning	0.42	0.26	0.44	0.40	0.40	0.48	0.61	0.52	0.58		.35	.54	.13
5	Continuity	0.27	0.12	0.19	0.20	0.49	0.32	0.42	0.40	0.27	0.49		.14	.00
6	Efficacy	0.45	0.27	0.45	0.44	0.35	0.55	0.65	0.42	0.61	0.66	0.35		.16
Team identification		0.47	0.39	0.56	0.51	0.31	0.47	0.47	0.28	0.60	0.43	0.18	0.51	

Note: Within-person correlations (based on participant-centered items) are shown above the diagonal. Between-person correlations (based on averaged scores across time points) are shown below the diagonal.

Table 3.3: *Longitudinal multilevel analyses predicting concurrent changes in team identification.*

Parameters	Unconditional Growth Model			Conditional Model		
	Est	*SE*	*p*	*Est*	*SE*	*p*
Fixed parameters						
Intercept	5.914	0.09	<.001	6.125	0.106	<.001
Time	0.091	0.051	0.074	0.027	0.045	0.549
Personal Identity Motives						
Esteem				0.014	0.056	0.803
Distinctiveness				0.111	0.053	0.036*
Belonging				0.119	0.053	0.025*
Meaning				0.117	0.058	0.044*
Continuity				-0.016	0.04	0.689
Efficacy				0.126	0.065	0.053
Social Identity Motives						
Esteem				0.014	0.061	0.818
Distinctiveness				0.058	0.052	0.265
Belonging				0.183	0.058	0.002*
Meaning				0.001	0.066	0.988
Continuity				-0.002	0.041	0.961
Efficacy				0.151	0.072	0.036*
Random effects						
Random intercept variance (σ^2_{u0})	0.801	0.145		0.36	0.081	
Random Linear Time Slope Variance (σ^2_{u1})	0.087	0.049		0.045	0.032	
Intercept-Time Slope Covariance (σ^2_{u01})	-0.177	0.069		-0.134	0.044	
Residual Variance (σ^2_{e0}),	0.267	0.054		0.206	0.039	
-2LL		696.423			485.98	

Note: For confidentiality reasons, fixed effects of teams are not included.

Cross-Lagged Models

Building on our multilevel change modelling analyses, which demonstrated the unique effect of each motive on team identification, we ran multilevel cross-lagged models to investigate potentially causal relationships between identity motives and team identification. These cross-lagged models were computed separately for each motive and only on those motives that were found to uniquely predict identification in the multilevel change analyses[20]. In order to deal with missing data, full information maximum likelihood estimation was used to fit models directly to the raw data in in MPlus 7.3 (Allison, 2003). We controlled for non-independence of observations (i.e., clustering of individuals within teams) using the "Two Level" command[21]. Based on the recommendations of Hu and Bentler (1999) and Kline (2005), fit for these models was assessed by the comparative fit index (CFI, good fit > 0.95, acceptable fit > 0.90), the Tucker-Lewis index (TLI, good fit > 0.95, acceptable fit > 0.90), the root-mean-square error approximation (RMSEA, good fit < 0.06, acceptable fit < 0.08) and the standardised root mean square residual (SRMR, good fit < 0.08, acceptable fit < 0.10).

A significant cross-lagged effect indicates the prospective effect of one variable on the other (e.g., the effect of an identity motive at Time 0 on team identification at Time 1) after controlling for their stability across time (e.g., the effect of team identification at Time 0 on team identification at Time 1) (see Figure 2.1). We correlated residual variances within waves to account for variance specific to each measurement occasion (e.g., the residual of identity motive at Time 1 with the residual of team identification at Time 1). The autoregressive and cross-lagged coefficients were

---

[20] The number of parameters required to include multiple identity motives in one cross-lagged model exceeded our sample size.

[21] There has been some discussion in the literature regarding the use of multilevel analyses when the number of clusters in less than 20 (e.g., Snijders, 2011). In order to explore this, we created a set of dummy variables for teams and used them as covariates to control for non-independence of observations. This produced similar results and gave us confidence in our original analyses.

also constrained to be equal across time[22].

Table 3.4 reports estimates for cross-lagged and autoregressive coefficients[23]. The cross-lagged effects showed an overall trend. In all cases, identity motives prospectively predicted team identification to a greater extent than team identification predicted the identity motives. Personal identity motives of belonging ($p = .002$) and meaning ($p = .031$), significantly predicted team identification. Social identity motives of belonging ($p = .025$) and efficacy ($p < .001$) also predicted team identification. Personal identity distinctiveness did not achieve significance in prospectively predicting identification with the team ($p = .358$). Across the five models, identification with the team only prospectively predicted personal identity belonging ($p = .006$), suggesting a bidirectional relationship between an individual's need to belong and identification with the team.
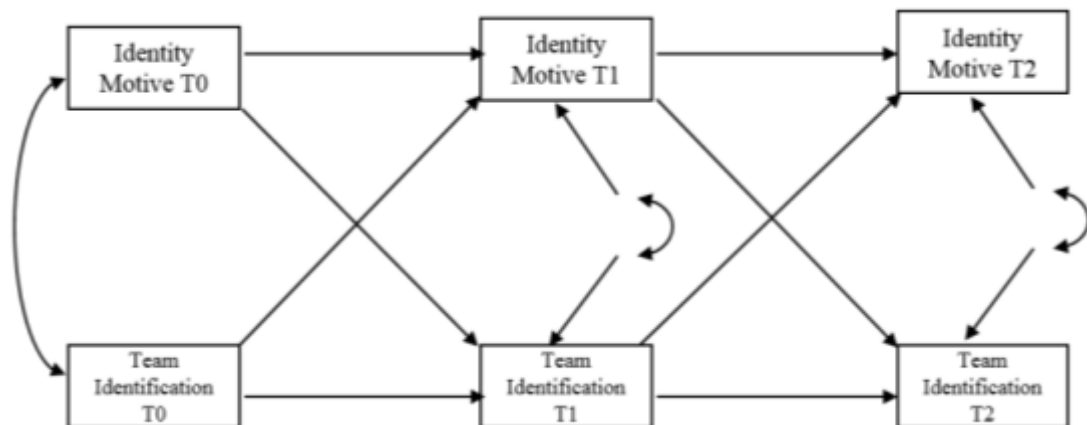
Figure 3.1: Cross-lagged model of the relations between identity motives and team identification across the three time points (T0-T2). Cross-lagged effects indicate the prospective effect of one variable on the other (e.g., the effect of Identity Motive T0 on Team Identification T1) after controlling for their stability across time (e.g., the autoregressive path of Group Identification T0 to Group Identification T1). Residual covariances are represented as double headed arrows.

---

[22] Chi-square difference testing, using the Satorra-Bentler Scaled Chi-Square (Bryant & Satorra, 2012), showed that imposing these equality constraints caused no significant decrease in fit for any of the models (Δ S-B $\chi 2$ (5) ≤ 7.83; all $p \geq .16$)
[23] The constraints were imposed on unstandardized coefficients (as is usually recommended), which led to slight variation in the resulting standardised coefficients.

Table 3.4: *Cross-lagged and autoregressive effects of identity motives and team identification*

Identity Motive	Cross-lagged effects		Autoregressive effects		Model Fit			
	IM → TI	TI → IM	IM → IM	TI → TI	CFI	TLI	RMSEA	SRMR
Personal Identity Distinctiveness	0.100	0.049	0.335*	0.668**	.973	958	.065	.072
Personal Identity Belonging	0.236*	0.220*	0.564**	0.516**	.996	.993	.033	.053
Personal Identity Meaning	0.147*	0.081	0.686**	0.595**	.975	.961	.081	.064
Social Identity Belonging	0.186*	0.156	0.680**	0.586**	1.000	1.000	.000	.035
Social Identity Efficacy	0.206**	0.102	0.567**	0.555**	.989	.983	.053	.047

Note. The table shows standardised regression coefficients. IM = Identity Motives, TI = Team identification.

* $p < 0.05$, ** $p < 0.001$

Discussion

Our results revealed that, across 16 weeks, the satisfaction of *personal identity motives* of distinctiveness, belonging and meaning, and *social identity motives* of belonging and efficacy predicted concurrent levels of identification with elite teams. Going beyond these concurrent relationships, cross-lagged analyses also demonstrated that *personal identity motives* of belonging and meaning as well as *social identity motives* of belonging and efficacy prospectively predicted team identification. This analysis further showed that identity motives predict team identification more strongly than the reverse relationship.

Beyond Positive Distinctiveness for Elite Teams?

Although there have been several motivational extensions in the literature, researchers continue to believe that identification with a sports team is motivated solely by the need to feel positive and distinct (e.g., Bruner et al., 2014). Our results provide evidence that identification with an elite team is more nuanced, involving satisfaction of motives beyond esteem and distinctiveness. Indeed, when controlling for other motives, satisfaction of personal identity esteem was *not* found to predict identification with elite teams. Moreover, there was only partial support for personal identity distinctiveness (i.e., no cross-lagged effect), and no evidence for the involvement of either social identity esteem or social identity distinctiveness. These somewhat surprising results suggest that athletes' identification with elite teams largely occurs due to satisfaction of other motives.

Our finding that satisfaction of personal identity belonging predicts identification implies that, when an athlete feels that they are accepted and included, they are more likely to identify with their team (Pickett, Silver, & Brewer, 2002). This finding may explain research from self-determination theory that demonstrates that a combined measure of autonomy, competence and *relatedness* is associated with

identification in elite teams (De Backer et al., 2011). As Vignoles (2011) notes, the

construct of 'relatedness' is analogous with the belonging motive. Thus, one could

speculate that De Backer and colleagues' findings are largely produced by the need for

relatedness (i.e., belonging), as opposed to autonomy or competence[24]. The only other

personal identity motive to predict identification was the satisfaction of meaning,

indicating that if team members believe that they have an important role and purpose

within the team, they are more likely to identify with it. This finding lends further

support for the importance of meaning as an individual need in group processes (see

Hogg, 2007).

Supporting Thomas et al. (2016b), we also found strong evidence for the

influence of motives instantiated on the level of social identity: Perceiving the team as

being inclusive and cohesive (belonging motive) and as being capable of achieving its

goals (efficacy motive) predicted elite team identification. Thus, it is important we do

not simply adopt a person-centric outlook, but also consider how the team as a whole is

perceived when attempting to explain team identification. Notably, there was a

bidirectional relationship between social identity belonging and identification with the

team. This suggests that individuals identify with teams that they perceive as inclusive

(see Pickett, Silver, & Brewer, 2002), while identification with the team also leads to

perceptions of the group as inclusive and accepting. The overall influence of the

belonging motive from both motivational instantiations underscores its importance in

the construction of team identification (see also Thomas et al., 2016b).

The influence of social identity efficacy indicates that if an athlete views the

team as a whole as competent and capable of achieving its objectives, they are more

---

[24] It is worth noting that personal identity efficacy did approach significance.

likely to identify with it. While researchers have suggested a link between 'collective efficacy' and elite team identification, collective efficacy has largely been treated as an outcome variable (e.g., Fransen et al., 2014). Yet, as most of this previous research has been cross-sectional, researchers have been unable to make causal inferences. The present findings suggest that social identity efficacy prospectively predicts identification with the team, rather than the reverse relationship. In comparing these findings with Thomas et al. (2016b), social identity efficacy was the only motive to predict identification with elite teams that was *not found* in amateur teams. This suggests that the goal-orientated performance culture in elite sports may cause athletes to identify with a team that they view as being able to achieve its objectives.

Our finding that social identity meaning *did not* predict identification, suggests that viewing the team as having a clearly defined purpose is not involved with elite team identification. This differs from identification with amateur teams (Thomas et al., 2016b), and indicates that defining the purpose and role of individual team members may be a more beneficial way of developing identification in elite teams (i.e., *personal* identity meaning). Notably, the continuity motive at both the personal and social identity instantiation was also not involved with elite team identification. One possible explanation for this is that athletes derive continuity from their involvement in sport in general or from other kinds of groups such as nation or family that are typically more permanent in their lives (Smeekes & Verkuyten, 2013, 2014, 2015). The involvement of different motives for different groups or teams is not unexpected, and supports previous research (Easterbrook & Vignoles, 2012).

Strengths. Limitations and Future Research

Our longitudinal design enabled us to examine both concurrent relations between motives *and* cross-lagged relationships. By doing so, we were able to make more definitive conclusions regarding the causal influence of motives on team

identification that has not been possible in previous cross-sectional research (e.g., De Backer et al., 2011). Our finding that satisfaction of all the identity motives accounted for 55% of the between-person variation in team identification suggests that identity motives are crucial to understanding identification with elite teams. We also created multi-item measures of the MICT motives for the first time. Examining motive satisfaction in this way allowed us to assess different dimensions of each motive, as well as reducing potential distortion and bias that can be associated with single-items (e.g., Sarstedt & Wilczynski, 2009).

While our diverse sample of elite teams was an undoubted strength of the research, the number of teams was also one of its limitations. As we only investigated eight elite teams, we did not have the necessary power to examine the potential for motives to occur at the level of the team. Thomas et al. (2016b) found that, even when controlling for their own individual perceptions of the team, amateur athletes identify with the team to the extent that team members *on average* perceived the team as distinctive (i.e., collective distinctiveness). Thus, motives operating at the level of the team – or what Thomas and colleagues term *collective identity motives* – may be involved in identification with elite teams. While we were not able to measure collective identity motives, we nevertheless controlled for the multilevel nature of the data. The number of athletes and teams in the present research also goes well beyond other elite team research in this area (e.g., Barker et al., 2014; De Backer et al., 2011; Morgan et al., 2013, 2015).

MICT does not claim to be an exhaustive list of motives. For example, research from self-determination theory has shown that the need for autonomy may be involved in team identification (e.g., De Backer et al., 2011). Although Vignoles (2011, see note 1) argues that autonomy should not be considered an identity motive, future research may nevertheless wish to expand the list of motives involved in elite team identification.

Future research could also investigate the motivations involved with other types of group. For example, given the importance of fan identification to elite sports teams, our integrative approach to identity motives may shed new light onto this field (see Amiot, Sansfaçon, & Louis, 2013; Fink, Trail, & Anderson, 2002; Greenwood, Kanters, & Casper, 2006; Lock, Taylor, Funk, & Darcy, 2012).

Practical Implications

Given the malleability of social identification (Onorato & Turner, 2004) and its potential benefits (Haslam et al., 2004; Morgan et al., 2013, 2015; Thomas et al., 2016a; Van Der Vegt & Bunderson, 2005), there is an obvious applicability of these findings for team coaches, performance directors and team-building facilitators. Barker and colleagues (2014) have already shown that disclosure and sharing of personal information can cause an increase in identification. This sharing of personal information was reported to build stronger social ties and enhance social relationships. It is thus reasonable to assume that athletes felt more included and accepted within the group (i.e., personal identity belonging) and viewed the group as more inclusive (i.e., social identity belonging). Notably, athletes also reported an increase in perceptions of collective efficacy (i.e., social identity efficacy). Barker and colleagues' (2014) approach may therefore be tapping into certain identity motives, which could explain the increase in identification within their study. With a clearer understanding of the underlying psychological processes, we are not only able to comprehend why a change in identification occurs but also design more effective team development interventions. Thus, having a deeper understanding of identity processes in elite teams has the potential to lead to a wide spectrum of benefits associated with an increase in team identification.

Concluding Remarks

This study was the first to explore the involvement of multiple identity motives

from two motivational instantiations with elite teams. Our results strongly suggest that these identity processes are crucial in understanding *why* individuals identify with elite teams. In doing so, we make an important contribution to a growing trend of psychological research that seeks to use social identity theory in order to inform behaviour in sporting arenas (see Rees et al., 2015). Our hope is that this research will be the first step towards a theoretical toolkit used by coaches, facilitators and managers that will enable an increase identification and subsequent performance in elite teams.

GENERAL DISCUSSION

We as a species are inherently social creatures, and this is reflected by the fact that teams and groups form the foundations of our society (Kozlowski & Ilgen, 2006). Yet, despite the pervasiveness of teams, psychological research, and society in general, largely attempts to understand behaviour from an individualistic perspective (Baumeister et al., 2015; Nielsen, Hrivnak, & Shaw, 2009). Using a social identity approach (Tajfel & Turner, 1979, 1986), the present thesis has argued that in order to understand humans, we cannot treat them as isolated individuals but rather in the group context from which they operate.

In line with this reasoning, Paper 1 demonstrated the influence of team level identity (TLI) on both perceived and actual performance, even whilst controlling for the effects of individual level social identification (ILI). Paper 2 was the most comprehensive evaluation of identity motives in group situations to date and took a step towards resolving confusions about the relationship between "personal" and "group" motives that have afflicted social identity research and theory since the seminal debate between Tajfel (1979), and Taylor and Brown (1979, see also Hogg & Abrams, 1993). Taken together, these two papers have shown that identity motives and social identification are more than intrapsychic processes, but also emergent properties of the whole group.

Although papers 1 and 2 highlight the differences between the individual and the group, it is important to note that individual and group level processes should not be viewed in opposition. Instead, they should be seen to mutually influence each other; individuals are influenced by groups, but groups are created and shaped by individuals (Hornsey, 2008; Postmes & Jetten, 2006; Postmes, Spears, Lee, & Novak, 2005). Unravelling and exploring this interplay between the individual and the group was only made possible by our longitudinal multilevel methodology. This approach allowed us to

draw inferences about the directionality of effects between identity processes *and* explore group level effects, while controlling for individual level effects. We can conclude that group level processes have strong and predictable effects in team contexts. In doing so, Papers 1 and 2 lend further support to recent calls for a multilevel interpretation of social identity processes (Jans et al., 2015; Ozeki, 2015).

Paper 3 supports Paper 2 by taking our integrative approach to identity motives and applying it to a diverse selection of elite teams. Although the number of teams in Paper 3 does not allow us to study group level effects (i.e., collective identity motives), it is nevertheless important to consider similarities and differences in motivational involvement between these two different types of teams. Our finding that social identity efficacy predicts elite, but not amateur team identification, indicates that viewing the team as capable of achieving its objectives is more important for elite teams. This difference is not unsurprising and supports the proposition that identification with different groups (and indeed different types of teams) are likely to involve different motives (Easterbrook & Vignoles, 2012). Nevertheless, satisfaction of *personal* identity distinctiveness, belonging[25] and meaning, and *social* identity belonging were found to predict identification in both amateur and elite level teams. The involvement of these motives in both amateur and elite teams gives us some confidence in their generality, at least within a team context.

Results across Papers 2 and 3 also suggest that there is a bidirectional relationship between identity motives and team identification. In Paper 2, the relationship appears to be stronger going from team identification to the identity motives than vice versa. However, upon closer inspection, and as noted within the

---

[25] There was no cross-lagged effect for personal identity distinctiveness in Paper 3 (elite teams) and personal identity belonging was only found to predict identification in the English sample for Paper 2 (amateur teams).

paper, this may be produced by the greater reliability of the multi-item team identification measure, compared to the single-item identity motive measures. Exploring this further, and comparing the single-item identity measure with the single item motives, reversed the relationship. This, coupled with our finding in Paper 3 (that identity motives more strongly predicted team identification than the reverse relationship) further suggests that identity motives are essential for social identity construction.

Team Building Application

Throughout the three years of my PhD, I have also been fortunate to work in close collaboration with the Centre for Team Excellence. Given the aforementioned potential for a social identity approach to be applied for team building, we have taken the current research as a platform to develop a team building tool. This tool has been (and is currently being) implemented within various organisational, sporting and military teams. While these interventions have not been of a publishable standard, it would be remiss of me if I did not mention this in my thesis. Indeed, team development was one of the main reasons for the creation of my studentship and, as described below, has also been one of its main practical outcomes. Thus, I will briefly describe the predominant team building approaches, outline a theoretical rationale for a social identity approach to team building, and discuss an example of how our approach has been used with the GB Men's and Women's Hockey teams.

Predominant Team Building Approaches

Current leading approaches in the team building literature largely consist of either team stage models or competency and personality approaches (Kozlowski & Ilgen, 2006). The predominant stage approach is Tuckman's team stage model (Tuckman, 1965). This posits that all groups go through four stages of 'forming', 'storming', 'norming' and 'performing'. Although this is one of the most widely

implemented team building approach within the management literature, Tuckman's original literature review was founded on therapy groups, and was not therefore, representative of settings where small group or team development processes are likely to occur. More pertinently though, stage models such as Tuckman's (see also McGrath, 1984; Yukelson, 1997), assume a movement in a forward direction and expect every team member to trail the developmental path. Yet, as Gersick (1988) advocated, there are multiple possible sequences and cycles of team development, stating that stage models were oversimplified.

Another prominent approach that attempts to understand and build effective teams is through team member competencies or personality. Temperament-type theory (TTT) typifies this approach and has been widely examined by a number of researchers to explain individual differences (e.g., Myers-Briggs, Jung's Archetypes). For example, Myers-Briggs Type Indicator, a test that separates individuals into sixteen basic "types", is one of the most popular choices for companies today. However, these approaches see teams as simply another circumstance in which individual behaviour takes place, and give no consideration to the way in which individual personal attributes or types are influenced by the teams in which they belong. Indeed, pigeonholing people into personality types has also been shown to have very little impact on understanding and predicting future *individual* conduct, let alone trying to understand and predict complex group interactions (Pittenger, 2005).

These approaches (i.e., stage and personality) also lack a coherent theoretical underpinning that is supported by empirical research. Indeed, in Kozlowki and Illgen's (2006) review, they conclude that although team building has the potential to be an influential instrument for team effectiveness, the empirical research for this opinion is surprisingly weak. From a social psychological perspective, the most striking omission has been that, despite team building being a fundamentally group process, current team

building approaches give little consideration to the *cognitive process individuals undergo when in a team context*. Following this reasoning, and in opposition to Kozlowki and Illgen's (2006) observation, it is altogether *un*surprising that the effectiveness of these team building interventions has been so weak.

Social Identity Approach to Team Building

Social identity approach offers a theoretical framework for understanding group behaviour that appears superior to current stage and personality approaches. It renders Tuckman's model irrelevant to teams where cognitive transition has already taken place. As Lembke and Wislon (1998) note, stage models describe how teams should be built without fully understanding the emotional or cognitive processes concerned with being a team member. In short, they fail to consider what is happening to teams at a psychological level, which may lead to activities that are counterproductive to the psychological process of teams. Equally, individualist approaches such as TTT (see also Knowledge Skills and Abilities; Stevens & Campion, 1994) downplay the impact of the group on an individual's psychology, and struggle to examine the underlying psychological processes that are prevalent within team contexts (see Haslam, 2004). As this thesis has demonstrated, the influence of the group on the individual can have important behavioural consequences. Thus, the notion that a prototypically group process can be defined or even explained by a set of personality types, which are intended to transpose across complex changes in environment and relationships, appears to be somewhat misguided.

In contrast, the social identity approach, furthered by the three papers within this thesis, provides an empirically-grounded basis for understanding team behaviour, and explains the underlying psychological processes occurring in team situations. Within the sports literature, Rees et al., (2015) suggest that social identity is the basis for sports group formation, development and leadership. Further arguing that a social identity

approach has the potential to make a powerful impact on behaviour in sport. In line with this reasoning, recent research has focused on a discussion-based approach to increasing social identity in sports teams (Dunn & Holt, 2004; Evans, Slater, Turner, & Barker, 2013). For example, Evans, et al. (2013) used the Personal-Disclosure Mutual-Sharing (PDMS) method on 14 soccer academy athletes finding that, in accordance with social identity theory, focused team discussions led to an increase in identification for nine (64%) participants (see also Barker, Evans, Coffee, Slater, & McCarthy, 2014). Within an organisational context, research by Peters, Haslam, Ryan and Fonseca (2013) on the Actualizing Social and Personal Identity Resources model (ASPIRe Haslam, Eggins, & Reynolds, 2003) demonstrated that a discussion-based approach could increase both subgroup (team) and organisational identification. Although these studies are limited in both sample size and applicability, they nevertheless offer encouraging signs that targeted team discussions can lead to team identification gains.

TRIBE

TRIBE is a team-building tool that has been designed through the Centre for Team Excellence and is grounded in the three papers within this thesis. It is an acronym that stands for Traditions, Relevance, Identity, Belonging and Effectiveness. Traditions refers to the *continuity* motive, Relevance represents the *meaning* motive, Identity is described as having a *positive* (i.e., esteem) and *distinct* identity, Belonging evidently refers to the *belonging* motive and Effectiveness characterises the *efficacy* motive. One of the aims of the tool is to make the research described in this thesis easily understood and usable by the general population. Thus the language that it uses is not directly synonymous with the above papers (at no time do we mention "motivational instantiations"!). Nevertheless, the six motivational constructs of MICT are investigated, reported back to teams and targeted through discussions and activities aimed at increasing the identity motives.

As described in Paper 3, in exchange for data collection, elite teams were offered their TRIBE report. This measured their TRIBE foundations, as defined above, against the other elite teams in the sample. Both men's and women's GB hockey had low Traditions (i.e., continuity) scores compared to other elite teams. Subsequent discussions with GB hockey led to working more closely with them and their in-house psychologists. It became apparent that, despite the rich heritage of GB Hockey (e.g., Colwill, 2016), the team knew very little about the history, tradition and legacy that came before them. In order to have a greater understanding of the historical context of the team and how this might impact its future, various actions were taken. Firstly, both teams were given a presentation on the research behind social identity theory, MICT and TRIBE. The potential importance of developing a stronger sense of traditions (i.e., continuity) was also explained to them. This led both teams to set up a smaller leadership group that was interested in researching the history and legacy of GB hockey. After they had collected this information, it was fed back to the rest of the team and used as a starting point for facilitated discussions around how the current team could develop a stronger sense of tradition and add a new 'chapter' to the GB hockey story. This also resulted in actionable behavioural changes. For example, the women's team now holds welcome ceremonies for new squad players and have also created a video of current players, which is shown at this welcome ceremony. Notably, these were organic growths led by the team with the knowledge imparted by TRIBE[26]. This development of identification as a bottom up process, rather than top down process imparted by management, is crucial for fostering a strong identity (Haslam et al., 2003). We hope that these interventions made a small contribution to the Women's gold medal winning

---

[26] This was conducted on the basis of our finding in Paper 2; that social identity continuity (i.e., traditions) predicted team identification and without the knowledge that this was not found with the elite team sample.

Olympic Games.

As argued above, stage and temperament type approaches to team building not only fail to consider the influence of the group on the individual, but also lack a theoretical underpinning that is supported by empirical research. This may explain why there has been so little success by current team building interventions in influencing performance (Kozlowski & Ilgen, 2006). By exploring how team identification and team performance are related *and* why individuals identify with a team, the three papers presented have given team building facilitators a clearer understanding of the underlying psychological mechanisms involved in a high performing team. Although future experimental research is needed, approaches such as TRIBE, offer a potentially rewarding avenue for the creation and development of high performing teams that is grounded in empirical research, with strong theoretical foundations.

Limitations and Future Research Directions

All three papers focus on sports teams, making it difficult to draw inferences to other types of groups more generally. An important aspect of sports teams, which is especially true for amateur teams, is that members typically *chose* to be part of a team based on how they perceive it. While this is not always the case with elite teams (i.e., the team typically selects the individual) individuals can nevertheless opt out of a team they perceive negatively. Given that individuals join sports teams based on how they are perceived, and social identity motives reflect how the team is perceived, this could potentially explain their involvement in Papers 2 and 3. Another important consideration is that group level effects found in Papers 1 and 2 are unlikely to be found in online groups, where group identity it based solely on an individual's representation of the group (Jans et al., 2015). Given that research has suggested that different motives are at play for different types of groups (Easterbrook & Vignoles, 2012), investigating these identity processes for larger social categories (e.g., organisational or national

identification) and online teams offers a potentially fruitful avenue for future research. Nevertheless, the current papers do investigate a broad range of teams across multiple sports, countries and ability levels, giving some confidence in generality of the findings to at least other types of face-to-face teams.

The research presented is largely based on self-report questionnaires. This enabled us to explore identity processes with real teams operating in real-life situations that gave us a degree of ecological validity not found in laboratory research. As mentioned earlier, our longitudinal design also allowed us to draw more concrete inferences regarding the directionality of effects. Yet, the research reported is all quantitative, and thus lacked the detail that can be produced from a more qualitative approach. Moreover, without experimental data, it impossible to draw definite conclusions regarding the cause-effect relationships. Hence, future research could potentially utilise experimental designs to confirm the directionality of effects demonstrated across the three papers. As alluded to in the above section, a particular area that I am interested in is using an experimental design to explore how an increase in identity motives influences social identification and performance. Future research could investigate the effectiveness of different intervention strategies on each motive, and measure subsequent identity and performance.

More broadly, there are also potential limitations to a social identity approach to team building. One of the potential criticisms of inducing a strong team identity is that if the group is highly identified they are also likely to be homogenous (e.g., Huddy, 2001). Perceiving the group as homogenous has been viewed by researchers as a key aspect of group identification (Leach et al., 2008). This view somewhat dampens the attraction of a social identity approach to teams, as communication of diverse opinions is one of the essential ingredients to successful teamwork (Lembke & Wilson, 1998). For instance, multidisciplinary teams rely on dissimilarities in the background and

opinion of its members in order to provide different solutions to challenging problems. Furthermore, research has found that increasing homogeneity of a team has the potential to induce unwanted team effects such as 'groupthink' and a lack of individual contribution (e.g., Park, 1990). However, more recent work by Jans, Postmes and Van der Zee (2011) has demonstrated that individual distinctiveness could actually *strengthen* team identification. This is also supported by Paper 2 and 3's finding that satisfaction of personal identity distinctiveness actually predicts social identification. Thus, in agreement with Jans et al. (2011), homogeneity was not considered a facet of social identification when measuring it across our three papers.

Final Concluding Remarks

The three papers hang together to further support a social identity approach to teams. In particular they have highlighted the importance of multilevel approach to social identification in attempting to understand team performance, and taken a step towards an integrative understating of identity motives in group situations. In doing so, they offer an important reminder that we cannot treat humans as isolated individuals but rather in the group context from which they operate. Given the centrality of teams to society in general, my hope is that this thesis may also enhance the theoretical toolkit needed to foster team identification and harness its potential benefits.

REFERENCES

Aberson, C. L., Healy, M., & Romero, V. (2000). Ingroup bias and self-esteem: A meta-analysis. *Personality and Social Psychology Review*, *4*, 157-173. doi:10.1207/s15327957pspr0402_04

Abrams, D., & Hogg, M. A. (1988). Comments on the motivational status of self-esteem in social identity and intergroup discrimination. *European Journal of Social Psychology, 18*, 317-334. doi:10.1002/ejsp.2420180403

Abrams, D. E., & Hogg, M. A. (1999). *Social identity and social cognition.* Blackwell Publishing. doi:10.1037/0021-843X.112.4.545

Allison, P. D. (2003). Missing data techniques for structural equation modeling. *Journal of Abnormal Psychology,112*, 545. doi:10.1037/0021-843X.112.4.545

Amiot, C. E., & Aubin, R. M. (2013). Why and how are you attached to your social group? investigating different forms of social identification. *British Journal of Social Psychology, 52*, 563-586. doi:10.1037/0021-843X.112.4.545

Amiot, C. E., & Sansfaçon, S. (2011). Motivations to identify with social groups: A look at their positive and negative consequences. *Group Dynamics: Theory, Research, and Practice, 15*, 105. doi:10.1037/0021-843X.112.4.545

Amiot, C. E., Sansfaçon, S., & Louis, W. R. (2013). Uncovering hockey fans' motivations behind their derogatory behaviors and how these motives predict psychological well-being and quality of social identity. *Psychology of Sport and Exercise*, *14*, 379–388. doi:10.1016/j.psychsport.2012.12.004

Arrow, H., McGrath, J. E., & Berdahl, J. L. (2000). *Small groups as complex systems: Formation, coordination, development, and adaptation*. Sage Publications. doi: 10.4135/9781452204666

Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organizing

framework for collective identity: articulation and significance of multidimensionality. *Psychological bulletin*, *130*, 80. doi 10.1037/0033-2909.130.1.80

Barker, J. B., Evans, A. L., Coffee, P., Slater, M. J., & McCarthy, P. J. (2014). Consulting on tour: a dual-phase personal-disclosure mutual-sharing intervention and group functioning in elite youth cricket. *The Sport Psychologist*, *28*, 186–197. doi:10.1123/tsp.2013-0042

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497. doi:10.1037/0033-2909.117.3.497

Baumeister, R. F., Ainsworth, S. E., & Vohs, K. D. (2015). Are groups more or less than the sum of their members? the moderating role of individual identification. *Behavioral and Brain Sciences*, 1–38. doi:10.1017/s0140525x15000618

Becker, M., Vignoles, V. L., Owe, E., Brown, R., Smith, P. B., Easterbrook, M., … Yamakoğlu, N. (2012). Culture and the distinctiveness motive: Constructing identity in individualistic and collectivistic contexts. Journal of Personality and Social Psychology, 102, 833-855. doi:10.1037/a0026853

Becker, M., Vignoles, V. L., Owe, E., Easterbrook, M. J., Brown, R., Smith, P. B., ... & Koller, S. H. (2014). Cultural bases for self-evaluation seeing oneself positively in different cultural contexts. *Personality and Social Psychology Bulletin*. doi:10.1177/0146167214522836

Breakwell, G., & Jaspal, R. (2014). *Identity process theory: Identity, social action and social change.* Cambridge: Cambridge University Press. doi:10.1017/cbo9781139136983

Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability:

Implications for data aggregation and analysis. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, Extensions, and New Directions.* doi: 10.2307/3094811

Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin, 17*, 475-482. doi:10.1177/0146167291175001

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of cross-cultural psychology*, *1*, 185-216. doi:10.1177/135910457000100301

Bryant, F. B., & Satorra, A. (2012). Principles and practice of scaled difference chi-square testing. *Structural Equation Modeling: A Multidisciplinary Journal, 19*, 372-398. doi:10.1080/10705511.2012.687671

Brown, R. (2000). *Group processes: Dynamics within and between groups.* Basil Blackwell. doi:10.2307/2072391

Brown, R. (2010). *Prejudice: Its social psychology* John Wiley & Sons. doi:10.2307/591756

Brown, R. (in press). *Social*, not individual, identification is the key to understanding group phenomena: A commentary on Baumeister, Ainsworth and Vohs. *Behavioral and Brain Sciences*

Bryant, F. B., & Satorra, A. (2012). Principles and practice of scaled difference chi-square testing. *Structural Equation Modeling: A Multidisciplinary Journal, 19*, 372-398. doi:10.1080/10705511.2012.687671

Bruner, M. W., Dunlop, W., Beauchamp, M. R., Beauchamp, M. R., & Eys, M. A. (2014). A social identity perspective on group processes in sport and exercise. *Group dynamics in exercise and sport psychology*, 38-52.

Capozza, D., Brown, R., Aharpour, S., & Falvo, R. (2006). A comparison of motivational theories of identification. *Social Identities: Motivational,*

Emotional and Cultural Influences, 51–72.

Chiang, J. K., Suen, H.-Y., & Hsiao, H.-E. (2013). Group identification on Linkedin: A professional group study. *International Business and Management*, *6*, 32–37. doi:10.3968/j.ibm.1923842820130601.1020

Christ, O., Schmid, K., Lolliot, S., Swart, H., Stolle, D., Tausch, N., Hewstone, M. (2014). Contextual effect of positive intergroup contact on outgroup prejudice. *Proceedings of the National Academy of Sciences of the United States of America, 111*, doi:10.1073/pnas.1320901111

Colwill, B. (2016). History of Great Britain Hockey. Retrieved July 08, 2016, from http://www.greatbritainhockey.co.uk/page.asp?section=1435

Cumming, G., & Finch, S. (2005). Inference by eye: confidence intervals and how to read pictures of data. *American Psychologist*, *60*, 170. doi:10.1037/0003-066x.60.2.170

Deaux, K., & Martin, D. (2003). Interpersonal networks and social categories: Specifying levels of context in identity processes. *Social Psychology Quarterly*, 101–117. doi: 10.2307/1519842

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media. doi:10.1007/978-1-4899-2271-7

Dietz, B., van Knippenberg, D., Hirst, G., & Restubog, S. L. D. (2015). Outperforming whom? A multilevel study of performance-prove goal orientation, performance, and the moderating role of shared team identification. *Journal of Applied Psychology*, *100*, 1811. doi:10.1037/a0038888

De Backer, M., Boen, F., Ceux, T., De Cuyper, B., Høigaard, R., Callens, F., Broek, G. V. (2011). Do perceived justice and need support of the coach predict team identification and cohesion? Testing their relative importance among top

volleyball and handball players in Belgium and Norway. *Psychology of Sport and Exercise, 12*, 192–201. doi:10.1016/j.psychsport.2010.09.009

Dunn, J. G., & Holt, N. L. (2004). A qualitative investigation of a personal-disclosure mutual-sharing team building activity. *Sport Psychologist, 18*, 363–380. doi: 10.1123/tsp.18.4.363

Easterbrook, M., & Vignoles, V. L. (2012). Different groups, different motives: Identity motives underlying changes in identification with novel groups. *Personality & Social Psychology Bulletin, 38*, doi:10.1177/0146167212444614

Ellemers, N., De Gilder, D., & Haslam, S. A. (2004). Motivating individuals and groups at work: a social identity perspective on leadership and group performance. *The Academy of Management Review, 29*, 459. doi:10.2307/20159054

Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self-categorisation, commitment to the group and group self-esteem as related but distinct aspects of social identity. *European journal of social psychology, 29*, 371-389. doi:10.1002/(SICI)1099-0992(199903/05)29:2/3<371::AID-EJSP932>3.0.CO;2-U

Evans, A. L., Slater, M. J., Turner, M. J., & Barker, J. B. (2013). Using personal-disclosure mutual-sharing to enhance group functioning in a professional soccer academy. *Sport Psychologist, 27*. doi:10.1123/tsp.27.3.233

Farr, R. M. (1996). The roots of modern social psychology, 1872–1954. Blackwell Publishing.

Feltz, D., Short, S., & Sullivan, P. (2008). Self efficacy in sport: Research and strategies for working with athletes, teams and coaches. *International Journal of Sports Science and Coaching, 3*, 293-295. doi:10.1260/174795408785100699

Fink, J. S., Trail, G. T., & Anderson, D. F. (2002). An examination of team identification: which motives are most salient to its existence? *International Sports Journal, 6*, 195.

Finkel, S. E. (1995). *Causal analysis with panel data* Sage. doi:10.4135/9781412983594

Fransen, K., Coffee, P., Vanbeselaere, N., Slater, M., De Cuyper, B., & Boen, F. (2014). The impact of athlete leaders on team members' team outcome confidence: A test of mediation by team identification and collective efficacy. *The Sport Psychologist, 28*, 347–360.

Fransen, K., Haslam, S. A., Steffens, N. K., Vanbeselaere, N., De Cuyper, B., & Boen, F. (2015). Believing in 'us': Exploring leaders' capacity to enhance team confidence and performance by building a sense of shared social identity. *Journal of Experimental Psychology: Applied, 21*, 89. doi:10.1037/xap0000033

Firebaugh, G. (1980). Groups as contexts and frog ponds. *Issues in aggregation, 43*, 52.

Gersick, C. J. (1988). Time and transition in work teams: Toward a new model of group development. *Academy of Management Journal, 31*, 9–41. doi:10.2307/256496

Gibson, C. B., & Cohen, S. G. (2003). *Virtual teams that work: Creating conditions for virtual team effectiveness*. John Wiley & Sons.

Greenwood, B., Kanters, M. A., & Casper, J. M. (2006). Sport fan team identification formation in mid-level professional sport. *European Sport Management Quarterly, 6*, 253–265. doi:10.1080/16184740601095016

Grieve, P. G., & Hogg, M. A. (1999). Subjective uncertainty and intergroup discrimination in the minimal group situation. *Personality and Social*

Psychology Bulletin, 25, 926-940. doi:10.1177/01461672992511002

Gyarmati, L., Kwak, H., & Rodriguez, P. (2014). Searching for a unique style in soccer. *arXiv Preprint arXiv:1409.0308*. Retrieved from http://arxiv.org/abs/1409.0308

Haslam, S. A. (2001). Your Wish Is Our Command: The Role of Shared Social Identity. *Social Identity Processes in Organizational Contexts*, 213.

Haslam, S. A. (2012). *Psychology in organizations*. Sage. doi:10.1108/lodj.2002.23.3.167.1

Haslam, S. A. (2014). Making good theory practical: Five lessons for an Applied Social Identity Approach to challenges of organizational, health, and clinical psychology. *British Journal of Social Psychology*, *53*, 1–20. doi:10.1111/bjso.12061

Haslam, S. A., Eggins, R. A., & Reynolds, K. J. (2003). The ASPIRe model: Actualizing social and personal identity resources to enhance organizational outcomes. *Journal of Occupational and Organizational Psychology*, *76*, 83–113. doi:10.1348/096317903321208907

Haslam, S. A., & Ellemers, N. (2011). Identity processes in organizations. In *Handbook of identity theory and research* (pp. 715-744). Springer New York. doi:10.1007/978-1-4419-7988-9_30

Haslam, S. A., Jetten, J., O'Brien, A., & Jacobs, E. (2004). Social identity, social influence and reactions to potentially stressful tasks: support for the self-categorization model of stress. *Stress and Health*, *20*, 3–9. doi:10.1002/smi.995

Haslam, S. A., Jetten, J., Postmes, T., & Haslam, C. (2009). Social identity, health and wellbeing: an emerging agenda for applied psychology. *Applied Psychology, 58*, 1-23. doi:10.1111/j.1464-0597.2008.00379.x

Haslam, S. A., & Reicher, S. D. (2012). When prisoners take over the prison a social psychology of resistance. *Personality and Social Psychology Review*, *16*, 154–179. doi:10.1177/1088868311419864

Haslam, S. A., Turner, J. C., Oakes, P. J., McGarty, C., & Reynolds, K. J. (1997). The group as a basis for emergent stereotype consensus. *European review of social psychology*, *8*, 203-239. doi:10.1080/14792779643000128

Haslam, S. A., van Knippenberg, D., Platow, M. J., & Ellemers, N. (2014). *Social identity at work: Developing theory for organizational practice* Psychology Press.

Hoffman, L. (2014). *Longitudinal analysis: modeling within-person fluctuation and change*. New York: Routledge.

Hofmann, D. A., & Gavin, M. B. (1998). Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management, 24,* 623–641. doi:10.1177/014920639802400504

Hogg, M. A., & Abrams, D. E. (1993). *Group motivation: Social psychological perspectives*. Harvester Wheatsheaf.

Hogg, M. A. (2000). Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. *European review of social psychology*, *11*, 223-255. doi: 10.1080/14792772043000040

Hogg, M. A. (2007). Uncertainty–identity theory. *Advances in Experimental Social Psychology, 39*, 69-126. doi:10.1016/S0065-2601(06)39002-8

Hogg, M. A., & Adelman, J. (2013). Uncertainty–identity theory: Extreme groups, radical behavior, and authoritarian leadership. *Journal of Social Issues, 69*, 436-454. doi:10.1111/josi.12023

Hogg, M. A., Sherman, D. K., Dierselhuis, J., Maitner, A. T., & Moffitt, G. (2007). Uncertainty, entitativity, and group identification. *Journal of Experimental*

Social Psychology, 43, 135-142. doi:10.1016/j.jesp.2005.12.008

Hogg, M. A., van Knippenberg, D., & Rast, D. E. (2012). The social identity theory of leadership: Theoretical origins, research findings, and conceptual developments. *European Review of Social Psychology*, *23*, 258–304. doi:10.1080/10463283.2012.741134

Hornsey, M. J. (2008). Social identity theory and self-categorization theory: A historical review. *Social and Personality Psychology Compass*, *2*, 204–222. doi:10.1111/j.1751-9004.2007.00066.x

Hox, J. (2010). *Multilevel analysis: Techniques and applications*. Routledge.

Hopkins, N., Reicher, S. D., & van Rijswijk, W. (2015). Everyday citizenship: Identity claims and their reception. *Journal of Social and Political Psychology, 3*, 84-106. doi: 10.5964/jspp.v3i2.380

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1-55. doi:10.1080/10705519909540118

Huddy, L. (2001). From social to political identity: A critical examination of social identity theory. *Political Psychology*, *22*, 127–156. doi:10.1111/0162-895x.00230

Jenson, P. (2015). Is Lionel Messi the greatest of them all? Retrieved March 22, 2016, from http://www.independent.co.uk/sport/football/european/lionel-messi-is-the-barcelona-forward-the-greatest-of-them-all-10287066.html

Jans, L., Leach, C. W., Garcia, R. L., & Postmes, T. (2015). The development of group influence on in-group identification: A multilevel approach. *Group Processes & Intergroup Relations*, *18*, 190–209. doi:10.1177/1368430214540757

Jaspal, R., & Breakwell, G. M. (Eds.). (2014). *Identity process theory: Identity, social action and social change*. Cambridge University Press. doi:10.1017/cbo9781139136983

Jaspal, R., & Cinnirella, M. (2010). Media representations of british muslims and hybridised threats to identity. *Contemporary Islam, 4*, 289-310. doi:10.1007/s11562-010-0126-7

Jetten, J., Haslam, C., Haslam, A. S., & Alexander, S. H. (2012). *The social cure: Identity, health and well-being* Psychology Press. doi:10.1017/edp.2012.5

Jetten, J., & Hutchison, P. (2011). When groups have a lot to lose: Historical continuity enhances resistance to a merger. *European Journal of Social Psychology*, *41*, 335-343. doi:10.1002/ejsp.779

Johnson, A. L., Crawford, M. T., Sherman, S. J., Rutchick, A. M., Hamilton, D. L., Ferreira, M. B., & Petrocelli, J. V. (2006). A functional perspective on group memberships: Differential need fulfillment in a group typology. *Journal of Experimental Social Psychology, 42*, 707-719. doi:10.1016/j.jesp.2005.08.002

Khan, S. S., Hopkins, N., Reicher, S., Tewari, S., Srinivasan, N., & Stevenson, C. (2015). How collective participation impacts social identity: A longitudinal study from India. *Political Psychology*. doi: 10.1111/pops.12260

Kenny, D. A., & Kashy, D. A. (1992). Analysis of the multitrait-multimethod matrix by confirmatory factor analysis. *Psychological Bulletin*, *112*, 165–172. doi:doi:10.1037/0033-2909.112.1.165

Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology (In D. Gilbert, S. Fiske, & G. Lindzey (Eds.). The handbook of social psychology (Vol. 1, pp. 233–265).

Kerr, J. (2013). *Legacy*. Hachette UK.

Kerr, N. L., Aronoff, J., & Messé, L. A. (2000). Methods of small group research.

Handbook of Research Methods in Social and Personality psychology.Cambridge University Press, New York, 160–189.

Kerr, N. L., & Hertel, G. (2011). The Köhler group motivation gain: How to motivate the 'weak links' in a group. *Social and Personality Psychology Compass*, *5*, 43–55. doi:10.1111/j.1751-9004.2010.00333.x

Khan, S. S., Hopkins, N., Reicher, S., Tewari, S., Srinivasan, N., & Stevenson, C. (2015). How collective participation impacts social identity: A longitudinal study from India. *Political Psychology*. doi: 10.1111/pops.12260

Kline, R. B. (2005). Principles and practice of structural equation modelling (2nd ed.). London, UK: The Guilford Press. doi:10.1177/1049731509336986

Knippenberg, D. V. (2000). Work motivation and performance: A social identity perspective. *Applied Psychology*, *49*(3), 357–371. doi:10.1111/1464-0597.00020

Kokkonen, A., Esaiasson, P., & Gilljam, M. (2015). Contact in context: Does intergroup contact function (better) in high-threat contexts? *Ethnic and Racial Studies*, 1-19. doi:10.1080/01419870.2015.1080378

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the Effectiveness of Work Groups and Teams. *Psychological Science in the Public Interest*, *7*, 77–124. doi:10.1111/j.1529-1006.2006.00030.x

Legault, L., & Amiot, C. E. (2014). The role of autonomy in intergroup processes: Toward an integration of self-determination theory and intergroup approaches. In Weinstein , N (Ed), *Human motivation and interpersonal relationships* (pp. 159-190). New York: Springer. doi:10.1007/978-94-017-8542-6_8

Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L., Pennekamp, S. F., Doosje, B., Spears, R. (2008). Group-level self-definition and self-investment: A

hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology, 95*(1), 144. doi:10.1037/0022-3514.95.1.144

Lee, C., Farh, J., & Chen, Z. (2011). Promoting group potency in project teams: The importance of group identification. *Journal of Organizational Behavior, 32*, 1147-1162. doi:10.1002/job.741

Legault, L., & Amiot, C. E. (2014). The role of autonomy in intergroup processes: toward an integration of self-determination theory and intergroup approaches (pp. 159–190). Springer.

Lembke, S., & Wilson, M. G. (1998). Putting the 'team' into teamwork: Alternative theoretical contributions for contemporary management practice. *Human Relations, 51*, 927–944. doi:10.1177/001872679805100704

Lock, D., Taylor, T., Funk, D., & Darcy, S. (2012). Exploring the development of team identification. *Journal of Sport Management, 26*, 283–294.

Louis, W. R. (2012). Collective efficacy. *The Encyclopedia of Peace Psychology.*

McGrath, J. E. (1984). *Groups: Interaction and performance* (Vol. 14). Prentice-Hall Englewood Cliffs, NJ.

McGraw, K. O., & Wong, S. P. (1996). Forming inferences about some intraclass correlation coefficients. *Psychological Methods, 1*, 30. doi:10.1037/1082-989x.1.1.30

Morgan, P. B., Fletcher, D., & Sarkar, M. (2013). Defining and characterizing team resilience in elite sport. *Psychology of Sport and Exercise, 14*, 549–559. doi:10.1016/j.psychsport.2013.01.004

Morgan, P. B., Fletcher, D., & Sarkar, M. (2015). Understanding team resilience in the world's best athletes: A case study of a rugby union World Cup winning team. *Psychology of Sport and Exercise, 16*, 91–100.

doi:10.1016/j.psychsport.2014.08.007

Mummendey, A. (1995). Positive distinctiveness and social discrimination: An old couple living in divorce. *European Journal of Social Psychology*, *25*, 657-670. doi:10.1002/ejsp.2420250605

Mummendey, A., & Schreiber, H. (1984). 'Different 'just means 'better': Some obvious and some hidden pathways to in-group favouritism. *British Journal of Social Psychology, 23*, 363-367. doi:10.1111/j.2044-8309.1984.tb00652.x

Mummendey, A., & Wenzel, M. (1999). Social discrimination and tolerance in intergroup relations: Reactions to intergroup difference. *Personality and Social Psychology Review: An Official Journal of the Society for Personality and Social Psychology, Inc, 3*, 158-174. doi:10.1207/s15327957pspr0302_4

Nielsen, T. M., Hrivnak, G. A., & Shaw, M. (2009). Organizational Citizenship Behavior and Performance: A Meta-Analysis of Group-Level Research. *Small Group Research*, *40*, 555–577. doi:10.1177/1046496409339630

Newzealand.com. (2015). *The Haka - Dance of War - Maori Haka - New Zealand | Tourism NZ*. Retrieved 1 October 2015, from http://www.newzealand.com/au/feature/haka/

Onorato, R. S., & Turner, J. C. (2004). Fluidity in the self-concept: the shift from personal to social identity. *European Journal of Social Psychology*, *34*, 257–278. doi:10.1002/ejsp.195

Ormiston, M. E., & Wong, E. M. (2008). To be enhanced, understood, distinct, or to belong?: The role of multiple identity motives in homogeneous and diverse groups. *Research on Managing Groups and Teams: Diversity and Groups, 11*, 167-193. doi: 10.1016/s1534-0856(08)11008-8

Ozeki, M. (2015). Group-level group identity as a basis of a group. *Group Dynamics: Theory, Research, and Practice*, *19*, 166–180. doi:10.1037/gdn0000030

Ozeki, M., & Yoshida, T. (2009). The effect of group identity on the perception of inconsiderateness within the group: From the perspective of functional difference between membership and pride. *Japanese Journal of Experimental Social Psychology, 49,* 32– 44. doi:10.2130/jjesp.49.32

Park, W.-W. (1990). A review of research on groupthink. *Journal of Behavioral Decision Making*, *3*, 229–245.

Pickett, C. L., Silver, M. D., & Brewer, M. B. (2002). The impact of assimilation and differentiation needs on perceived group importance and judgments of ingroup size. *Personality and Social Psychology Bulletin, 28*, 546-558. doi:10.1177/0146167202287011

Pittenger, D. J. (2005). Cautionary comments regarding the Myers-Briggs Type Indicator. *Consulting Psychology Journal: Practice and Research*, *57*, 210. doi:10.1037/1065-9293.57.3.210

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879. doi:10.1037/0021-9010.88.5.879

Postmes, T., Baray, G., Haslam, S. A., Morton, T. A., & Swaab, R. I. (2006). The dynamics of personal and social identity formation. In *Individuality and the group: Advances in social identity* (pp. 215–236). Sage

Postmes, T., Haslam, S. A., & Jans, L. (2013). A single-item measure of social identification: Reliability, validity, and utility. *British Journal of Social Psychology*, *52*(4), 597–617. doi:10.1111/bjso.12006

Postmes, T., Haslam, S. A., & Swaab, R. I. (2005). Social influence in small groups: An interactive model of social identity formation. *European Review of Social Psychology*, *16*, 1–42. doi:10.1080/10463280440000062

Postmes, T., & Jetten, J. (2006). *Individuality and the group: Advances in social identity*. Sage.

Postmes, T., Spears, R., Lee, A. T., & Novak, R. J. (2005). Individuality and social influence in groups: inductive and deductive routes to group identity. *Journal of Personality and Social Psychology*, *89*, 747. doi:10.1037/0022-3514.89.5.747

Prentice, D. A., Miller, D. T., & Lightdale, J. R. (1994). Asymmetries in attachments to groups and to their members: Distinguishing between common-identity and common-bond groups. *Key Readings in Social Psychology*, 83. doi:10.1177/0146167294205005

Rasbash, J., Browne, W. J., Healy, M., Cameron, B., & Charlton, C. (2014). MLwiN Version 2.31. Centre for Multilevel Modelling, University of Bristol, Bristol, UK.

Rees, T., Haslam, S. A., Coffee, P., & Lavallee, D. (2015). A social identity approach to sport psychology: Principles, practice, and prospects. *Sports Medicine*, *45*, 1083–1096. doi:10.1007/s40279-015-0345-4

Rees, T., Salvatore, J., Coffee, P., Haslam, S. A., Sargent, A., & Dobson, T. (2013). Reversing downward performance spirals. *Journal Of Experimental Social Psychology*, *49*, 400–403. doi:10.1016/j.jesp.2012.12.013

Reicher, S. (2000). Social identity definition and enactment: A broad SIDE against irrationalism and relativism. In T. Postmes, R. Spears, M. Lea. & S. Reicher (Eds.). SIDE issues centre stage: Recent developments in studies of de-individuation in groups (pp. 175-190). Amsterdam: Royal Netherlands Academy of Arts and Sciences. doi:10.1177/1088868306294588

Reicher, S., Spears, R., & Haslam, S. A. (2010). The social identity approach in social psychology. In *The SAGE Handbook of Identities* (pp. 45–62). doi:

10.4135/9781446200889.n4

Riketta, M. (2005). Organizational identification: A meta-analysis. *Journal of Vocational Behavior*, *66*(2), 358–384. doi:10.1016/j.jvb.2004.05.005

Riketta, M., & Dick, R. V. (2005). Foci of attachment in organizations: A meta-analytic comparison of the strength and correlates of workgroup versus organizational identification and commitment. *Journal of Vocational Behavior*, *67*, 490–510. doi:10.1016/j.jvb.2004.06.001

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68. doi:10.1037/0003-066X.55.1.68

Salas, E., Cooke, N. J., & Rosen, M. A. (2008). On teams, teamwork, and team performance: discoveries and developments. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, *50*, 540–547. doi:10.1518/001872008X288457

Sani, F., Bowe, M., & Herrera, M. (2008). Perceived collective continuity and social well being: exploring the connections. *European Journal of Social Psychology*, *38*, 365-374. doi:10.1002/ejsp.461

Sani, F., Herrera, M., & Bowe, M. (2009). Perceived collective continuity and ingroup identification as defence against death awareness. *Journal of Experimental Social Psychology, 45*, 242-245. doi:10.1016/j.jesp.2008.07.019

Sarstedt, M., & Wilczynski, P. (2009). More for less? A comparison of single-item and multi-item measures. *Die Betriebswirtschaft, 69*, 211.

Scheepers, D., Spears, R., Doosje, B., & Manstead, A. S. (2002). Integrating identity and instrumental approaches to intergroup differentiation: Different contexts, different motives. *Personality and Social Psychology Bulletin*, *28*, 1455-1467. doi:10.1177/014616702237574

Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford university press. doi:10.1093/acprof:oso/9780195152968.001.0001

Sireci, S. G., Yang, Y., Harter, J., & Ehrlich, E. J. (2006). Evaluating guidelines for test adaptations: A methodological analysis if translation quality. Journal of Cross-Cultural Psychology, 37, 557-567. doi:10.1177/0022022106290478

Smeekes, A., & Verkuyten, M. (2013). Collective self-continuity, group identification and in-group defense. *Journal of Experimental Social Psychology, 49*, 984-994. doi:10.1016/j.jesp.2013.06.004

Smeekes, A., & Verkuyten, M. (2014). Perceived group continuity, collective self-continuity, and in-group identification. *Self and Identity, 13*, 663-680. doi:10.1080/15298868.2014.898685

Smeekes, A., & Verkuyten, M. (2015). The presence of the past: Identity continuity and group dynamics. European Review of Social Psychology, 26, 162–202. doi:10.1080/10463283.2015.1112653

Smith, N. C., Bellamy, M., Collins, D. J., & Newell, D. (2001). A test of processing efficiency theory in a team sport context. *Journal of Sports Sciences*, *19*, 321–332. doi:10.1080/02640410152006090

Snijders, T. A. B. (2011). Multilevel Analysis. In M. Lovric (Ed.), *International Encyclopedia of Statistical Science* (pp. 879–882). Springer Berlin Heidelberg.

Solansky, S. T. (2011). Team identification: a determining factor of performance. *Journal of Managerial Psychology*, *26*, 247–258. doi:10.1108/02683941111112677

Spears, R. (2011). Group identities: The social identity perspective. *Handbook of identity theory and research* (pp. 201-224). Springer New York. doi: 10.1007/978-1-4419-7988-9_9

Spears, R., Jetten, J., & Scheepers, D. (2002). Distinctiveness and the definition of collective self: A tripartite model. doi:10.1037/10448-006

Spears, R., Jetten, J., Scheepers, D., & Cihangir, S. (2009). 2 creative distinctiveness. Intergroup Relations: The Role of Motivation and Emotion (A Festschrift for Amélie Mummendey), 23.

Stevens, M. J., & Campion, M. A. (1994). The knowledge, skill, and ability requirements for teamwork: Implications for human resource management. *Journal of Management*, *20*, 503–530.

Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information/sur Les Sciences Sociales*. doi:10.1177/053901847401300204

Tajfel, H. (1979). Individuals and groups in social psychology*. *British Journal of Social and Clinical Psychology*, *18*, 183-190. doi:10.1111/j.2044-8260.1979.tb00324.x

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. *The Social Psychology of Intergroup Relations, 33*, 74.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. *Psychology of Intergroup Relations*, 7–24. doi:10.1111/j.2044-8260.1979.tb00324.x

Taylor, D. M., & Brown, R. J. (1979). Towards a more social social psychology? *British Journal of Social and Clinical Psychology*, *18*, 173-180. doi:10.1111/j.2044-8260.1979.tb00322.x

Thomas, W. E., Brown, R. J., Easterbrook, M., Vignoles, V. L., D'Angelo, C., Manzi, C., & Holt, J. (2016a). Team level identity predicts perceived and actual team performance: A longitudinal multilevel analyses with real teams. Manuscript submitted for publication, University of Sussex.

Thomas, W. E., Brown, R. J., Easterbrook, M., Vignoles, V. L., D'Angelo, C., Manzi,

C., & Holt, J. (2016b). Social identification in sports teams: The role of

    personal, social and collective identity motives. Manuscript submitted for

    publication, University of Sussex.

Thomas, W. E., Brown, R. J., Easterbrook, M., Vignoles, V. L., & Holt, J. (2016).

    Athlete identification with elite sports teams. The role of personal and social

    identity motives. Manuscript in preparation, University of Sussex.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding*

    concepts and applications. American Psychological Association.

    doi:10.1037/10694-000

Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological*

    Bulletin, *63*, 384. doi:10.1037/h0022100

Turner, J. C. (1985). Social categorization and the self-concept: A social cognitive

    theory of group behavior. *Advances in Group Processes*, *2*, 77–122.

Turner, J. C. (1991). Social influence. Belmont, CA: Thomson Brooks/Cole

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S.

    (1987). *Rediscovering the social group: A self-categorization theory*. Basil

    Blackwell. doi: 10.2307/2073157

Turner, J. C., & Reynolds, K. J. (2012). Self-Categorization Theory. In P. Van Lange,

    A. Kruglanski, & E. Higgins, *Handbook of Theories of Social Psychology* (pp.

    399–417). Sage. doi:10.4135/9781446249215

Van Der Vegt, G. S., & Bunderson, J. S. (2005). Learning and performance in

    multidisciplinary teams: The importance of collective team identification.

    Academy of Management Journal, *48*, 532–547.

van Dick, R., Grojean, M. W., Christ, O., & Wieseke, J. (2006). Identity and the extra

    mile: Relationships between organizational identification and organizational

    citizenship behaviour. *British Journal of Management*, *17*, 283–301.

doi:10.1111/j.1467-8551.2006.00520.x

van Knippenberg, D., & van Schie, E. C. M. (2000). Foci and correlates of organizational identification. *Journal of Occupational and Organizational Psychology, 73*, 137–147. doi:10.1348/096317900166949

van Veelen, R., Hansen, N., & Otten, S. (2014). Newcomers' cognitive development of social identification: A cross-sectional and longitudinal analysis of self-anchoring and self-stereotyping. *British Journal of Social Psychology, 53*, 281–298. doi:10.1111/bjso.12038

van Veelen, R., Otten, S., & Hansen, N. (2011). Linking self and ingroup: Self-anchoring as distinctive cognitive route to social identification. *European Journal of Social Psychology, 41*, 628–637. doi:10.1002/ejsp.792

Vignoles, V. L. (2011). Identity Motives. In Schwartz, S. J., Luyckx, K., Vignoles, V. L. (Eds.), *Handbook of identity theory and research* (pp. 1-27) Springer. doi:10.1007/978-1-4419-7988-9_18

Vignoles, V. L., Chryssochoou, X., & Breakwell, G. M. (2000). The distinctiveness principle: Identity, meaning, and the bounds of cultural relativity. *Personality and Social Psychology Review, 4*, 337-354. doi:10.1207/S15327957PSPR0404_4

Vignoles, V. L., Regalia, C., Manzi, C., Golledge, J., & Scabini, E. (2006). Beyond self-esteem: Influence of multiple motives on identity construction. *Journal of Personality and Social Psychology, 90*, 308. doi:10.1037/0022-3514.90.2.308

Waldzus, S., Mummendey, A., Wenzel, M., & Boettcher, F. (2004). Of bikers, teachers and Germans: Groups' diverging views about their prototypicality. *British Journal of Social Psychology, 43*, 385-400. doi:10.1348/0144666042037944

West, A. (2016). Barcelona penalty: Was it disrespectful or a touch of genius?

Retrieved February 26, 2016, from

http://www.bbc.co.uk/sport/football/35578309

Wilson, N. A. (2011). Leadership as communicative practice: The discursive

construction of leadership and team identity in a New Zealand rugby team.

Wolfe, J., & Box, T. M. (1987). Team cohesion effects on business game performance.

Developments in Business Simulation and Experiential Learning, *14*.

doi:10.1177/003755008801900105

Yukelson, D. (1997). Principles of effective team building interventions in sport: A

direct services approach at Penn State University. *Journal of Applied Sport

Psychology*, *9*, 73–96. doi:10.1080/10413209708415385

APPENDIX 1

Full measures for the English version of the questionnaire used for Paper's 1 and 2 for all time points.

MEASURES

Personal Identity Motives
(1-7 scale; Strongly Disagree - Neither agree nor disagree - Strongly Agree)

Being a member of this team makes me see myself positively.
Being a member of this team distinguishes me from other people.
Being a member of this team gives me a sense that I "belong".
Being a member of this team gives me a sense that my life is meaningful.
Being a member of this team makes me feel that my past, present and future are connected.
Being a member of this team makes me feel competent and capable.

Social Identity Motives
(1-7 scale; Strongly Disagree - Neither agree nor disagree - Strongly Agree)

I see this team positively.
I see this team as having a distinctive identity—different from other teams.
I see this team as forming a cohesive 'whole'.
I see this team as having a clear and meaningful sense of identity.
I see this team having an identity that persists over time—from past to present to future.
I see this team as competent and capable.

Social identity
(1-7 scale; Strongly Disagree - Neither agree nor disagree - Strongly Agree)

I feel loyal to this team.
I am proud to be a member of this team.
I often think about the fact that I am a member of this team.
I have a lot in common with other team members.
I feel committed to this team.
I identify with this team.

Perceived Performance
(1-7 scale; Very Poor - Average - Very Good)

Irrespective of the result, how would you rate your *team* performance?
Irrespective of the result, how would you rate your *individual* performance?

Actual Performance

What was the result and score of the last match you played?
Team Result (please circle)   Win   Loss   Score _____

APPENDIX 2

Full measures reproduced from the original online version, which were used for the study reported in Paper 3 for all time points. Item order was randomly generated.

PERSONAL IDENTITY MOTIVE MEASURES
Questions stem:
How much does being a member of this team make you feel...

Esteem
positive about yourself
great about who I am
worse about yourself (negatively worded)
insecure about your self-worth (negatively worded)

Distinctiveness
distinctive
unique
you stand out from others
you have a distinctive role
indistinguishable from others (negatively worded)
interchangeable with others (negatively worded)

Belonging
a sense of belonging
close to others
accepted (negatively worded)
that you don't fit in (negatively worded)
separate from others

Meaning
you have a purpose
your role is meaningful
what you do is trivial (negatively worded)
unsure of your role (negatively worded)

Continuity
your past, present and future are connected
connected to your future
a sense of tradition
a sense of discontinuity between your past, present and future (negatively worded)
that your past, present and future are disconnected (negatively worded)

Efficacy
competent
capable of coping with challenges
effective
unable to fulfil your goals (negatively worded)
it will be difficult to succeed (negatively worded)

SOCIAL IDENTITY MOTIVE MEASURES

Questions stem:

Please indicate the extent to which each statement describes your feelings.

Esteem
Members are proud of the team
Your team is admired
Your team is highly valued (negatively worded)
Your team is perceived negatively (negatively worded)

Distinctiveness
Your team is different from other teams
Your team is unique
Your team has a distinctive identity
Your team is similar to other teams (negatively worded)
Your team is interchangeable with other teams (negatively worded)

Belonging
Your team is cohesive
Your team is unified
Team members stick together
Your team is cliquey (negatively worded)
Your team is divided (negatively worded)

Meaning
Your team has a meaningful identity
Your team has a clear purpose
Your team is well defined
Your team has no clear meaning (negatively worded)
Your teams goals are unclear (negatively worded)

Continuity
Your team has an identity that extends from past to present to future
You see your team as building on a legacy
Your team has preserved its traditions and customs over time
Your team is disconnected from the past (negatively worded)
Your team is lacking continuity from past to future (negatively worded)

Efficacy
Your team is in control
Your team copes well with challenges
Your team is effective
Your team is unable to achieve its goals (negatively worded)
Your team is powerless (negatively worded)

(0-6 scale; Not at all - Moderately - Completely)

SOCIAL IDENTITY MEASURE

I feel loyal to this team.
I am proud to be a member of this team.
I often think about the fact that I am a member of this team.
I have a lot in common with other team members.
I feel committed to this team.
I identify with this team.

(0-6 scale; Strongly Disagree - Neither agree nor disagree - Strongly Agree)