

THE MEANING OF GROUPS: THE IMPORTANCE AND ROLE OF THE CONTENT OF
SOCIAL IDENTITIES FOR COGNITION AND BEHAVIOUR

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ABSTRACT

The main purpose of the current thesis was to explore the importance and role of social identity content. The current thesis began by exploring relationships between aspects of social identity content and outcome variables pertinent to a performance domain (see chapter two). Using a cross-sectional design, 151 rugby league athletes completed measures of social identity, social identity content, in-group cohesion, general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style. Data indicated that social identity significantly and positively explained general self efficacy, general collective efficacy, and subjective team performance above and beyond in-group cohesion. Data also revealed that a content focused highly on results or lowly on friendships meant that higher levels of social identity were associated with higher levels of general self efficacy, general collective efficacy, subjective team performance, and a preference for autocratic leadership. Given the limitations of cross-sectional research and the lack of longitudinal research within social identity literature, chapter three focused on the relationships between aspects of social identity content and outcomes variables over time. Using a longitudinal design, 167 rugby league athletes competing across eight teams in one Division completed measures of social identity, social identity content, in-group cohesion, general self efficacy, general collective efficacy, and subjective team performance at the beginning, middle, and end of their nine-week season. League position was also tracked over the season as a marker of objective team performance. Multilevel modelling analyses found that between-person differences in social identity significantly and positively explained in-group cohesion and within-person changes in social identity significantly and positively explained general self efficacy and general collective efficacy. Generally, the between-person differences and within-person changes in identities focused on results or friendships failed to explain outcome variables. However, athletes changed the importance placed on friendships over time. Correlation analyses found

that social identity and friendships identity content were positively associated with objective team performance over time. Given that athletes changed their social identity content over time, chapter four examined the effects of social identity content threat to provide an explanation for the equivocal social identity content findings. In an experimental design, 40 students were randomly assigned to a results content, threat condition ($N = 20$) or a support content, no threat condition ($N = 20$). In groups of five, participants watched five sporting clips and answered questions on each clip in turn. Participants were presented with bogus performance feedback after each trial which threatened results content only. At the end of trial five, participants completed measures of social identity, in-group prototypicality, out-group prototypicality, and social mobility. Objective performance was also measured for each trial. Data indicated that receiving relevant threat to an in-group identity focused on one specific content will harm in-group functioning. On the other hand, in-group functioning in the support, no threat condition was unaffected by the performance feedback presented. Therefore, chapter five investigated whether having an alternative, unthreatened component of social identity content available could have protected in-group functioning in chapter four. In an experimental design, 40 students were randomly assigned to a dual content, results threat condition ($N = 20$) or a dual content, support threat condition ($N = 20$). The protocol used in chapter four was replicated. However, participants indicated their willingness to support their group at the end of each trial. Group members received either false performance or supportive feedback depending on the aspect of social identity content threatened. Data revealed that in-group members were socially creative with their dual content. Behavioural outcomes aligned to the threatened component of social identity content were either poor or reduced over time. Trends in behavioural outcomes aligned to the unthreatened aspect of social identity content were less conclusive. Whilst in-group members in each condition reported similar levels of psychological outcomes, being socially creative with social identity

content generally failed to explain outcome data. Overall, the findings of the current thesis suggest that creating and building social identities and social identity content (to some extent) are important for in-group functioning. Data imply that drawing on a threatened aspect of social identity content will have negative repercussions for in-group functioning. Finally, data suggest that having an alternative and unthreatened aspect of social identity content available can (in some instances) protect in-group functioning. Further implications for theory, applied practice, and future research are discussed throughout the thesis.

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CHAPTER 1: INTRODUCTION

1.1. Social Identities

Performers train and compete in groups. For example, Alastair Cook currently trains and competes for the Essex and England cricket teams whilst at The London 2012 Olympic Games, middle-distance and long-distance track and field athlete Mo Farah competed for TeamGB. Within sport psychology literature it is widely acknowledged that being a member of a group has several important implications for an athlete. For example, groups afford an athlete the opportunity to receive social support from their team-mates and coaches (Rees, Ingledew, & Hardy, 1999). Social support has been shown to buffer against stress (Rees & Freeman, 2009) and enhance a number of outcomes including self efficacy (Freeman & Rees, 2009), self-confidence (Freeman & Rees, 2010), and performance (Freeman, Rees, & Hardy, 2009). Team-mates and coaches can also provide an athlete with verbal persuasion and vicarious experience information which Bandura (1997) suggested can be used to enhance self efficacy beliefs. Overall, sport psychology literature would suggest that groups change athletes which supports the notion that groups are much more than an aggregation of their individual parts (Forsyth, 2009; Haslam, 2004).

According to the social identity approach groups are not simply a passive context where individual cognition and behaviour take place (Haslam, 2004). Rather, the social identity approach predicts that group membership has a perceptual and cognitive basis where an individual structures the perception of themselves and others in terms of abstract social categories that become internalised as part of an individual's self-concept (Turner, 1982). Broadly, the social identity approach incorporates sub-theories (i.e., social identity theory and self-categorisation theory) that make various assumptions about how social groups influence cognition and behaviour. Social identity theorists contend that a social group consists of two

or more people who perceive themselves as belonging to a particular group and who are said to be in the group by other people (Tajfel & Turner, 1979). In social identity literature, the sense of belonging and emotional attachment an individual can feel towards a group has been termed as an individual's social identity. Specifically, social identity is defined as "an individual's knowledge that he [or she] belongs to certain social groups together with some emotional and value significance to him [or her] of this group membership" (Tajfel, 1972, p. 292). In other words, a social identity can be conceptualised as the extent to which an individual feels an emotional attachment and sense of belonging to a group (Slater, Evans, & Barker, 2013). Ultimately, it would appear that social identity could be an important psychological variable in a performance context because belonging to groups can enable a performer to experience a range of positive psychological outcomes (e.g., self efficacy) that could lead to elevated performance (see Freeman et al., 2009).

1.2. Similarities and Differences between Social Identity and Cohesion

Self-report measures of cohesion in sport psychology literature typically include items that assess an individual's social identity with their group which would suggest that social identity is a useful indicator of an individual's perception of cohesion. For example, one item included in the Sport Cohesiveness Questionnaire (Martens, Landers, & Loy, 1972) requires respondents to rate their sense of belonging to their group. Likewise, items within the Group Environment Questionnaire (Carron, Widmeyer, & Brawley, 2007) ask respondents to rate their individual attraction to their group and other group members. Sport psychology research has also tended to use the terms 'social identity' and 'group cohesion' interchangeably which implies that social identity and cohesion are the same psychological construct (Duckitt & Mphuthing, 1998). However, social identity literature has highlighted that a number of conceptual differences exist between social identity and cohesion.

Aforementioned, a social identity is characterised by a sense of belongingness and emotional attachment to a group (see Slater et al., 2013; Tajfel, 1972). In contrast, cohesion is defined as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives” (Carron, 1982, p. 124). Therefore, social identity reflects the psychological importance that a group membership has for an individual whilst cohesion represents the extent to which groups act together in unison. In other words, social identities involve cognition and are meaningful at an individual level (Bouas & Arrow, 1996) whereas cohesion exists at a group and interpersonal level (Henry, Arrow, & Carini, 1999). Another conceptual difference between social identity and cohesion is highlighted through the processes of group attraction and group formation. Within theories and models of cohesion (e.g., the Multidimensional Model of Group Cohesion; Carron, 1982) it is widely assumed that interpersonal attraction is the primary psychological basis for group formation. Theories and models of cohesion also emphasise that group attraction is the aggregate of interpersonal bonds of attraction or interdependence (Cartwright, 1968; Lott & Lott, 1965; Mudrack, 1989). Whilst group formation and group attraction from a cohesion standpoint have received a wealth of empirical support in sport psychology research (e.g., Carron, Bray, & Eys, 2002; Williams & Hacker, 1982), the social identity approach asserts that group formation and group attraction are distinct processes whereby individuals depersonalise the perception of themselves and others in terms of sharing a common group categorisation (Hogg, 1993; Turner, 1982). In fact, social identity research has demonstrated that group formation can occur through categorisation in the absence of social contact, interpersonal attraction, and interdependence between group members. For instance, Turner, Sachdev, and Hogg (1983) issued individuals with a personal code number (in the 40s or the 50s) either in a random manner or based on an explicit set of criteria (the number 40s were liked and the number 50s were disliked). Accordingly, individuals were either categorised as

a group or were not categorised at all. Turner et al. (1983) found that interpersonal attraction was necessary and sufficient for group formation in non-categorisation conditions. However, interpersonal attraction was not required in those conditions whereby individuals had been categorised as a group. Turner et al. also found that regardless of whether categorisation was based on interpersonal attraction, consensual disliking of group members, or was completely random in nature, in-group members displayed a high degree of group-oriented behaviour. The authors concluded that group-oriented behaviour (e.g., cohesion) does not necessarily depend on interpersonal attraction and could be mediated through a process of social identification and self-categorisation (see Figure 1.1).

The meta-contrast principle of self-categorisation contends that individuals perceive themselves and other individuals to be an in-group member when they are similar to their in-group prototype (i.e., the skills, qualities, and attributes that are characteristic of an in-group; see Turner, 1999). This process of self-categorisation initiates depersonalisation whereby individuals see themselves and other in-group members as interchangeable exemplars of an in-group prototype rather than idiosyncratic individuals (Hornsey, Dwyer, Oei, & Dingle, 2009). Depersonalisation then triggers self-stereotyping whereby in-group members adopt the attitudes and behaviours described and prescribed by the norms and values associated with their group membership (Turner, 1999). The direct implication of self-stereotyping is that group members will bring their attitudes and behaviours into conformity with their in-group prototype and generate positive attitudinal consensus and behavioural uniformity indicative of cohesive groups (Hogg, 1992). Therefore, social identity can be conceived as an antecedent of cohesion because when individuals define themselves as in-group members they are more likely to be attracted to other categorised individuals as well as their group (Hogg & Turner, 1985).

1.3. Social Identity Theory and Research

The potential importance of social identities were first highlighted by social identity theory (Tajfel, 1978) which is the first strand of the social identity approach. Social identity theory is a social-psychological theory that originated from a series of experiments conducted by Tajfel and colleagues (e.g., Brown, 1978; Tajfel, Billig, & Bundy, 1971). Tajfel and colleagues were interested in the minimal conditions that would lead members of a group to want to favour their own in-group and discriminate against an out-group. Within early experimental research participants were randomly assigned to groups that had no face-to-face interaction and were asked to prescribe monetary rewards to an in-group member and an out-group member (see Tajfel et al., 1971). The distinction between groups was also made arbitrary and meaningless. Broadly, Tajfel and colleagues found that simply categorising an individual to a group caused that individual to want to discriminate against an out-group and favour their in-group by behaving in a manner that accentuated intragroup differences. For example, Tajfel et al. found that in-group members assigned money to a random in-group and out-group member in a manner that maximised the difference between groups in favour of the in-group. In other words, individuals appeared more concerned about their group doing better than other groups than maximising their own personal gain (Haslam, 2004). Tajfel and colleagues (Tajfel, 1978) concluded that merely thinking about being a member of a group will naturally lead individuals to adopt cognition and behaviour that favour their own group.

The main premise behind social identity theory is that an individual will seek out membership to a group that could make a positive contribution to their self-esteem (Haslam, 2004). Social identity theory predicts that once an individual has targeted a group that could make them feel good about themselves they will work through a process of depersonalisation (Tajfel, 1978) where an individual will define themselves as belonging to a collective entity (i.e., 'we' or 'us') rather than being an individual (i.e., 'I' or 'me'). Social identity theory

proposes that an individual will then feel inclined to act and behave in the best interests of their group (rather than in line with their own personal interests) because they strive to see their group (i.e., 'we' or 'us') as different to (and better than) other groups (i.e., 'them') to experience a positive self-esteem (Haslam, 2004). Ultimately, the significance of establishing a social identity is that an individual will be motivated to achieve their group's vision because the fate of the group will decide their own psychological fate as an individual. Based on social identity theory (Tajfel, 1978) it could be that performers will only be motivated to work towards their group's vision when they have a strong social identity with their group.

The implications of having a social identity as a performer could be even more far-reaching. For example, a critical mass of psychological research has demonstrated that social identities can buffer against stress (e.g., Haslam, O'Brien, Jetten, Vormedal, & Penna, 2005), reduce burnout (e.g., Haslam, Jetten, & Waghorn, 2009), increase cohesion (e.g., Anastasio, Bachman, Gaertner, & Dovidio, 1997), increase commitment (e.g., Ellemers, Kortekaas, & Ouwerkerk, 1999; Haslam et al., 2006), and enhance collective efficacy (e.g., Reicher & Haslam, 2006). Such outcomes (e.g., collective efficacy) have been found to be crucial to the psychological well-being (e.g., Jowett, Shanmugam, & Caccoulis, 2012) and performance (see Stajkovic, Lee, & Nyberg, 2009) of performers in psychological literature and could be further explained by social identities in a performance context. On the basis that the process of social identification can influence cognition and behaviour (e.g., cohesion) an exploration into social identities in a performance domain would be anticipated to contribute to group dynamics literature. For example, an investigation into social identities among performers would unearth important information about how individual and group-oriented cognition and behaviour arise because according to social identity theory (Tajfel, 1978), cohesion (and other areas of cognition and behaviour) are underpinned by the formation of a social identity. Sport psychology research (e.g., Murrell & Gaertner, 1992) also tends to suggest that teams

develop a group identity in order to improve group dynamics (e.g., cohesion). At present however, there is no scientific evidence documenting the effects of social identities upon the attitude, cognition, emotion, and behaviour of athletes to substantiate such claims.

1.4. The Content of Social Identities

Anecdotal evidence in sport would suggest that performers attach meaning to their social identities. For instance, during his first press conference as a Manchester United soccer athlete Robin van Persie was asked to describe what it meant to him to become a member of Manchester United soccer club. Van Persie replied: It [joining Manchester United] makes me proud. It [Manchester United] is a big club for me and it is just a big challenge to do it [compete] together with the players here. I am just hoping to achieve big things together with my new team-mates at this great club” (MUTV, 2012). For Robin van Persie, becoming a member of Manchester United soccer club would mean belonging to a winning group and a group rich and proud in tradition. Similarly, in his autobiography, former soccer athlete Kenny Dalglish described why he wanted to become a member of Liverpool soccer club in 1977. Dalglish stated: “Even losing the FA cup final to Manchester United could not diminish the team spirit so clearly bonding Bob Paisley’s players. I knew what I wanted. I wanted to be on that bus, sitting with those Liverpool players again, enjoying the special atmosphere I had experienced as a 15-year old” (Dalglish, 2010, pp. 15-16). For Kenny Dalglish, becoming a member of Liverpool soccer club would mean belonging to a supportive group and a group that was resilient and high in team-spirit. Group mottos also suggest that belonging to a group has a specific meaning. For example, the motto of Blackburn Rovers soccer club (i.e., *Arte et Labore*: by skill and hard graft) suggests that being skilful and hardworking is meaningful to group members of Blackburn Rovers soccer club. Outside of soccer, the motto of Wigan Warriors rugby league club (i.e., *Ancient and Loyal*) implies that being devoted to group processes and respectful of past heritage and

history are critical to group members of Wigan Warriors rugby league club. Finally, in American Football, The Oakland Raiders have used the motto “Commitment to Excellence” which emphasises that a strong work ethic and remaining committed is meaningful to group members of The Oakland Raiders. In social identity literature, the meaning prescribed to a social identity has been termed as social identity content (see Turner, 1999).

1.5. Self-Categorisation Theory

The potential importance of social identity content was first highlighted by self-categorisation theory (Turner, 1982; 1985) which is the second strand of the social identity approach. The main premise behind self-categorisation theory is that an individual will depersonalise their perception of themselves as an individual (e.g., a soccer athlete) and will define themselves more in terms of being part of a category (e.g., Manchester United) when that individual is in a group setting. When an individual perceives themselves to be a member of a category (i.e., their self-categorisation is salient) they will engage in a process known as self-stereotyping. Self-stereotyping means that an individual will stereotype themselves with the norms and values associated with their self-categorisation (Turner 1999). The main implication of self-stereotyping is that the attitude and behaviour expressed by an individual will be consistent with what it means to be a member of that category (see Postmes & Spears, 1998; Reynolds, Turner, & Haslam, 2000). Therefore, self-categorisation theory (Turner, 1982; 1985) would predict that an athlete who sees themselves as a member of a category where the norm of that category is to win would adopt a winning mentality and behave in a manner consistent with being a winner (e.g., the athlete would work hard and be persistent). Alternatively, self-categorisation theory (Turner, 1982; 1985) would predict that an athlete who perceives themselves to be a member of category whereby the norm of that category is to be sociable would have a mindset centred on being sociable and would behave in a sociable manner (e.g., the athlete would communicate and interact with other category

members). Thus, an exploration into the content of social identities in a performance context would be anticipated to contribute to group dynamics literature in psychology. For example, an investigation into the content of social identities in sport would yield vital information about how individual and group-oriented cognition and behaviour arise because consistent with self-categorisation theory (Turner, 1982; 1985) cognition and behaviour are underpinned by a process of self-categorisation (see Turner, 1999).

Until recently social identity literature had tended to explore the importance and role of social identities instead of investigating social identity content. Ellemers, Spears, and Doosje (1999) suggested that the lack of research attention directed toward social identity content may have been misguided and atheoretically grounded because groups do have divergent meanings and the cognition and behaviour of an individual can denote a tendency to act in line with group norms and values. But ultimately, research into social identity content extends social identity literature in that ‘we’ are not simply different to (and better than) ‘them’ because we belong to a particular group. ‘We’ are different to (and better than) ‘them’ in specific and meaningful ways (e.g., ‘we are united’, ‘we are champions’; or ‘we are friendly’; see Livingstone & Haslam, 2008). A summary of how social identity and self-categorisation theories are posited to influence attitude, cognition, emotion, and behaviour is presented in Figure 1.1.

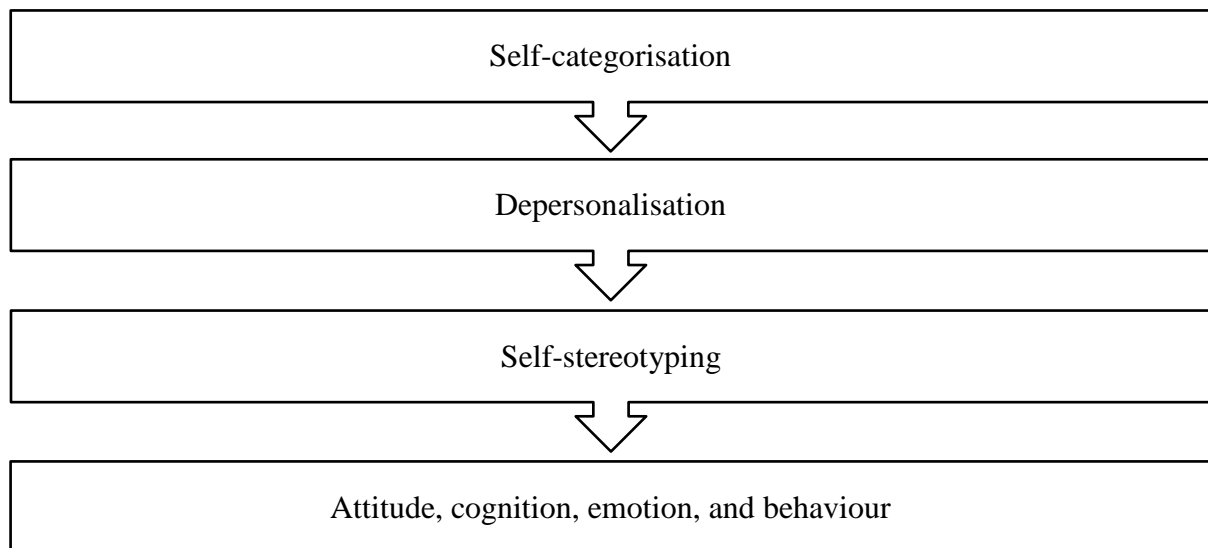


Figure 1.1. The key underlying processes that guide attitude, cognition, emotion, and behaviour according to the social identity approach.

1.6. Determinants of Self-Categorisation

According to self-categorisation theory (Turner, 1982; 1985) there are a number of conditions that will influence whether self-categorisation will become salient. For example, Turner (1999) proposed that self-categorisation will be determined by how representative (or prototypical) an individual is of a particular category. As an illustration, a performer would be perceived to be prototypical of a category if their skills, qualities, and attributes were similar to those skills, qualities, and attributes that were characteristic of their in-group (i.e., their in-group prototype). Being prototypical would appear to be important for in-group functioning given that research (e.g., Hogg & Hardie, 1992) has revealed that strongly identified group members evaluate prototypical group members more positively than non-prototypical group members. Turner (1999) contended that for an individual to be prototypical they must fit (or match) the category in question. In line with self-categorisation theory (Turner, 1982; 1985) an individual will perceive themselves to fit into a category

when the differences between themselves and members of that category are smaller than the differences between themselves and members of other categories (i.e., there is comparative fit; Turner, 1999). An individual will also perceive themselves to fit into a category when what they perceive is the norm of a category is consistent with the actual norm of that category (i.e., there is normative fit; Turner, 1999). Being prototypical and fitting into a category are important because these factors will enable self-categorisation to become salient which means that an individual will be more likely to stereotype themselves with the norms and values prescribed and described by their group membership (Turner, 1999). As a result, an individual will think and behave in a manner consistent with the meaning (or content) of their group membership (Turner, 1982; 1985). Ultimately, determinants of self-categorisation could have important implications for performers. For instance, it could be that a group falls short of their potential in sport because certain athletes are not prototypical and/or do not fit the meaning of their group which means that an athlete will not behave in line with the best interests of their group. An athlete may then be asked to leave their group (or perhaps transfer-listed) because their own behaviour is sapping their group's productivity.

1.7. Self-Categorisation Theory and The London 2012 Paralympic Games

The potential of the meaning of groups to influence the cognition and behaviour of performers was exemplified during the London 2012 Paralympic Games. During the final lap of the 29-mile women's H1-3 hand-cycling road race Team GB team-mates Karen Darke and Rachel Morris (the only two hand-cyclists representing Team GB at the Paralympic Games) were set to contest a sprint finish. American athletes Marianna Davis and Monica Bascio were more than 90 seconds ahead of Darke and Morris who in turn, were almost seven minutes in front of Swiss athlete Sandra Graf. Midway through the final lap of the race it became apparent that neither Darke nor Morris wanted to seize initiative and win the bronze medal on their own. Fifty metres from the end of the race Darke and Morris held hands and

crossed the finish-line together in an attempt to finish equal third and share the bronze medal. However, video footage indicated that Morris had in fact crossed the finish-line before Darke and was therefore awarded the bronze medal outright. After the race Darke had no complaint about finishing fourth because she had won a silver medal the previous day in the individual H1-2 hand-cycling time trial and felt that Morris was more deserving of the bronze medal. The behaviour of Darke and Morris during the final lap of their hand-cycling road race may be explained through self-categorisation theory (Turner, 1982). The meaning of being an athlete competing within the Paralympic Games is communicated and reinforced through the Paralympic Oath whereby athletes are urged to respect and abide by the rules that govern them, in the true spirit of sportsmanship, for the glory of sport, and the honour of their Paralympic team. In other words, self-categorisation theory (Turner, 1982; 1985) would postulate that Darke and Morris acted in a sporting manner because the content of being a Paralympian is to be sporting and fair. In sum, the case of Darke and Morris would suggest that the meaning of a group can influence cognition and behaviour adopted by performers.

1.8. Initial Application of Self-Categorisation Theory

The first application of self-categorisation theory was made by Reicher (1984) in an attempt to begin to document the importance of social identity content for cognition and behaviour. Specifically, Reicher (1984) was interested in understanding the behaviour of inhabitants of the St Pauls region of Bristol, England during the 1980 St Pauls riots through self-categorisation theory. The St Pauls riots were sparked by a police raid on a café that aimed to investigate allegations of illegal drinking and the sale of illegal drugs within the café itself. During the raid the police asserted that they had provided a warrant to search the café whereas individuals within the café at the time of the raid claimed no warrant had been shown and that some individuals had been harassed by the police. The police had even been accused of smoking and selling illegal substances within the café which gave members of the

public an increased sense of illegitimacy (i.e., the feeling of being treated unfairly) regarding the actions of the police. What followed was a series of violent attacks on the police. Police cars were overturned, smashed, and set alight before the police eventually retreated out of St Pauls. Qualitative analysis of statements from individuals involved in the riots suggested that St Pauls' inhabitants retaliated because the police were behaving in ways (e.g., selling drugs yet confiscating them from St Pauls' residents) that went against what it meant to be a member of St Pauls (i.e., being a community and being treated equally). Drawing on self-categorisation theory (Turner, 1982; 1985) Reicher (1984) suggested that because the police had failed to categorise themselves as a St Pauls member the police did not behave in line with the norms and values prescribed and described by the content of a St Pauls identity. According to self-categorisation theory (Turner, 1982; 1985) individuals discriminate (i.e., give prejudicial treatment) against individuals that are perceived to be members of an out-group and it is for this reason that Reicher (1984) suggested that inhabitants of St Pauls retaliated and forced the police out of their community. However, Reicher (1984) explained that immediately after the riots the rioters moved aside to let traffic pass whilst also helping to re-direct traffic around the town. Using self-categorisation theory (Turner, 1982; 1985) Reicher (1984) explained that St Pauls residents exhibited behaviour (e.g., being helpful) consistent with the content of their identity (i.e., being a community) because they had categorised themselves as a member of St Pauls. Self-categorisation theory (Turner, 1982; 1985) contends that individuals show favouritism (i.e., give preferential treatment) towards individuals that are perceived to be members of an in-group, hence, why rioters assisted with helping fellow inhabitants return safely to their homes. From the perspective of a St Pauls category member then, 'we' (i.e., St Pauls) were not only different to 'them' (i.e., the police) because 'we' belonged to a different group. 'We' were different in specific and meaningful way (e.g., 'we' are a community and value being a community). Overall, Reicher (1984)

provided initial evidence that social self-definition and the meaning of this definition can guide both individual and collective cognition and behaviour.

The application of self-categorisation theory made by Reicher (1984) has several pertinent implications for performance contexts. For example, it could be that a performer will only show favouritism to those group members that behave in line with the meaning of their group membership. It may be that key psychological outcomes such as social support, cohesion, and collective efficacy are evidence that performers are showing favouritism to their group because these forms of behaviour have been shown to advance a group in terms of their psychological well-being (Freeman & Rees, 2009) and performance (Freeman et al., 2009). Additionally, it could be that a performer will only discriminate against those group members that behave in a manner that is dissimilar to the meaning of their group membership. Behaviours such as being aggressive and poor communication may be evidence that a performer is being discriminatory towards a fellow group member. Finally, it could be that performers struggle to stick together when they are required to compete for a group (e.g., England soccer) in a particular context because those performers are more accustomed to showing discrimination against each other when they compete for groups in other contexts (e.g., Manchester United or Arsenal soccer). Indeed, critics of the England national soccer group have suggested that athletes can find it difficult to shelve their domestic rivalry when they compete together for England. To this end, it could be beneficial for an applied sport psychologist to ensure that athletes are aware of their social identity content to prevent team conflict and promote in-group favouritism that could benefit well-being and performance.

1.9. The Importance of Social Identity Content

Reicher's (1984) initial application of self-categorisation theory sparked research interest into demonstrating the importance of the content of social identities through the

social identity approach in real-life and artificial groups (see Jetten, Spears, & Manstead, 1996; Jetten, Spears, & Manstead, 1997a, Livingstone & Haslam, 2008; Terry, Hogg, & Blackwood, 2001). For example, Jetten et al. (1996) conducted an experiment that explored the effects of being randomly assigned to one of two experimental conditions. In condition one, participants belonged to a group where the norm prescribed and described by their group membership was to be fair towards in-group and out-group members. In condition two, participants belonged to a group where the norm prescribed and described by their group membership was to discriminate against out-groups in favour of in-group members. Participants were informed that previous research had revealed there to be two ways an individual could perceive information and the purpose of the experiment was to find out which kind of perceiver they were (i.e., a detailed perceiver or a global perceiver). Each participant completed seven performance trials where they were asked to estimate the number of dots on a constellation that appeared on a computer screen. After the seventh performance trial participants received bogus feedback about their mode of perceiving information—they were all categorised as a detailed perceiver of information. Participants were then asked to divide a sum of money between detailed perceivers (the in-group) and global perceivers (the out-group) using one of four strategies. These strategies included being fair (by allocating the same amount of money to the detailed and global perceivers), maximising joint profit (by allocating the greatest amount of money to the detailed and global perceivers), maximising in-group profit (by allocating the greatest amount of money to the detailed perceivers), and maximising out-group profit (by allocating the greatest amount of money to the global perceivers). Jetten et al. found that in groups where the norm was to be fair towards in-group and out-group members participants showed less favouritism towards their in-group by allocating a similar amount of money to both the detailed and the global perceivers. However, Jetten et al. found that in groups where the norm was to discriminate against out-groups in

favour of in-group members participants displayed favouritism towards in-group members by awarding the detailed perceives more money than the global perceivers. A consistent finding throughout social identity literature (e.g., Jetten et al; Jetten et al., 1997a; Livingstone & Haslam, 2008; Terry et al., 2001) is that the content of social identities are important because the meaning of a group will influence how an individual interacts with and behaves towards other in-group members and out-groups. Livingstone and Haslam (2008) therefore concluded that social identity content is an important psychological variable that can add to the understanding of cognition and behaviour.

1.10. The Role of Social Identity Content

Recent research (e.g., Livingstone & Haslam, 2008) documenting the importance of social identity content has recommended that research should attempt to demonstrate the potential role of social identity content. The notion that social identity content could play a vital role in explaining cognition and behaviour originates from social identity research studies (e.g., Haslam et al., 2005; Haslam et al., 2009) which have demonstrated that social identities can serve a protective function. For example, Haslam et al. investigated the effects of group members' social identities on satisfaction, morale, pride, citizenship, and levels of burnout over five phases of a commercial theatrical production within two theatre production groups. The five phases of theatrical production included the start of rehearsals, the middle of the rehearsal period, immediately after the dress rehearsal, immediately after the final performance, and some time after the production had concluded. Haslam et al. found that highly identified individuals were more willing to display citizenship behaviour across time in comparison to individuals lower in social identification. Highly identified members also reported greater satisfaction and pride in their work across each phase in comparison to individuals lower in social identification. Finally, highly identified members generally reported higher levels of morale and experienced lower levels of burnout in comparison to

individuals lower in social identification, particularly when group members experienced the greatest strain during the dress rehearsal and final performance phases. Haslam et al. concluded that social identities not only motivate individuals to contribute to the realisation of their group's vision but social identities can also protect individuals from the stressors they encounter when making their contribution.

The potential role for social identity content to protect individuals is highlighted by social identity-related strategies (see Tajfel & Turner, 1979) which social identity theory (Tajfel, 1978) predicts individuals will use to enhance their self-esteem. Specifically, social identity theory (Tajfel, 1978) predicts that an individual will engage in social mobility, social creativity, and/or social competition in order to belong to a group that will make a positive contribution to their self-esteem. Haslam (2004) suggested that the strategy an individual will select will depend on whether movement between groups is possible; whether an individual belongs to a group that is low in status (i.e., inferior to another group based on a factor being compared) or a group that is high in status (i.e., superior to another group based on a factor being compared); and whether the status of the in-group is legitimate and stable. Given that each social identity-related strategy involves in-group members making judgements about factors and qualities between groups (see Tajfel & Turner, 1979) it would appear that social mobility, social creativity, and social competition are strategies that individuals could use in relation to social identity content.

Research evidence (e.g., Ellemers, Spears, & Doosje, 1997) has revealed that when movement between groups is possible a member of a low status group will choose social mobility to a higher status group to improve their self-esteem. Social identity theory (Tajfel, 1978) contends that the movement from a low status group into a higher status group will enable an individual to make a positive distinction between their group membership and other available group memberships (i.e., their new group membership is 'better') which will benefit

self-esteem. On the other hand, research studies (e.g., Jackson, Sullivan, Harnish, & Hodge, 1996) have found that when movement between groups is possible a member of a high status group will choose social mobility to another high status group to maintain their self-esteem. Social identity theory (Tajfel, 1978) proposes that the movement from a high status group into another high status group will enable an individual to continue to make a positive distinction between their group membership and other available group memberships (i.e., their new group membership is still 'better') which will preserve their self-esteem. The main implication of social mobility is that an individual will dissociate themselves from their group and concentrate on fulfilling personal interests rather than the interests of their group (see Jackson et al., 1996). The reason that an individual will not be motivated to work for their group prior to social mobility is because that previous group membership will fail to make a positive contribution to self-esteem (Haslam, 2004). Drawing on self-categorisation theory (Turner, 1982; 1985) it may be that an individual will choose to leave their group when the cognition and behaviour associated with the meaning of their in-group identity does not make a positive contribution to self-esteem.

Alternatively, social identity theory (Tajfel, 1978) proposes that when movement between groups is not possible an individual will instead seek to improve or maintain self-esteem through their group membership by using social creativity. Generally, research has found that members of low status groups whose status is both legitimate and stable will choose to engage in one of three different types of social creativity to improve self-esteem. First, a member of a low status group can be socially creative by finding a new factor on which to compare their in-group against their higher status out-group. For example, Terry and Callan (1998) asked employees belonging to either a high status metropolitan teaching hospital or a low status local area hospital to rate the extent to which each hospital possessed nine different characteristics (e.g., good relations between staff, relaxed work environment,

and superior patient care). Terry and Callan (1998) found that whilst employees of the low status hospital recognised their inferiority on status-relevant factors (e.g., high prestige in the community) the employees tended to emphasise their superiority (i.e., show in-group bias) on status-irrelevant factors such as modern patient accommodation. Terry and Callan (1998) concluded that the in-group bias shown by employees of the low status hospital on status-irrelevant factors was an attempt to attain a positive social identity. Based on Terry and Callan's (1998) research it could be that a performer who belongs to a group that experiences consistent failure will choose to compare their in-group against a more successful out-group (that is higher in status in terms of success) on a factor other than success (e.g., team-spirit) to protect their self-esteem. Other research studies have demonstrated that a member of a low status group can also be socially creative by changing the values assigned to the attributes of their in-group. For example, Jackson et al. (1996) conducted an experiment where male and female participants were assigned to either a negative information condition or a no information condition. In the negative information condition, participants were provided with information suggesting that gender differences existed between men and women on the characteristic 'orality'. Orality was defined as a personality characteristic caused by a failure to resolve a conflict in the timing and amount of feeding between infant and mother. An information booklet explained that orality was associated with mental health issues and that the participant's gender was more oral than their opposite gender. In the no information condition participants were simply asked to compare men and women. Participants in each condition rated their perceived similarity to their in-group, the valence of the distinguishing factor (i.e., orality), and made intergroup comparisons on factors including psychological adjustment, masculinity, femininity, egocentrism, subservience, and competence. Jackson et al. found that orality was rated to be less negative when it distinguished the in-group from the out-group than when it did not. Furthermore, the in-group was rated more favourably on

factors other than orality that indicated good psychological adjustment (e.g., competence) when it was negatively distinguished than when it was not. Based on Jackson et al's. research it could be that a performer who belongs to a group that experiences prolonged failure may redefine what success means (e.g., "success is all about performing well not about how many matches you win") to make their in-group membership less disparaging. Finally, research studies (e.g., Elsbach & Kramer, 1996) have shown that a member of a low status group can be socially creative by choosing to compare their in-group against a different out-group on the same factor (e.g., "we may not be the most successful group in England but we are one of the most successful groups in the North West region of England").

According to social identity theory (Tajfel, 1978) the form of social creativity chosen by a member of a high status group will be different to the types of social creativity chosen by a member of a low status group. Generally, research studies (e.g., Mullen, Brown, & Smith, 1992; Terry & Callan, 1998) have shown that when an individual belongs to a high status group and their status is legitimate and stable that individual will show favouritism (or be magnanimous) towards an out-group on factors that are deemed to be an unimportant part of their social identity. For example, in Terry and Callan's (1998) research, employees of the high status metropolitan teaching hospital showed magnanimous out-group bias towards the low status local area hospital on status-irrelevant factors. Applying Terry and Callan's (1998) research findings to a performance context then it could be that athletes and coaches will show magnanimous out-group bias towards their opposition on factors that are not necessarily fundamental to their in-group identity (e.g., "we won today but give them some credit they had great support from their fans"). In contrast, research (e.g., Terry, Callan, & Sartori, 1996) has found that when an individual belongs to a high status group and their status is illegitimate and unstable that individual will be more aggressive and sinister towards their low status counterparts to preserve their own high status and protect their self-esteem.

Throughout the social identity research reported in relation to social creativity it would appear that individuals are drawing on factors that could make their in-group seem more distinct and meaningful which implies that being socially creative with the content of identities (and not just social identities per se) could be used to protect key psychological variables (e.g., self efficacy). For example, it could be that a performer will change what their group means to them to protect individual and group functioning.

Similar to social creativity, social identity theory (Tajfel, 1978) contends that an individual can also engage in social competition when movement to another group is not possible to improve or maintain self-esteem. Social identity theory (Tajfel, 1978) postulates that a member of a low status group will resort to social competition when their group status is perceived to be illegitimate and unstable in an attempt to improve their group status and subsequent self-esteem. Social identity theory (Tajfel, 1978) also suggests that a member of a high status group will resort to social competition when their group status is perceived to be illegitimate and unstable to maintain their group status and subsequent self-esteem. Research studies (e.g., Reicher & Haslam, 2006; Terry et al., 1996) have documented that members of low status and high status groups will engage in social competition by being conflictual, hostile, and antagonistic towards their respective out-group because individuals perceive that their in-group status is illegitimate. Examples of social competition strategies in a low status group in sport may include protesting (e.g., “we are losing matches because they injured our best athletes and they should be punished”) and competing with aggression whereby the in-group is directly challenging the supremacy of their respective out-group (see Haslam, 2001). Alternatively, examples of social competition strategies in a high status group in sport may include being resistant (e.g., “we need to stick together to resist being as bad as them”) and being supremacist (e.g., “it does not matter that we have lost our last five matches to them because we have been and will always be more successful than them”) whereby the in-group

is directly promoting the inferiority of the out-group because the relative advantage of the in-group is being questioned (see Haslam, 2001). Overall, social competition could determine cognition and behaviour in performance domains. For example, social identity literature (e.g., Giessner, Viki, Otten, Terry, & Täuber, 2006) has found that members of high status groups will band together and collectively resist merging with members of low status groups given that a merge would lower group status (for a member of a high status group) which could potentially thwart self-esteem. The tendency of a group to stick together is characteristic of group cohesion (see Carron, 1982) which suggests that social competition could be a strategy that would promote an increased sense of cohesion among identified group members.

1.11. Threat as a Determinant of Social Identity-Related Strategies

Social identity theory (Tajfel, 1978) posits that an individual will resort to using social identity-related strategies when their in-group is negatively distinguished from an out-group because belonging to a negatively distinguished in-group will make a negative contribution to self-esteem (Haslam, 2004). Examples of negatively distinguished in-groups in performance settings would include groups that are low in status (e.g., “we are a bunch of losers compared to them”) and groups that have received negative evaluation on a certain factor (e.g., “we have performed poorly”). A situation that causes an individual to belong to a negatively distinguished in-group has been conceptualised within social identity literature as social identity threat (see Branscombe, Ellemers, Spears, & Doosje, 1999). According to Branscombe et al. (1999) a situation in which a group loses (or could lose) their status or receives negative evaluation would pose a threat to the identity of an in-group member because an in-group member would be at risk of losing out on positive self-esteem. Branscombe et al. suggested that in response to social identity threat an individual will be inclined to lower their social identity salience because social identity threat can cause an individual to feel as though they are being ‘dragged down’ by their group membership. Tajfel

(1978) explained that low social identity salience means that an individual will pursue their own personal interests, will perceive that other groups are 'better', and will pursue social mobility strategies to rediscover positive self-esteem.

Anecdotal evidence in performance contexts would suggest that social identity content could also be threatened in a situation where a performer belongs to a negative in-group. For example, it is common for groups in sport to lose a number of matches (or experience poor form) which could pose a threat to the content of an in-group identity if the content of that identity was centred upon winning. Using social identity theory (Tajfel, 1978) losing matches would be anticipated to make a negative contribution to the self-esteem of an athlete who belongs to a winning group because losing matches are unlikely to make 'winners' feel good about themselves. The direct upshot of social identity content threat may then be similar to that of the aforementioned social identity threat. To elucidate, an athlete may lower their social identity salience in response to social identity content threat which could mean that they will behave for themselves, perceive out-group membership to be more meaningful, and will choose social mobility to move to a more meaningful out-group. A good illustration of the potential consequences of social identity content threat is provided by the Arsenal soccer group. An important aspect of the social identity content of Arsenal soccer group is to win soccer tournaments. However, Arsenal have failed to win a major soccer tournament since their FA cup final success in 2005. Failure to win a soccer tournament since 2005 may have threatened the winning component of Arsenal's social identity content which could explain the exodus of soccer athletes (e.g., Cesc Fabregas, Robin van Persie, and Alex Song) from Arsenal. These athletes essentially reacted to the threat posed to the winning aspect of their social identity content by emphasising that they had a lot in common with winning out-groups and made a deliberate attempt to distance themselves from their in-group. As an example, ex-Arsenal soccer athlete Robin van Persie emphasised that he had a lot in

common with Manchester United (e.g., “they [Manchester United] were so eager to win the Premier League title back and I was so eager to win the title for the first time”; Peters, 2013) and attempted to distance himself from Arsenal by refusing to sign a new contract. Drawing on social identity theory (Tajfel, 1978) it could be that athletes who exited Arsenal used social mobility to move into a winning out-group (e.g., Manchester United or Barcelona) to win soccer tournaments that would aid self-esteem by belonging to a ‘better’ group.

Research studies have predominantly focused on the effect of social identity threat on the psychological (i.e., social identity, in-group prototypicality, out-group prototypicality) and behavioural outcomes (i.e., social mobility) that Tajfel (1978) theorised will be affected by lowered social identity salience. For instance, Ellemers, Wilke, and van Knippenberg (1993) found that high-performing individuals reported a weak level of social identity when they were included in a group that demonstrated poor performance. Ellemers et al. (1993) explained that becoming a member of a lower performance group threatened the social identity of those high-performing individuals because they were joining a group that was lower in status which made a negative contribution to self-esteem. Furthermore, Rao, Davis, and Ward (2000) found that members of an organisation within the National Association of Securities Dealers Automated Quotations (i.e., NASDAQ) stock exchange market moved to a rival organisation in the New York Stock Exchange (i.e., NYSE) because being a member of an organisation within the NYSE was considered to be ‘better’ than being a member of an organisation within the NASDAQ. And research studies have demonstrated that to move to a ‘better’ group an individual will emphasise their similarity to an out-group prototype (see Noel, Wann, & Branscombe, 1995) and will avoid being stereotyped with their in-group prototype (see Spears, Doosje, & Ellemers, 1997). Ultimately, Steele (1997) demonstrated that these thought processes in response to social identity threat will cause performance to deteriorate because consistent with social identity theory (Tajfel, 1978) an individual will be

motivated to work towards their own personal interests rather than towards the best interests of their group.

Overall, based upon social identity theory (Tajfel, 1978) and relevant research (e.g., Haslam et al., 2005; Haslam et al., 2009) it would appear that social identity content could protect an in-group member during an instance where the meaning of their in-group identity is under threat. For example, it could be that an individual will be socially creative with the meaning of their in-group identity when a threat is posed to a relevant aspect of their social identity content. Drawing on social identity theory (Tajfel, 1978) it could be that being socially creative with the meaning of an in-group identity means that an individual will protect their self-esteem because belonging to the in-group in question is still meaningful and makes a positive contribution to self-esteem.

1.12. Unresolved Issues in Social Identity Literature

A number of gaps within social identity literature are evident based on the literature presented in the current chapter. First, previous research studies (e.g., Livingstone & Haslam, 2008) documenting the relationships between the content of social identities and outcomes have tended to measure aspects of social identity content (e.g., being fair and being discriminatory) that do not appear relevant or pertinent in a performance context. Exploring the relationships between other components of social identity content (e.g., results and friendships) that would appear more relevant and pertinent within a performance context would reveal information on whether the content of social identities can explain cognition and behaviour in performance domains (e.g., sport and military settings). Therefore, the research studies reported in chapter two and three measure aspects of social identity content that appear relevant to performance domains and attempt to document the relationships between aspects of social identity content and psychological and behavioural outcomes using

sport as a context. Second, social identity research has typically chosen to adopt a cross-sectional or experimental research design to demonstrate the importance and role of social identities and the importance of the content of in-group identities. Haslam et al. (2005) called for more longitudinal research to be conducted in social identity literature to examine both the change in social identities and the interrelated development of social identity-related variables and outcomes over time. Whilst longitudinal research into social identities has been forthcoming (see Haslam et al., 2009) no research has explored the relationships between aspects of social identity content and psychological and behavioural variables over time. The value of using a longitudinal research design would be that the ongoing status of social identity content could explain the variance in individual and group-level cognition and behaviour. The research study reported in chapter three adopts a longitudinal research design to demonstrate the relationships between different aspects of social identity content and psychological and behavioural outcomes across time. Third, previous longitudinal field research studies (e.g., Haslam et al.) within social identity literature have typically explored the relationships between social identity-related variables in one or two intact groups. At present, no research has tracked social identity-related variables in all groups within a specific context. Tracking social identity-related variables in all groups in a specific intergroup context (e.g., a league) that come into contact with each other over time (e.g., a season) would provide a richer and fuller understanding of how social encounters with out-groups impact individual and group-level functioning. Indeed, Livingstone and Haslam (2008) recommended that future research should explore the processes through which particular definitions of in-group identity come to prominence. Therefore, the research study reported in chapter three tracks social identity-related variables in all eight teams competing within the same Division across a competitive season to document how the wider intergroup context can influence individuals' ratings of social identity content. Fourth, a wealth of

research evidence has investigated the effects of situations that pose a threat to individuals' social identities (see Noel et al., 1995; Rao et al., 2000; Spears et al., 1997) and highlighted that relevant threat to social identities can cause individuals to lower their social identity salience, distance themselves from their in-group prototype, emphasise their similarity to their out-group prototype, and express social mobility beliefs. However, no research has explored the effects of relevant threat to aspects of social identity content. An investigation into the effects of relevant social identity content threat would yield information into the psychological and behavioural consequences of continuing to draw upon threatened aspects of social identities. Finally, social identity research studies (e.g., Haslam et al.; Haslam et al., 2009) have investigated the role of social identities in response to threat and in particular, these research studies have found that social identities can protect in-group members in response to social identity threat. Nevertheless, the role of the meaning of in-group identities is yet to be established within social identity literature (see Branscombe et al., 1999). Given that social identity-related strategies (e.g., social mobility, social creativity, and social competition) involve in-group members making intergroup comparisons regarding specific factors and qualities (see Tajfel & Turner, 1979) it would appear that an individual could also use social identity-related strategies in relation to social identity content to protect individual and group-level cognition and behaviour. Overall, the main purpose of this thesis is to explore the role and importance of social identity content.

1.13. Aims of the Thesis

Based on the content of the literature review and the gaps evident within social identity literature this thesis has the following aims:

- (a) To further explore the importance of the content of social identities

- (b) To explore the relationships between social identity content and outcome variables over time
- (c) To examine the effects of social identity content threat
- (d) To investigate the potential role of social identity content

1.14. Structure of the Thesis

This thesis is comprised of six chapters. This chapter (chapter one) includes a review of literature that aims to provide an overview of the social identity approach through social identity theory, self-categorisation theory, and social identity-related research. In particular, chapter one conceptualises social identity and social identity content and offers a theoretical backdrop for the need to: (a) further explore the importance of the content of social identities; (b) explore the relationships between social identity content and outcome variables over time; (c) examine the effects of social identity content threat; and (d) investigate the potential role of social identity content. Based on the gaps evident in social identity literature, the research reported in this thesis begins with an exploration into the relationships between aspects of social identity content pertinent to a performance domain and psychological and behavioural outcome variables (see chapter two). Therefore, chapter two addresses aim (a) of the current thesis. The research presented in chapter three builds on chapter two by using a longitudinal design to explore the relationships between aspects of social identity content pertinent to a performance domain and psychological and behavioural outcome variables over time. Thus, chapter three addresses aim (a) and (b) of the current thesis. The research reported in chapter four extends chapter two and three by examining the effects of a situation that may influence the relationship between aspects of social identity content and psychological and behavioural outcome variables. Specifically, the research reported in chapter four examines the effects of social identity content threat which addresses aim (c) of the current thesis. Subsequently, the research presented in chapter five investigates whether social identity content can protect in-

group members during an instance where a relevant threat is posed to social identity content. Therefore, chapter five addresses aim (d) of the present thesis. Chapter six includes a general discussion of the research presented in the current thesis which provides a summary of research findings, highlights the main strengths, shortcomings, and limitations associated with this thesis, outlines theoretical and applied implications of the present thesis, and suggests avenues for future research. Given the novelty of using sport as a context to explore the social identity approach a glossary of social identity-related terminology referred to throughout the current thesis is presented following the reference list.

CHAPTER 2: RELATIONSHIPS BETWEEN THE CONTENT OF SOCIAL IDENTITIES AND COGNITION AND BEHAVIOUR IN A PERFORMANCE DOMAIN

2.1. Introduction

Research studies that exist in psychological literature have predominantly focused on investigating whether social identities can explain individual and group-level cognition and behaviour (e.g., Ellemers et al., 1999; Haslam et al., 2005; Haslam et al., 2006; Haslam et al., 2009). Tajfel (1972) defined a social identity as “an individual’s knowledge that he [or she] belongs to certain social groups together with some emotional and value significance to him [or her] of this group membership” (p. 292). According to social identity theory (Tajfel, 1978) social identities stem from individuals in group settings making judgements about whether being a member of a group can make a positive contribution to self-esteem. Social identity theory (Tajfel, 1978) predicts that once an individual has found a group that could make a positive contribution to self-esteem then that individual will define themselves as belonging to a collective entity (i.e., ‘we’ or ‘us’) rather than being defined purely as an individual (i.e., ‘I’ or ‘me’). Consequently, social identity theory (Tajfel, 1978) asserts that an individual will feel inclined to act and behave in line with the best interests of their group (as opposed to acting and behaving in line with their own personal interests) because an identified individual will strive to see their group (i.e., ‘we’ or ‘us’) as different to (and better than) other groups (i.e., ‘them’) to experience a positive self-esteem (Haslam, 2004).

Research studies in psychological literature have also focused on exploring whether the meaning attached to social identities (i.e., social identity content) can contribute to our understanding of individual and group-level cognition and behaviour (e.g., Jetten et al., 1996; Jetten et al., 1997a; Livingstone & Haslam, 2008; Terry et al., 2001). In essence, self-categorisation theory (Turner, 1982; 1985) proposes that the content of social identities will

influence individual and group-level cognition and behaviour through depersonalisation and self-stereotyping. Specifically, self-categorisation theory (Tajfel, 1978) contends that once an individual has defined themselves in terms of belonging to a collective entity (i.e., 'we' or 'us') then that individual will stereotype themselves with the norms and values associated with their self-categorisation. The main implication of self-stereotyping is that the cognition and behaviour expressed by an individual will be consistent with what it means to be a member of their category (see Postmes & Spears, 1998; Reynolds et al., 2000). Ultimately, research studies that have investigated the notion of social identity content have extended social identity literature by documenting that 'we' are not simply different to (and better than) 'them' because we belong to a particular group. 'We' are different to (and better than) 'them' in specific and meaningful ways (e.g., 'we are hardworking' and 'we are successful') which can guide cognition and behaviour.

Previous research studies (e.g., Livingstone & Haslam, 2008) have demonstrated the importance of the content of social identities by exploring the relationships between aspects of social identity content and a number of outcome variables. For example, Livingstone and Haslam (2008) investigated whether a social identity content centred on having a negative relationship with an out-group (i.e., Catholics or Protestants) could moderate the relationship between social identity and negative behavioural intentions (e.g., the extent to which an in-group member would object if their offspring married an out-group member). Livingstone and Haslam (2008) found that social identity was more strongly associated with negative behavioural intentions when in-group identity emphasised a negative relationship with the out-group. Therefore, the association between social identity and outcome variables appears to be dependent upon the meaning attached to in-group identities (Livingstone & Haslam, 2008). However, previous research studies that have documented relationships between the content of social identities and outcome variables have measured aspects of social identity

content (e.g., being fair and being discriminatory) that do not appear most relevant within a performance domain (see Jetten et al., 1996). The performance domain provides a useful context to further explore the importance of social identity content because performers (e.g., athletes) typically belong to groups and anecdotal evidence would suggest that performers prescribe meaning to their identities. For example, ex-soccer athlete Kenny Dalglish emphasised that being a member of Liverpool soccer group in 1977 meant belonging to a supportive group and a group that was resilient and high in team-spirit (see Dalglish, 2010). Overall, exploring the relationships between components of social identity content that seem relevant and pertinent within a performance domain would reveal information on whether the content of in-group identities can explain subsequent cognition and behaviour of performers (e.g., athletes).

To explore the importance of the content of social identities in a performance domain two aspects of social identity content (i.e., results identity content and friendships identity content) were assessed. Both results identity content and friendships identity content were measured based on Evans, Slater, Turner, and Barker (2013) who demonstrated that results and friendships are valued components of in-group identities in a performance context. Based on self-categorisation theory (Turner, 1982; 1985) an identity centred upon results would mean that a performer would perceive results to be an important part of their group membership which would lead that performer (through self-stereotyping) to think and behave in line with an identity centred on results. Likewise, self-categorisation theory (Turner 1982; 1985) would predict that an identity centred upon friendships would mean that a performer would perceive friendships to be an important part of their group membership which would lead that performer (through self-stereotyping) to think and behave in a manner consistent with an identity centred upon friendships. To examine whether components of social identity content are associated with specific forms of individual and group-level cognition and

behaviour a number of outcome variables were selected. Outcomes included general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style (i.e., autocratic—democratic) which have frequently been assessed throughout previous social identity literature (e.g., Reicher & Haslam, 2006; Haslam & Reicher, 2007) and have been shown to be pertinent within a performance domain (e.g., Gilson, Chow, & Feltz, 2012; Jowett et al. 2012; Vincer & Loughhead, 2010).

The purpose of the current study was to explore the relationships between aspects of social identity content and outcome variables within a performance domain which addressed aim (a) of the current thesis (i.e., to further explore the importance of the content of social identities). Accordingly, a series of hypotheses were formulated based on self-categorisation theory (Turner, 1982; 1985) and previous research studies that have documented relationships between social identity content and outcome variables (e.g., Livingstone & Haslam, 2008). First, it was hypothesised that a content focused on results would be significantly related to outcomes (i.e., general self efficacy, general collective efficacy, and subjective team performance) that appear to be aligned to the meaning of a results identity content. General self efficacy, general collective efficacy, and subjective team performance would appear to be aligned to a content focused on results because such psychological outcomes have been found to be fundamental to success within a performance domain (e.g., Moritz, Feltz, Fahrback, & Mack, 2000). Second, it was hypothesised that a content focused on friendships would be significantly related to outcomes (i.e., preference for a democratic leader) that appear to be aligned to the meaning of a friendships identity content. Democratic leadership would appear to be aligned to a content focused on friendships. For example, psychological literature posits that a democratic leadership style encompasses behaviours such as inclusiveness and equal participation (see Gastil, 1994) which would appear consistent with an identity focused on friendships.

2.2. Method

2.2.1. Participants

Participants were 151 White Caucasian male rugby league athletes ($M_{age} = 18.09$, $SD_{age} = .55$, range 18-23 years) who were voluntarily recruited from amateur rugby league teams in the North West region of England. The highest playing standard participants had competed at ranged from club ($n = 106$) through to county ($n = 24$), regional ($n = 19$), national ($n = one$), and international level ($n = one$).

2.2.2. Design

A cross-sectional research design was adopted. The selection of a cross-sectional design was deemed appropriate given that the present study was exploratory and cross-sectional designs allow researchers to explore the relationships between a number of psychological variables at a single time-point (Hoyle & Leary, 2009). Ethical approval was granted prior to data collection by the Faculty of Health Sciences Ethics panel at Staffordshire University.

2.2.3. Procedure

At the end of one training session participants of each rugby league team congregated in the clubhouse facilities located at their respective training ground. After reading an information sheet and signing an informed consent form each participant completed a short questionnaire (see Appendix 1). Once all questionnaires had been returned to the lead researcher participants were taken through a full verbal debrief which revealed the purpose, expected findings, and potential implications of the study. After all questionnaire data had been analysed each participant received a written report of the project which detailed the purpose, findings, and implications of the study.

2.2.4. Pilot testing of study measures

All measures included in the questionnaire were piloted prior to the study to confirm the wording and clarity of each individual item. Measures were derived from social identity literature and contextualised to suit the performance domain or were developed specifically for the present study in line with previous literature (e.g., Haslam, 2004; Livingstone & Haslam, 2008). All items were verified by three researchers who are part of a Social Identity in Exercise and Sport research group.

In the pilot study, 34 White Caucasian male amateur rugby league athletes ($M_{age} = 19.91$, $SD_{age} = 2.21$, range 18-23 years) voluntarily completed a questionnaire (see Appendix 2). The questionnaire included measures of social identity, results identity content, friendships identity content, in-group cohesion, general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style (autocratic—democratic). Participants were asked to rate the extent to which they understood each item on a seven-point Likert-type scale ranging from one (do not understand at all) to seven (completely understand). Descriptive statistical analyses found that all items had a mean average score of above six which indicated that each item was generally well understood by the participants. Visual inspection of the data indicated that 32 out of 34 of the participants rated all items at four or above. These results suggest that the wording and clarity of all items used in the current study were acceptable. At the end of the questionnaire participants were given ample space to disclose their thoughts and feelings on the phraseology of each item. Qualitative comments revealed that participants had no concerns regarding the wording and clarity of items.

2.2.5. Measures

The questionnaire completed by each participant in the current study contained eight measures. Athletes rated the extent to which they agreed with all items on a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement.

Social identity. A single-item was used to measure athletes' social identity with their group ("you identify strongly with your team"; SISI: Postmes, Haslam, & Jans, 2012). Postmes et al. (2012) found that social identity as a psychological construct is homogenous and can therefore be operationalised through a single-item. Postmes et al. also revealed that the SISI has high reliability, high validity, and high utility which supports the robustness of single-item social identity measures.

Results identity content. A single-item was used to measure the extent to which athletes perceived results to be an important component of their group membership ("the most important thing to you are the results of your team"). This item was developed in line with Livingstone and Haslam (2008).

Friendships identity content. A single-item was used to measure the extent to which athletes perceived friendships to be an important component of their group membership ("the most important thing to you are the friendships within your team"). This item was developed in line with Livingstone and Haslam (2008). Pragmatically, single-item measures of social identity, results identity content, and friendships identity content were used because it was anticipated that athletes would only have a limited period of time to respond to those items included within the main questionnaire. Furthermore, the inclusion of multiple-item measures within the main questionnaire would have required athletes to respond to a labour intensive

battery of measures which could have negatively influenced response rate (Ristolainen, Kettunen, Kujala, & Heinonen, 2010).

In-group cohesion. A two-item measure was used to assess athletes' perception of in-group cohesion (item one: "rugby players on your team represent a single, clearly-defined group"; item two: "rugby players on your team all stick together"; Reicher & Haslam, 2006). In the current study this measure demonstrated high internal reliability ($\alpha = .69$; Pallant, 2007 suggests that for scales that consist of fewer than 10 items a Cronbach alpha coefficient $> .50$ indicates acceptable internal reliability).

General self efficacy. A four-item measure was used to assess athletes' general self efficacy (item one: "you can achieve your goals/targets"; item two: "when you are in trouble you can think of a solution"; item three: "during a match you can minimise your mistakes when under pressure"; item four: "throughout a match you can select the right solutions to problems"). The items included in this measure were informed by Schwarzer and Jerusalem's (1995) General Self Efficacy Scale which has been used throughout research studies (e.g., Schwarzer, Boehmer, Luszczynska, Mohamed, & Knoll, 2005) in a number of psychological domains. This measure demonstrated high internal reliability in the present study ($\alpha = .90$).

General collective efficacy. A four-item measure was used to assess athletes' general collective efficacy (item one: "your team is capable of achieving goals/targets that are set"; item two: "your team can find a solution when confronted with a problem"; item three: "throughout a match your team can minimise errors when under pressure"; item four: "throughout a match as a team you make correct decisions"). The items included in this measure were informed by general collective efficacy items developed by Reicher and Haslam (2006) and subsequently used in applied sport psychology research by Evans et al. (2013). In the current study this measure showed high internal reliability ($\alpha = .91$).

Subjective team performance. A five-item measure was used to assess athletes' perception of their team's rugby league performance (item one: "as a team you are performing better than expected"; item two: "as a team you are dedicated and committed to performing successfully"; item three: "as a team you are currently in good form"; item four: "as a team you are currently playing well"; item five: "as a team you are satisfied with your recent results"). A subjective measure of team performance was used because an objective measure of performance could not be collated. This measure was developed specifically for the current thesis and demonstrated high internal reliability ($\alpha = .94$).

Preferred leadership style. A six-item measure was used to assess athletes' preferred leadership style (item one: "a good leader is one who can't afford to sit around talking"; item two: "good leaders should be prepared to use force to get their own way"; item three: "a hard leader is better than a soft leader"; item four: "a good leader will act more like a friend than a boss [reverse scored]"; item five: "a leader should always be a good listener [reverse scored]"; item six: "a good leader will persuade rather than bully [reverse scored]"; Haslam & Reicher, 2007). In the present study this measure demonstrated high internal reliability ($\alpha = .52$). Scores of greater than four on the preferred leadership style measure indicated a preference towards an autocratic leadership style whilst scores of less than four indicated a preference towards a democratic leadership style.

2.2.6. *Statistical analyses*

Bivariate correlations were computed using IBM SPSS statistics (version 20) to demonstrate the relationships between social identity-related variables and in-group cohesion, general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style. An alpha level of 0.05 was retained due to the exploratory nature of the present study. Zhu (2012) argued that drawing conclusions from bivariate correlational

analyses should not be restricted to significance testing because when a sample size is large enough almost all statistical findings could obtain a p value of less than 0.05. Therefore, the meaningfulness of each correlation (r) was also considered for each correlation performed. The meaningfulness of each correlation (r) was based upon absolute criterion (see Zhu, 2012).

Two sets of moderated hierarchical regression analyses were subsequently performed in IBM SPSS statistics (version 20). The first set of moderated hierarchical regression analyses explored the main effect of social identity, the main effect of results identity content, and the interaction effect of social identity and results identity content on each dependent variable in turn (i.e., general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style). For each separate moderated hierarchical regression computed the main effect of in-group cohesion was controlled for by entering in-group cohesion onto the first step of the regression equation. The reason that in-group cohesion was controlled in each separate moderated hierarchical regression was to explore whether social identity is conceptually different to cohesion and to confirm whether social identity can further current understanding of individual and group-level cognition and behaviour in sport. Accordingly, the main effect of social identity was accounted for by entering social identity onto the second step of the regression equation. The main effect of results identity content was then accounted for by entering results identity content onto the third step. Finally, the interaction effect of social identity and results identity content was accounted for by entering the interaction term onto the fourth and final step of the regression equation. The second set of moderated hierarchical regression analyses confirmed the main effect of social identity and explored the main effect of friendships identity content and the interaction effect of social identity and friendships identity content on each dependant variable in turn (i.e., general self efficacy, general collective efficacy, subjective team

performance, and preferred leadership style). For each separate moderated hierarchical regression computed the main effect of in-group cohesion was controlled for by entering in-group cohesion onto the first step of the regression equation. The main effect of social identity was then accounted for by entering social identity onto the second step. Accordingly, the main effect of friendships identity content was accounted for by entering friendships identity content onto the third step. Finally, the interaction effect of social identity and friendships identity content was accounted for by entering the interaction term onto the fourth and final step of the regression equation.

For each moderated hierarchical regression performed the significance of increments in explained variance (ΔR^2) for the dependant variable over and above the variance accounted for by those independent variables already entered into the regression equation, in addition to the sign of regression coefficients (b), was assessed at each step. Kraemer and Blasey (2004) indicated that all independent variables should be centred prior to the formation of product terms. Kraemer and Blasey (2004) discussed that centring increases the precision of parameter estimation and the power of statistical testing of those parameters by using non-estimated regression coefficients. Preacher, Curran, and Bauer (2006) also discussed that centring reduces multicollinearity among predictor variables and can make otherwise uninterpretable regression coefficients meaningful. In the current study all independent variables were standardised (with a mean of zero and SD of one) therefore centring them prior to computing product terms. Subsequently, the unstandardised solution was examined. An alpha level of 0.05 was retained for all moderated hierarchical regression analyses due to the exploratory nature of the current study.

To further probe a significant interaction effect that emerged within a moderated hierarchical regression simple slopes analyses were performed using an online resource (see <http://www.quantpsy.org>). Specifically, two separate regression lines were computed and

plotted for individuals at one SD above the mean and one SD below the mean on the moderator variable (i.e., results identity content or friendships identity content). The simple slopes analyses tested whether the gradient of each separate regression line was significantly different to zero. Given that all independent variables had been previously centred within each moderated hierarchical regression the simple slopes analyses used unstandardised (*b*) values. The lower and upper values associated with each slope were subsequently plotted graphically to improve the interpretability of interaction effects.

2.3. Results

2.3.1. Relationships between social identity-related variables and outcome variables

Bivariate correlations between social identity-related variables and in-group cohesion, general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style are presented in Table 2.1. Broadly, bivariate correlational analyses found that social identity exhibited a significant and positive relationship with all outcome variables. Bivariate correlational analyses also found that results identity content exhibited a significant and positive relationship with general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style. Finally, bivariate correlational analyses found that friendships identity exhibited a significant and positive relationship with in-group cohesion and a significant and negative relationship with all remaining outcome variables.

2.3.2. General self efficacy

Moderated hierarchical regression analyses found that after in-group cohesion had been controlled for ($b = .501$, $SE = .114$, $p < 0.05$; $R^2_{adj} = .109$, $p < 0.05$) social identity exerted a significant main effect on general self efficacy ($b = .580$, $SE = .141$, $p < 0.05$; $\Delta R^2 =$

.091, $p < 0.05$). The first set of moderated hierarchical regression analyses found that both the main effect of results identity content and the interaction effect of social identity and results identity content on general self efficacy were significant ($b = .904$, $SE = .079$, $p < 0.05$; $\Delta R^2 = .373$, $p < 0.05$ and $b = .461$, $SE = .087$, $p < 0.05$; $\Delta R^2 = .068$, $p < 0.05$). The significant interaction effect indicated that results identity content moderated the relationship between social identity and general self efficacy. The overall model ($R^2_{adj} = .637$) was significant ($F(4, 146) = 66.801$, $p < 0.05$). Simple slopes analyses revealed that when results identity content was high (one SD above the mean) higher levels of social identity were associated with higher levels of general self efficacy ($t = 8.19$, $p < 0.05$; the slope for low results identity content at one SD below the mean was not significant ($t = .92$, $p > 0.05$)). The interaction between social identity and results identity content on general self efficacy is demonstrated in Figure 2.1. The second set of moderated hierarchical regression analyses found that both the main effect of friendships identity content and the interaction effect of social identity and friendships identity content on general self efficacy were significant ($b = -.492$, $SE = .106$, $p < .05$; $\Delta R^2 = .102$, $p < 0.05$ and $b = -.406$, $SE = .108$, $p < 0.05$; $\Delta R^2 = .061$, $p < 0.05$). The significant interaction effect indicated that friendships identity content moderated the relationship between social identity and general self efficacy. The overall model ($R^2_{adj} = .352$) was significant ($F(4, 146) = 21.366$, $p < 0.05$). Simple slopes analyses revealed that when friendships identity content was low (one SD below the mean) higher levels of social identity were associated with higher levels of general self efficacy ($t = 6.70$, $p < 0.05$; the slope for high friendships identity content at one SD above the mean was not significant ($t = .90$, $p > 0.05$)). The interaction between social identity and friendships identity content on general self efficacy is demonstrated in Figure 2.2.

2.3.3. General collective efficacy

Moderated hierarchical regression analyses found that after in-group cohesion had been controlled ($b = .544$, $SE = .120$, $p < 0.05$; $R^2_{\text{adj}} = .121$, $p < 0.05$) social identity exerted a significant main effect on general collective efficacy ($b = .489$, $SE = .152$, $p < 0.05$; $\Delta R^2 = .058$, $p < 0.05$). The first set of moderated hierarchical regression analyses found that both the main effect of results identity content and the interaction effect of social identity and results identity content on general collective efficacy were significant ($b = 1.065$, $SE = .077$, $p < 0.05$; $\Delta R^2 = .462$, $p < 0.05$ and $b = .486$, $SE = .084$, $p < 0.05$; $\Delta R^2 = .067$, $p < 0.05$). The significant interaction effect indicated that results identity content moderated the relationship between social identity and general collective efficacy. The overall model ($R^2_{\text{adj}} = .701$) was significant ($F(4, 146) = 88.897$, $p < 0.05$). Simple slopes analyses revealed that when results identity content was high (one SD above the mean) higher levels of social identity were associated with higher levels of general collective efficacy ($t = 7.99$, $p < 0.05$; the slope for low results identity content at one SD below the mean was not significant ($t = .02$, $p > 0.05$)). The interaction between social identity and results identity content on general collective efficacy is presented in Figure 2.3. The second set of moderated hierarchical regression analyses found that both the main effect of friendships identity content and the interaction effect of social identity and friendships identity content on general collective efficacy were significant ($b = -.489$, $SE = .155$, $p < 0.05$; $\Delta R^2 = .090$, $p < 0.05$ and $b = -.453$, $SE = .117$, $p < .05$; $\Delta R^2 = .068$, $p < 0.05$). The significant interaction effect indicated that friendships identity content moderated the relationship between social identity and general collective efficacy. The overall model ($R^2_{\text{adj}} = .319$) was significant ($F(4, 146) = 18.543$, $p < 0.05$). Simple slopes analyses revealed that when friendships identity content was low (one SD below the mean) higher levels of social identity were associated with higher levels of general collective efficacy ($t = 5.90$, $p < 0.05$; the slope for high friendships identity content at one SD above

the mean was not significant ($t = .17, p > 0.05$). The interaction between social identity and results identity content on general collective efficacy is illustrated in Figure 2.4.

2.3.4. Subjective team performance

Moderated hierarchical regression analyses found that after in-group cohesion had been controlled ($b = .599, SE = .141, p < .05; R^2_{adj} = .108, p < 0.05$) social identity exerted a significant main effect on subjective team performance ($b = .522, SE = .179, p < 0.05; \Delta R^2 = .048, p < 0.05$). The first set of moderated hierarchical regression analyses demonstrated that both the main effect of results identity content and the interaction effect of social identity and results identity content on subjective team performance were significant ($b = 1.193, SE = .097, p < 0.05; \Delta R^2 = .426, p < 0.05$ and $b = .620, SE = .105, p < 0.05; \Delta R^2 = .081, p < 0.05$). The significant interaction effect indicated that results identity content moderated the relationship between social identity and subjective team performance. The overall model ($R^2_{adj} = .654$) was significant ($F(4, 146) = 72.024, p < 0.05$). Simple slopes analyses revealed that when results identity content was high (one SD above the mean) higher levels of social identity were associated with higher levels of general collective efficacy ($t = 7.46, p < 0.05$; the slope for low results identity content at one SD below the mean was not significant ($t = .63, p > 0.05$)). The interaction between social identity and results identity content on subjective team performance is presented in Figure 2.5. The second set of moderated hierarchical regression analyses demonstrated that both the main effect of friendships identity content and the interaction effect of social identity and friendships identity content on subjective team performance were significant ($b = -.584, SE = .136, p < 0.05; \Delta R^2 = .094, p < 0.05$ and $b = -.441, SE = .140, p < 0.05; \Delta R^2 = .047, p < 0.05$). The significant interaction effect indicated that friendships identity content moderated the relationship between social identity and subjective team performance. The overall model ($R^2_{adj} = .279$) was significant ($F(4, 146) = 15.516, p < 0.05$). Simple slopes analyses revealed that when friendships identity

content was low (one SD below the mean) higher levels of social identity were associated with higher levels of subjective team performance ($t = 5.03, p < 0.05$; the slope for high friendships identity content at one SD above the mean was not significant ($t = .32, p > 0.05$)). The interaction between social identity and friendships identity content on subjective team performance is demonstrated in Figure 2.6.

2.3.5. Preferred leadership style

Moderated hierarchical regression analyses demonstrated that after in-group cohesion had been controlled ($b = .144, SE = .072, p < 0.05; R^2_{adj} = .020, p < 0.05$) social identity exerted a non-significant main effect on preferred leadership style ($b = .161, SE = .093, p > 0.05; \Delta R^2 = .019, p > 0.05$). However, the first set of moderated hierarchical regression analyses found that both the main effect of results identity content and the interaction effect of social identity and results identity content on preferred leadership style were significant ($b = .564, SE = .055, p < 0.05; \Delta R^2 = .401, p < 0.05$ and $b = .236, SE = .063, p < 0.05; \Delta R^2 = .049, p < 0.05$). The significant interaction effect indicated that results identity content moderated the relationship between social identity and preferred leadership style. The overall model ($R^2_{adj} = .482$) was significant ($F(4, 146) = 35.945, p < 0.05$). Simple slopes analyses revealed that when results identity content was high (one SD above the mean) higher levels of social identity were associated with a shift towards a preference for an autocratic leader ($t = 4.35, p < 0.05$; the slope for low results identity content at one SD below the mean was not significant ($t = .80, p > 0.05$)). The interaction between social identity and results identity content on preferred leadership style is demonstrated in Figure 2.7. The second set of moderated hierarchical regression analyses found that both the main effect of friendships identity content and the interaction effect of social identity and friendships identity content on preferred leadership style were significant ($b = -.354, SE = .69, p < 0.05; \Delta R^2 = .146, p < 0.05$ and $b = -.236, SE = .071, p < 0.05; \Delta R^2 = .057, p < 0.05$). The significant interaction effect

indicated that friendships identity content moderated the relationship between social identity and preferred leadership style. The overall model ($R^2_{\text{adj}} = .228$) was significant ($F(4, 146) = 12.071, p < 0.05$). Simple slopes analyses revealed that when friendships identity content was low (one SD above the mean) higher levels of social identity were associated with a shift towards a preference for an autocratic leader ($t = 4.11, p < 0.05$; the slope for high friendships identity content at one SD above the mean was not significant ($t = .59, p > 0.05$)). The interaction between social identity and friendships identity content on preferred leadership style is demonstrated in Figure 2.8.

Table 2.1. Bivariate correlations for all social identity-related variables and in-group cohesion, general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style.

	In-group cohesion	General self efficacy	General collective efficacy	Subjective team performance	Preferred leadership style
Social identity	.64**	.45**	.41**	.38**	.21**
Results identity content	-.06	.58**	.65**	.62**	.62**
Friendships identity content	.29**	-.18*	-.17*	-.18*	-.30*

* $p < 0.05$, ** $p < 0.01$.

Note: (r s of 0-0.19 = no correlation; 0.2-0.39 = low correlation; 0.4-0.59 = moderate correlation; 0.6-0.79 = moderately high correlation; ≥ 0.8 = high correlation).

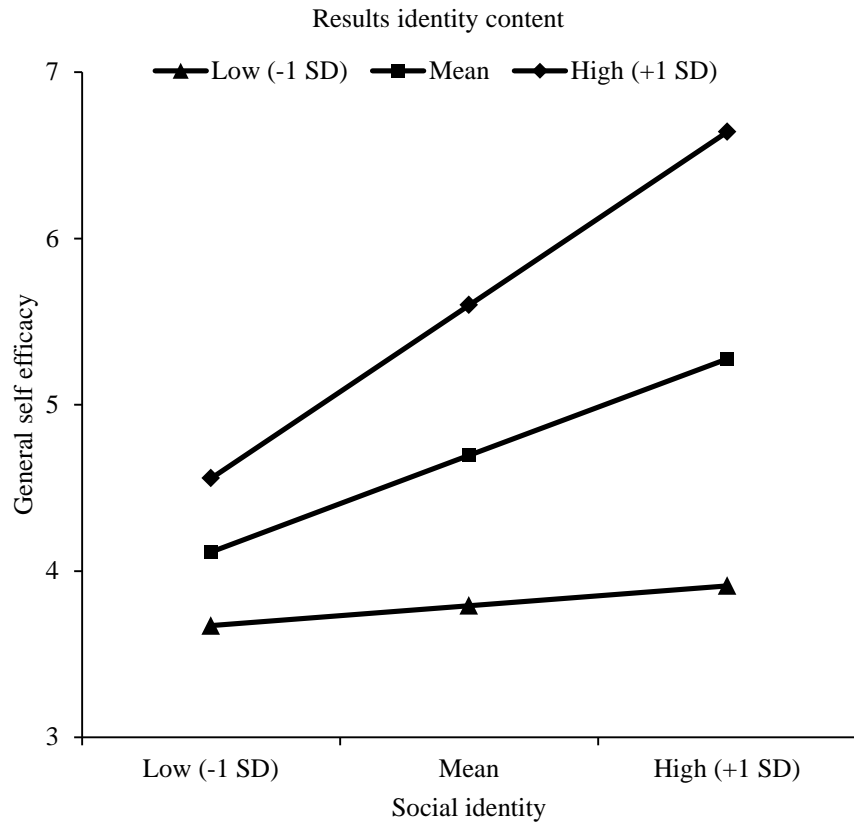


Figure 2.1. The interactive effect of social identity and results identity content on general self efficacy.

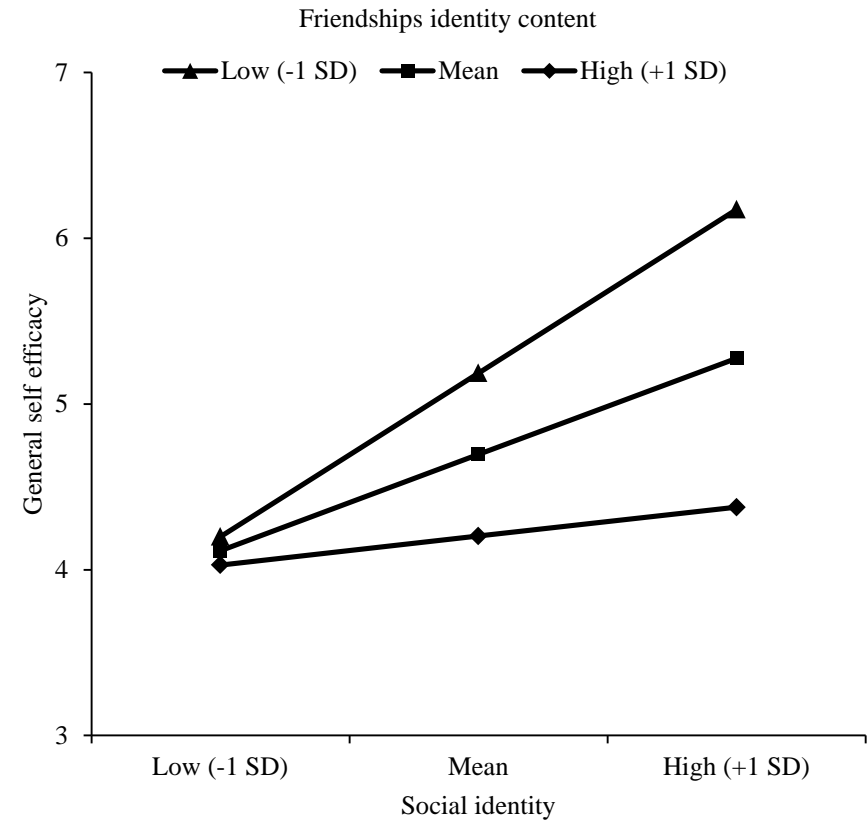


Figure 2.2. The interactive effect of social identity and friendships identity content on general self efficacy.

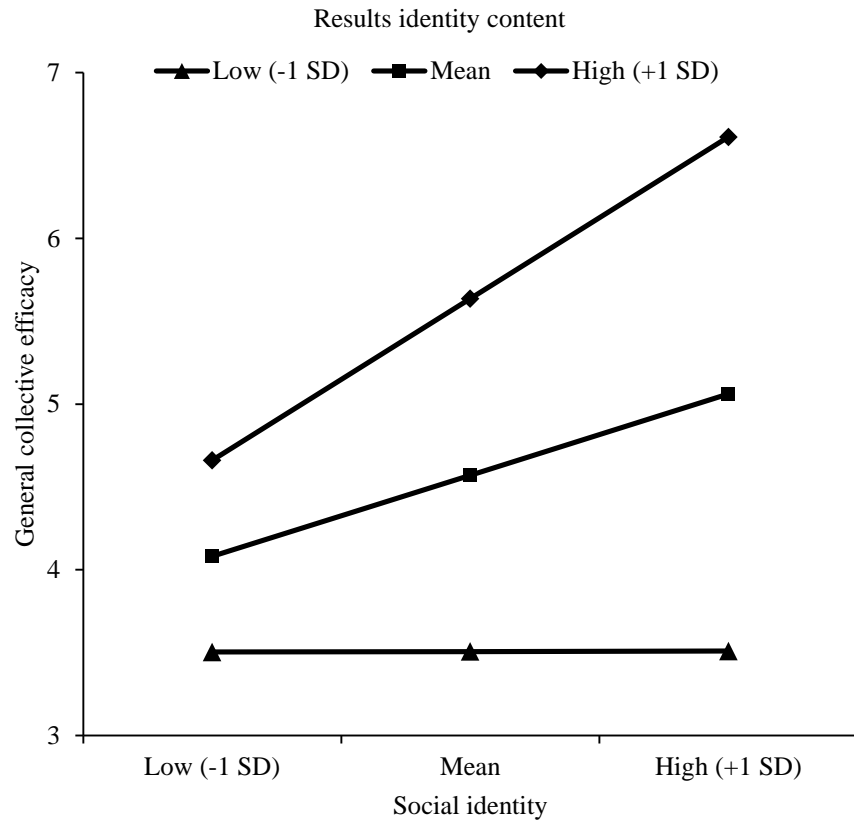


Figure 2.3. The interactive effect of social identity and results identity content on general collective efficacy.

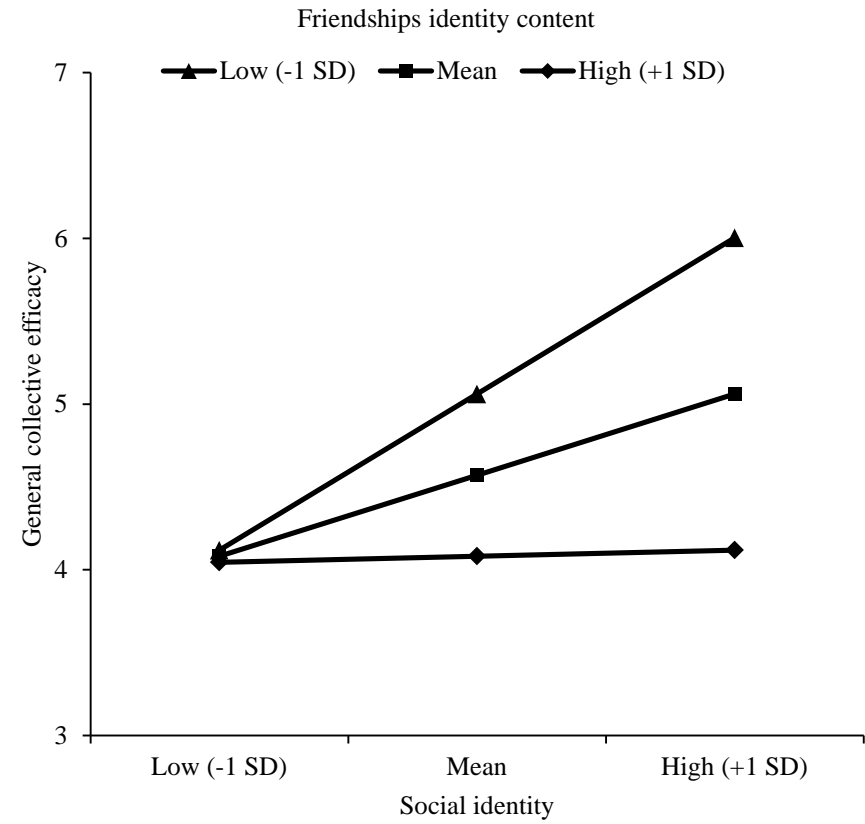


Figure 2.4. The interactive effect of social identity and friendships identity content on general collective efficacy.

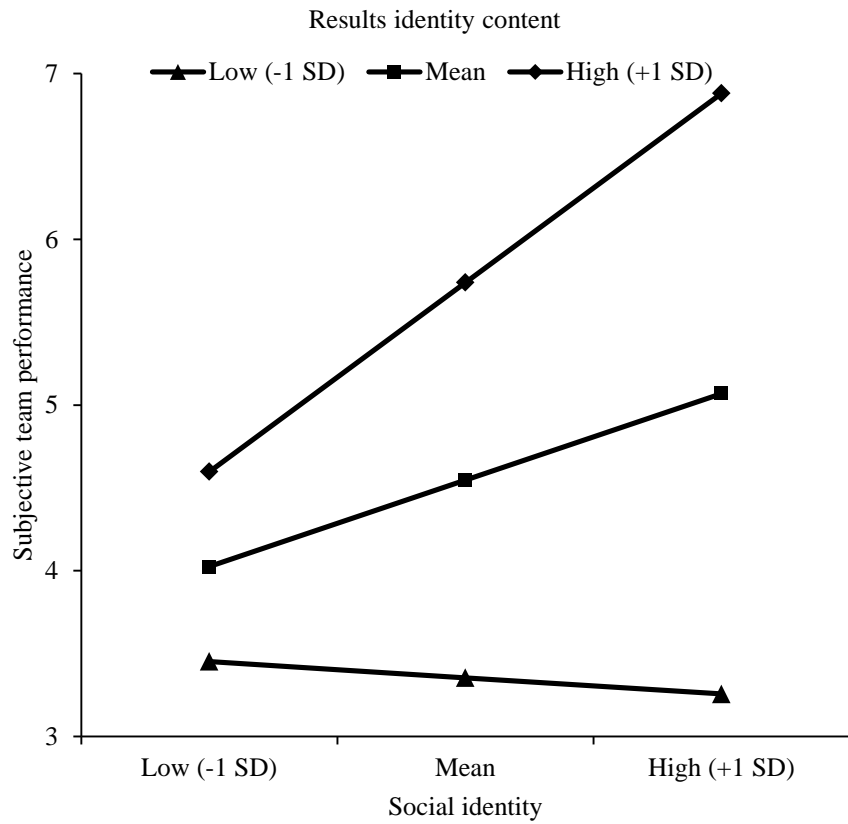


Figure 2.5. The interactive effect of social identity and results identity content on subjective team performance.

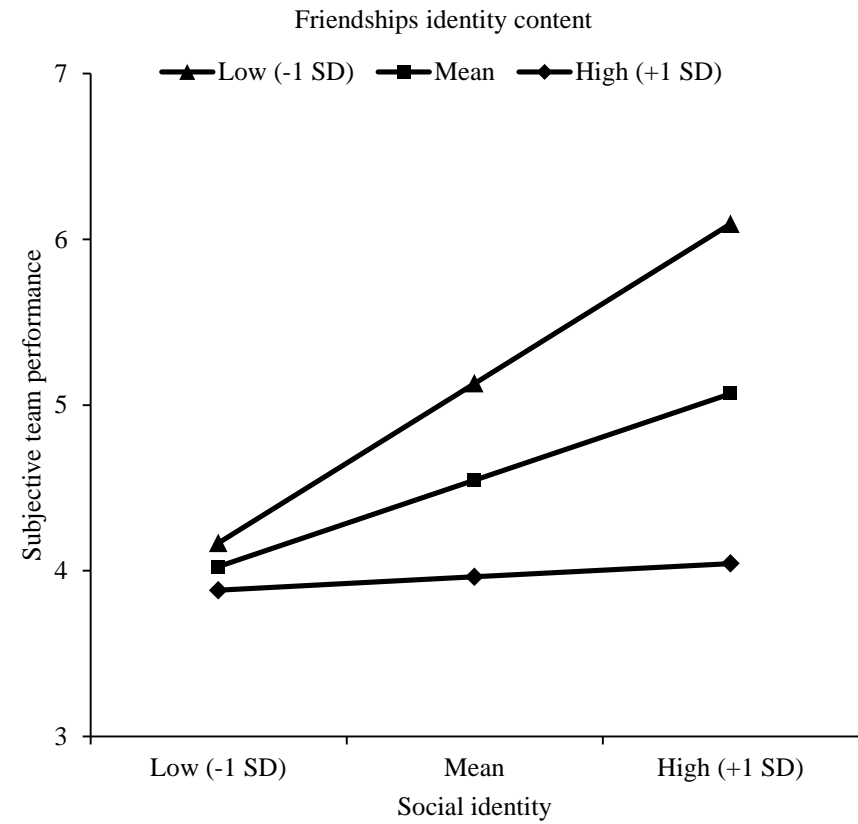


Figure 2.6. The interactive effect of social identity and friendships identity content on subjective team performance.

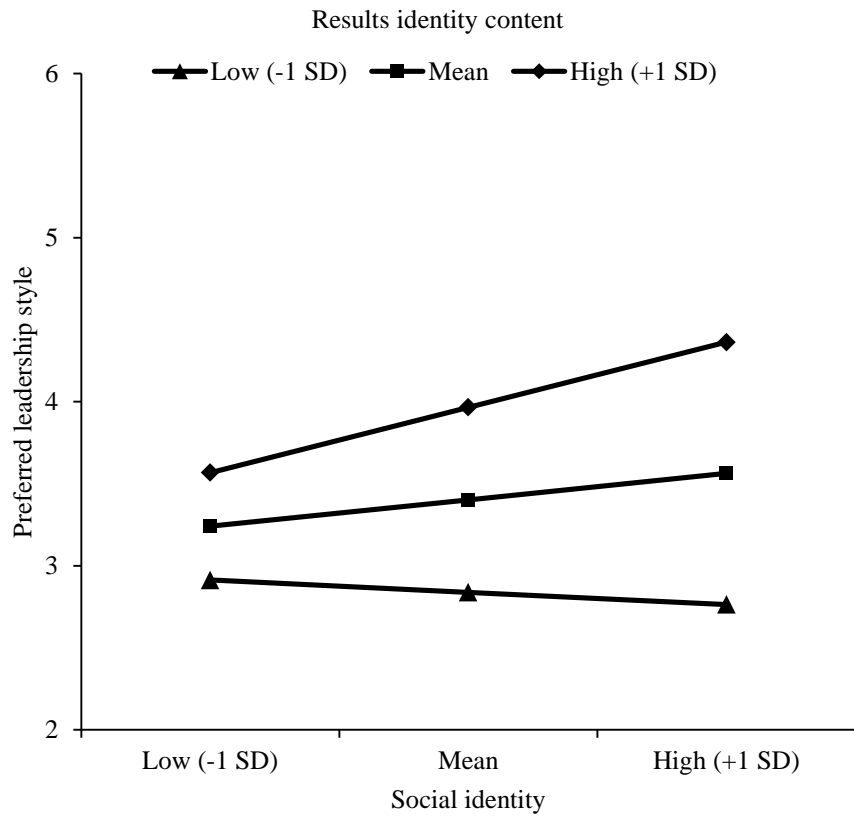


Figure 2.7. The interactive effect of social identity and results identity content on preferred leadership style.

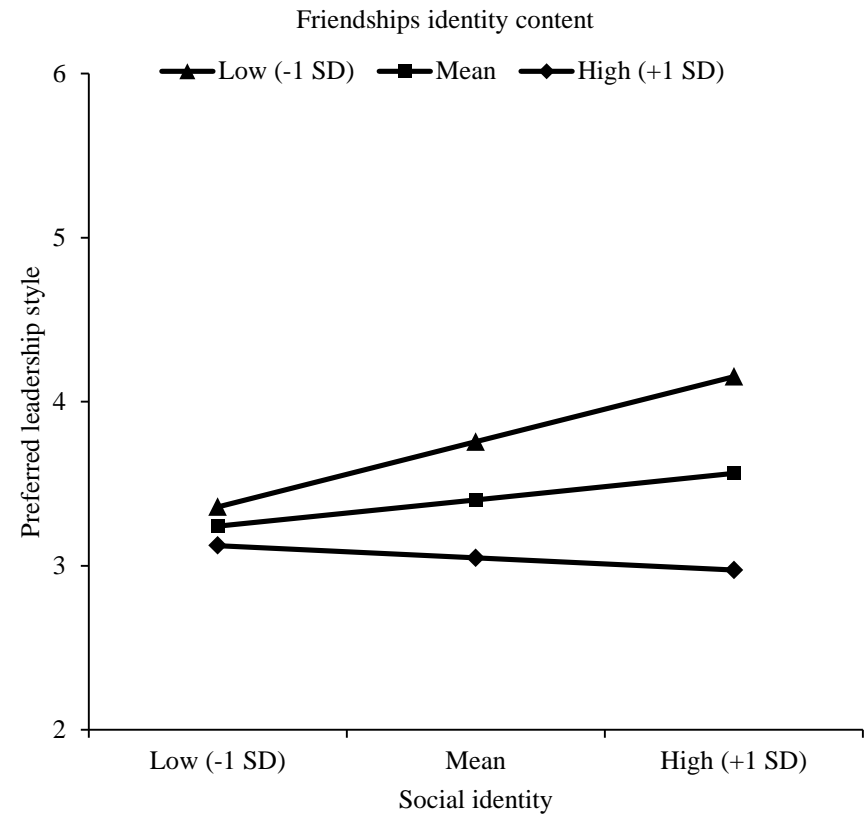


Figure 2.8. The interactive effect of social identity and friendships identity content on preferred leadership style.

2.4. Discussion

The purpose of the present study was to explore the relationships between aspects of social identity content and outcome variables within a performance domain which addressed aim (a) of the current thesis (i.e., to further explore the importance of the content of social identities). Therefore, the present study contributes to the extant social identity literature by documenting the relationships between aspects of social identity content relevant within a performance domain and outcome variables. Despite not being the predominant focus of the thesis, measuring social identity also allowed the relationships between social identities and outcome variables to be ascertained which adds to the dearth of research studies that have explored the importance of social identities in a performance context. Data indicated that social identity was significantly and positively related to all outcome variables. Social identity also significantly and positively explained the variance in general self efficacy, general collective efficacy, and subjective team performance above and beyond the variance explained by in-group cohesion. However, social identity failed to significantly explain the variance in preferred leadership style (autocratic—democratic). Data also indicated that with the exception of in-group cohesion, results identity content was significantly and positively related to each outcome variable. Meanwhile, friendships identity content was significantly and positively related to in-group cohesion and significantly and negatively related to all remaining outcome variables. Finally, data indicated that both results identity content and friendships identity content moderated the relationship between social identity and general self efficacy, general collective efficacy, subjective team performance, and preferred leadership style. Specifically, it was only when the content of social identity was highly focused on results or lowly focused on friendships that higher levels of social identity were associated with higher general self efficacy, general collective efficacy, subjective team performance, and a preference towards an autocratic leadership style. Overall, the findings of

the present study support the study hypotheses and provide preliminary evidence that the content of athletes' social identities can guide cognition and behaviour in a performance domain.

In the present study the moderately high, significant, and positive relationship found between social identity and in-group cohesion can be explained through the process of social identification. According to self-categorisation theory (Turner, 1982) an individual will see themselves and other individuals to be in-group members when they are perceived to be similar to their in-group prototype (Turner, 1999). Self-categorisation then leads to a process of depersonalisation where an individual sees themselves and other categorised individuals as interchangeable exemplars of the in-group prototype rather than idiosyncratic individuals (Horsey et al., 2009). Subsequently, depersonalisation initiates a process of self-stereotyping whereby in-group members take on the attitudes and behaviours that are described and prescribed by the norms and values associated with their group membership (Turner, 1999). The main implication of self-stereotyping is that group members will bring their attitudes and behaviours into conformity with their in-group prototype and generate positive attitudinal consensus and behavioural uniformity that are indicative of cohesive groups (Hogg, 1992). Therefore, social identity seems to be related to cohesion in a performance context because social identities increase the likelihood of developing consensus, conformity, and uniformity through the underlying processes of self-categorisation, depersonalisation, and self-stereotyping. Although social identity was found to be related to in-group cohesion the current study demonstrated that social identity significantly and positively explained the variance in general self efficacy, general collective efficacy, and subjective team performance above and beyond the variance explained by cohesion. These findings confirm that social identity and cohesion should not be used interchangeably because social identities can provide further information to cohesion about the variation in group processes in sport.

Social identity significantly and positively explained the variance in general self efficacy which could be explained through the underpinning motivation to social identities. According to social identity theory (Tajfel, 1978) an individual will be motivated to develop a social identity with a group that makes a positive contribution to their self-esteem (i.e., a self-esteem motive). However, Cast, Stets, and Burke (1999) have suggested that an individual may also be motivated to develop a social identity with a group to feel more competent and effective as a person (i.e., a self efficacy motive). Therefore, it is plausible that athletes felt efficacious when a social identity had been established because social identities are posited to motivate individuals to contribute to a collective (i.e., 'we' or 'us'). As a result, an individual is likely to feel effective and competent in their own abilities when they feel they can contribute to the greater good of their group (Stets & Burke, 2000). The finding that social identity significantly and positively explained the variance in general self efficacy could also be related to the sources of efficacy identified in sport psychology literature (see Bandura, 1997). For instance, in belonging to a group an individual is likely to be provided with important verbal persuasion and vicarious experience information from other in-group members (e.g., athletes or coaches) that can be used to raise self efficacy (see Bandura, 1997).

Social identity also significantly and positively explained the variance in general collective efficacy which may also be linked to the process of social identification. Social identity theory (Tajfel, 1978) asserts that when an individual has identified a group that can make a positive contribution to their self-esteem they will depersonalise the perception of themselves as an individual and will see themselves as belonging to a collective entity. Depersonalisation then motivates an individual towards collective action because their own individual fate will be decided by the fate of the group to which they belong (Haslam, 2004). Therefore, an individual will want to belong to a group that can achieve their collective vision

to experience a positive self-esteem. Indeed, research studies (e.g., Ellemers et al. 1999) have documented that an individual will not want to belong to a group that cannot achieve their collective vision because failure to realise collective interests will have negative repercussions for self-esteem. The finding that social identity significantly and positively explained the variance in general collective efficacy could also be related to other behaviours that were not assessed in the current study. Based on the notion that social identities motivate individuals to think and act in line with the best interests of their group (Haslam, 2004) it is plausible that social identity could trigger behaviours such as effort and persistence which may help groups realise their vision. Indeed, Bandura (1997) suggested that effort and persistence can be used to form collective efficacy beliefs.

There are several reasons that could explain why social identity significantly and positively explained the variance in subjective team performance. First, social identity theory (Tajfel, 1978) asserts that social identities motivate individuals to think and behave for the best interests of their group. Therefore, being motivated towards collective interests could cause individuals to invest personal resources (e.g., effort and persistence) that benefit team performance. Second, social identity was found to significantly and positively explain the variance in general self efficacy and general collective efficacy which could have exerted a positive influence on subjective team performance. Indeed, psychological literature has documented that self efficacy (e.g., Moritz et al, 2000) and collective efficacy (e.g., Myers, Feltz, & Short, 2004) aid performance in sport.

There are a number of reasons that could explain why social identity failed to significantly explain the variance in preferred leadership style (autocratic—democratic). First, the findings of the present study indicated that social identity content moderated the relationship between social identity and preferred leadership style which suggests that the relationship between social identity and preferred leadership style is dependent upon the

meaning athletes prescribe to social identities. There could also be several other conditions that were not assessed or controlled for that may have contributed to the observed relationship between social identity and preferred leadership style. For instance, the attractiveness of a particular leadership style may have pre-determined the style of leadership athletes preferred. Indeed, Gastil (1994) identified that preferred leadership style could be influenced by factors including the need for directive authority and the notion that an autocratic regime would serve the interests of particular individuals or subgroups (e.g., those that would stand to lose power under a democracy).

In light of self-categorisation theory (Turner, 1982) it is unsurprising that a content focused highly on results or lowly on friendships meant that higher social identity was associated with higher general self efficacy, general collective efficacy, and subjective team performance. It is also logical that a content focused highly on friendships meant that social identity had no significant association with general self efficacy, general collective efficacy, and subjective team performance. According to self-categorisation theory (Turner, 1982) when an individual sees themselves as a member of a group they will stereotype themselves with the attitudes and behaviours that are described and prescribed by the norms and values associated with their self-categorisation. The process of self-stereotyping then causes an individual to internalise the attitudes and behaviours that are consistent with their self-categorisation which leads an individual to think, feel, and behave in line with the meaning of their group membership. Therefore, self-categorisation theory (Turner, 1982) would predict that when an athlete's content is focused highly on results an athlete will stereotype themselves with the attitudes and behaviours that are consistent with a results identity content. Intuitively, general self efficacy and general collective efficacy appear to be aligned to a content focused highly on results because self efficacy and collective efficacy are thought processes that underpin success in sport. It also makes sense that subjective team

performance would be aligned to a content focused highly on results because thought processes that are consistent with results identity content are likely to aid performance (Bandura, 1997). The key point from the perspective of social identity theory (Tajfel, 1978) is that thought processes such as self efficacy and collective efficacy increase the likelihood that an athlete will achieve success (e.g., through winning matches) which will satisfy an athlete's self-esteem. Again, self-categorisation theory (Turner, 1982) would predict that when an athlete's content is focused highly on friendships an athlete will stereotype themselves with the attitudes and behaviours that are consistent with a friendships identity content. However, general self efficacy and general collective efficacy do not appear to be aligned to a content focused highly on friendships because self efficacy and collective efficacy are thought processes that do not necessarily underpin friendships in sport (Bandura, 1997). It also follows that subjective team performance would not be aligned to a content focused highly on friendships because friendships identity content is not centred upon winning or the achievement of success. The main argument from the standpoint of social identity theory (Tajfel, 1978) is that thought processes such as self efficacy and collective efficacy do not guarantee that an athlete will be able to build or maintain friendships and will therefore have little impact on satisfying an athlete's self-esteem.

The finding that a content focused highly on results meant that higher social identity was associated with a preference towards an autocratic leadership style may be explained by the nature of a content focused highly on results. Drawing on self-categorisation theory (Turner, 1982) it could be that athletes whose content is focused highly on results adopt a win-at-all-costs mentality which could then lead an athlete to stereotype themselves with the dominant attitudes and behaviours (e.g., being assertive) that aid the quest for success. Subsequently, an athlete may prefer autocratic leadership because an autocratic leader would be representative (or prototypical) of the norms and values described and prescribed by a

content focused highly on results. It could also be argued that the relatively young age of the sample meant that athletes lacked the tactical knowledge or experience needed to win matches and satisfy their results identity content. It may be that younger athletes whose content is focused highly on results become reliant on an authoritative figure who possesses the knowledge and expertise to guide and nurture athletes towards successful performance in sport (see Gastil, 1994). It was surprising however, that a content focused highly on friendships meant that there was no significant association between social identity and preferred leadership style. Based upon the measure of preferred leadership style used it would be logical to expect a content focused highly on friendships to be aligned to a preference for democratic leadership. Specifically, the items within the preferred leadership style measure that assessed athletes' preference for democratic leadership incorporated behaviours (e.g., communication and being friendly) that appear to underpin friendships in sport. Perhaps the relatively young age of athletes meant that athletes required an autocratic leader which prevented the hypothesised relationship from occurring.

A number of theoretical implications emanate from the findings of the current study. The findings of this study suggest that it is important for athletes to have social identities because social identities can encourage thought processes that facilitate psychological well-being and performance in sport. The present study findings also suggest that it is important for athletes to prescribe meaning to their social identities because the content of social identities can explain cognition and behaviour. There are also a number of applied implications that emerge from the findings of the current study. For example, it would be beneficial for an applied sport psychologist to create a sense of belonging among athletes in order to promote group processes that can aid group functioning. Furthermore, an applied sport psychologist could promote aspects of social identity content to target improvements in the cognition and behaviour of athletes in sport.

The main shortcomings of the current study relate to the weaknesses of the cross-sectional research design used. Specifically, the present study relied on a sample of athletes that competed in one sport and completed a questionnaire at one time-point. Therefore, it cannot be concluded that the findings reported within the current study generalise to athletes who compete in sports other than rugby league. Future research should seek to confirm the relationships between social identity, the content of social identities, and psychological outcomes across a broad range of sports. A cross-sectional research design is also restricted to demonstrating relationships between psychological variables at a single time-point which does not provide information about how observed relationships change over time (Bryman, 2012). It follows that future research should adopt a longitudinal research design to further explore the relationships between social identity, the content of social identities, and psychological outcomes in a performance context. Employing a longitudinal research design would reveal important information on whether social identity-related variables change over time and whether the within-person, between-person, and/or between-team variation in social identities and the content of social identities can explain the variance in psychological outcomes in a performance context. The final shortcoming of the current study relates to the measure of team performance. Given the subjective nature of the team performance measure used an athlete may have been inclined to disclose biased interpretations of their team's performance which could have posed a threat to the internal validity of the performance data collected (Spitzer, 2007; Barker, Mellalieu, McCarthy, Jones, & Moran, 2013). Future researchers would benefit from using an objective measure of team performance to eliminate the threats to internal validity that are associated with subjective measures. Using an objective measure of team performance would improve the overall validity of observed relationships reported between social identity, the content of social identities, and behavioural outcomes in a performance context.

Despite the shortcomings reported, the current study is the first to explore the relationships between aspects of social identity content and outcome variables within a performance domain which addressed aim (a) of the current thesis (i.e., to further explore the importance of the content of social identities). The present study also confirmed the importance of social identities in a performance context. Based on the findings reported it is clear that belonging to a group is important for a performer. It is also apparent that group memberships in performance domains are meaningful, valuable, and worth cherishing. Given that cross-sectional research is limited to exploring relationships between variables at one time-point it would be logical for future research to explore relationships between social identities, the content of social identities, and psychological and behavioural outcomes over time. The use of a longitudinal research design would extend the current study findings by exploring the change in social identity-related variables and whether within-person, between-person, and/or between-group variation in social identities and the content of social identities relate to psychological and behavioural outcomes in sport.

CHAPTER 3: A LONGITUDINAL EXPLORATION INTO RELATIONSHIPS BETWEEN THE CONTENT OF SOCIAL IDENTITIES AND OUTCOME VARIABLES

3.1. Introduction

Data reported in chapter two demonstrated the importance of the content of social identities in a performance domain. The main shortcomings that existed within chapter two were associated with the nature of the cross-sectional research design used. Most notably, cross-sectional research cannot provide information about whether observed relationships between study variables change over time because cross-sectional research is restricted to demonstrating relationships at a single time-point (Bryman, 2012). To extend the findings reported in chapter two it follows that a longitudinal research design should be employed to explore the relationships between the content of social identities and outcome variables over time. Generally, research studies within social identity literature have favoured using cross-sectional and experimental research designs at the expense of a longitudinal research design (Haslam et al. 2005). Haslam et al. called for an upsurge in longitudinal research studies because conducting longitudinal research would document the interrelated development of social identity-related variables and outcome variables over time. Although longitudinal research studies exploring social identities are beginning to emerge (e.g., Haslam et al., 2009; Reicher & Haslam, 2006) no research studies have explored the content of social identities across time. Therefore, a longitudinal exploration into the content of social identities would add to the extant literature by documenting relationships between aspects of social identity content and outcome variables over time whilst adding to the dearth of longitudinal research studies available in social identity literature.

At present, the dearth of longitudinal research conducted in social identity literature have explored the effects of social identity on psychological, physiological, and behavioural

outcomes over time. For example, Reicher and Haslam (2006) examined the effects of social identity on a number of dependent variables (e.g., stress and burnout) among individuals who were assigned to the role of either prisoner or guard in a purpose-built prison for ten days. Each day the prisoners and guards completed measures of social identification, exposure to bullying, and burnout. A physiological measure of stress (in the form of cortisol) was also taken on day two and day six. Finally, 20 naïve independent observers provided their behavioural observations of stress-related prisoner and guard behaviour after watching representative incidents from day two and day six of the experiment. Self-report data indicated that the prisoners increased their social identification and experienced similar levels of bullying and burnout over time. Self-report data also indicated that the guards reduced their social identification and experienced significantly more bullying and burnout across time. Analysis of cortisol found that although the prisoners and guards displayed increased cortisol from day two to day six, the increase in cortisol was more pronounced among the guards. Lastly, behavioural observations indicated that the prisoners provided more social support to one another and were better able to cope with the stressors they were confronted with across time. Reicher and Haslam (2006) concluded that social identities can provide individuals with a valuable coping mechanism that can protect individuals during episodes of stress. Other longitudinal research studies have demonstrated that social identities have a positive long-term influence on health, well-being, and morale. For instance, Haslam et al. (2009) found that highly identified members of two theatre production groups were more willing to display organisational citizenship over five phases of theatre production in comparison to those members that were lower in social identification. Highly identified members also reported greater satisfaction and pride in their work over time in comparison to those lowly identified members. Finally, high identifiers generally reported higher levels of morale and experienced lower levels of burnout in comparison to low identifiers particularly

when they experienced great strain during dress rehearsal and final performance phases. Haslam et al. concluded that social identities can motivate individuals to contribute to the success of their group whilst protecting them from the stressors they encounter when making their contribution. In summary, longitudinal research would suggest that social identities have a positive influence on psychological, physiological, and behavioural outcomes that benefit well-being and performance over time.

Drawing on self-categorisation theory (Turner, 1982; 1985) it would appear that the content of social identities could also relate to outcome variables over time. For example, in line with self-categorisation theory (Turner, 1982; 1985) it could be that when an identity becomes more focused on a specific aspect of social identity content over time an individual will be more inclined to adopt modes of cognition and behaviour (through the process of self-stereotyping) that are consistent with the norms and values prescribed and described by the meaning of their social identity. Thus, self-categorisation theory (Turner, 1982; 1985) would predict that outcome variables aligned to specific aspects of social identity content would be positively related over time. Social identity literature would also suggest that a longitudinal exploration into the content of social identities would be insightful. For example, Tajfel and Turner (1979) proposed that members of groups will engage in social mobility, social creativity, and/or social competition to either maintain or improve their status to experience a positive self esteem. One form of social creativity that members of group can use involves changing the values assigned to the attributes of their in-group (Tajfel & Turner, 1979). Changing the values assigned to group attributes would appear to involve in-group members altering the meaning of their in-group identity which suggests that social identity content could change over time. Based on self-categorisation theory (Turner, 1982) a change in in-group values would be anticipated to alter the normative content of an in-group which would mean that an in-group member would stereotype themselves with different norms and values.

In turn, the attitudes and behaviours expressed by an in-group member would be in line with the norms and values prescribed and described by their altered normative content (see Turner, 1982; 1985). To this end, self-categorisation theory (Turner, 1982; 1985) would predict that changing the content of in-group identities will influence psychological, physiological, and behavioural outcomes over time. Therefore, a longitudinal exploration into the content of social identities could explain why certain outcome variables change. Indeed, Livingstone and Haslam (2008) suggested that research should examine whether changing the meaning of in-group identities that are highly focused on being negative towards out-groups could reduce the amount of hostile and antagonistic behaviour in-group members direct towards out-groups over time.

To explore the relationships between aspects of social identity content and outcome variables over time the same aspects of social identity content (i.e., results identity content and friendships identity content) measured in chapter two were also measured in the current study. Outcomes variables (i.e., in-group cohesion, general self efficacy, and general collective efficacy) that were measured in chapter two were also measured in the present study. Preferred leadership style was not measured in the present study because teams tended to have multiple captains which made it difficult for athletes to denote their preferred style of leadership. To address the shortcoming of measuring subjective team performance in chapter two the current study also measured objective team performance.

The purpose of the current study was to use a longitudinal research design to explore relationships between the content of social identities and outcome variables which addressed aim (b) of the present thesis (i.e., to explore the relationships between social identity content and outcome variables over time). This study also addressed aim (a) of the current thesis (i.e., to further explore the importance of the content of social identities). Accordingly, a number of hypotheses were formulated grounded on self-categorisation theory (Turner, 1982; 1985)

and the findings reported within chapter two. First, it was hypothesised that a content focused on results would be significantly related to general self efficacy, general collective efficacy, and team performance over time because these outcomes appear to be consistent with an identity content focused on results. General self efficacy, general collective efficacy, and team performance appear to be aligned to an identity content focused on results because such outcomes have been found to benefit success in a performance domain (e.g., Mortiz et al., 2000). What is more, the research reported in chapter two found that an identity content focused on results was significantly and positively related to general self efficacy, general collective efficacy, and subjective team performance. Second, it was hypothesised that an identity content focused on results or friendships would be significantly related to in-group cohesion given that cohesion can be socially-oriented or task-oriented.

3.2. Method

3.2.1. Design

The current study adopted a longitudinal research design. Data was collected at the start (i.e., during the first three weeks), the middle (i.e., during the middle three weeks), and the end (i.e., during the last three weeks) of a nine-week competitive rugby league season. Ethical approval was granted prior to data collection by the Faculty of Health Sciences Ethics panel at Staffordshire University.

3.2.2. Participants

The overall sample consisted of 167 male rugby league athletes who were voluntarily recruited from all eight amateur teams competing in a Premier Division of a North West rugby league organisation. Capturing psychological processes from members of all groups competing in the same context across time enabled highly robust data to be obtained. Out of

the 167 athletes who participated, 129 athletes provided demographic data ($M_{age} = 18.16$, $SD_{age} = .44$, range = 18-22 years). The highest playing standard that the 129 athletes had competed at ranged from club ($n = 69$) through to county ($n = 11$), regional ($n = 44$), national ($n = three$), and international level ($n = two$). At time one (i.e., the start of the season) the sample included 71.3% of athletes ($n = 119$). At time two (i.e., the middle of the season) the sample comprised 70.7% of athletes ($n = 118$). At time three (i.e., the end of the season) the sample consisted of 60.5% of athletes ($n = 101$). Overall, 32.9% of athletes participated at each time-point. Athlete attrition across the season can be explained by athletes' non-attendance to training sessions that were used for data collection.

3.2.3. Procedure

The chairperson of an amateur North West rugby league organisation was contacted through e-mail during the off-season and agreed to meet the lead researcher. During the initial meeting the chairperson requested that the lead researcher completed an Enhanced Disclosure Criminal Records Bureau (CRB) check form given that data for the current study was to be collected off-site at the training facilities of each team. Therefore, an Enhanced Disclosure CRB certificate was obtained and subsequently presented to the chairperson during a second meeting. Within the second meeting the chairperson provided both verbal and written consent (in the form of a letter) for the lead researcher to approach the coaches and the athletes of each team that competed in a Premier Division. The chairperson also invited the lead researcher to meet the coaches during pre-season at a monthly league meeting held at a rugby league club in the North West region of England. Coaches who attended the league meeting provided verbal consent for their athletes to be approached for participant recruitment. Those coaches who were unable to attend the league meeting received a phone call from the lead researcher and confirmed that their athletes could also be approached for

participant recruitment. All the coaches invited the lead researcher to attend one training session held at the start, middle, and end of their team's competitive season.

At the beginning of each training session the coaches gathered their athletes together on the training pitch or inside the clubhouse facilities located at their team's training ground. On arrival to each training session the lead researcher addressed the athletes and explained that the current study involved completing a short questionnaire (see Appendix 3). Prior to completing their first questionnaire all athletes read an information sheet and volunteered to participate by signing an informed consent form. Athletes completed questionnaires (which included the same measures at each time-point) on their training pitch or inside their clubhouse at either the start or the end of training sessions. After all questionnaire data had been analysed the participants received a written report of the project which detailed the purpose, findings, and implications of the present study.

3.2.4. Measures

The questionnaire completed by athletes at each time-point contained seven measures. Each measure was previously pilot tested prior to the study reported in chapter two. Athletes rated the extent to which they agreed with all items included within the questionnaire on a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement.

Social identity. A single-item was used to measure athletes' social identity with their group ("you identify strongly with your team").

Results identity content. A single-item was used to assess the extent to which athletes perceived results to be an important aspect of their group membership ("the most important thing to you are the results of your team").

Friendships identity content. A single-item was used to measure the extent to which athletes perceived friendships to be an important aspect of their group membership (“the most important thing to you are the friendships within your team”).

In-group cohesion. A two-item measure was used to assess athletes’ perception of in-group cohesion (item one: “rugby players on your team represent a single, clearly-defined group”; item two: “rugby players on your team all stick together”). This measure demonstrated moderate internal reliability at time one ($\alpha = .40$) and high internal reliability at time two ($\alpha = .63$) and time three ($\alpha = .55$; Pallant, 2007 suggests that for scales that consist of fewer than 10 items a Cronbach alpha coefficient $> .50$ indicates acceptable internal reliability).

General self efficacy. A four-item measure was used to assess athletes’ general self efficacy (item one: “you can achieve your goals/targets”; item two: “when you are in trouble you can think of a solution”; item three: “during a match you can minimise your mistakes when under pressure”; item four: “throughout a match you can select the right solutions to problems”). This measure demonstrated high internal reliability at time one ($\alpha = .69$), time two ($\alpha = .70$), and time three ($\alpha = .79$).

General collective efficacy. A four-item measure was used to assess athletes’ general collective efficacy (item one: “your team is capable of achieving goals/targets that are set”; item two: “your team can find a solution when confronted with a problem”; item three: “throughout a match your team can minimise errors when under pressure”; item four: “throughout a match as a team you make correct decisions”). This measure demonstrated high internal reliability at time one ($\alpha = .66$), time two ($\alpha = .82$), and time three ($\alpha = .78$),

Subjective team performance. A five-item measure was used to assess athletes’ perception of their team’s rugby league performance (item one: “as a team you are

performing better than expected”; item two: “as a team you are dedicated and committed to performing successfully”; item three: “as a team you are currently in good form”; item four “as a team you are currently playing well”; item five: “as a team you are satisfied with your recent results”). This measure demonstrated high internal reliability at time one ($\alpha = .79$), time two ($\alpha = .85$), and time three ($\alpha = .85$).

Objective team performance. League position was used as a marker of objective performance. One value for league position was obtained for each team for each week of the nine-week season. Previous sport psychology research studies (e.g., Watson, Chemers, & Preiser, 2001) have considered league position to be sensitive and reliable indicator of objective team performance in sport. Each team’s league position was accessed through the North West rugby league organisation’s website.

3.2.5. Statistical analyses

Multilevel modelling was used to explore the contributions of social identity-related variables to outcome variables over time. Multilevel modelling was chosen because the structure of the current data set required the use of a statistical technique that could handle nested data. Multilevel modelling is also an appropriate statistical technique to use when variance estimates in dependent variables can be considered at different levels (Singer & Willett, 2003). In the current data set residual variance can be considered at the time level (Level one: within-persons), the individual level (Level two: between-persons), and the team level (Level three: between-teams). Therefore, the contributions of social identity-related variables to outcome variables were explored using three-level regression models. All data were analysed using the software package MLwiN (version 2.1; Rasbash, Charlton, Browne, Healy, & Cameron, 2009) and variance estimates were calculated using the Iterative Generalised Least Squares (IGLS) algorithm. The current data set had 501 data points at

Level one (162 – 173 missing data points per analysis), 167 data points at Level two, and eight data points at Level three. Multilevel modelling is a suitable statistical technique to use when there are missing data (e.g., athletes not completing a questionnaire at a specific time-point) which was the case in the present study (see Singer & Willett, 2003). The missing values were MCAR ($\chi^2 = 84.36$, $df = 376$, $p = 1.00$). At present, there is little information available regarding the statistical power in three-level data structures. However, visual inspection of standard multilevel (two-level) power graphs (Scherbaum & Ferreter, 2009) suggested that the data had appropriate statistical power to detect small to medium effects at Level one and Level two.

Intraclass correlations were computed using standard techniques (Hedges, Hedberg, & Kuyper, 2012) and show the percentage of variance expressed at each level (see Table 3.1). Given that predictor variables (i.e., social identity, results identity content, and friendships identity content) showed variance at Level one and Level two (but not Level three) two discrete estimates for each predictor were created: one estimate that captured within-person change only and one estimate that captured between-person differences only (Raudenbush & Bryk, 2002). The within-person change estimate was calculated by group-mean centring the predictor variable and the between-person difference estimate was calculated by averaging predictor variables over time. Accordingly, the contribution of within-person changes and between-person differences in social identity, friendships identity content, results identity content (and the interactions between these terms) were explored on in-group cohesion, general self efficacy, general collective efficacy, and subjective team performance. Interaction terms were computed from standardised data. Both fixed and random slopes were fitted to the models and compared using the log likelihood test statistic (Rasbash, Steele, Browne, & Goldstein, 2009). In most cases random slopes did not significantly improve model fit and therefore, only the findings from the random intercepts are reported. Prior to

each analysis, data were checked for normality and homoscedasticity through visual inspection of standardised residual plots (against normal scores and fixed part predictions). In each case data was normal and homoscedastic with no obvious outliers.

The objective team performance data lacked the appropriate statistical power required for multilevel modelling because league position existed at the team-level only. Therefore, bivariate correlation analyses were computed to explore the relationships between changes in social identity, results identity content, friendships identity content, and league position from time one to time two and from time two to time three. Bivariate correlations were computed using IBM SPSS statistics (version 20). First, average values for social identity, results identity content, and friendships identity content were calculated for each team at time one, time two, and time three. Changes in social identity, results identity content, friendships identity content, and league position were then calculated from time one to time two and from time two to time three. An alpha of 0.05 was retained for all correlational analyses due to the exploratory nature of the present study. However, Zhu (2012) argued that drawing conclusions from correlational analyses should not be restricted to significance testing because when a sample size is large enough almost all statistical findings could obtain a p value of less than 0.05. Even if a high correlation or a meaningful treatment effect exists a p value could still be greater than 0.05 if the sample size is small (see Zhu, 2012). Therefore, the meaningfulness of each correlation (r) was also considered given the reduced sample size ($n = \text{eight}$) for each correlation performed. The meaningfulness of each correlation (r) was based upon absolute criterion (see Zhu, 2012).

3.3. Results

3.3.1. Patterns of change in study variables

To explore general patterns of change over time the study variables were regressed on time of measurement in a two-level model (i.e., between-persons and between-teams). Social identity ($b = -.10$, $s_{\bar{x}} = .08$, $p > 0.05$), results identity content ($b = -.07$, $s_{\bar{x}} = .09$, $p > 0.05$), general self efficacy ($b = -.04$, $s_{\bar{x}} = .06$, $p > 0.05$), and general collective efficacy ($b = -.03$, $s_{\bar{x}} = .06$, $p > 0.05$) did not change over time in any uniform manner. However, friendships identity content ($b = -.17$, $s_{\bar{x}} = .07$, $p < 0.05$) and in-group cohesion ($b = -.11$, $s_{\bar{x}} = .06$, $p < 0.05$) showed a small and significant linear decrease over time, with time explaining 1.85% and 1.04% of the between-person variance respectively. In contrast, subjective team performance ($b = .34$, $s_{\bar{x}} = .07$, $p < 0.01$) showed a large and significant linear increase over time, with time explaining 7.29% of the between-person variance and 7.37% of the between-team variance. A positive covariance between intercepts and slopes ($b = .20$, $s_{\bar{x}} = .11$, $p < 0.05$) also showed that teams with higher intercepts tend to have steeper slopes. These data patterns show that despite finding a small and significant decrease in friendships identity content and in-group cohesion, subjective team performance improved significantly over the course of the season (and the improvement was greater in higher ability teams). The descriptive statistics for all study variables at each time-point are presented in Table 3.1.

3.3.2. Social identity-related contributions to outcome variables

In-group cohesion. For in-group cohesion, 46.45% of the variance was at the time level (Level one: within-persons), 41.63% of the variance was at the individual level (Level two: between-persons), and 11.92% of the variance was at the team level (Level three: between-teams). At the time level, friendships identity content was the only significant predictor of variance estimates in in-group cohesion ($b = .12$, $s_{\bar{x}} = .05$, $p < 0.05$). Likewise,

social identity was the only significant predictor of variance estimates in in-group cohesion at the individual level ($b = .30, s_{\bar{x}} = .08, p < 0.01$). The final model explained 29.33% of the total residual variance in in-group cohesion ($R_1^2 = .02, R_2^2 = .49, R_3^2 = .65$).

General self efficacy. For general self efficacy, 47.85% of the variance was at the time level (Level one: within-persons), 49.51% of the variance was at the individual level (Level two: between-persons), and 2.64% of the variance was at the team level (Level three: between-teams). Given that a three-level empty model did not improve on a two-level empty model ($\Delta\chi^2 = 1.45, df = 1, p > 0.05$) a two-level regression model (i.e., within-persons and between-persons) was fitted for general self efficacy. The main effects of social identity at both the time level ($b = .14, s_{\bar{x}} = .05, p < 0.01$) and the individual level ($b = .23, s_{\bar{x}} = .07, p < 0.01$) were the only significant predictors of variance estimates in general self efficacy. The final model explained 18.17% of the total residual variance in general self efficacy ($R_1^2 = .09, R_2^2 = .27$).

General collective efficacy. For general collective efficacy, 46.65% of the variance was at the time level (Level one: within-persons), 38.96% of the variance was at the individual level (Level two: between-persons), and 14.39% of the variance was at the team level (Level three: between-teams). At the time level, both the main effect of social identity ($b = .11, s_{\bar{x}} = .05, p < 0.05$) and the interaction effect of social identity and friendships identity content ($b = .11, s_{\bar{x}} = .05, p < 0.05$) significantly explained variance estimates in general collective efficacy. The form of this interaction was such that social identity was important for general collective efficacy at high levels of friendships identity content. Specifically, social identity was non-significant between -3.73 and 0.01 SDs in the level of friendships identity content. At the individual level, the main effects of social identity ($b = .18, s_{\bar{x}} = .07, p < 0.01$) and results identity content ($b = .11, s_{\bar{x}} = .06, p < 0.05$) significantly

explained variance estimates in general collective efficacy. The final model explained 25.31% of the total residual variance in general collective efficacy ($R_1^2 = .04$, $R_2^2 = .47$, $R_3^2 = .34$).

Subjective team performance. For subjective team performance, 66.01% of the variance was at the time level (Level one: within-persons), 8.67% of the variance was at the individual level (Level two: between-persons), and 25.32% of the variance was at the team level (Level three: between-teams). Only the main effects of social identity ($b = .16$, $s_{\bar{x}} = .09$, $p < 0.05$) and friendships identity content ($b = .28$, $s_{\bar{x}} = .09$, $p < 0.01$) at the individual level significantly explained variance estimates in subjective team performance. The final model explained 17.86% of the total residual variance in subjective team performance ($R_1^2 = .02$, $R_2^2 = 1.00$, $R_3^2 = .32$).

All multilevel models that explored the contributions of social identity-related variables on psychological outcomes are presented in Table 3.5.

3.3.3. Relationships between social identity-related variables and objective team performance

Changes from the start to the middle of the season. Absolute criterion values and bivariate correlation analyses indicated that the change in social identification exhibited a low, non-significant, and positive correlation with the change in league position ($r = .301$, $p > 0.05$). No meaningful or significant correlation existed between the change in results identity content and the change in league position ($r = .096$, $p > 0.05$). Absolute criterion values and bivariate correlation analyses also highlighted that the change in friendships identity content exhibited a moderate, non-significant, and positive correlation with the change in league position ($r = .417$, $p > 0.05$). The correlations between changes in social identity-related

variables and league position from the start to the middle of the season are presented in Table 3.6.

Changes from the middle to the end of the season. Absolute criterion values and bivariate correlation analyses indicated that both the change in social identification and the change in results identity content failed to exhibit a meaningful or significant correlation with the change in league position ($r = -.131, p < 0.05$ and $r = .090, p > 0.05$). However, absolute criterion values and bivariate correlation analyses revealed that the change in friendships identity content exhibited a moderately high, significant, and positive correlation with the change in league position ($r = .794, p < 0.05$). The correlations between changes in social identity-related variables and league position from the middle to the end of the season are presented in Table 3.7.

Table 3.1. Intraclass correlations and descriptive statistics for social identity-related variables and study outcome variables.

	Intraclass correlations		Time one		Time two		Time three	
	(ρ_2)	(ρ_3)	M	SD	M	SD	M	SD
Social identity	.6083**	.0381	5.58	1.08	5.37	1.24	5.42	1.03
Results identity content	.4097**	.0011	5.19	1.37	5.08	1.35	5.35	1.24
Friendships identity content	.3389**	.0200	5.61	1.17	5.25	1.24	5.30	1.27
In-group cohesion	.4163**	.1192†	5.51	0.96	5.33	1.12	5.38	0.95
General self efficacy	.4951**	.0264	5.31	0.81	5.27	0.80	5.23	0.95
General collective efficacy	.3896**	.1439†	5.22	0.77	5.13	1.02	5.20	0.90
Subjective team performance	.00867†	.2532*	4.31	0.73	4.84	1.32	5.08	1.24

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

Note: Intraclass correlations and descriptive statistics are at the time level ($n = 501$).

Table 3.2. Bivariate correlations for all social identity-related variables and study outcome variables at time one.

	1.	2.	3.	4.	5.	6.
1. Social identity						
2. Results identity content	.25*					
3. Friendships identity content	.12	.13				
4. In-group cohesion	.33**	.32**	.15			
5. General self efficacy	.31*	.22*	-.05	.37**		
6. General collective efficacy	.39*	.23*	.13	.446**	.49**	
7. Subjective team performance	.20*	.19*	.12	.31*	.51*	.54**

* $p < 0.05$, ** $p < 0.01$.

Note: ($n = 119$; r_s of 0-0.19 = no correlation; 0.2-0.39 = low correlation; 0.4-0.59 = moderate correlation; 0.6-0.79 = moderately high correlation; ≥ 0.8 = high correlation).

Table 3.3. Bivariate correlations for all social identity-related variables and study outcome variables at time two.

	1.	2.	3.	4.	5.	6.
1. Social identity						
2. Results identity content	.17					
3. Friendships identity content	.30*	.22*				
4. In-group cohesion	.48**	.18	.44*			
5. General self efficacy	.46**	.11	.21*	.47**		
6. General collective efficacy	.45**	.30**	.35**	.59**	.55**	
7. Subjective team performance	.33**	.15	.39**	.56*	.38**	.71**

* $p < 0.05$, ** $p < 0.01$.

Note: ($n = 118$; r_s of 0-0.19 = no correlation; 0.2-0.39 = low correlation; 0.4-0.59 = moderate correlation; 0.6-0.79 = moderately high correlation; ≥ 0.8 = high correlation).

Table 3.4. Bivariate correlations for all social identity-related variables and study outcome variables at time three.

	1.	2.	3.	4.	5.	6.
1. Social identity						
2. Results identity content	.22*					
3. Friendships identity content	.56**	.15				
4. In-group cohesion	.31**	.17	.36*			
5. General self efficacy	.39**	.17	.41**	.56**		
6. General collective efficacy	.35**	.24*	.31*	.62**	.76**	
7. Subjective team performance	.40*	.27**	.41**	.50**	.65**	.66**

* $p < 0.05$, ** $p < 0.01$.

Note: ($n = 101$; r_s of 0-0.19 = no correlation; 0.2-0.39 = low correlation; 0.4-0.59 = moderate correlation; 0.6-0.79 = moderately high correlation; ≥ 0.8 = high correlation).

Table 3.5. Multilevel models exploring the contributions of social identity-related variables to study outcome variables.

	In-group cohesion	General self efficacy	General collective efficacy	Subjective team performance
Predictors	$b (s_{\bar{x}})$	$b (s_{\bar{x}})$	$b (s_{\bar{x}})$	$b (s_{\bar{x}})$
Intercept ¹	5.38 (0.14)**	5.27 (0.08)**	5.17 (0.13)**	4.69 (0.21)**
Within-person changes				
Social Identity (SI)	0.02 (0.06)	0.14 (0.05)**	0.11 (0.05)*	0.02 (0.08)
Results Identity Content (RIC)	0.04 (0.05)	0.02 (0.04)	0.01 (0.04)	-0.01 (0.06)
Friendships Identity Content (FIC)	0.12 (0.05)*	0.05 (0.05)	0.08 (0.05)	-0.04 (0.07)
SI x RIC	0.04 (0.06)	0.05 (0.05)	0.04 (0.05)	-0.04 (0.08)
SI x FIC	0.02 (0.06)	0.04 (0.05)	0.11 (0.05)*	-0.01 (0.07)
Between-person differences				
Social Identity (SI)	0.30 (0.08)**	0.23 (0.07)**	0.18 (0.07)**	0.16 (0.09)*
Results Identity Content (RIC)	0.05 (0.07)	0.06 (0.06)	0.11 (0.06)*	0.10 (0.08)
Friendships Identity Content (FIC)	0.05 (0.08)	0.00 (0.07)	0.07 (0.07)	0.28 (0.09)*
SI x RIC	-0.09 (0.06)	0.00 (0.05)	0.03 (0.06)	0.06 (0.07)
SI x FIC	-0.05 (0.06)	0.00 (0.05)	-0.08 (0.06)	-0.01 (0.07)

* $p < 0.05$, ** $p < 0.01$. ¹Random at j and k .

Table 3.6. Correlations between changes in social identity-related variables and league position from the start to the middle of the season.

	Δ League position
Δ Social identification	.301
Δ Results identity content	.096
Δ Friendships identity content	.417

* $p < 0.05$.

Table 3.7. Correlations between changes in social identity-related variables and league position from the middle to the end of the season.

	Δ League position
Δ Social identification	-.131
Δ Results identity content	.090
Δ Friendships identity content	.794*

* $p < 0.05$.

3.4. Discussion

The purpose of the present study was to use a longitudinal research design to explore relationships between the content of social identities and outcome variables which addressed aim (b) of the current thesis (i.e., to explore the relationships between social identity content and outcome variables over time). The current study also further addressed aim (a) of the thesis (i.e., to further explore the importance of the content of social identities). Overall, the current study adds to the extant literature by documenting relationships between aspects of social identity content and outcome variables over time. The present study also adds to the dearth of longitudinal research available within social identity literature. Despite not being the predominant focus of the thesis, assessing social identity also allowed the relationships between social identity and outcome variables to be established which adds to the dearth of research studies that have explored the importance of social identities across time within a performance domain. Multilevel regression analyses revealed that within-person changes in social identity significantly and positively predicted general self efficacy and general collective efficacy. Multilevel regression analyses also demonstrated that between-person differences in social identity significantly and positively predicted in-group cohesion, general self efficacy, general collective efficacy, and subjective team performance. Generally, the within-person changes and between-person differences in social identity observed support previous longitudinal research studies (e.g., Haslam et al., 2009; Reicher & Haslam, 2006) and the data reported in chapter two which documented that social identity significantly and positively explained the variance in outcome variables. Multilevel regression analyses found that within-person changes in the interaction between social identity and friendships identity content predicted general collective efficacy. However, all remaining interactions between social identity and results identity content/friendships identity content on outcome variables were not significant at both the time and the individual level. Therefore, the contribution of

the interactive terms to outcome variables and subjective team performance failed to support for the first and second hypotheses formulated.

Bivariate correlation analyses and absolute criterion values also revealed a number of key findings. The first set of bivariate correlation analyses explored the relationships between changes in social identity-related variables (at the team level) and changes in league position from the start to the middle of the season. The change in league position exhibited a low and positive correlation with the change in social identification and a moderate and positive correlation with the change in friendships identity content. The correlation between the change in results identity content and the change in league position was not meaningful and all correlations were not significant. The second set of bivariate correlation analyses explored relationships between changes in social identity-related variables (at the team level) and changes in league position from the middle to the end of the season. The change in league position exhibited a moderately high, significant, and positive correlation with the change in friendships identity content. All remaining correlations were not significant or meaningful. The relationships between changes in social identity-related variables and league position over the season failed to provide conclusive support for the first hypothesis formulated.

The finding that between-person differences in social identity significantly and positively contributed to in-group cohesion can be explained through the process of self-stereotyping. According to Hogg (1992) self-stereotyping causes individuals to bring their attitudes and behaviours into conformity with their in-group prototype which generates positive attitudinal consensus and behavioural uniformity among categorised individuals. Perhaps between-person differences in social identity significantly and positively explained in-group cohesion because social identities increase the likelihood of developing consensus, conformity, and uniformity which are attitudes and behaviours that are indicative of cohesion in sport. The finding that both within-person changes and between-person differences in

social identity significantly and positively explained general self efficacy could be related to the feelings of competence and effectiveness that originate from social identity development. To illustrate, social identity theory (Tajfel, 1978) contends that social identities motivate individuals to contribute to group processes in order to help groups realise their vision. Further, Cast et al. (1999) suggested that making a contribution to group processes will cause identified individuals to feel competent and effective. Therefore, it could be that establishing and developing social identities over time cause athletes to feel competent and effective (through making group-level contributions) which elevates their general self-efficacy. Indeed, Bandura (1997) emphasised that competence is a main source of self efficacy beliefs. The present study also found that both within-person changes and between-person differences in social identity significantly and positively contributed to general collective efficacy which may be attributed to the process of depersonalisation. During depersonalisation an individual will reduce the perception of themselves as an individual and define themselves more in terms of belonging to a collective entity (Haslam, 2004). Depersonalisation then motivates an individual to engage in collective action because whether a group can make a positive contribution to self-esteem will depend on whether or not a group can achieve its collective vision (Haslam, 2004). It seems logical that athletes who depersonalise the perception of themselves (and strengthen a depersonalised perception over time) will be confident in their group's ability to achieve its vision because realising this vision will make a positive contribution to self-esteem (Haslam, 2004). Finally, the significant and positive contribution of between-person differences in social identity on subjective team performance can be explained through social identity theory. Social identity theory (Tajfel, 1978) contends that social identities motivate individuals to contribute to their group's vision which could cause individuals to invest personal resources (e.g., effort) that benefit team performance. Furthermore, between-person differences in social identity were found to significantly and

positively explain general self efficacy and general collective efficacy which could have exerted a positive influence on subjective team performance (see Bandura, 1997).

Only one significant interaction between social identity and social identity content emerged within the current study. Specifically, within-person changes in the interaction between social identity and friendships identity content significantly and positively explained athletes' general collective efficacy. Using self-categorisation theory (Turner, 1982; 1985) it is plausible that when the content of identities became more focused on friendships over time athletes engaged in behaviour (e.g., social support) that was aligned to the meaning of their identity which may have aided their group's ability to complete collective tasks (see Bandura, 1997). Nevertheless, it was particularly surprising that the interactive terms failed to significantly explain the variance in psychological outcomes at the individual level given the findings reported in chapter two. In chapter two higher levels of social identity were associated with higher levels of general self efficacy, general collective efficacy, and subjective team performance when the content of athletes' social identities were either highly focused on results or lowly focused on friendships. Perhaps the content of athletes' social identities were multifaceted in nature which meant that athletes could be socially creative with aspects of their social identity content across the season. Being socially creative with the content of social identities may have protected athletes' psychological functioning but prevented more significant interaction effects from emerging. For example, athletes may have focused less on the results aspect and more on the friendships aspect of their social identities during a period of poor form which preserved or improved their psychological functioning (see Tajfel & Turner, 1979).

The change in social identification was found to exhibit a low and positive correlation with the change in league position from the start to the middle of the season. Therefore, it would appear that developing stronger social identities within teams is related to improved

team performance in the short-term. It could be that social identification is positively related to objective team performance in the short-term because social identities motivate individuals to achieve their group's vision to experience a positive self-esteem (see Tajfel, 1978). It is also plausible that social identification exerts an indirect positive influence on objective team performance in the short-term given that social identities (at the time level and the individual level) were found to significantly and positively contribute to psychological outcomes (e.g., general self efficacy) that facilitate team performance in sport (see Bandura, 1997). In contrast, the change in social identification exhibited no meaningful relationship with the change in league position from the middle to the end of the season. Perhaps ceiling effects in the social identity measure meant that social identification could not increase further which prevented meaningful relationships from occurring in the long-term.

The change in results identity content (at the team level) exhibited no meaningful or significant relationship with the change in league position across the season. Thus, it would appear that changes in results identity content at the team level have no relationship with changes in objective team performance over time which is surprising. Drawing on self-categorisation theory (Turner, 1982; 1985) it was anticipated that a content focused strongly on results would motivate athletes towards achieving high performance given that the norms and values prescribed and described by a content focused strongly on results should encourage attitudes and behaviours that benefit team performance (see Turner, 1999). Aforementioned, it could be that athletes were socially creative with the results aspect of their social identities across the season which prevented hypothesised relationships from emerging.

Finally, the change in friendships identity content (at the team level) exhibited a moderate, non-significant, and positive correlation with the change in league position from the start to the middle of the season. Bivariate correlation analyses and absolute criterion values also revealed that the change in friendships identity content (at the team level)

exhibited a moderately high, significant, and positive correlation with the change in league position from the middle to the end of the season. Therefore, it would appear that developing a stronger focus on friendships identity content within teams is related to improved team performance over the course of a season which was not hypothesised at the study onset. Drawing on self-categorisation theory (Turner, 1982; 1985) it would be anticipated that a content focused strongly on friendships would not motivate athletes towards achieving high performance because the norms and values prescribed and described by a content focused strongly on friendships would not be expected to encourage attitudes and behaviours that benefit team performance (see Turner, 1999). Nevertheless, it could be that developing a stronger focus on friendships identity content caused athletes to engage more in attitudes and behaviours (e.g., social support) that are aligned to a content focused on friendships which have a positive influence on team performance in sport. The relationships between changes in friendships identity content and changes in league position across the season also support the notion that athletes may have been socially creative with the friendships aspect of the content of their social identities over the season.

The findings reported in the current study have a number of theoretical and applied implications for performance contexts. Given that within-person changes and between-person differences in social identity were found to significantly and positively explain a range of outcome variables it would appear that social identities are important to create and develop over time. Accordingly, when working with teams, applied psychologists should seek to create and strengthen social identities across time to encourage and develop group processes beneficial to performance. Given that within-person changes and between-person differences in the content of social identities predominantly failed to predict outcomes variables it would appear on first glance that the content of social identities are not important to shape or subsequently develop over time. Perhaps athletes can be socially creative with their social

identity content across time which preserves their psychological functioning. Thus, it would be premature to conclude that the content of social identities are not important to build and develop across time in a performance context (particularly given the findings of chapter two).

Overall, the scientific rigor of the current study was robust given that the effects of social identities and the content of social identities on outcome variables and performance were captured in each team competing in the same division across a competitive season. However, some shortcomings emanate from the present study. Although multilevel modelling analyses accounted for missing data a sufficient amount of attrition was observed across the season. Whilst attrition is to be expected in longitudinal research it could be that those athletes who missed more than one training session where data was collected would have been able to provide further information on social identity processes. As an example, social identity theory (Tajfel, 1978) would suggest that lowly identified individuals will not be motivated towards behaving in line with the best interests of their group. Thus, it could be that individuals who failed to attend training sessions where data was collected may have had a low level of social identity with their group. In addition, the marker of objective team performance measured across the season lacked the appropriate statistical power needed for multilevel modelling which meant that bivariate correlation analyses were used to analyse performance data. Having access to individual markers of objective performance (e.g., metres gained, tackles made) would have enabled the effects of within-person changes and between-person differences in social identity and the content of social identities on objective performance to be ascertained through multilevel modelling. Using multilevel modelling to analyse performance data would allow more valid and reliable conclusions to be made regarding the relationships between social identity, the content of social identities, and performance (see Cartwright, Traviss, & Blance, 2012).

Future research should seek to elucidate why within-person changes and between-person differences in the content of social identities failed to predict psychological outcomes in the current study. Based on social identity literature (e.g., Branscombe et al., 1999; Tajfel, 1978), a plausible explanation could be that athletes were socially creative with the content of their social identities across the season when faced with a situation that posed a threat to an aspect of their social identity content which preserved or improved psychological well-being and key group processes. A logical starting point to investigate whether individuals can be socially creative with the content of their social identities over time would be to explore how group members respond when an aspect of their social identity content is threatened. Future researchers could demonstrate how group members respond to threat to the content of their social identities by manipulating social identity content threat in a controlled laboratory setting.

In conclusion, the present study addressed aim (b) of the current thesis (i.e., to explore the relationships between social identity content and outcome variables over time) by using a longitudinal research design to explore relationships between the content of social identities and outcome variables. The current study also addressed aim (a) of the current thesis (i.e., to further explore the importance of the content of social identities). Generally, within-person changes and between-person differences in components of social identity content failed to significantly explain the variance in outcome variables. Further, the relationships observed between the changes in aspects of social identity content and the changes in league position provide mixed evidence that aspects of social identity content facilitate performance over time. Despite not being the predominant focus of the thesis, the current study found that the within-person changes and between-person differences in social identity significantly and positively explained the variance in a range of outcome variables pertinent to well-being and performance. Additionally, the relationships observed between changes in social identity and

changes in league position provide partial evidence that social identities are beneficial to performance across time. Overall, the findings reported in the current study confirm that creating and developing social identities over time will enable individuals within a performance context to experience psychological outcomes that will help them realise their potential. It would, however, appear premature to conclude that shaping and developing the content of social identities over time carries no psychological or performance benefit given that athletes in the current study may have been socially creative with the content of their social identities across the season in response to relevant social identity content threat.

CHAPTER 4: ALL FOR ONE AND NO-ONE FOR ALL: THE EFFECTS OF SOCIAL IDENTITY CONTENT THREAT

4.1. Introduction

Data reported in chapter three failed to confirm the importance of the content of social identities over time. Within chapter three it was noted that athletes may have been socially creative with the content of their social identities across the season in an instance where their social identity content was threatened which could have prevented hypothesised relationships from emerging. At present, a number of research studies in social identity literature exist that have investigated the effects of threat to social identities (e.g., Ellemers et al., 1993; Noel et al., 1995; Rao et al., 2000). However, no research has explored the effects of threat to the content of social identities on outcome variables. Therefore, an exploration into the effects of social identity content threat could explain the equivocal findings pertaining to social identity content reported across chapter two and three whilst adding to the extant literature by being the first study to document the potential consequences of social identity content threat on outcome variables.

The main premise behind social identity theory (Tajfel, 1978) is that an individual will want to be a member of a group that can make a positive contribution to self-esteem. Accordingly, when an individual has found a group that can make a positive contribution to self-esteem that individual will establish a social identity with their group (Haslam, 2004). Tajfel (1978) asserted that the more salient social identities become the more individuals will behave for their group rather than for themselves because social identities cause individuals to define themselves as belonging to a collective (i.e., 'we' or 'us') rather than being defined purely as an individual (i.e., 'I' or 'me'). Tajfel (1978) also contended that the more salient social identities become the more an individual will be inclined to act in a uniform manner

and treat out-groups as though they are all the same (i.e., being a member of an out-group would thwart self-esteem). Finally, Tajfel (1978) postulated that the more salient social identities become the more an individual will be motivated to improve or maintain their self-esteem through their own group membership (i.e., by using social creativity and social competition strategies) rather than through membership to another group (i.e., by using social mobility). Therefore, belonging to a group that makes a positive contribution to self-esteem will be associated with a number of psychological and behavioural outcomes that would be anticipated to benefit individual and group-level functioning (Tajfel, 1978).

In contrast, social identity theory (Tajfel, 1978) proposes that an individual will be reluctant to be a member of a group that will make a negative contribution to self-esteem because belonging to a negatively distinguished in-group will fail to make an individual feel good about themselves (Branscombe et al., 1999). Negatively distinguished in-groups include groups that are low in status on a specific factor (e.g., success) or groups that have received negative evaluation on a specific factor (e.g., ‘we have performed poorly’). Ultimately, a situation where a group is negatively distinguished would be anticipated to threaten the social identity of an in-group member because group members stand to lose out on positive self-esteem (Branscombe et al.). According to Branscombe et al. the main implication of social identity threat is that an individual will be inclined to lower their social identity salience because social identity threat will cause an individual to feel as though they are being ‘dragged’ down by their current group membership. And as Tajfel (1978) asserted low social identity salience will mean that an individual will behave in line with personal interests, will perceive that other groups are ‘better’, and will pursue social mobility to rediscover positive self-esteem.

It would appear that the content of social identities are also being threatened within research studies exploring the effects of social identity threat given that in-group members

are receiving information about specific factors that could be aligned to the meaning of their in-group identities. Furthermore, anecdotal evidence in performance settings would seem to suggest that the content of social identities could also be threatened in situations where an individual belongs to a negatively distinguished in-group which could explain the findings pertaining to social identity content in chapter three. For example, it is common-place for a group in a performance context to experience repeated failure which could pose a threat to the meaning of in-group identities providing social identity content is centred upon winning. Drawing on social identity theory (Tajfel, 1978) the experience of repeated failure would be anticipated to make a negative contribution to the self-esteem of an individual in a winning group because repeated failure is unlikely to make ‘winners’ feel good about themselves. The direct upshot of social identity content threat could then be similar to that of social identity threat. For instance, an individual may lower their social identity salience in reaction to social identity content threat which means that they will behave for themselves, perceive out-group membership to be more meaningful, and will choose to engage in social mobility to move to a more meaningful out-group.

To explore the effects of social identity content threat a logical starting point would be to measure the key psychological and behavioural responses to lowered social identity threat presented by Tajfel (1978). These include social identity, in-group prototypicality, out-group prototypicality, and social mobility. Generally, social identity literature has predominantly focused on the effects of social identity threat on these four variables. For example, Ellemers et al. (1993) demonstrated that high-performing individuals reported weak levels of social identity when they were asked to compete within a group that exhibited poor performance. Ellemers et al. explained that becoming a member of a poorly performing group threatened social identities which meant that belonging to a poorly performing group made a negative contribution to self-esteem. Furthermore, Rao et al. (2000) documented that members of an

organisation within the NASDAQ stock exchange market moved to a rival organisation in the NYSE market because being a member of an organisation within the NYSE market was seen to be 'better' than being a member of an organisation within the NASDAQ stock exchange market. Typically, research studies have demonstrated that to move to a 'better' group an individual will emphasise their similarity to an out-group prototype (e.g., Noel et al., 1995) and will avoid being stereotyped with their in-group prototype (e.g., Spears et al., 1997). In turn, research studies (e.g., Steele, 1997) have shown that such thought processes in response to social identity threat will cause performance to deteriorate because consistent with social identity theory (Tajfel, 1978) an individual will be motivated to work towards their own personal interests rather than towards the interests of their in-group.

The main purpose of the current study was to explore the effects of threatening social identity content on psychological and behavioural outcomes which addressed aim (c) of the current thesis (i.e., to examine the effects of social identity content threat). In light of social identity literature (Tajfel, 1978) and previous research studies exploring the concept of social identity threat (e.g., Ellemers et al. 1993) a number of formal hypotheses were formulated. In response to an episode of social identity content threat it was hypothesised that an individual would: (a) report a weak social identity; (b) distance themselves from their in-group prototype; (c) emphasise their similarity to their out-group prototype; (d) express a strong desire for social mobility; and (e) display deteriorated performance over time.

4.2. Method

4.2.1. Participants and experimental design

The current experiment had a 2 (condition: results identity content threat, support identity content no threat) x 5 (time) experimental design. Participants comprised 37 male and three female undergraduate students ($M_{\text{age}} = 20.97$, $SD_{\text{age}} = 1.86$ years) and each

condition included 20 participants in total. Clark-Carter (2010) suggested that a minimum of 20 participants should be included in each experimental condition to detect an effect size (η^2) of 0.138 whilst maintaining a power of 0.8 and an alpha level of 0.05. Ethical approval for the present study was granted prior to data collection by the Faculty of Health Sciences Ethics panel at Staffordshire University.

4.2.2. Protocol

During recruitment participants read an information sheet, signed an informed consent form, and completed a three-item questionnaire (item one: “winning is more important than competing fairly”; item two: “supporting others is more important than learning new skills”; item three: “the way you compete is more important than working hard”; see Appendix 4). The questionnaire asked participants to think about how they generally feel when they engage in a competitive task. Each participant rated the extent to which they agreed with each item on a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement. Items included within the questionnaire were developed for the current experiment and were informed by previous social identity research (e.g., Ellemers et al, 1999) that has used cover stories to manipulate the social identities of in-group members. The overall purpose of the questionnaire was to make each participant believe that their assignment to an experimental condition was aligned to what they typically perceive to be important when engaging in a competitive task (i.e., there was comparative fit). Self-categorisation theory (Turner, 1982; 1985) would postulate that comparative fit is an important determinant of self-categorisation. Therefore, the use of the questionnaire was important to ensure self-categorisation was manipulated.

Following completion of the three-item questionnaire the participants were randomly assigned to an experimental condition. Condition one was a results identity content condition.

For a member of the results identity content condition it was of sole importance that their group achieved good results. A results identity content condition was created in-keeping with the research studies in chapter two and three. Condition two was a support identity content condition. For a member of the support identity content condition it was of sole importance that in-group members were willing to provide support to one another. A support identity content condition was created (rather than a friendships identity content condition) because groups were ad hoc and therefore friendships were unlikely to exist within-groups. Moreover, participants were prevented from interacting within the experiment so there would be no opportunity for participants to build friendships. Alternatively, participants could be supportive of other in-group members throughout the experiment (e.g., through persisting and exerting effort) and the thought processes and behavioural processes that underpin support identity content and friendships identity content (e.g., social support and commitment) were expected to be similar. In the current experiment, results identity content was threatened and support identity content was unthreatened to demonstrate the effects of social identity content threat.

Participants within each condition arrived at a university laboratory in groups of five. Upon arrival to the laboratory each participant was assigned to their own separate cubicle (see Appendix 5 for an illustration of the experimental set-up) to prevent them from discussing their performance task with each other throughout the duration of the experiment. It was considered important to prevent interaction because allowing participants to interact would have afforded groups the opportunity to evaluate any feedback received which could have cast doubt over the manipulation of social identity content threat. Each cubicle contained a series of posters (see Appendix 6 for posters used within each condition), words (see Appendix 7 for words used within each condition), and quotes (see Appendix 8 for quotes used within each condition) that participants were asked to read to reinforce their

social identity content. Participants were also asked to read a short script (see Appendix 9) to further reinforce their social identity content and communicate the social identity content of other groups. The reason that posters, words, and quotes were used in this experiment was that previous social identity research studies have also used these methods to promote social identities to individuals (see Berger & Rand, 2008; Goldstein, Cialdini, & Griskevicius, 2008). Participants were led to believe that the other groups they had read about in their respective script had already taken part in this experiment. In the results identity content condition the out-groups alluded to in the script had a social identity content centred purely upon support. In the support identity content condition the out-groups introduced in the script had a social identity content centred solely upon results. Unbeknown to the participants these out-groups were completely bogus in nature. Out-groups were included in each script because social identity theory (Tajfel, 1978) contends that an individual will have a strong identity with their in-group when their in-group is distinct to a rival out-group.

After reading the information in their cubicle each participant was given a single-item questionnaire (“do you feel part of a group that is based around results or do you feel part of a group that is based around support”?) and indicated their response by circling either ‘results group’ or ‘support group’ (see Appendix 10). This single-item measure checked that participants had self-categorised themselves as a member of their respective in-group. Each group was then informed that they were the eighth group to participate in the experiment. The fact that each group was the eighth was arbitrary; it was just important to include a number of bogus out-groups to ensure that results identity content was threatened. Accordingly, groups were presented with video clips from five different sports (i.e., tennis, soccer, rugby league, badminton, and basketball) and were asked to watch each video clip in turn (see Appendix 11 for an example of a video clip). Each clip constituted a performance trial which meant that participants completed five performance trials in total. The duration of each video clip was

approximately one minute and comprised of information about a single sporting episode or was a conglomeration of extracts from the sport in question. Participants were given a sheet of A4 paper and a pen and were advised to write down and/or memorise as much information from each video clip as possible. At the end of each clip participants had three minutes to answer the same ten questions that were related to the video clip they had just watched (see Appendix 12 for an example question sheet). Once three minutes had passed answer sheets were collected and marked. Each individual score was added together to produce an overall in-group score for each performance trial to account for group-level variance in objective performance. Since each group contained five participants a maximum of 50 points could be scored for each clip.

After the answer sheets had been marked participants were provided with a results sheet that contained false performance feedback (see Appendix 13 for an example false performance feedback sheet). Each results sheet contained a grid that was split into three sections: poor (a score of 0 to 15), average (a score of 16 to 34), and good (a score of 35 to 50). Within each grid was one in-group score (marked 'G8' for group eight) and the scores that the seven bogus out-groups (marked 'G1' for group one through to 'G7' for group seven) had previously achieved when taking part in the experiment. For each clip the in-group received a poor score and were led to believe that all seven bogus out-groups had previously achieved an average score. The poorer results achieved by each in-group in the experiment compared to the seven bogus out-groups on each performance trial suggested repeated failure to in-group members which threatened results identity content.

After the fifth and final results sheet had been administered participants completed a questionnaire (see Appendix 14). Once all questionnaires had been collected groups were taken through a full verbal debrief which revealed the purpose, expected findings, and implications of the study. Figure 4.1 provides an overview of the experimental protocol.

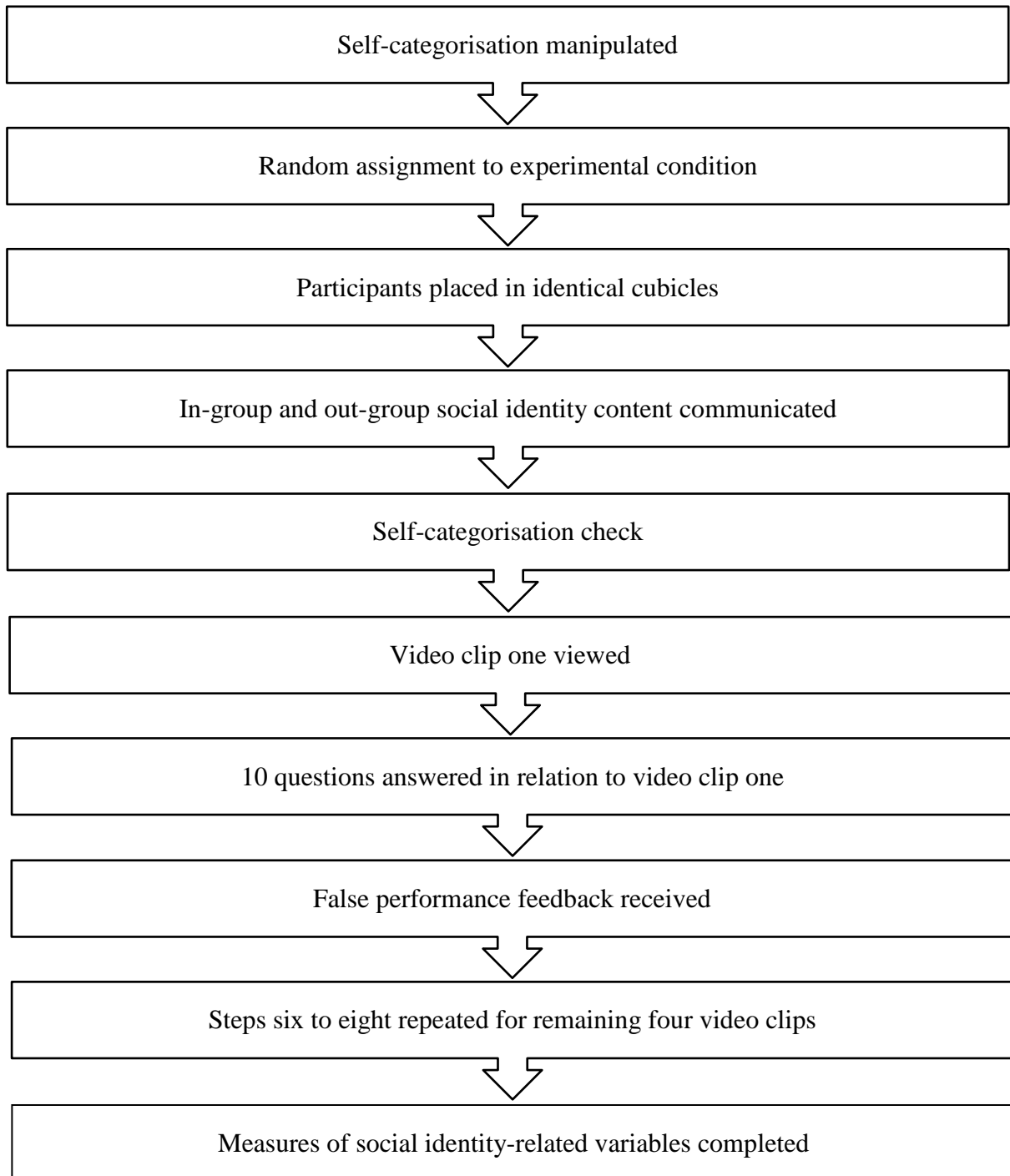


Figure 4.1. An overview of the steps included within the experimental protocol.

4.2.3. Measures

The questionnaire completed by each participant at the end of the experiment contained four measures. Participants rated the extent to which they agreed with all items on

a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement.

Social identity. A single item was used to measure participants' social identity with their group ("you identify strongly with your group"). This item was previously pilot tested prior to the study reported in chapter two.

In-group prototypicality. A single item was used to measure how representative participants perceived themselves to be of their in-group prototype ("you are a typical member of your group"). This item was developed specifically for the present study and was considered to be consistent with a widely accepted definition of in-group prototypicality generated in social identity literature (i.e., "the extent to which a given category member is representative of the category as a whole"; Haslam, 2004, p. 281). This item was also developed in line with previous social identity research studies that have explored prototypicality (e.g., Schmitt & Branscombe, 2001) and was verified by three researchers who are part of a Social Identity in Exercise and Sport research group.

Out-group prototypicality. A single item was used to measure how representative participants perceived themselves to be of their out-group prototype ("you are representative of members of other groups"). This item was developed specifically for the current study and was considered to be in line with a widely accepted definition of out-group prototypicality created in social identity literature ("the extent to which a given category member is representative of the category as a whole"; Haslam, 2004, p. 281). This item was also developed in line with previous social identity research studies that have explored prototypicality (e.g., Schmitt & Branscombe, 2001) and was verified by three researchers who are part of a Social Identity in Exercise and Sport research group.

Social mobility. A four-item measure was used to measure participants' desire for social mobility (item one: "you are willing to learn new skills to become a member of a better group"; item two: "you are prepared to change your behaviour to become a member of a better group"; item three: "you are willing to work hard to join a better group"; item four: "you are willing to sacrifice important things to move to a better group"). The items included in this measure were developed for the present study and were considered to be in line with a widely accepted definition of social mobility formulated in social identity literature (see Haslam, 2004, p.281). This social mobility measure was also informed by previous research studies that have explored social mobility strategies (e.g., Jackson et al., 1996; Lalonde, 1992) and was verified by three researchers who are part of a Social Identity in Exercise and Sport research group. In the current experiment this scale demonstrated good internal reliability ($\alpha = .75$; Pallant, 2007 suggested that for scales that consist of fewer than 10 items a Cronbach alpha coefficient $> .50$ indicates acceptable internal reliability).

Individual performance. For each participant the number of questions answered correctly in relation to each video clip constituted an objective measure of performance. Participants could score between zero and ten for each of the five performance trials.

4.3. Results

4.3.1. Self-categorisation check

All participants who took part in this experiment correctly categorised themselves as a member of their respective condition. All 40 completed questionnaires were therefore retained for subsequent statistical analyses.

4.3.2. *The impact of poor results on psychological outcomes*

A MANOVA was conducted to explore whether any mean differences in social identity, in-group prototypicality, out-group prototypicality, and social mobility existed between the results identity content condition and support identity content condition after poor results were achieved on five separate performance trials. Levene's test indicated that the variance in each dependent variable between conditions was homogeneous ($p > 0.05$ for each dependent variable). The MANOVA revealed that there was a significant difference between each condition on the combined dependant variables ($\Lambda = 0.53$; $F(4, 35) = 7.68$, $p < 0.05$; $\eta^2_p = 0.47$). Univariate analyses showed that there was a significant difference in social identity ($F(1, 38) = 17.16$, $p < 0.05$; $\eta^2_p = 0.31$), in-group prototypicality ($F(1, 38) = 5.94$, $p < 0.05$; $\eta^2_p = 0.14$), out-group prototypicality ($F(1, 38) = 8.60$, $p < 0.05$; $\eta^2_p = 0.18$), and social mobility ($F(1, 38) = 14.98$, $p < 0.05$; $\eta^2_p = 0.28$) between the results identity content condition and the support identity content condition. Inspection of mean data highlighted that members of the results identity content condition reported weaker social identity and in-group prototypicality in comparison to the support identity content condition. Inspection of mean data also demonstrated that members of the results identity content condition reported stronger out-group prototypicality and social mobility than members of the support identity content condition. The mean scores for social identity, in-group prototypicality, out-group prototypicality, and social mobility reported within each condition are presented in Table 4.1.

To follow-up the MANOVA a discriminant function analysis was computed to explore whether social identity, ingroup prototypicality, out-group prototypicality, and social mobility scores could predict membership to social identity content condition. The discriminant function analysis indicated that the assumption of homogeneity of covariance matrices was not violated (2.75; $F(10) = 0.24$, $p > 0.05$). The discriminant function significantly differentiated the social identity content conditions ($\Lambda = 0.59$, $\chi^2(4) = 19.06$, $p <$

0.05) whilst the square of the canonical correlation indicated that 41.09% of the variance between each condition could be explained by the predictor variables. Correlations between the predictor variables and the discriminant function indicated that social mobility (.75), out-group prototypicality (.57), and in-group prototypicality (-.47) were strong predictors of social identity content condition whilst social identity (-.28) provided a moderate contribution (Pedhazur, 1997 suggested that a standardised structure coefficient $\geq .30$ in absolute value is meaningful). Cross validated classification showed that 70% of the participants were correctly classified as a member of the results identity content condition and 80% of the participants were correctly classified as a member of the support identity content condition. Overall, 75% of the participants were correctly classified (Agresti, 2002 suggested that a cross validation classification $\geq 75\%$ is meaningful).

Table 4.1. Mean social identity, in-group prototypicality, out-group prototypicality, and social mobility scores reported within each condition after five performance trials.

Psychological outcome	Results identity content condition	Support identity content condition
	M \pm SD	M \pm SD
Social identity	3.00 \pm 1.81	5.20 \pm 1.54
In-group prototypicality	3.50 \pm 1.40	4.50 \pm 1.19
Out-group prototypicality	4.25 \pm 1.33	2.95 \pm 1.47
Social mobility	5.13 \pm 1.12	3.68 \pm 1.25

4.3.3. The impact of poor results on performance

A 2 (condition: results identity content threat or support identity content no threat) x 5 (time) Mixed Model ANOVA was computed to explore whether any between-condition differences and within-condition differences existed in the objective performance data.

Levene's test indicated that the variance in objective performance between each condition was homogeneous for each performance trial ($p > 0.05$). The Mixed Model ANOVA indicated the assumption of sphericity had been violated ($\chi^2(9) = 18.06, p < 0.05$) and therefore, degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = 0.84$). The Mixed Model ANOVA found a significant main effect of time on objective performance ($F(3.354, 127.44) = 57.78, p < 0.05, \eta^2_p = 0.60$) and a significant main effect of condition on objective performance ($F(1, 38) = 346.00, p < 0.05, \eta^2_p = 0.90$). Finally, the Mixed Model ANOVA found a significant interaction effect between time and condition on objective performance ($F(3.354, 127.44) = 50.086, p < 0.05, \eta^2_p = 0.56$).

To follow-up the between condition differences that emerged in the Mixed Model ANOVA an independent samples t-test was computed for objective performance between each condition at each performance trial. Levene's test indicated that the variance in performance between conditions was homogeneous for each performance trial ($p > 0.05$). The independent samples t-tests found that members of the results identity content condition performed significantly worse than members of the support identity content condition on each performance trial ($p < 0.05$). The mean objective performance scores for the results identity content condition and the support identity content condition on each performance trial are displayed in Table 4.2.

Table 4.2. Mean objective performance scores for the results identity content condition and the support identity content condition across five performance trials.

Performance trial	Results identity content condition	Support identity content condition	<i>t</i>	η^2_p
	M ± SD	M ± SD		
1	5.50 ± 1.00	6.60 ± 1.19	03.17*	0.21
2	5.15 ± 1.14	6.30 ± 1.30	02.98*	0.19
3	2.85 ± 0.75	6.45 ± 0.83	14.48*	0.85
4	1.45 ± 1.05	6.45 ± 0.83	16.74*	0.88
5	0.55 ± 0.83	6.20 ± 1.11	18.32*	0.90

Note: * $p < 0.05$.

To further explore the within-condition differences in objective performance that emerged within the Mixed Model ANOVA a one-way repeated measures ANOVA was computed for each condition. The first one-way repeated measures ANOVA indicated that the assumption of sphericity had been violated in the results identity content condition ($\chi^2(9) = 20.55, p < 0.05$). Accordingly, degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = 0.70$). The one-way repeated measures ANOVA found that a significant main effect of time on objective performance occurred in the results identity content condition ($F(2.800, 53.20) = 117.61, p < 0.05, \eta^2_p = 0.86$). Pairwise comparisons demonstrated that a non-significant reduction in objective performance occurred from trial one to trial two ($p > 0.05$) and a significant reduction in objective performance occurred from trial two to trial three and from trial three to trial four ($p < 0.05$). Pairwise comparisons also demonstrated that a non-significant reduction in objective performance occurred from trial four to trial five ($p > 0.05$). The second one-way repeated measures ANOVA indicated that the assumption of sphericity had not been violated in the support identity content condition ($\chi^2(9) = 10.64, p > 0.05$). The one-way repeated measures ANOVA found that a non-

significant main effect of time on objective performance occurred in the support identity content condition ($F(4, 76) = 00.49, p > 0.05, \eta_p^2 = 0.03$). Pairwise comparisons showed that objective performance was generally stable across time and that there was no significant difference in objective performance between any of the five performance trials ($p > 0.05$). The trend in objective performance within the results identity content condition and the support identity content condition across the five performance trials is presented in Figure 4.2.

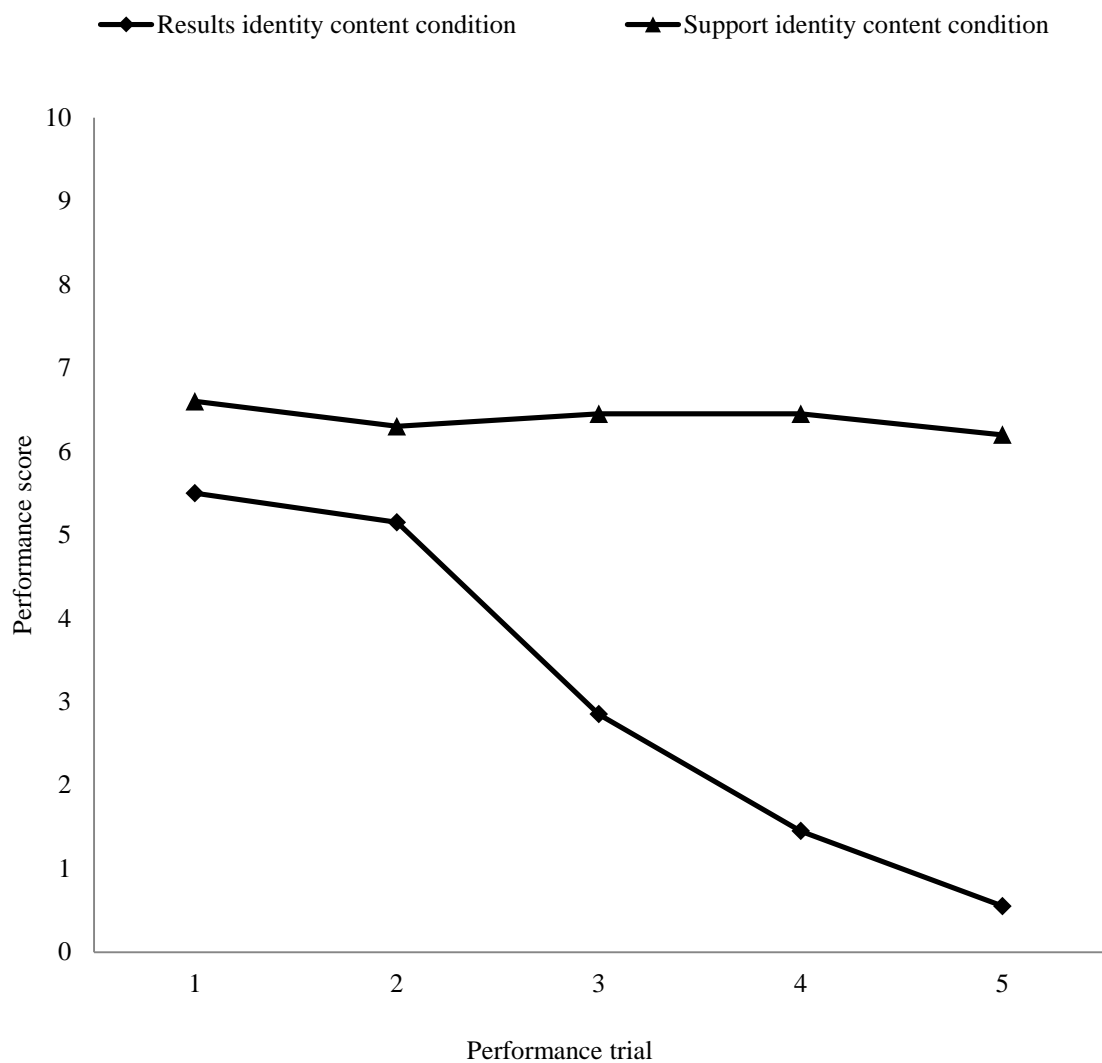


Figure 4.2. The trend in objective performance within each condition across five performance trials.

4.4. Discussion

The purpose of the present study was to explore the effects of threatening social identity content on psychological and behavioural outcomes which addressed aim (c) of the current thesis (i.e., to examine the effects of social identity content threat). To this end, the current study adds to the extant literature by documenting the consequences of social identity content threat which has previously been unexplored within social identity literature. In the current experiment, members of a results identity content condition experienced a threat to their social identity content (through false repeated failure) whilst members of a support identity content condition experienced no threat to their social identity content. Data indicated that members of the results identity content condition reported significantly weaker social identity and in-group prototypicality and significantly stronger out-group prototypicality and social mobility in comparison to members of the support identity content condition. Data also revealed that members of the results identity content condition achieved deteriorated objective performance across five performance trials whereas members of the support identity content condition achieved stable objective performance. At each performance trial members of the results identity content condition performed significantly worse than members of the support identity content condition. Overall, these data support hypotheses (a)-(e) and provide initial evidence that threatening social identity content will produce psychological and behavioural responses that will harm in-group functioning.

The current study found that members of a results identity content condition reported a weak social identity with their in-group after a period of exposure to relevant social identity content threat. This finding supported hypothesis (a) of the current study and can be explained through social identity theory (see Tajfel, 1978). Social identity theory (Tajfel, 1978) proposes that when an individual is part of a negatively distinguished in-group (e.g., a group that is low in status on a certain factor or a group that has received negative evaluation

on a specific factor) their group membership will make a negative contribution to their self-esteem. As a result, an individual will not fully internalise their group membership and will lower their social identity salience in order to protect their self-esteem (Tajfel, 1978). In the current study it could be that members of the results identity content condition reported a weak social identity with their group because internalising their group membership would have meant they were a 'loser' which would have had negative repercussions for self-esteem. The weak social identity reported within the results identity content condition in the present experiment also extends previous social identity research. To elaborate, research studies have demonstrated that high performance individuals will report weak social identity when they are included in a poorly performing group because being part of a poorer performing group will threaten social identity and make a negative contribution to self-esteem (e.g., Ellemers et al., 1993). The findings of the current study suggest that the social identity reported by those high-performing individuals in previous research may have also been weak because their social identity content was threatened by the prospect of achieving a poorer standard of performance.

Data also revealed that members of the results identity content condition reported weak in-group prototypicality after a period of exposure to relevant social identity content threat. This finding supported hypothesis (b) of the current study and could be related to the behavioural reactions associated with low social identity salience. For example, previous research has documented that an individual will display poor commitment to their group when they are part of a negatively distinguished in-group to avoid being stereotyped with the negative attributes and qualities of their group (e.g., Spears et al., 1997). In the current study members of the results identity content condition were perhaps reluctant to perceive themselves as similar to their in-group prototype because that would mean they would be stereotyped with the negative qualities of their in-group (e.g., "I am a failure"). The weak in-

group prototypicality reported within the results identity content condition could also be explained through self-categorisation theory (Turner, 1982; 1985). Self-categorisation theory (Turner, 1982; 1985) contends that the more an individual thinks and behaves in line with their in-group prototype the more an individual will be perceived to be prototypical of their in-group. However, members of the results identity content condition were led to believe that the outcome of their behaviour (i.e., achieving poor results) was not aligned to their in-group prototype (i.e., to win). Finally, the weak in-group prototypicality reported within the results identity content condition could explain why in-group members reported weak social identity and social mobility. To illustrate, Jetten, Spears, and Manstead (1997b) found that a peripheral group member was less motivated to defend their social identity (and therefore used social mobility) in response to social identity threat in comparison to a prototypical group member. In addition, Spears, Jetten, and van Harreveld (1998) showed that weak social identity reported in response to social identity threat is caused by the reduced perception of in-group prototypicality and increased perceived distance from the in-group norm. It seems that in response to drawing on a threatened aspect of social identity content an individual will also distance themselves from their in-group and express a desire for social mobility presumably to salvage their self-esteem.

In relation to the out-group prototypicality data the current study demonstrated that members of the results identity content condition indicated strong out-group prototypicality in response to social identity content threat. This finding supported hypothesis (c) of the current study and could be explained through self-categorisation theory (Turner, 1982; 1985). Self-categorisation theory (Turner, 1982; 1985) predicts that an individual will perceive themselves to be representative of a group when they fit or match the group in question. It could be that members of the results identity content condition reported strong out-group prototypicality because the better standard of performance induced within bogus out-groups

was a behavioural outcome that was more aligned to their own interests (i.e., to win). The strong out-group prototypicality reported in the results identity content condition could also be attributed to social identity theory (Tajfel, 1978). Social identity theory (Tajfel, 1978) asserts that individuals constantly seek to be a member of a group that can make a positive contribution to self-esteem. And in instances where an individual is part of a negatively distinguished in-group they will discredit their in-group and emphasise that they are similar to a more positive out-group in order to move into that group (see Noel et al., 1995). As an example, members of the results identity content condition may have expressed strong out-group prototypicality because they wanted to be a member of a winning group to feel better about themselves (e.g., “I am a winner. We are losing and my rivals are winning. There is everything for me to gain from joining a group of winners because winning is important to me”).

In relation to the social mobility data the present study showed that members of the results identity content condition reported a strong desire for social mobility (expressed through a desire to move to a ‘better’ group) in response to social identity content threat. This finding supported hypothesis (d) of the current study and was expected given social identity theory (Tajfel, 1978). Social identity theory (Tajfel, 1978) asserts that when an individual is part of a negatively distinguished in-group they will lower their social identity salience because belonging to a negative in-group is detrimental to self-esteem. Consequently, an individual will attempt to improve their self-esteem by moving into a more positive out-group (Tajfel, 1978). It appears that members of the results identity content condition indicated a preference for social mobility in the current study because their respective (and bogus) out-groups were achieving better results (and where therefore more positive on the factor ‘results’). Ultimately, movement from a poor-performing group into a better-performing (and

more positive) out-group represented a valuable opportunity for members of the results identity content condition to improve their self-esteem (see Haslam, 2004).

Finally, the present study revealed that members of the results identity content condition showed deteriorated objective performance in response to an episode of relevant social identity content threat. The finding was consistent with hypothesis (e) of the present study and is in line with previous research that has shown performance will suffer after a period of social identity threat (e.g., Steele, 1997). Steele (1997) highlighted a number of mechanisms that could explain the effects of social identity threat upon performance and these mechanisms could also explain the effects of social identity content threat upon performance found in the current study. For example, it could be that the threat posed to the social identity content of members of the results identity content condition caused in-group members to withdraw effort and persistence which hindered performance. It may also be that the threat posed to the social identity content of members of the results identity content condition thwarted the motivation of in-group members to work for the interests of their group which led to worsened performance. These mechanisms appear even more applicable when the psychological data within the results identity content condition are considered. According to social identity theory (Tajfel, 1978) a weak social identity means that an individual has failed to internalise their group membership. This means that an individual will be motivated to work on their own personal interests rather than the collective interests of their group (van Knippenberg, 2000). In the current study the weak social identity reported within the results identity content condition is evidence that in-group members had failed to internalise the interests of their group (i.e., to win) within the experiment. And as a result, it may be that members of the results identity content condition behaved in a manner that was not consistent with the nature of their social identity content (e.g., withdrawal of effort and lack of persistence).

Overall, data from the current study has demonstrated that threatening social identity content will have a detrimental effect upon in-group functioning. Bringing the results of the present study together it is apparent that an individual will lower their social identity salience when their social identity content is threatened. In addition, a series of psychological and behavioural reactions seem to be caused by social identity content threat including: distancing oneself from an in-group, emphasising the similarity of oneself to a 'better' out-group, and expressing a desire to move into a 'better' out-group.

There are several applied implications emanating from the current study. First, it is important that coaches and applied practitioners are aware that stressing the importance of a threatened aspect of social identity content will be counterproductive to in-group functioning. For example, the current study has demonstrated that it would be unwise for a coach to promote results identity content in an instance when group members are in poor form or are performing worse than their rivals. Specifically, individuals will be expected to lower their social identity with their group which will harm the achievement of group goals through a series of psychological (e.g., increasing the distance from the in-group prototype) and behavioural reactions (e.g., withdrawal of effort). Second, coaches and applied practitioners should realise that promoting the significance of a threatened aspect of social identity content could harm the well-being of individuals because group members will begin to perceive that they are part of a negative in-group. To this end, coaches and applied practitioners should ensure that the social identity content they promote and reinforce to group members is consistent with individuals' cognition, behaviour, and behavioural outcomes.

A shortcoming of the current study was that results identity content was the only aspect of social identity content to be threatened. Future research should threaten other aspects of social identity content (such as support identity content) to confirm that the psychological and behavioural reactions in response to social identity content threat observed

in the current study are not just specific to results identity content. Another potential shortcoming of the present study was that no behavioural outcomes (e.g., social support) that are expected to be aligned to support identity content were measured across the five performance trials. Future research should seek to track a behavioural outcome (e.g., social support) that is consistent with support identity content to further demonstrate the effects of social identity content threat on behaviour. Given that threatening social identity content was found to be detrimental to in-group functioning in the current study it would be logical that future researchers investigate how social identity content can be used to protect individuals and groups. Social identity literature suggests that individuals use social identity-related strategies (e.g., social mobility, social creativity, and/or social competition) to protect self-esteem in an instance where their social identity is threatened (see Haslam, 2004). To prevent in-group members from lowering their social identity salience, distancing themselves from their in-group prototype, emphasising their similarity to their out-group prototype, and expressing a desire to exit their group it could be individuals can be socially creative with the content of their social identities by changing the values they assign to aspects of their social identity content. In other words, having more than one component of social identity content available would provide in-group members with the opportunity to be socially creative with the meaning of their in-group identity which could maintain in-group functioning.

In conclusion, the current study addressed aim (c) of the current thesis (i.e., to examine the effects of social identity content threat) by documenting the effects of social identity content threat on psychological and behavioural outcomes. The present study builds on chapter three by providing an explanation of why the hypothesised relationships between aspects of social identity content and outcome variables were not significant. This study also adds to the extant social identity literature by being the first to explore the effects of social identity content threat. Overall, findings reported in the current study suggest that receiving a

relevant threat to social identity content will have a significant negative influence on thought processes (e.g., social identity, in-group prototypicality, out-group prototypicality, and social mobility) and behavioural outcomes (e.g., performance) aligned to the social identity content in question. In the current experiment the social identity content of members of the support identity content condition remained unthreatened by the achievement of poor results. As a result, in-group members reported strong social identity and in-group prototypicality, weak out-group prototypicality and social mobility, and performed consistently well over time. The data observed within the support identity content condition would suggest that having an alternative and unthreatened aspect of social identity content could protect individuals and groups during an instance where another aspect of social identity content is threatened. In addition, social identity literature (e.g., Haslam, 2004) would suggest that a broadened focus of social identity content would allow in-group members the opportunity to be socially creative with the content of their in-group identity. Therefore, the study reported in chapter five progresses the findings of chapter four by exploring whether social identity content can serve a protective function in response to relevant social identity content threat.

CHAPTER 5: WHEN THE GOING GETS TOUGH: USING THE CONTENT OF SOCIAL IDENTITIES TO PROTECT IN-GROUP FUNCTIONING

5.1. Introduction

The effects of social identity content threat were investigated in chapter four to provide an explanation for the lack of significant relationships that emerged between aspects of social identity content and outcome variables within the longitudinal study reported within chapter three. Data reported in chapter four demonstrated that receiving relevant threat to a single component of social identity content carried a series of negative repercussions for in-group functioning. Within chapter four it was also noted that members of a condition that did not receive relevant social identity content threat reported significantly higher social identity and in-group prototypicality, significantly weaker out-group prototypicality and social mobility, and demonstrated significantly higher and more stable performance over time in comparison to members of a condition that received relevant social identity content threat. These findings suggest that having an alternative and unthreatened aspect of social identity content available during an instance of relevant social identity content threat could serve to protect in-group functioning. Indeed, Branscombe et al. (1999) suggested that variation in the content of social identities could be important during an episode of social identity content threat. Therefore, to build on the findings reported in chapter four it follows that the role of social identity content during an episode of relevant social identity content threat should be ascertained. Currently, there are no research studies within social identity literature that have investigated the potential role of social identity content. Therefore, an exploration into the potential role of social identity content would contribute to the extant literature by documenting whether the meaning of in-group identities can be used reduce the risk of a group dissolving when an aspect of social identity content is threatened.

According to social identity theory (Tajfel, 1978) individuals who belong to inferior (or low status groups) will choose to engage in strategies from several possible alternatives to improve in-group status and subsequent self-esteem. These strategies include social mobility, social creativity, and social competition. Providing in-group members with an alternative and unthreatened aspect of social identity content during an instance of relevant social identity content threat would provide in-group members with the opportunity to be socially creative with the meaning of their in-group identity. Indeed, social identity theory (Tajfel, 1978) has postulated that one form of social creativity that members of low status groups can choose to engage in to improve their status and psychological well-being involves changing the values assigned to the attributes of their in-group. Based on social identity theory (Tajfel, 1978) it could be that in-group members can be socially creative with the meaning of their in-group identity when they are provided with a broadened definition of what it means to be a member of a group (e.g., “At present we may not be successful. But being supportive is also important to us. Therefore, we will be more supportive of each other than they are”). Drawing on social identity theory (Tajfel, 1978) it would be anticipated that being socially creative with the meaning of an in-group identity would preserve social identity and psychological well-being because being part of an in-group is still meaningful. In other words, being socially creative with the meaning of an in-group identity would mean that in-group membership still makes a positive contribution to self-esteem (see Haslam, 2004). At present, no research studies have explored whether social identity-related strategies can be used in relation to social identity content. Therefore, the current study also adds to the extant literature by exploring whether social identity-related strategies (in this case social creativity) can be used in relation to the meaning of in-group identities to protect in-group functioning.

Research studies have demonstrated that in-group members can be socially creative in response to social identity threat. For example, Jackson et al. (1996) demonstrated that when

smokers were presented with information that negatively distinguished them from non-smokers (e.g., smoking is associated with greediness, sloppiness, and stinginess) they reduced their rating of a negatively distinguishing factor (i.e., oral fixation). Jackson et al. also found that when smokers were presented with information that positively distinguished them from non-smokers (e.g., smoking is associated with greater acceptance and spontaneity) they increased their rating of a positively distinguishing factor (i.e., self-actualisation). Jackson et al. concluded that changing the values associated with being a smoker made being a smoker less disparaging which protected smokers' psychological well-being. In other words, when in-group members cannot escape a negatively distinguished in-group they are compelled to cast their group membership into a more favourable light. Consequently, research studies have found that using social creativity in response to social identity threat can preserve a series of psychological outcomes. In relation to the outcomes explored in chapter four, past research studies (e.g., Lalonde, 1992; van Knippenberg & van Oers, 1984) have found that changing the values assigned to social identities protects social identities. Drawing on social identity theory (Tajfel, 1978) it would appear that social identity is protected when in-group values are changed because being able to positively distinguish an in-group from an out-group means that being an in-group member still provides an individual with a positive self-esteem. Previous research studies (Hogg & Hardie, 1992) have demonstrated that high social identity salience leads individuals to perceive themselves as prototypical of their in-group because social identity salience causes an individual to behave in line with their group's interests or prototype (Tajfel & Turner, 1979). High social identity salience also leads individuals to perceive themselves as non-prototypical of their out-group(s) and reduce their perception of social mobility (Tajfel & Turner, 1979). Social identity theory (Tajfel, 1978) would propose that that individuals distance themselves from their out-group prototype and are will not be inclined to pursue social mobility because the out-group is negatively

distinguished from the in-group. Consequently, movement into a negatively distinguishing out-group would thwart self-esteem (see Haslam, 2004).

From the perspective of self-categorisation theory (Turner, 1982; 1985) it is plausible that an in-group member will also change their behaviour when they change the values assigned to their group membership. Self-categorisation theory (Turner, 1982; 1985) asserts that individuals stereotype themselves with the values associated with their group membership when they categorise themselves as a member of a group. The upshot of self-stereotyping is that individuals behave in line with the norms and values associated with being an in-group member. However, in an instance of relevant social identity content threat an in-group member is anticipated to change the extent to which they value certain aspects of their social identity content (i.e., be socially creative with their social identity content) to protect psychological well-being. On the one hand, lessening the focus on the threatened aspect of social identity content (e.g., results) would be expected to lead an in-group member to lower the extent to which they stereotype themselves with the norms and values prescribed and described by the threatened aspect of their social identity content. Drawing upon self-categorisation theory (Turner, 1982; 1985) an in-group member would then be expected to engage to a lesser extent in behaviours (e.g., effort) which are indicative of the threatened component of their social identity content (i.e., winning). On the other hand, increasing the focus on the unthreatened aspect of their social identity content (e.g., support) would be anticipated to lead an in-group member to increase the extent to which they stereotype themselves with the norms and values prescribed and described by the unthreatened aspect of their social identity content. Based on self-categorisation theory (Turner, 1982; 1985) an in-group member would then be anticipated to engage to a greater extent in behaviours (e.g., social support) which are indicative of the unthreatened component of their social identity content (e.g., supporting fellow group members).

The purpose of the current experiment was to explore whether having an alternative, unthreatened aspect of social identity content can preserve in-group functioning when another aspect of social identity content is threatened. Thus, the current study addressed aim (d) of the present thesis (i.e., to investigate the potential role of social identity content). Based on the main principles of social identity and self-categorisation theories and previous research documenting the effects of social identity threat (e.g., Jackson et al., 1996; Lalonde, 1992; van Knippenberg & van Oers, 1984) a number of hypotheses were formulated. First, it was hypothesised that in-group members would significantly reduce focus on the threatened aspect of their social identity content. Second, it was hypothesised that in-group members would significantly increase focus on the unthreatened aspect of their social identity content. Third, it was hypothesised that behaviour (i.e., either achieving good results or being supportive) aligned to the threatened aspect of social identity content would significantly reduce over time. Fourth, it was hypothesised that behaviour (i.e., either achieving good results or being supportive) aligned to the unthreatened aspect of social identity content would significantly increase over time. Finally, it was hypothesised that focusing less on the threatened aspect of social identity content would protect in-groups from the negative repercussions of having one threatened (and accessible) aspect of social identity content to draw upon that were demonstrated in chapter four.

5.2. Method

5.2.1. Participants and experimental design

The present experiment had a 2 (feedback: results threat or support threat) x 5 (time) experimental design. Participants were 30 male and ten female students ($M_{\text{age}} = 23.67$, $SD_{\text{age}} = 7.00$ years) and each condition included 20 participants in total. Clark-Carter (2010) suggested that a minimum of 20 participants should be included in each experimental

condition to detect an effect size (η^2) of 0.138 whilst maintaining a power of 0.08 and an alpha level of 0.05. Ethical approval was granted prior to data collection by the Faculty of Health Sciences Ethics panel at Staffordshire University.

5.2.2. Protocol

During recruitment participants read an information sheet, signed an informed consent form, and completed a three-item questionnaire (item one: “winning is more important than competing fairly”; item two: “supporting others is more important than learning new skills”; item three: “the way you compete is more important than working hard”; see Appendix 4). The questionnaire was developed within chapter four and asked participants to think about how they generally feel when they engage in a competitive task. Each participant rated the extent to which they agreed with each item on a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement. The overall purpose of the questionnaire was to make each participant believe that their assignment to an experimental condition was aligned to what they typically perceive to be important when engaging in a competitive task (i.e., there was comparative fit). Self-categorisation theory (Turner, 1982; 1985) would postulate that comparative fit is an important determinant of self-categorisation. Therefore, the use of the questionnaire was important to ensure self-categorisation was manipulated.

Following completion of the three-item questionnaire each participant was randomly assigned to an experimental condition. Each experimental condition had a dual social identity content whereby the social identity content of an in-group member had two aspects: results identity content and support identity content. For members of each dual social identity content condition it was important that their group achieved good results and were willing to provide support to one another throughout the experiment. In condition one, results identity

content was threatened whilst support identity content remained unthreatened. In condition two, support identity content was threatened whilst results identity content remained unthreatened. By threatening support identity content a shortcoming of chapter four was addressed (i.e., to threaten other aspects of social identity content other than results). The reason that one aspect of social identity content was threatened in each condition was to explore whether participants could be socially creative with their dual social identity content to protect key outcome variables.

Participants within each condition arrived at a university laboratory in groups of five. Upon arrival to the laboratory each participant was assigned to their own separate cubicle (see Appendix 5 for an illustration of the experimental set-up) to prevent participants from discussing their performance task with each other throughout the duration of the experiment. Allowing participants to interact would have afforded groups the opportunity to evaluate any feedback received which could have caused participants to question the manipulation of relevant social identity content threat. Cubicles in each condition contained a selection of the posters (see Appendix 6), words (see Appendix 7), and quotes (see Appendix 8) that were used in the results identity content condition and the support identity content condition in chapter four. Participants were asked to read the information within their cubicle to reinforce the dual nature of their social identity content. Participants were also asked to read a short script (see Appendix 15) to further reinforce their dual social identity content and to communicate the social identity content of other groups. The rationale for using posters, words, and quotes in the current experiment was that previous research studies have also used these methods to promote social identities to individuals (e.g., Berger & Rand, 2008; Goldstein et al., 2008). Participants were led to believe that the other groups they read about in their script had already taken part in the experiment and had a social identity content focused purely on having fun. Unbeknown to the participants these out-groups were

completely bogus in nature. The reason that the bogus out-groups had a fun identity content (rather than a support identity content as used in chapter four) was because one aspect of dual social identity content within both experimental conditions was support identity content. It was deemed necessary to change the social identity content of the bogus out-groups in the present experiment to make participants feel as though their in-group was distinct to their respective out-groups. Social identity theory (Tajfel, 1978) asserts that an individual will have a strong social identity with their in-group when their in-group is distinct to rival out-groups.

After reading the information in their cubicle each participant was presented with a single-item questionnaire (i.e., “do you feel part of a group whereby results, support, or results and support are really important”?) and indicated their response by checking either ‘results group’, ‘support group’, or ‘results and support group’ (see Appendix 16). This measure checked that participants had self-categorised themselves as a member of a group with a dual social identity content. Each group was also presented with a single-item measure of results identity content (“the most important thing to you are the results of your group”) and a single-item measure of support identity content (“the most important thing to you is the support within your group”) prior to the manipulation of relevant social identity content threat. These measures of results identity content and support identity content were used in chapter two and three of the current thesis. Participants rated the extent to which they agreed with each item on a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement. These items checked whether a dual social identity content had been created within each condition.

Each group was then informed that they were the eighth group to participate in the experiment. The fact that each group was the eighth was arbitrary; it was just important to include a number of bogus out-groups to ensure that a relevant aspect of social identity

content was threatened. Accordingly, groups were presented with the same five sporting video clips (from tennis, soccer, rugby league, badminton, and basketball) that were used in chapter four and were asked to watch each video clip in turn (see Appendix 11 for an example of a video clip). Each clip constituted a performance trial which meant that participants completed five performance trials in total. The duration of each video clip was approximately one minute in duration and contained information about a single sporting episode or was a conglomeration of extracts from the sport in question. Participants were given a sheet of A4 paper and a pen and were advised to write down and/or memorise as much information from each video clip as possible. This was because at the end of each clip participants had three minutes to answer the same 10 questions that were related to the video clip they had just watched (see Appendix 12 for an example question sheet). Once three minutes had passed answer sheets were collected and marked. Each individual score was added together to produce an overall in-group score for each performance trial to account for group-level variance in objective performance. Since each group contained five participants a maximum of 50 points could be scored for each clip.

At the end of each performance trial participants were handed the same A4 sheet of paper whilst their overall in-group score was calculated (see Appendix 17). The A4 sheet of paper asked each participant to imagine that they had a hypothetical free 10-minute period in which they could engage in eight different tasks. Four of these tasks were related to the dimensions of social support that have been identified in previous sport psychology literature (see Freeman, Coffee, & Rees, 2011). Specifically, participants had the option to ‘encourage group members’ (i.e., provide esteemed support), ‘help group members put things into perspective’ (i.e., provide emotional support), ‘provide advice to group members’ (i.e., provide informational support), and ‘do something practical for group members’ (i.e., provide tangible support). The remaining four tasks were indicative of being unsupportive of other in-

group members. Specifically, participants had the option to ‘sit quietly’, ‘contact friends’, ‘surf the internet’, and ‘read a newspaper or magazine’. Each participant was given three minutes to indicate how much of their hypothetical ten minutes they would be willing to devote to each task before their A4 sheets were collected and marked. The number of minutes participants were willing to dedicate to being supportive of other group members was added together to produce an overall in-group score of support. Since each group contained five participants a maximum of 50 minutes could be spent providing support within-groups.

After the level of support had been calculated participants received either false performance feedback or false support feedback. In condition one (where results identity content was threatened) participants were presented with an A4 sheet of paper that contained false performance feedback (see Appendix 13 for an example false performance feedback sheet). Each false performance feedback sheet contained a grid that was split into three sections: poor (a score of 0 to 15), average (a score of 16 to 34), and good (a score of 35 to 50). Within each grid was one in-group score (marked ‘G8’ for group eight) and the scores that the seven bogus out-groups (marked ‘G1’ for group one through to ‘G7’ for group seven) had previously achieved when taking part in the experiment. For each clip the in-group received a poor score and were led to believe that all seven bogus out-groups had previously achieved an average score. The poorer results achieved by the in-group in the experiment compared to the seven bogus out-groups on each performance trial suggested repeated failure to in-group members which threatened the results aspect of their social identity content. In condition two (where support identity content was threatened) participants were presented with an A4 sheet of paper that contained false support feedback (see Appendix 13 for an example false support feedback sheet). Each false support feedback sheet included a grid that was split into three sections: poor (0 to 15 minutes of support), average (16 to 34 minutes of support), and good (35 to 50 minutes of support). Within each grid was a score that indicated

the willingness of the in-group to support one another (marked 'G8' for group eight) and the scores of the seven bogus out-groups (marked 'G1' for group one through to 'G7' for group seven) that indicated their willingness to support fellow in-group members when previously taking part in the experiment. For each clip the in-group received a poor score for support and were led to believe that out-groups had previously been willing to provide an average level of support. The poorer willingness to support other in-group members compared to the seven bogus out-groups on each performance trial suggested that in-group members were less willing to be supportive of one another which threatened the support aspect of their social identity content.

After the fifth and final relevant false feedback sheet had been administered participants completed a short questionnaire that contained the same measures (with the exception of social identity content) that were used in chapter four (see Appendix 18). Once all questionnaires had been collected groups were taken through a full verbal debrief which revealed the purpose, anticipated findings, and implications of the experiment. Figure 5.1 provides an overview of the experimental protocol.

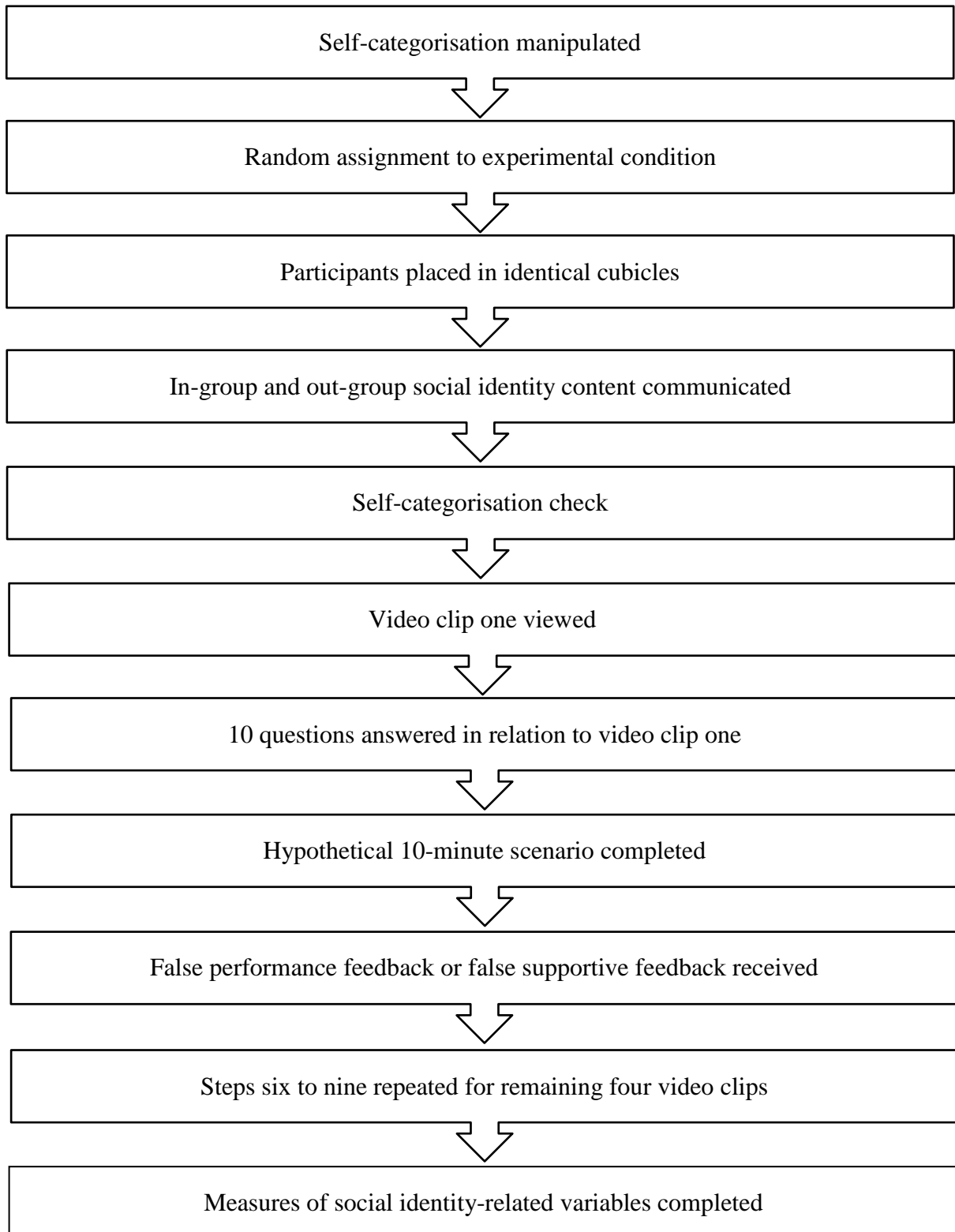


Figure 5.1. An overview of the steps included within the experimental protocol.

5.2.3. Measures

The questionnaire completed by participants at the end of the experiment contained six measures. Participants rated the extent to which they agreed with all items on a seven-point Likert-type scale ranging from one (do not agree at all) to seven (completely agree). Higher scores indicated greater item agreement.

Social identity. One item was used to measure participants' social identity with their group ("you identify strongly with your group"). This item was previously pilot tested prior to the study reported in chapter two.

Results identity content. A single-item measure was used to capture the extent to which participants valued the results aspect of their social identity content ("the most important thing to you are the results of your group"). This item was previously pilot tested prior to the study reported in chapter two.

Support identity content. A single-item measure was used to capture the extent to which participants valued the support aspect of their social identity content ("the most important thing to you is the support within your group"). This item was previously pilot tested prior to the study reported in chapter two.

In-group prototypicality. One item was used to measure how representative participants perceived themselves to be of their in-group prototype ("you are a typical member of your group"). This item was previously developed in chapter four.

Out-group prototypicality. One item was used to measure how representative participants perceived themselves to be of their out-group prototype ("you are representative of members of other groups"). This item was previously developed in chapter four.

Social mobility. Four items were used to measure participants' desire for social mobility (item one: "you are willing to learn new skills to become a member of a better group"; item two: "you are prepared to change your behaviour to become a member of a better group"; item three: "you are willing to work hard to join a better group"; item four: "you are willing to sacrifice important things to move to a better group"). These items were previously developed in chapter four. In the current experiment this scale demonstrated good internal reliability ($\alpha = .75$; Pallant, 2007 suggests that for scales that consist of fewer than 10 items a Cronbach alpha coefficient $> .50$ indicates acceptable internal reliability).

Individual performance. For each participant the number of questions answered correctly in relation to each video clip constituted an objective measure of performance. Participants could score between zero and 10 for each of the five performance trials.

Individual support. The number of minutes each participant was willing to devote to supporting other in-group members within their hypothetical 10-minute free period constituted an objective measure of individual support. Participants could spend between zero and ten minutes of their own time being supportive after each of the five performance trials. Measuring individual support addressed another shortcoming of chapter four because an outcome that was aligned to an aspect of social identity content other than results was assessed.

5.3. Results

5.3.1. Self-categorisation check

Each participant that took part in the current experiment categorised themselves as belonging to a dual social identity content condition. All questionnaires were subsequently retained for statistical analyses.

5.3.2. Results identity content

An independent samples t-test was conducted to test whether there was a difference in ratings of results identity content pre-threat between each condition. The independent samples t-test found that there was no significant difference in ratings of results identity content reported pre-threat in the results threatened condition ($M = 5.15$, $SD \pm 1.09$) and in the support threatened condition ($M = 5.65$, $SD \pm 1.09$; $t(38) = 1.45$, $p > 0.05$). A one-way ANCOVA was subsequently performed to explore whether there was a difference between each condition in results identity content post-threat after results identity content pre-threat had been controlled. The one-way ANCOVA indicated that the assumptions of linearity, normality ($p > 0.05$), and homogeneity ($p > 0.05$) had not been violated. The one-way ANCOVA found that there was no significant difference between each condition in results identity content post-threat ($F(1, 37) = 1.16$, $p > 0.05$, $\eta^2_p = 0.03$). Finally, a paired samples t-test was computed for each condition to examine whether a within-condition change in results identity content from pre-threat to post-threat existed. The first paired samples t-test demonstrated that there was a significant decrease in ratings of results identity content in the results threatened condition from pre-threat to post-threat ($M = 4.20$, $SD \pm 1.44$; $t(19) = 2.97$, $p < 0.05$). Nevertheless, the second paired samples t-test showed that there was no significant change in ratings of results identity content in the support threatened condition from pre-threat to post-threat ($M = 4.85$, $SD \pm 1.57$; $t(19) = 1.88$, $p > 0.05$). Results identity content reported within each condition at pre-threat and post-threat is presented in Figure 5.2.

5.3.3. Support identity content

An independent samples t-test was conducted to test whether there was a difference in ratings of support identity content pre-threat between each condition. The independent samples t-test found that there was no significant difference in ratings of support identity

content reported pre-threat in the results threatened condition ($M = 5.35$, $SD \pm 1.04$) and in the support threatened condition ($M = 5.95$, $SD \pm 0.99$; $t(38) = 1.86$, $p > 0.05$). A one-way ANCOVA was then performed to explore whether there was a difference between each condition in support identity content post-threat after support identity content pre-threat had been controlled. The one-way ANCOVA indicated that the assumptions of linearity, normality ($p > 0.05$), and homogeneity ($p > 0.05$) had not been violated. The one-way ANCOVA found that there was a significant difference between each condition in support identity content post-threat ($F(1, 37) = 9.50$, $p < 0.05$, $\eta^2_p = 0.20$). Lastly, a paired samples t-test was computed for each condition to examine whether a within-condition change in results identity content from pre-threat to post-threat existed. The first paired samples t-test demonstrated that there was no significant change in ratings of support identity content in the results threatened condition from pre-threat to post-threat ($M = 4.85$, $SD \pm 1.57$; $t(19) = 1.51$, $p > 0.05$). However, the second paired samples t-test showed that there was a significant decrease in ratings of support identity content in the support threatened condition from pre-threat to post-threat ($M = 3.95$, $SD \pm 1.54$; $t(19) = 5.31$, $p < 0.05$). Support identity content reported within each condition at pre-threat and post-threat is displayed in Figure 5.3.

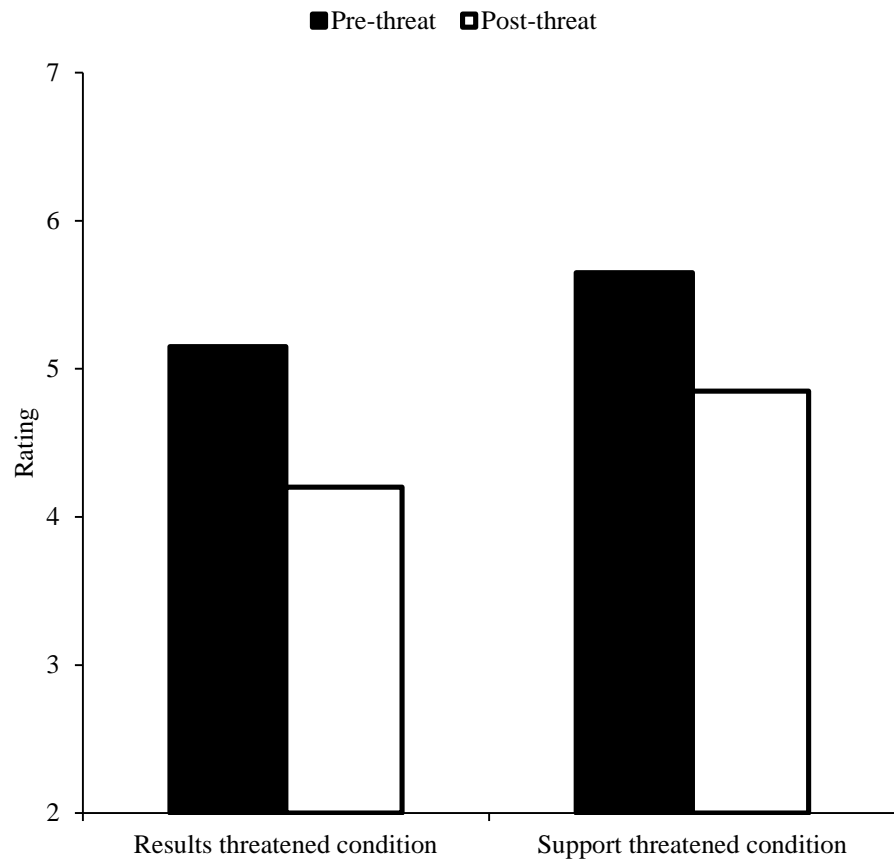


Figure 5.2. Results identity content reported within each condition at pre-threat and post-threat.

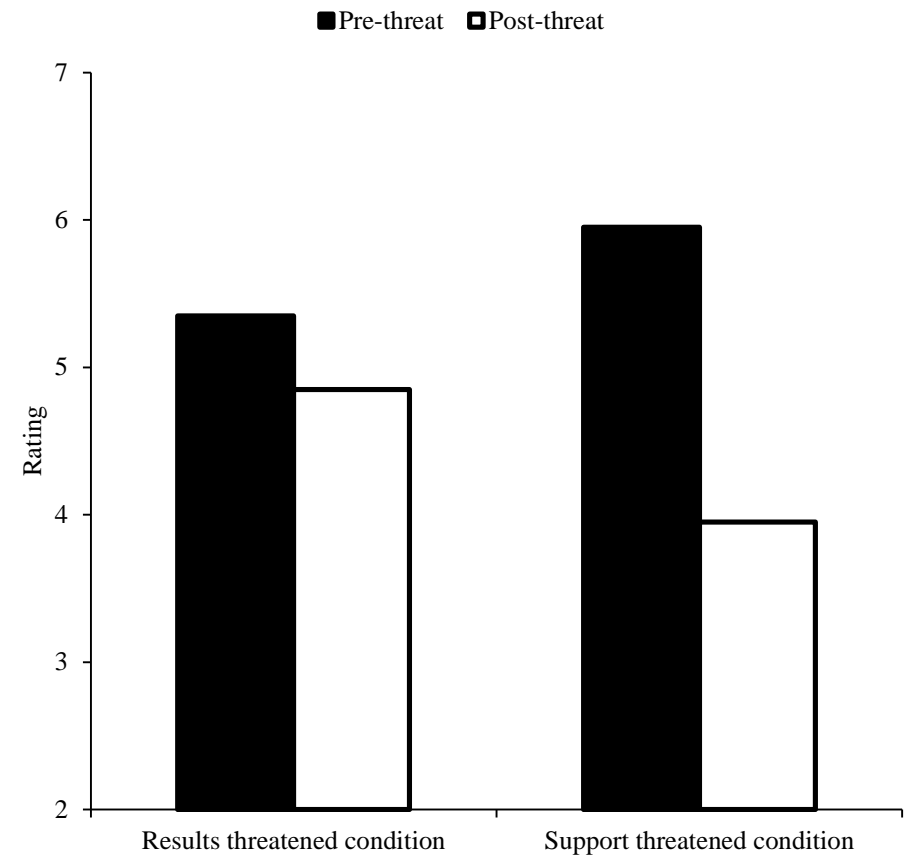


Figure 5.3. Support identity content reported within each condition at pre-threat and post-threat.

5.3.4. Objective performance

A 2 (feedback: results threat or support threat) x 5 (time) Mixed Model ANOVA was computed to test whether between-condition and within-condition differences in objective performance existed. Levene's test indicated that the variance in objective performance between each condition was homogenous for each performance trial ($p > 0.05$) except for performance at trial one ($p < 0.05$). The Mixed Model ANOVA indicated that the assumption of sphericity had not been violated ($\chi^2 (9) = 07.06, p > 0.05$). The Mixed Model ANOVA found that a significant main effect for time on objective performance ($F (4, 152) = 34.27, p < 0.05, \eta^2_p = 0.47$) and a non-significant main effect of condition on objective performance ($F (1, 38) = 00.01, p > 0.05, \eta^2_p = 0.00$) existed. Finally, the Mixed Model ANOVA found that a non-significant interaction effect between time and condition on objective performance existed ($F (4, 152) = 00.71, p > 0.05, \eta^2_p = 0.02$).

To follow-up the within-condition differences in objective performance that emerged within the Mixed Model ANOVA a one-way repeated measures ANOVA was computed for each condition. The first one-way repeated measures ANOVA indicated that the assumption of sphericity had not been violated in the results threatened condition ($\chi^2 (9) = 11.55, p > 0.05$). The one-way repeated measures ANOVA confirmed that a significant main effect of time on objective performance occurred ($F (4, 76) = 18.46, p < 0.05, \eta^2_p = 0.49$). Pairwise comparisons demonstrated that a significant elevation in objective performance occurred from trial one ($M = 1.55, SD \pm 1.00$) to trial two ($M = 3.45, SD \pm 1.05; p < 0.05$) and a non-significant reduction in objective performance occurred from trial two to trial three ($M = 2.80, SD \pm 1.20; p > 0.05$). Pairwise comparisons also demonstrated that a significant reduction in objective performance occurred from trial three to trial four ($M = 1.20, SD \pm 1.01; p < 0.05$) whilst a non-significant elevation in objective performance occurred from trial

four to trial five ($M = 1.40$, $SD \pm 0.88$; $p > 0.05$). The second one-way repeated measures ANOVA indicated that the assumption of sphericity had not been violated in the support threatened condition ($\chi^2(9) = 15.10$, $p > 0.05$). The one-way repeated measures ANOVA confirmed that a significant main effect of time on objective performance occurred ($F(4, 76) = 16.66$, $p < 0.05$, $\eta^2_p = 0.47$). Pairwise comparisons demonstrated that a significant elevation in objective performance occurred from trial one ($M = 1.20$, $SD \pm 0.70$) to trial two ($M = 3.60$, $SD \pm 1.43$; $p < 0.05$) and a non-significant reduction in objective performance occurred from trial two to trial three ($M = 2.65$, $SD \pm 0.99$; $p > 0.05$). Pairwise comparisons also demonstrated that a non-significant reduction in objective performance occurred from trial three to trial four ($M = 1.60$, $SD \pm 1.23$; $p > 0.05$) and from trial four to trial five ($M = 1.40$, $SD \pm 0.94$; $p > 0.05$). The trend in objective performance within each condition across all performance trials is presented in Figure 5.4.

5.3.5. Willingness to support

A 2 (feedback: results threat or support threat) x 5 (time) Mixed Model ANOVA was computed to test whether between-condition and within-condition differences in the willingness to support other in-group members across the five performance trials existed. Levene's test indicated that the variance in support between each condition was not homogenous for each performance trial ($p < 0.05$) except for performance at trial two ($p > 0.05$). The Mixed Model ANOVA indicated that the assumption of sphericity had been violated ($\chi^2(9) = 40.07$, $p < 0.05$) and therefore, degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = 0.73$). The Mixed Model ANOVA found that a significant main effect of time on willingness to support ($F(2.922, 111.040) = 06.91$, $p < 0.05$, $\eta^2_p = 0.15$) and a significant main effect of condition on willingness to support ($F(1, 38) = 07.78$, $p < 0.05$, $\eta^2_p = 0.17$) existed. Finally, the Mixed Model ANOVA found that a

significant interaction effect between time and condition on willingness to support existed ($F(2.922, 111.040) = 04.94, p > 0.05, \eta^2_p = 0.12$).

To follow-up the between-condition differences in support that emerged within the Mixed Model ANOVA an independent samples t-test was computed for each performance trial. The independent samples t-tests found that there was no significant difference in the amount of support (in minutes) members of the results threatened condition and members of the support threatened condition were willing to provide each other with at the end of trial one ($t(35.10) = 00.31, p > 0.05, \eta^2_p = .00$) and at the end of trial two ($t(38) = 01.34, p > 0.05, \eta^2_p = .05$). The independent samples t-tests also found that members of the results threatened condition were willing to provide a significantly higher amount of support (in minutes) than members of the support threatened condition at the end of trial three ($t(27.39) = 02.86, p < 0.05, \eta^2_p = .18$), trial four ($t(29.97) = 02.21, p < 0.05, \eta^2_p = .11$), and trial five ($t(27.96) = 04.36, p < 0.05, \eta^2_p = .33$). Levene's test indicated that the variance in support between each condition was not homogenous at the end of each performance trial ($p > 0.05$) with the exception of support reported at the end of trial two ($p > 0.05$). The mean willingness to support (minutes) fellow in-group members within the results threatened and the support threatened condition over five performance trials are displayed in Table 5.1.

To further test the within-condition differences in support that emerged within the Mixed Model ANOVA a one-way repeated measures ANOVA was computed for each condition. The first one-way repeated measures ANOVA indicated that the assumption of sphericity had been violated in the results threatened condition ($\chi^2(9) = 37.13, p < 0.05$) and therefore, degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = 0.54$). The one-way repeated measures ANOVA confirmed that a significant main effect of time on willingness to support occurred ($F(2.151, 40.865) = 21.08, p < 0.05, \eta^2_p = 0.53$). Pairwise comparisons demonstrated that a significant elevation in the willingness

to support other in-group members occurred from trial one to trial two and from trial two to trial three ($p < 0.05$). Pairwise comparisons also demonstrated that a non-significant reduction in support occurred from trial three to trial four whilst a non-significant elevation in support occurred from trial four to trial five ($p > 0.05$). The second one-way repeated measures ANOVA indicated that the assumption of sphericity had been violated in the support threatened condition ($\chi^2(9) = 25.38, p > 0.05$), therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = 0.71$). The one-way repeated measures ANOVA found that a non-significant main effect of time on willingness to support occurred ($F(4, 76) = 02.09, p < 0.05, \eta^2_p = 0.10$). Pairwise comparisons demonstrated that a non-significant elevation in the willingness to support other in-group members occurred from trial one to trial two ($p > 0.05$). Pairwise comparisons also demonstrated that a non-significant reduction in support occurred from trial two to trial three, from trial three to trial four, and from trial four to trial five ($p > 0.05$). The trend in the amount of support offered within each condition at the end of each performance trial is presented in Figure 5.5.

Table 5.1. Mean level of support (minutes) in-group members of the results threatened and support threatened condition were willing to provide to fellow in-group members over five performance trials.

Performance trial	Results threatened condition	Support threatened condition
	M ± SD	M ± SD
1	6.20 ± 2.59	5.90 ± 3.48
2	8.45 ± 2.19	7.30 ± 3.12
3	9.35 ± 1.66	6.90 ± 3.45
4	8.85 ± 2.08	6.75 ± 3.70
5	9.30 ± 1.84	5.30 ± 3.67

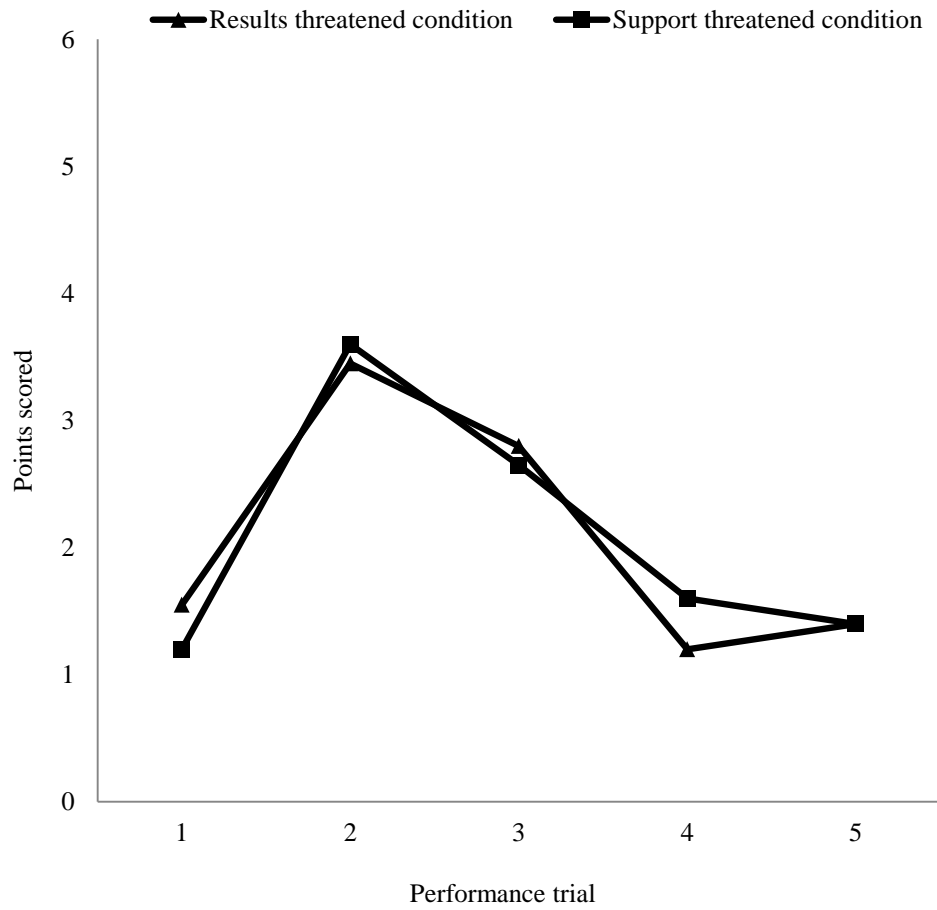


Figure 5.4. The trend in objective performance within each condition across the five performance trials.

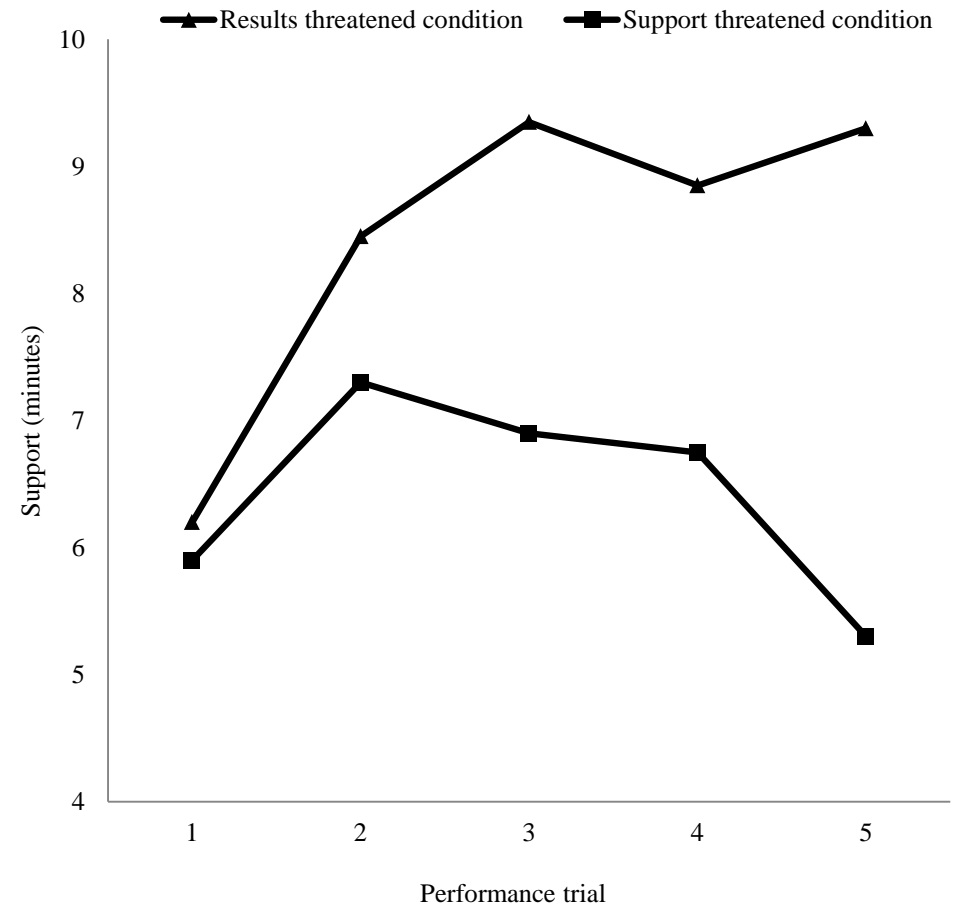


Figure 5.5. The trend in the amount of support offered within each condition at the end of each performance trial.

5.3.6. Psychological outcomes

A MANOVA was conducted to test whether any differences between each condition in social identity, in-group prototypicality, out-group prototypicality, and social mobility existed post-threat. Levene's test indicated that the variance in each dependant variable between conditions was homogenous ($p > 0.05$ for each dependent variable). The MANOVA found that there was no significant difference between conditions on the combined dependant variables (Wilks' $\Lambda = 00.85$; $F(4, 35) = 01.57$, $p > 0.05$; $\eta^2_p = 00.15$). Univariate analyses showed that there was no significant difference in social identity ($F(1, 38) = 00.01$, $p > 0.05$; $\eta^2_p = 00.00$), in-group prototypicality ($F(1, 38) = 02.03$, $p > 0.05$; $\eta^2_p = 00.05$), out-group prototypicality ($F(1, 38) = 00.63$, $p > 0.05$; $\eta^2_p = 00.02$), and social mobility ($F(1, 38) = 01.23$, $p > 0.05$; $\eta^2_p = 00.03$) between conditions. The mean scores for social identity, in-group prototypicality, out-group prototypicality, and social mobility for each condition are displayed in Table 5.2.

Table 5.2. Mean scores for all psychological outcomes post-threat within each condition.

Variable	Results threatened	Support threatened
	M \pm SD	M \pm SD
Social identity	3.95 \pm 1.43	4.00 \pm 1.72
In-group prototypicality	4.50 \pm 0.89	4.05 \pm 1.10
Out-group prototypicality	3.50 \pm 1.28	3.80 \pm 1.11
Social mobility	4.61 \pm 0.88	4.23 \pm 1.01

5.3.7. *The influence of social creativity on psychological outcomes*

A series of standard linear regression analyses were computed to explore whether the change in each aspect of social identity content from pre-threat to post-threat in the results threatened condition and the support threatened condition could explain each psychological outcome assessed. For each separate standard linear regression performed the main effect of the change in each aspect of social identity content was accounted for by entering the change in results identity content and support identity content onto the first step of the regression equation. For each separate standard linear regression computed the significance in explained variance (ΔR^2) for the dependant variable accounted for by both independent variables, in addition to the sign of regression coefficients (b), was assessed. All independent variables in the current data set were standardised (with a mean of 0 and SD of 1) which centred them prior to computing product terms. Accordingly, the unstandardised solution was examined. Independent variables in the current data set were standardised because centring increases the precision of parameter estimation and the power of statistical testing by using non-estimated regression coefficients (Kraemer & Blasey, 2004).

The first standard linear regression found that the change in results identity content within the results threatened and the support threatened condition exerted a non-significant main effect on social identity ($b = -.513$, $SE = .332$, $p > 0.05$ and $b = .142$, $SE = .411$, $p > 0.05$). The change in support identity content within the results threatened and the support threatened condition also exerted a non-significant main effect on social identity ($b = .557$, $SE = .332$, $p > 0.05$ and $b = -.252$, $SE = .411$, $p > 0.05$). The second standard linear regression found that the change in results identity content within the results threatened and the support threatened condition had a non-significant main effect on in-group prototypicality ($b = -.311$, $SE = .207$, $p > 0.05$ and $b = .216$, $SE = .261$, $p > 0.05$). Similarly, the change in support identity content within the results threatened and support threatened condition

exerted a non-significant main effect on in-group prototypicality ($b = .331$, $SE = .207$, $p > 0.05$ and $b = -.035$, $SE = .261$, $p > 0.05$). The third standard linear regression revealed that the change in results identity content within the results threatened and the support threatened condition exerted a non-significant main effect on out-group prototypicality ($b = .225$, $SE = .312$, $p > 0.05$ and $b = .150$, $SE = .218$, $p > 0.05$). However, the change in support identity content exerted a non-significant main effect on out-group prototypicality within the results threatened condition ($b = -.403$, $SE = .312$, $p > 0.05$) and a significant main effect within the support threatened condition ($b = .622$, $SE = .218$, $p < 0.05$). The fourth and final standard linear regression demonstrated that the change in results identity content within the results threatened and the support threatened condition exerted a non-significant main effect on social mobility ($b = .245$, $SE = .217$, $p > 0.05$ and $b = .208$, $SE = .185$, $p > 0.05$). However, the change in support identity content exerted a non-significant main effect on social mobility within the results threatened condition ($b = -.142$, $SE = .217$, $p > 0.05$) and a significant main effect within the support threatened condition ($b = .621$, $SE = .185$, $p < 0.05$).

5.4. Discussion

The purpose of the current experiment was to explore whether having an alternative, unthreatened aspect of social identity content can preserve in-group functioning when another aspect of social identity content is threatened. Therefore, the current study addressed aim (d) of the present thesis (i.e., to investigate the potential role of social identity content). Overall, the current experimental study makes several unique contributions to social identity literature. First, the present study documented the potential role of social identity content which has been previously unexplored within social identity literature. Second, this experimental study demonstrated that social identity-related strategies (in this case social creativity) can be used in relation to the content of in-group identities. To date, social identity-related strategies have only been explored in relation to social identities. A number of main findings emanated from

the current experiment. Paired samples t-test analyses found that in-group members focused significantly less on the threatened aspect of their social identity content from pre-threat to post-threat which supported the first hypothesis formulated. Paired samples t-test analyses also demonstrated that in-group members focused slightly less on the unthreatened aspect of their social identity content from pre-threat to post-threat which failed to support the second hypothesis. Pairwise comparisons revealed that members of the results threatened condition performed poorly over time whilst members of the support threatened condition reduced their willingness to support fellow group members (after trial one) which supported the third hypothesis. Pairwise comparisons also found that members of the results threatened condition significantly increased their willingness to support fellow group members (from trial one to trial two) and maintained a high level of support across remaining performance trials. However, pairwise comparisons demonstrated that members of the support threatened condition performed poorly over time. Therefore, the findings from the current experiment offer mixed support for the fourth hypothesis formulated. A MANOVA found that members of each condition reported similar ratings of social identity, in-group prototypicality, out-group prototypicality, and social mobility. Notably, ratings of social identity and in-group prototypicality reported in each condition post-threat were higher than those ratings of social identity and in-group prototypicality reported within the results condition in chapter four. What is more, ratings of out-group prototypicality and social mobility reported in each condition post-threat were lower than ratings of out-group prototypicality and social mobility reported within the results threatened condition in chapter four. Finally, standard linear regression analyses revealed that being socially creative with a dual social identity content generally failed to explain the variance in psychological outcomes (with the exception of support identity content in the support threatened condition which explained the variance in

ratings of out-group prototypicality and social mobility). Therefore, the findings from the current experiment fail to provide strong support for the fifth and final hypothesis formulated.

Social identity theory (Tajfel, 1978) contends that individuals will resort to social creativity strategies in response to social identity threat to change elements of a comparative situation that enable in-group members to make more favourable intergroup comparisons. The current experiment demonstrated that individuals will also resort to social creativity in response to social identity content threat by changing the meaning assigned to their social identities. Specifically, members of each dual social identity content condition focused significantly less on the threatened component of their social identity content after exposure to relevant social identity content threat which appears to be aligned with previous research. For example, Jackson et al. (1996) found that in-group members reduced their focus on factors that made their in-group membership disparaging in response to social identity threat. Nevertheless, members of each dual social identity content condition within the current experiment also reduced their focus (although not significantly) on the unthreatened aspect of their social identity content subsequent to social identity content threat which seems to be counterintuitive. For instance, previous research studies (e.g., Jackson et al.) have found that in response to social identity threat members of groups increase their focus on factors that positively distinguish their in-group from other comparative out-groups. Perhaps the two aspects of social identity content measured in the current experiment are inextricably linked which meant that reduced focus on the threatened component of social identity content also exerted a negative influence on individuals' ratings of the unthreatened component of social identity content post-threat. As a result, an increased focus on the unthreatened component of social identity content may have been prevented.

The current experiment also found that the behaviour aligned to the threatened aspect of individuals' social identity content was negatively influenced. Specifically, members of

the results threatened condition performed poorly over time whilst members of the support threatened condition significantly reduced their willingness to support each other (after trial one) which could be explained through self-categorisation theory (Turner, 1982; 1985). Self-categorisation (Turner, 1982; 1985) would contend that reduced focus on a threatened component of social identity content would be expected to reduce the extent to which individuals stereotype themselves with the norms and values described and prescribed by the threatened component of their social identity content. Consequently, the attitudes and behaviours that are expressed by individuals will be less consistent with the threatened component of their social identity content (Turner, 1999). In contrast, the trends in behaviour that were aligned to the unthreatened aspect of individuals' social identity content appear to be less conclusive. On the one hand, members of the results threatened condition significantly increased their willingness to support each other (from trial one to trial two) and maintained a high level of support despite reducing their focus on (their unthreatened) support identity content. Drawing on self-categorisation theory (Turner, 1982; 1985) the reduced focus on support identity content would have been expected to cause group members to stereotype themselves to a lesser extent with the norms and values described and prescribed by the unthreatened component of their social identity content. Accordingly, in-group members would have been anticipated to reduce engagement in attitudes and behaviours aligned to a support identity content. On the other hand, members of the support threatened condition performed poorly (and equally as poor as individuals within the results threatened condition) across time whilst reducing their focus on (their unthreatened) results identity content which appears logical. For example, self-categorisation theory (Turner, 1982; 1985) would assert that reducing the focus on results identity content would have led in-group members to stereotype themselves to a lesser extent with the norms and values associated with the unthreatened component of their social identity content. Consequently, in-group members

would be expected to reduce attitudes and behaviours that are aligned to a results identity content (see Turner, 1999). The incongruence in the findings pertaining to the behavioural outcomes aligned to the unthreatened component of social identity content may be related to inextricable link between results identity content and support identity content. Perhaps using two potentially related aspects of social identity content made it difficult for individuals to clearly recognise which component of their social identity content was being threatened.

In relation to the psychological outcome data the current experiment revealed that members of each experimental condition reported similar levels of social identity, in-group prototypicality, out-group prototypicality, and social mobility post-threat. Further, ratings of social identity and in-group prototypicality reported within each experimental condition in the current experiment were higher than those ratings reported within the results threatened condition in chapter four. Finally, ratings of out-group prototypicality and social mobility that were reported within each experimental condition in the present experiment were lower than those ratings reported within the results threatened condition in chapter four. Therefore, it would appear on first glance that a dual social identity content helped reduce the risk of a group dissolving when an aspect of social identity content was threatened. However, being socially creative with social identity content generally failed to explain the psychological outcomes reported (with the exception of the change in support identity content which significantly explained ratings of out-group prototypicality and social mobility reported within the support threatened condition). Theoretically, social identity theory (see Tajfel, 1978) contends that changing in-group values can protect social identities because the positive distinction that can be made between an in-group and comparative out-groups means that in-group membership provides in-group members with a positive self-esteem (Haslam, 2004). Whilst members of each experimental condition in the current experiment were socially creative with the content of their identities their ratings of both aspects of social

identity content decreased from pre-threat to post-threat which could explain why being socially creative with the content of social identities failed to explain more psychological outcomes. Given that both aspects of social identity content measured in the present experiment could be closely interrelated it would seem premature to conclude that a dual social identity content serves no protective function for psychological well-being.

Based on the findings of the current experiment a number of theoretical implications are brought to surface. In response to an episode of relevant social identity content threat in-group members lower their focus on the threatened aspect of their social identity content and lower (to a lesser extent) their focus on the unthreatened component of their social identity content. Lowering the focus on a threatened aspect of social identity content will cause in-group members to reduce behaviour aligned to the threatened aspect of their social identity content. The effects of lowering the focus on an unthreatened aspect of social identity content (although not expected; see Turner, 1982; 1985) appear less conclusive. Finally, although being socially creative with the content of social identities failed to explain psychological outcomes reported within the current experiment it may be premature to conclude that social identity content cannot protect individuals and groups given that both components of social identity content that formed in-group members' dual social identity content may be related. The findings from the current experiment also give rise to a number of applied implications. As an example, it may be useful for applied psychologists to promote broadened group meanings to individuals and groups which allow in-group members to prescribe multiple meanings to their in-group membership. When working with teams an applied psychologist could encourage groups to think about all the different types of groups they would like to become in order to develop groups with multiple in-group values.

The main shortcoming of the current experiment is centred on the two aspects of social identity content measured. On reflection, it could be argued that results identity content

and support identity content are linked. Therefore, participants may have found it difficult to ascertain which aspect of social identity content was being threatened within the experiment. Future research may wish to create experimental conditions where in-group members have a content focused on two distinct and unrelated aspects of social identity content. Accordingly, the psychological and behavioural effects of having an alternative, unthreatened component of social identity content to draw on could be more clearly established. Another potential shortcoming of the current experiment may be the absence of pre-threat psychological data. Although shared social identities were induced among group members within each condition pre-threat, baseline measures of in-group prototypicality, out-group prototypicality, and social mobility were not completed. Future research should collect baseline psychological data (pre-threat) to clarify the change (if any) in psychological outcomes from pre-threat to post-threat.

In conclusion, the current study addressed aim (d) of the current thesis (i.e., to investigate the potential role of social identity content) by investigating the potential role of social identity content during an episode of social identity content threat on psychological and behavioural outcomes. The present experiment builds on chapter four by demonstrating how in-group functioning could be protected during an instance where in-groups receive threat to their narrow social identity content. The current experimental study also adds to the extant social identity literature by demonstrating that social creativity can be used in relation to the meaning of in-group identities (and not just in relation to social identities per se). Although being socially creative with the meaning of an in-group identity generally failed to explain the psychological outcomes reported by in-group members it could be premature to conclude that the content of social identities do not serve a protective function in light of the shortcoming associated with the current experiment. Overall, the findings of the current study suggest that flexible and broadened group meanings may be useful during an instance where

an aspect of a group' vision is exposed to relevant threat. The next chapter of the current thesis will bring together the findings reported in chapter two, three, four, and five and reflect on the contribution of the thesis to psychological literature.

CHAPTER 6: GENERAL DISCUSSION

6.1. Introduction

The purpose of the present thesis was to explore the importance and role of social identity content. Within chapter one of the current thesis a number of unresolved issues evident within social identity literature were identified. Accordingly, four separate research studies were conducted to resolve the issues outlined within chapter one. The first research study reported (see chapter two) aimed to explore relationships between aspects of social identity content and outcome variables pertinent to a performance domain given that previous researchers (e.g., Livingstone & Haslam, 2008) have generally measured aspects of social identity content that would not appear relevant to a performance context. Therefore, the research study reported within chapter two addressed aim (a) of the current thesis (i.e., to further explore the importance of the content of social identities). The second research study reported within the current thesis (see chapter three) extended data reported within chapter two by examining the relationships between aspects of social identity content and outcome variables pertinent to a performance context over time. The research study reported in chapter three adds to the dearth of longitudinal research available in social identity literature and makes a novel contribution by documenting relationships between aspects of social identity content and outcome variables over time. The research study reported within chapter three addressed aim (b) of the current thesis (i.e., to explore the relationships between social identity content and outcome variables over time). The experiment reported in chapter four extended the findings of chapter three by attempting to provide an explanation for the lack of significant relationships noted in chapter three. Specifically, the experiment reported within chapter four investigated the effects of threatening social identity content which addressed aim (c) of the current thesis (i.e., to examine the effects of social identity content threat). Chapter four adds to the extant social identity literature by documenting the consequences of

social identity content threat which has previously been unexplored within social identity literature. Finally, the experimental study reported in chapter five built on the findings of chapter four by examining whether having an alternative and unthreatened aspect of social identity content available could protect in-group functioning in an instance where a relevant threat to social identity content is experienced. Thus, the experiment reported in chapter five addressed aim (d) of the current thesis (i.e., to investigate the potential role of social identity content). The experiment reported in chapter five adds to the extant social identity literature by documenting the potential role of social identity content whilst demonstrating that social identity-related strategies (i.e., social creativity) can be used in relation to the meaning of in-group identities. Overall, the studies reported in the current thesis make several unique and meaningful contributions to social identity literature that converge to fulfil the purpose of the present thesis.

The purpose of the present chapter is to: (a) summarise the main findings presented in chapter two, three, four, and five; (b) pinpoint the theoretical and applied implications of the findings reported in chapter two, three, four, and five; (c) identify strengths, shortcomings, and limitations in the research reported in chapter two, three, four, and five; and (d) highlight avenues for future research into the content of social identities. This chapter concludes with a brief summary of the research presented in the current thesis.

6.2. Summary of research findings

The research outlined in the preceding chapters of this thesis documented several important findings in relation to social identities and the content of social identities. Despite not being the predominant focus of the thesis, chapter two demonstrated that social identities were significantly and positively related to in-group cohesion. Chapter two also demonstrated that between-person differences in social identities significantly and positively explained the

variance in general self efficacy, general collective efficacy, and subjective team performance. Finally, chapter two found that a content focused either highly on results or lowly on friendships meant that higher levels of social identity were associated with higher levels of general self efficacy, general collective efficacy, subjective team performance, and a greater preference towards an autocratic leadership style. Second, chapter three confirmed that between-person differences in social identities significantly and positively explain the variance in general self efficacy, general collective efficacy, and subjective team performance. However, chapter three also found that within-person changes in athletes' social identities significantly and positively explained general self efficacy and general collective efficacy. Surprisingly, chapter three only found one significant interaction effect between social identity and social identity content on psychological outcomes across the time level, the individual level, and the team level. Finally, chapter three revealed that changes in athletes' social identities were positively and meaningfully related to changes in league position from the start to the middle of the season whilst changes in friendships identity content were positively and meaningfully related to changes in league position across the season. All remaining correlations were not meaningful. Third, chapter four found that members of groups that received relevant social identity content threat reported weaker social identity and in-group prototypicality and greater out-group prototypicality and social mobility than members of groups where social identity content remained unthreatened. Chapter four also demonstrated that a behavioural outcome (i.e., performance) aligned to threatened social identity content deteriorated over time. Fourth, chapter five provided some evidence that a dual social identity content protected athletes and groups in an instance where an aspect of social identity content was threatened. Specifically, chapter five found that during an episode of relevant social identity content threat members of groups focused significantly less on the threatened aspect of their social identity content and maintained their focus on the

unthreatened aspect of their social identity content. Chapter five also revealed that members of in-groups reported similar levels of social identity, in-group prototypicality, out-group prototypicality, and social mobility. Finally, being socially creative with the meaning of an in-group identity generally failed to explain the psychological outcomes reported. However, social identity and in-group prototypicality scores post-threat in each condition in chapter five were notably higher than social identity and in-group prototypicality scores post-threat in the results threatened condition in chapter four. What is more, out-group prototypicality and social mobility scores post-threat in each condition in chapter five were notably lower than out-group prototypicality and social mobility scores post-threat in the results threatened condition in chapter four.

6.3. Theoretical implications

The results of the current thesis converge in demonstrating that: (a) the content of social identities (to some extent) are important within performance settings; (b) having one threatened aspect of social identity content to draw upon will result in a number of negative repercussions for in-group functioning; and (c) having an alternative and unthreatened aspect of social identity content available can (in some instances) preserve in-group functioning. Although the current thesis was not concerned with demonstrating the importance of social identities, data reported in chapter two and three conclusively confirmed social identities are important to individuals and groups within a performance context.

Research within social identity literature has demonstrated that social identities are an important predictor of a range of psychological and behavioural outcomes pertinent to well-being and performance in a performance domain (see Ellemers et al., 1999; Haslam et al., 2005; Reicher & Haslam, 2006; Haslam et al., 2006; Haslam et al., 2009). Data from chapter two and three demonstrate that within-person changes and between-person differences in

social identities significantly and positively explain the variance in outcome variables (e.g., general self efficacy) relevant to a performance domain. The findings reported within chapter three also provide partial evidence that changes in athletes' social identities are meaningfully and positively related to changes in objective team performance. Despite not being the central focus of the thesis, these findings confirm that social identity is an important psychological variable in a performance context. Theoretically, data from chapter two and three would suggest that social identities should be established and subsequently strengthened over time for performers and groups to experience psychological and behavioural outcomes beneficial to well-being and performance.

The results of chapter two indicated that social identity exhibited a moderately high, significant, and positive correlation with cohesion. This relationship was expected given that social identity theory (Tajfel, 1978) and self-categorisation theory (Turner, 1982) propose that groups develop cohesion through processes that underpin social identification. However, the results of the moderated hierarchical regression analyses reported in chapter two make an important contribution to sport psychology literature. Specifically, data reported in chapter two demonstrated that social identity significantly and positively explained the variance in general self efficacy, general collective efficacy, and subjective team performance after in-group cohesion was controlled. Traditionally, sport psychology researchers have used the term cohesion interchangeably with the term social identity which has suggested that social identity and cohesion are the same psychological construct (Duckitt & Mphuthing, 1998). Indeed, measures of cohesion used throughout sport psychology research have generally included items that measure athletes' social identities as an indicator of cohesion (see the GEQ: Carron et al., 2007). The fact the social identity explained the variance in outcome variables above and beyond cohesion emphasises that social identity and cohesion (although related) should not be considered as the same psychological construct. Put simply, chapter

two demonstrated that an exploration into the concept of social identity can add to our understanding of group dynamics in sport psychology. Indeed, the results of chapter three demonstrated that between-person differences in social identity significantly and positively predicted in-group cohesion reported by athletes.

Empirical research studies have documented that the content of social identities are an important moderator of the relationship between social identity and psychological and behavioural outcomes (e.g., Livingstone & Haslam, 2008). Thus, chapter two and three explored relationships between aspects of social identity content (i.e., results identity content and friendships identity content) and outcome variables pertinent in a performance domain to build on current social identity literature. Results identity content and friendships identity content were measured in light of previous applied sport psychology research studies (i.e., Evans et al., 2013) which demonstrated that results and friendships are important aspects of group memberships in sport. These two aspects of social identity content were also measured because other aspects of social identity content captured in social identity literature do not seem pertinent to individuals within a performance domain. The results from chapter two and three provide conflicting evidence that the content of social identities are important in a performance domain. For example, data from chapter two indicated that a content focused highly on results or lowly on friendships means that stronger social identities are associated with higher general self efficacy, general collective efficacy, subjective team performance, and a greater preference towards an autocratic leadership style. On the other hand, data from chapter three showed that a content focused on either results or friendships generally failed to explain the variance in psychological outcomes (with the exception of the interaction between social identity and friendships identity content which significantly and positively explained the variance in general collective efficacy at the time level). The results from chapter three also revealed that changes in friendships identity content would appear beneficial for changes

in objective team performance whilst changes in results identity content have no meaningful relationship with changes in objective team performance. Overall, data from chapter two and three suggest that the importance of the content of social identities in a performance domain are not conclusive. Based on social identity literature (see Tajfel, 1978), it may have been that athletes were socially creative with their social identity content over time in chapter three which prevented hypothesised relationships between aspects of social identity content and outcome variables from occurring within chapter three.

The two experimental studies reported in chapter four and five were conducted to further investigate the inconsistent relationships between aspects of social identity content and outcome variables that were noted in chapter two and three. Chapter three suggested that the inconsistent relationships occurred because athletes may have been socially creative with the content of their social identities when an aspect of their social identity content became threatened. In other words, athletes may have changed the value assigned to their in-group membership when relevant social identity content threat was experienced across the season. Accordingly, chapter four examined the effects of social identity content threat. The experiment reported in chapter four created two conditions: one results threatened condition (where results identity content was threatened) and one support unthreatened condition (where support identity content remained unthreatened). Broadly, data from chapter four demonstrated that belonging to a group whereby social identity content is threatened will have a series of negative psychological and behavioural repercussions for individuals and groups in comparison to belonging to a group whereby social identity content remains unthreatened. Specifically, members of groups that have a single threatened social identity content available will report weaker social identity and in-group prototypicality and stronger out-group prototypicality and social mobility that social identity theory (Tajfel, 1978) would predict are detrimental to in-group functioning. Further, members of the results threatened

condition exhibited deteriorated performance over time in comparison to members of the support threatened condition whose performance remained stable. Overall, the results from chapter four imply that having one accessible aspect of social identity content to draw upon will harm group processes in an instance where relevant threat is posed to the social identity content in question.

In light of the findings of chapter four the experiment reported in chapter five explored whether individuals can be socially creative with the content of their social identities to protect group processes that are important for in-group functioning. Although a broad range of research studies have shown that individuals can be socially creative with their social identities following social identity threat (Jackson et al., 1996; Lalonde, 1992; van Knippenberg & van Oers, 1984) no previous empirical research has investigated whether individuals can be socially creative with the content of their social identities during an episode of relevant social identity content threat. Therefore, the experiment reported in chapter five created two dual content conditions where the content of individuals' social identities in each condition were focused on results and support. The results aspect of social identities were threatened in condition one whilst the support aspect of social identities were threatened in condition two. Data from chapter five demonstrated that members of groups will be socially creative with a dual social identity content during an episode of relevant social identity content threat by focusing significantly less on the threatened aspect of their social identity content and maintaining focus on the unthreatened aspect of their social identity content. The results from chapter five also indicated that being socially creative with the content of social identities can protect in-group processes. In particular, individuals with a dual social identity content will report stronger social identity and in-group prototypicality and weaker out-group prototypicality and social mobility as opposed to individuals who have a single threatened component of social identity content to draw upon. Finally, the results

from chapter five revealed that members of groups with a dual social identity content whereby support is threatened will decrease their support steadily over time (presumably because group members become less focused on support identity content). Similarly, members of groups with a dual social identity content whereby results are threatened will increase their support steadily over time (presumably because group members maintain their focus on support identity content). However, each dual social identity content condition performed equally poor over time which suggests that being socially creative with the content of social identities does not necessarily preserve performance. Generally, being socially creative with the content of an in-group identity failed to significantly explain the outcome reported by in-group members within chapter five. Thus, it could be premature to conclude that a flexible social identity content serves no protective role in preserving group processes.

6.4. Applied implications

Based on the results of chapter two and three applied psychologists should seek to create and subsequently develop social identities within groups over time. Applied psychologists should emphasise to group members that social identities relate to individual-level and group-level variables that are important for psychological well-being and performance. The results of chapter two and three would also suggest (to some extent) that applied psychologists can promote specific aspects of social identity content to elevate psychological variables that need to be improved upon following a needs analysis with a group.

The results of chapter four imply that applied psychologists should avoid building teams that have a narrow focus in terms of their social identity content. Drawing on the results from chapter four applied psychologists should be aware that emphasising a single group meaning for individuals to draw upon will increase the risk of the group dissolving

during a situation where the meaning of that group (e.g., results) is threatened (e.g., during poor form). The promotion of narrow and rigid group meanings would counteract the positive effects of creating and developing social identities within teams which could lead individuals to distance themselves from their in-group and express a desire for social mobility into a rival group.

Alternatively, the results of chapter five suggest that applied psychologists should seek to develop groups that have a broad focus in terms of their social identity content. Based on the results from chapter five applied psychologists should understand that broadening the meanings of groups will increase the resiliency of a group during a situation whereby a relevant threat is posed to an aspect of social identity content. It would be useful for an applied psychologist to develop group norms and values that encompass multiple group meanings in group education sessions where individuals are typically asked to think about the type of group they would like to become.

6.5. Strengths, shortcomings, and limitations

The research reported in chapter two is the first study to explore relationships between aspects of social identity content and outcome variables relevant to a performance domain. The main shortcomings of chapter two relate to the nature of the cross-sectional research design used. For example, all participants in chapter two and three were White Caucasian male athletes who were drawn from rugby league. The mean age of participants in chapter two was 18.09 years whilst the mean age of participants in chapter three was 18.16 years. Therefore, the importance of the content of social identities in a performance domain were not determined across a range of sports with a diverse range of age groups and ethnicities. Additionally, all participants in chapter two and three were asked to respond to questionnaire items in relation to their membership to an amateur rugby league team. Therefore, it remains

unknown whether the results of chapter two and three generalise to professional and recreational sport. Finally, data from chapter two and three were collected in the same region of England with teams that competed in the same rugby league organisation. It was not determined in the current thesis whether the results from chapter two and three generalise to other rugby league organisations that are situated in other regions of the United Kingdom. Nevertheless, the research studies reported in chapter two and three were exploratory and were conducted to provide initial support for the importance of the content of social identities in a performance domain.

The study reported within chapter three adds to the dearth of longitudinal research available in social identity literature and is the first study to explore relationships between aspects of social identity content and outcome variables over time. The scientific rigor of the methodological design used within chapter three was particularly strong because social identity-related variables and group processes were captured from athletes of each team who competed in the same Division over the course of a competitive season. Consequently, the data set in chapter three contained hierarchical data which meant that the importance of the content of social identities could be explored at various levels (i.e., Level one: within-persons, Level two: between-persons, and Level three: between-teams) using multilevel modelling analyses. Multilevel modelling analyses exploit the full data structure meaning that no data is lost at the time level (Cartwright et al., 2012). Multilevel modelling also explicitly models the hierarchy within the data set which yields correctly specified estimates of the standard errors at both Type I and Type II error rates (Cartwright et al., 2012). Indeed, failure to have used multilevel modelling in chapter three may have resulted in highly spurious results. For example, Twisk (2006) showed that estimates of treatment effects, associated standard errors, and alpha values are substantially different for disaggregated, aggregated, and multilevel modelling approaches. Lastly, multilevel modelling overcomes the

weaknesses associated with standard single-level statistical techniques given that multilevel modelling can explicitly model residual variance which leads to more accurate estimates of fixed effects and their associated standard errors (Cartwright et al.). However, bivariate correlation analyses were used in chapter three to explore the objective team performance data because the objective team performance data lacked the appropriate statistical power required for multilevel modelling. Although meaningful and (and in one case significant) correlations were found between changes in social identity-related variables and changes in league position across the season the use of bivariate correlation analyses meant that cause-and-effect could not be ascertained. However, league position was the only marker of objective performance accessible given that individual performance data (which could have been subject to multilevel modelling analyses) was not available.

The results from chapter four and five converged to provide an explanation into the inconsistent interaction effects between social identity and aspects of social identity content that were demonstrated across chapter two and three. Chapter four revealed that in response to social identity content threat members of groups reported weaker social identity and in-group prototypicality and stronger out-group prototypicality and social mobility in comparison to members of groups whose social identity content remained unthreatened. Chapter four also found that performance deteriorated when a threat was posed to an aligned aspect of social identity content (i.e., results). Therefore, chapter four confirmed that the psychological and behavioural effects associated with social identity threat are also associated with social identity content threat. Although being socially creative with the content of social identities generally failed to explain psychological outcomes reported in chapter five a number of strengths are evident. A notable strength of chapter five was that both results identity content and support identity content were threatened to ensure that the psychological and behavioural reactions to social identity content threat observed in chapter

four were not restricted to results identity content threat alone. Chapter five also measured a behavioural outcome (i.e., support) aligned to support identity content to further demonstrate the effects of drawing on threatened and unthreatened aspects of identity content on behavioural outcomes. Taken together, chapter four and five relied solely on a student sample which casts doubt over whether the findings demonstrated across chapter five and five generalise to other individuals (e.g., athletes). However, the studies reported in chapter four and five were conducted in an experimental setting because a manipulation of social identity content and social identity content threat could be induced which may not have been possible to achieve with individuals in an ecologically valid setting. In addition, no baseline data was collected pre-threat in chapter four and five which would have allowed for the change in psychological outcomes to be demonstrated.

Collectively, a number of strengths emanate from the research studies reported in the current thesis. For example, the research reported across the current thesis employed a variety of research designs (i.e., cross-sectional, longitudinal, and experimental) and statistical analyses (e.g., multilevel modelling) to: (a) further explore the importance of the content of social identities; (b) explore the relationships between social identity content and outcome variables over time; (c) examine the effects of social identity content threat; and (d) investigate the potential role of social identity content. It could be argued that the pilot data confirming the wording and clarity of items included in the quantitative measures used throughout the thesis were too descriptive. Further, the items used across the thesis were not subject to rigorous psychometric testing prior to commencing the current research programme. Nevertheless, alpha coefficient values for all measures were found to possess moderate to high internal validity throughout the individual study chapters. All items were also verified by three researchers who are part of a Social Identity in Exercise and Sport research group. Items and measures were also derived from social identity literature and

contextualised to suit the nature of the field research studies reported in chapter two and three. Further, measures that were developed specifically for the present study were developed in line with previous social identity literature. Therefore, items and measures were checked thoroughly prior to conducting the research reported in the current thesis. Finally, it is acknowledged that only two aspects of social identity content were assessed in the current thesis even though other aspects of social identity content are likely to exist. However, it was deemed beyond the scope of the thesis to measure all aspects of social identity content relevant to a performance domain and the studies reported in chapter two and three were conducted to provide an initial exploration into social identity content in a performance domain.

6.6. Future research

6.6.1. Conceptual and methodological research

In chapter two and three the relationships between aspects of social identity content and outcome variables pertinent to a performance domain were demonstrated. Alternatively, future research studies could explore the antecedents of social identities and the content of social identities in performance contexts. For example, social identity theory (Tajfel, 1978) predicts that individuals seek memberships to groups to experience a positive self-esteem. Cast et al. (1999) also suggested that individuals seek memberships to groups to feel competent and effective which can raise self efficacy. Exploring the antecedents of social identities and the content of social identities in a performance context would offer an explanation into why performers (e.g., individuals within the military and athletes) develop social identities (i.e., with militant or sporting groups) and seek group memberships that have specific meaning.

In chapter two and three all participants were White Caucasian male amateur rugby league athletes who competed in teams affiliated with the same organisation situated in the North West region of England. Further research studies are therefore required that include athletes of different ages, abilities, ethnicities, sporting backgrounds, and levels of sport participation in order to establish the generalisability of the theoretical and applied implications presented within the general discussion. In chapter four and five all participants were drawn from a student population. Accordingly, future research studies should explore the effects of relevant social identity content threat and the role of social identity content with an athlete sample in order to confirm the results reported across chapter four and five.

Across the current thesis a number of psychological and behavioural outcomes were assessed. However, future research might consider measuring psychological and behavioural outcomes that were not assessed within the current thesis but could be explained by the content of social identities. For instance, Haslam et al. (2005) found that social identities provide a buffer against adverse reactions to stress because social identities provide a foundation for group members to receive and benefit from social support. Therefore, it would be hypothesised that social identities would protect individuals from adverse reactions to strain in training and competition within a performance domain. Other psychological outcomes that have been shown to be predicted by social identities in social identity literature and could be measured in future research in performance settings include burnout, commitment, and emotion. Two aspects of social identity content (i.e., results and friendships/support) were also measured across the current thesis. A potential avenue for future research could involve examining the importance (and role) of other aspects of social identity content that would appear relevant to the performance domain. Intuitively, the content of performer's social identities could be focused on factors such as having fun, leadership (e.g., belonging to a team because of the excellent management of coaches), or

competing with a certain style of play (e.g., creative or offensive) which could relate to psychological and behavioural outcomes not assessed throughout the current thesis. For example, a content focused highly on having fun could mean that higher levels of social identity are associated with lower levels of stress and higher levels of enjoyment because (through self-categorisation theory; Turner 1982; 1985) low stress and enjoyment appear to be outcomes aligned to a content focused on having fun. Researchers should attempt to develop items that capture other aspects of social identity content before replicating the procedure adopted in chapter two to test whether aspects of social identity content relate to other psychological and behavioural outcomes in sport.

The phraseology and clarity of the items used throughout the current thesis were confirmed using descriptive analyses. Future research might consider testing the validity (e.g., concurrent validity) and reliability (e.g., test-retest and internal consistency) of each measure to reveal more in-depth information on the psychometric properties of the measures used in the current thesis.

The objective performance data in chapter three were analysed using bivariate correlation analyses given that the objective team performance data lacked the appropriate statistical power required for multilevel modelling analyses. Future research would benefit from measuring individual markers of objective performance. Capturing individual markers of objective performance would mean that data would have appropriate statistical power to be subject to multilevel modelling analyses. Consequently, cause-and-effect relationships between athletes' social identities, aspects of social identity content, and performance could be ascertained (see Raudenbush & Bryk, 2002).

6.6.2. *Applied research*

The applied implications outlined in the general discussion suggest that applied psychologists should create and develop social identities over time and promote aspects of social identity content to individuals and groups. Applied psychologists would therefore benefit from research documenting the effects of the application of psychological interventions aimed at creating social identities and promoting aspects of social identity content. One psychological intervention that could instigate a positive change in social identities whilst manipulating aspects of social identity content in a performance domain is Personal-Disclosure Mutual-Sharing (PDMS). PDMS is an approach to team building that asks individuals to publicly disclose previously unknown personal stories and information to fellow members of their team (Hardy & Crace, 1997; Holt & Dunn, 2006; Yukleson, 2010). Collaborative personal-disclosure underpinned by mutual-sharing can encourage empathetic responses between group members which provide individuals with a better understanding and appreciation of one another's experiences. Within a performance setting (e.g., military and sport), personal-disclosure provides the catalyst for the mutual communication of morals, beliefs, attitudes, and personal motives (Ribner, 1974; Rimé, 2007) which are posited to augment shared perceptions, meanings, constructs, and understanding (Windsor, Barker, & McCarthy; 2011). Based on the proposed theoretical mechanisms of PDMS it would be hypothesised that PDMS would strengthen performers' social identities because PDMS creates an emotionally engaging environment for its users which would be anticipated to augment the emotional significance a group has for individuals. It would also be hypothesised that social identity content would be manipulated through the type of personal-disclosure made by each athlete.

The current thesis has recently informed research studies that have started to provide an evidence-base for the influence of PDMS on social identities and the content of social

identities in a performance context. For example, Evans et al. (2013) conducted a relationship-oriented PDMS session with 14 soccer academy athletes. Social identity, friendships identity content, results identity content, and collective efficacy were measured at baseline, post-PDMS, follow-up, and maintenance phases. Objective team performance was assessed via goal difference and goal discrepancy over the course of the season. Social validation data was also collected during the follow-up phase to explore athletes' views of PDMS on psychological outcomes and performance. Quantitative data showed social identity remained elevated and stable across time. However, quantitative data revealed that the PDMS session instigated a significant short-term increase in friendships identity content from baseline to post-PDMS. Meanwhile, a sustained improvement in objective team performance was observed after the PDMS session. Social validation data indicated that nine athletes felt that PDMS exerted a positive influence on their social identity. However, social validation data indicated that only one athlete felt as though their friendships identity content had increased from baseline to post-PDMS. More recently, Barker, Evans, Coffee, Slater, and McCarthy (in press) conducted a dual-phase PDMS intervention with 15 elite academy cricketers during a pre-season tour. Within the first PDMS session (i.e., PDMS 1) athletes disclosed speeches centred around relationship-oriented information whilst within the second PDMS session (i.e., PDMS2) athletes disclosed speeches focused on mastery-oriented information. Social identity, results identity content, friendships identity content, and collective efficacy were measured at baseline, post-PDMS1, mid-point of the tour, and post-PDMS2 whilst social validation data was obtained after each bout of PDMS. Quantitative data revealed significant elevations in social identity and friendships identity content at post-PDMS1. Quantitative data also revealed significant elevations in results identity content and collective efficacy at post-PDMS2. Broadly, social validation data supported the effectiveness of the PDMS sessions and corroborated quantitative data. Taken together,

research conducted by Evans et al. and Barker et al. would imply that PDMS is a psychological intervention that can promote social identities whilst the type of information that individuals are asked to disclose can manipulate certain aspects of social identity content. Future research studies could explore the effects of PDMS on other social identity-related variables (e.g., in-group prototypicality and social mobility) and could develop other forms of PDMS that manipulate aspects of social identity content that could exist within performance contexts (and were not explored within the current thesis).

6.7. Conclusion

The purpose of the present thesis was to explore the role and importance of social identity content. The results of the current thesis: (a) provide mixed evidence for the importance of the content of social identities in a performance domain; (b) demonstrate the effects of relevant social identity content threat; and (c) suggest that individuals can be socially creative with the meaning of an in-group identity (although being socially creative does not appear to explain psychological outcomes reported). Therefore, it would appear that group memberships are valuable, meaningful, and worth cherishing. Based on the results of the current thesis applied psychologists should seek to create and develop social identities and promote components of social identity content to instigate a positive change in specific outcome variables. Recent research studies have benefitted from information gleaned within the current thesis and it is hoped that the research reported in this thesis acts as a springboard for future research into the content of social identities. In particular, it is recommended that future research explores conceptual and methodological issues emanating from the current thesis; builds the evidence-base regarding the effects of PDMS on social identity and aspects of social identity content; and explores other psychological interventions that may strengthen social identities and manipulate aspects of social identity content.

6.7.1 *Key Findings and Take Home Messages*

In summary, a number of key findings have emerged based on the studies reported within the current thesis:

- Social identity is related to cohesion in a performance setting;
- After controlling for cohesion, social identity is related to self efficacy, collective efficacy, and subjective team performance in a performance setting;
- A social identity content focused either highly on results or lowly on friendships means (to some extent) that higher levels of social identity are associated with higher levels of self efficacy, collective efficacy, subjective team performance, and a preference for an autocratic leader;
- Whilst results identity content appears to be stable across time, friendships identity content can change over time in a performance setting;
- Changes in social identity and friendships identity content are related to changes in objective team performance;
- After a period of repeated failure, results content groups reported lower social identity and in-group prototypicality in comparison to support content groups;
- After a period of repeated failure, results content groups reported higher out-group prototypicality and social mobility in comparison to support content groups;
- After a period of repeated failure, results content groups exhibited deteriorated performance over time in comparison to higher and stabilised performance exhibited within support content groups;
- Members of dual content groups focused less on the threatened component of their social identity content and maintained their focus on the unthreatened component of their social identity content;

- Behavioural outcomes (i.e., performance or willingness to support) aligned to the threatened component of social identity content in dual content groups were either poor or reduced over time;
- Trends in behavioural outcomes (i.e., performance or willingness to support) aligned to the unthreatened component of social identity content in dual content groups were not conclusive;
- Whilst in-group members reported similar levels of social identity, in-group prototypicality, out-group prototypicality, and social mobility, changing the focus on aspects of social identity content generally failed to explain social identity-related outcomes.

Accordingly, the key findings of the current thesis converge to provide six key take home messages:

- Belonging to groups matters;
- The meanings performers associate with their group membership can relate to how they think, feel, and behave;
- The meanings performers associate with their group membership can change over time;
- The ability of individuals and groups to function will be harmed when an outcome aligned to the sole meaning of a group membership comes under threat;
- Providing groups with a dual meaning means that group members can change the meaning of their group membership in a situation where one aspect of group meaning comes under threat;
- A dual meaning attached to a group membership can reduce the risk of a group dissolving when one aspect of group meaning comes under threat.

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A GLOSSARY OF KEY SOCIAL IDENTITY-RELATED TERMINOLOGY

This glossary includes the key social-identity related terminologies that are referred to throughout the current thesis. These terms are derived from social identity literature (e.g., Haslam, 2004; Jackson et al., 1996; Livingstone & Haslam, 2008) and contextualised to suit the context of the current thesis.

Comparative fit: A determinant of self-categorisation which suggests that an athlete will perceive themselves to fit a category when the differences between themselves and members of that category are smaller than the differences between themselves and members of other categories.

Discrimination: Prejudicial treatment given to (or received by) an athlete.

Favouritism: Preferential treatment given to (or received by) an athlete.

Group membership: A sporting group that an athlete feels a social identity with.

High status group: A sporting group that is superior to another sporting group based on a factor that is being compared between-groups.

Illegitimate: A determinant of the strategy used by an athlete to improve or maintain their self-esteem and is when an athlete perceives their group's status to be unfair.

In-group: A sporting group that an athlete has a social identity with in a particular context.

Legitimate: A determinant of the strategy used by an athlete to improve or maintain their self-esteem and is when an athlete perceives their group's status to be fair.

Low status group: A sporting group that is inferior to another sporting group based on a factor that is being compared between-groups.

Out-group: A sporting group that an athlete does not have a social identity with in a particular context.

Normative content: The meaning of a group norm which serves as a blueprint to guide the thoughts, feelings, and actions of an athlete.

Normative fit: A determinant of self-categorisation which suggests that an athlete will perceive themselves to fit a category when what they perceive is the norm of a category is consistent with the actual norm of the category in question.

Norms: Group-held beliefs about how a group member should think, feel, and behave.

Positive distinction: A process whereby an athlete defines their in-group more positively than an out-group on a specific factor which makes a positive contribution to their self-esteem.

Prototypicality: A determinant of self-categorisation and is the extent to which an athlete is representative of their sporting group.

Self-categorisation: A category that an athlete perceives themselves to be a member of.

Self-categorisation salience: A self-categorisation that is of psychological significance to an athlete.

Self-categorisation theory: The theory that attitudes, behaviours, and behavioural outcomes can be explained by how an athlete categorises themselves.

Self-stereotyping: A process of self-categorisation whereby an athlete takes on the norms and values associated with their sporting group.

Social competition (for a low status group member): A strategy whereby an athlete will attempt to improve their self-esteem through their group membership by being conflictual, hostile, and antagonistic towards a higher status out-group.

Social competition (for a high status group member): A strategy whereby an athlete will attempt to maintain their self-esteem through their group membership by being conflictual, hostile, and antagonistic towards a lower status out-group.

Social creativity (for a low status group member): A strategy whereby an athlete will attempt to improve their self-esteem through their group membership by either: (a) finding a new factor on which to compare their in-group against their higher status out-group; (b) changing the values assigned to the attributes of their in-group; or (c) choosing to compare their in-group against a different out-group on the same factor.

Social creativity (for a high status group member): A strategy whereby an athlete will attempt to maintain their self-esteem through their group membership either by: (a) being magnanimous towards their lower status out-group on a factor that is not an important part of their social identity or (b) being aggressive and sinister towards their lower status out-group.

Social identity: The extent to which an athlete feels as though they belong to their sporting group.

Social identity approach: A framework for understanding attitudes, behaviours, and behavioural outcomes through the principles of self-categorisation theory and social identity theory.

Social identity content: The meaning of a sporting group.

Social identity content threat: A situation that challenges the meaning of a sporting group.

Social identity salience: A social identity that is of psychological significance to an athlete.

Social identity theory: The theory that attitudes, behaviours, and behavioural outcomes can be explained by the extent of an athlete's social identity with their sporting group.

Social identity threat: An attitude, behaviour, or behavioural outcome that challenges the social identity of an athlete.

Social mobility (for a low status group member): A strategy whereby an athlete will move from their low status sporting group into a higher status sporting group to improve their self-esteem.

Social mobility (for a high status group member): A strategy whereby an athlete will move from their high status sporting group into another high status sporting group to maintain their self-esteem.

Stable: A determinant of the strategy used by an athlete to improve or maintain their self-esteem and is when the status differential between groups is fixed.

Status: The relative position of a sporting group in comparison to another sporting group in a particular context based on a factor that is being compared.

Unstable: A determinant of the strategy used by an athlete to improve or maintain their self-esteem and is when the status differential between groups is variable.

APPENDICES

Appendix 1: Questionnaire completed in chapter 2

To what extent do you agree that...	<div style="display: flex; justify-content: space-between; align-items: center;"> Do not agree at all ⇔ Agree completely </div>						
	1	2	3	4	5	6	7
the most important thing to you are the friendships within your team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are performing better than expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
when you are in trouble you can think of a solution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match your team can minimise errors when under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a good leader is one who can't afford to sit around talking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are dedicated and committed to performing successfully	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
your team can find a solution when confronted with a problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you identify strongly with your team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
good leaders should be prepared to use force to get their own way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you can achieve your goals/targets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a good leader will act more like a friend than a boss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rugby players on your team all stick together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a leader should always be a good listener	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are currently in good form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a good leader will persuade rather than bully	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match as a team you make correct decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the most important thing to you are the results of your team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match you can select the right solutions to problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are currently playing well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
your team is capable of achieving goals/targets that are set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a hard leader is better than a soft leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
during a match you can minimise your mistakes when under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are satisfied with your recent results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rugby players on your team represent a single, clearly-defined group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 2: Pilot questionnaire completed prior to chapter 2

To what extent do you agree that...	Do not agree at all							↔							Agree completely						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
the most important thing to you are the friendships within your team To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the most important thing to you are the friendships within your team To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
when you are in trouble you can think of a solution To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match your team can minimise errors when under pressure To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a good leader is one who can't afford to sit around talking To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are dedicated and committed to performing successfully To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
your team can find a solution when confronted with a problem To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you identify strongly with your team To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
good leaders should be prepared to use force to get their own way To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you can achieve your goals/targets To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a good leader will act more like a friend than a boss To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rugby players on your team all stick together To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a leader should always be a good listener To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a good leader will persuade rather than bully To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

throughout a match as a team you can make correct decisions To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the most important thing to you are the results of your team To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match you can select the right solutions to problems To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are currently playing well To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
your team is capable of achieving goals/targets that are set To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
hard leader is better than a soft leader To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are currently in good form To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
during a match you can minimise your mistakes when under pressure To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are satisfied with your recent results To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rugby players on your team represent a single, clearly-defined group To what extent is this question understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 3: Questionnaire completed at each time-point in chapter 3

To what extent do you agree that...	Do not agree at all		↔		Agree completely		
	1	2	3	4	5	6	7
the most important thing to you are the friendships within your team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are performing better than expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
when you are in trouble you can think of a solution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match your team can minimise errors when under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to work hard to join a better team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are dedicated and committed to performing successfully	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
your team can find a solution when confronted with a problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you identify strongly with your team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to learn new skills to become a member of a better team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you can achieve your goals/targets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to sacrifice important things to move to a better team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rugby players on your team all stick together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
during a match you can minimise your mistakes when under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are currently in good form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are prepared to change your behaviour to be part of a better team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match as a team you make correct decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the most important thing to you are the results of your team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
throughout a match you can select the right solutions to problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are currently playing well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
your team is capable of achieving goals/targets that are set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a team you are satisfied with your recent results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rugby players on your team represent a single, clearly-defined group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 4: Pre-screening questionnaire completed in chapter 4 and 5

To what extent do you agree that...

	<div style="display: flex; justify-content: space-between; align-items: center;"> Do not agree at all ↔ Agree completely </div>						
	1	2	3	4	5	6	7
winning is more important than competing fairly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
supporting others is more important than learning new skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the way you compete is more important than working hard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 5: Experimental set-up for the studies in chapter 4 and 5



Appendix 6: Posters placed in cubicles in the studies in chapter 4 and 5

Results threatened condition



Support threatened condition



Appendix 7: Words placed in cubicles in the studies reported in chapter 4 and 5

Results threatened condition

Success

Winning

Accomplishment

Results

Outcome

Victory

Triumph

Achievement

Support threatened condition

Support

Encouragement

Helpfulness

Assistance

Backing-up

Aiding

Goodwill

Kindness

Appendix 8: Quotes placed in cubicles in the studies reported in chapter 4 and 5

Results threatened condition

“If winning isn’t everything, why do they keep the score”

“First is everything, second is nothing”

“There are one-hundred and ninety-nine ways to beat, but only one way to win. Get there
first”

“Winning is not a sometime thing; it’s an all-time thing”

Support threatened condition

“Winning can mean much, but support and encouragement mean the most”

“The best thing about performing is the sense of community and shared emotion it can
create”

It’s not the shots that win a championship you remember, but the support you give and
receive”

“We live by encouragement and die without it”

Results threatened condition

The most important thing to members of your group are the results you achieve. By being part of this group, your main focus is the success, outcome, and end result of each of the following tasks you perform as a group. What is of most importance to members of other groups are giving and receiving support and encouragement. **For you**, winning isn't everything, it's the only thing.

Support threatened condition

The most important thing to members of this group is being supportive of each other. By being part of this group, your main focus is supporting and encouraging each other during each of the following tasks you perform as a group. What is of most importance to members of other groups is achieving success. **For you**, it's important to enjoy every moment and enjoy the journey.

Appendix 10: Self-categorisation check used in chapter 4

Do you feel part of a group that is based around results or do you feel part of a group that is based around support? (Please circle one of the options below).

Results group

Supportive group

Appendix 11: QR code for an example video clip used across chapter 4 and 5

Sporting clip two



Appendix 12: Example of question sheet used in chapter 4 and 5

Sporting clip two

Question 1

How many touches were made by Italy?

Answer: _____

Question 2

How many touches were made by Brazil?

Answer: _____

Questions 3

How many passes were made for
the Brazil goal?

Answer: _____

Question 4

What colour were the referee's socks?

Answer: _____

Question 5

What was the colour of Italy's
Goalkeeper top?

Answer: _____

Question 6

What was the colour of the flag on the halfway line?

Answer: _____

Question 7

How many different players touched the ball?

Answer: _____

Question 8

How many passes were made with the left foot?

Answer: _____

Question 9

What number was the player wearing who passed to the
goalscorer?

Answer: _____

Question 10

How many touches were made with the right foot?

Answer: _____

Appendix 13: Example of a false performance/support feedback sheet used in chapter 4 and 5

Score	Group Score									
0										Poor
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13	G8									
14										
15										
16										
17										
18										
19										
20	G1	G3								
21										
22	G2									
23										
24										
25	G4	G6	G7							
26										
27	G5									
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

Appendix 14: Questionnaire completed post-threat in chapter 4

To what extent do you agree that...

	1	2	3	4	5	6	7
you are willing to work hard to join a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you identify strongly with your group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to learn new skills to become a member of a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are a typical member of your group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are prepared to change your behaviour to be part of a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to sacrifice important things to move to a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are representative of members of other groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 15: Scripts presented to participants pre-threat in chapter 5

To members of your group, the results you achieve are really important and being supportive of each other is also really important. By being part of this group, your main focus is on the support you give and the success you achieve during each of the following tasks you perform as a group. What is really important to members of others groups is having fun during the tasks they perform together. **For you**, winning and support are both really important.

Appendix 16: Self-categorisation check used in chapter 5

Do you feel part of a group whereby results, support, or results and support are really important? (Please tick one of the options below).

- Results group
- Support group
- Results and Support group

Appendix 17: Measure of willingness to support used in chapter 5

If you were now given 10 minutes of time **before** the next trial, please indicate below how **you** would choose to spend those 10 minutes. In the spaces below, write the number of minutes you would spend on each task. The total number of minutes should be 10.

Sit quietly _____ minutes

Help group members put things in perspective _____ minutes

Contact friends (e.g., e-mail, text, phone call) _____ minutes

Provide advice to group members _____ minutes

Surf the internet (e.g., Facebook, Twitter, BBC sport) _____ minutes

Encourage group members _____ minutes

Read a newspaper or magazine _____ minutes

Do something practical for group members _____ minutes

Appendix 18: Questionnaire completed post-threat in chapter 5

To what extent do you agree that...

	1	2	3	4	5	6	7
you are willing to work hard to join a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you identify strongly with your group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the most important thing to you is the support within your group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to learn new skills to become a member of a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are a typical member of your group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are prepared to change your behaviour to be part of a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are willing to sacrifice important things to move to a better group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you are representative of members of other groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the most important thing to you are the results of your group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>