

**The Effects of Multiple Group Memberships on Psychological Well-being, Performance, and Persistence in Sporting Transitions and Sporting Tasks**

Submitted by **Jodie Green** to the University of Exeter as a thesis for the degree of Doctor of Philosophy in Sport and Health Sciences, November 2013.

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## Abstract

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Research suggests that belonging to multiple group memberships before and after life transitions promotes resilience by helping people maintain their well-being compared to those with fewer group memberships. Although group memberships are of key importance for well-being and adjustment to change, the influence of athletes' group memberships on their well-being remains largely unexplored, despite the numerous transitions they face in sport. Furthermore, no research to date has assessed the effects of group memberships on performance, and little research has assessed the potential mechanisms through which group memberships produce beneficial effects on outcomes. These ideas were explored in this thesis.

Two studies within this thesis adopted a longitudinal approach, using questionnaires to examine the effects of players' group memberships on well-being after a sporting transition. Study 1 focused on team and club transitions for university students and measured changes in well-being across a three month period; Study 2, focused on programme transitions in elite cricket and measured changes in well-being across a two year period. Study 2 also examined whether the beneficial effects of group memberships extended to performance. Both studies demonstrated that players with multiple group memberships before and after transition generally experienced greater well-being after transition. Study 2 also showed that multiple group memberships had beneficial implications for performance. However, when the recency of the transition was taken into consideration, significant interactions between group memberships and time since the transition generally revealed that the beneficial effects were most pronounced for those who had recently transitioned into the clubs, teams, and programmes. Furthermore, both studies revealed that players with multiple group memberships before a transition were better able to maintain these group memberships across the transition (i.e., lose fewer groups) and more likely to identify highly with the new club, team, or programme (i.e., join new groups). Although Study 1 failed to uncover evidence of the processes underpinning these effects, Study 2 provided some evidence that identification with the new group, and (to a lesser extent) personal identity

strength, appeared to be important potential mediators of the group membership effects.

In Study 3, an experimental approach was employed to investigate whether changing athletes' group memberships is associated with improvements in performance and persistence in a golf-putting task. To do this, the study manipulated the number of group memberships participants reflected on (i.e., control, one, or five groups) and assessed the effects this had on their performance and persistence (as an indicator of resilience). Results revealed that participants who were asked to reflect on five groups that they belonged to showed a greater improvement in their performance after receiving the group manipulation than those who reflected on one group and those in the control group condition. Furthermore, those who reflected on groups they belong to (whether one, or five) showed more persistence following false failure feedback than those who did not. Although potential mediating mechanisms were measured, there was no evidence that any of these processes accounted for the beneficial impact of group memberships.

Overall, the results from this thesis demonstrate that multiple group memberships can promote resilience by making important contributions to athletes' well-being, performance, and persistence. Thus, athletes should be encouraged to increase the number of group memberships they belong to as this may provide an important psychological resource during times of change.

## Acknowledgments

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I would like to express my utmost gratitude to my supervisors, Dr Kim Peters and Dr Tim Rees for their knowledge, support, and guidance throughout my PhD and in the construction of this thesis. Thank you to other members of staff who have also helped me during the PhD process, including Professor Alexander Haslam and Brad Metcalf for their insightful ideas and assistance.

Further thanks go to Dr Paul Freeman and Professor Paul Wylleman as examiners in my viva voce exam. I thoroughly enjoyed the process, the questions they challenged me with, and their discussion points to consider for the future. Thank you for your time.

I would also like to thank the Economic and Social Research Council for providing me the opportunity to undertake this research through a CASE Studentship award, and also England and Wales Cricket Board for their funding and collaboration.

A big thank you goes to everyone who has volunteered and participated in the research or been involved in helping make the research happen. I am extremely grateful to all of you, and recognise that this thesis would not have been possible without your time and effort.

Finally, a special thank you goes to my family and friends, especially my Mum, Dad, Sister, Tom, Lisa, and Izzy, for their continual support throughout the past three years. Your encouragement has kept me going, particularly through the more difficult times, and enabled me to successfully complete this thesis. For this, I am eternally thankful to you all.

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## Definitions and Abbreviations

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### Definitions

**Group Membership:** Throughout this thesis, group memberships are defined as relational structures with which two or more people are connected to each other by social relationships (Forsyth, 2006).

**Social Identity:** Refers to a person's knowledge of belonging to a particular group accompanied by the emotional and value significance that the group membership provides (Tajfel, 1972).

**Transition:** The term transition is used throughout this thesis and is defined as "an event or a non-event which results in a change in assumptions about oneself and the world and thus requires a corresponding change in one's behaviour and relationships" (Schlossberg, 1981; p.5).

**Well-being:** Well-being is defined in this thesis as "the balance point between an individual's resource pool and the challenges faced" (Dodge, Daly, Huyton, Sanders, 2012; p.230).

**Significant/significance:** The term significant is used throughout this thesis to indicate statistical significance, and is determined as  $p < .05$ .

### Abbreviations

**ECB**            England and Wales Cricket Board

# Chapter One

## Research Background and Introduction

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### 1.1. Research Background

The England and Wales Cricket Board (ECB) have acknowledged in recent years that a number of players entering national programmes have suffered from well-being and adjustment problems—in some cases causing them to drop out of the programmes completely. In response, the ECB has prioritised the construction of a psychological profiling system, to be used to screen for “at-risk” players. The research presented in this PhD thesis aims to contribute towards the development of this profiling system. Specifically, the research will help coaches and support staff gain an in-depth understanding of the impact of key psychological factors related to group memberships on player adjustment to training and life transitions. These findings are anticipated to help coaches provide players with the support that they need in order sustain an excellent level of performance under the pressures of elite cricket.

The initial brief from the ECB was to move beyond the models of adjustment that are found in sport psychology, to models that are used in other areas of psychology with a potential application in sport. Initial idea generation drew on expertise from University of Exeter (Dr Tim Rees in Sport and Health Sciences; Dr Kim Peters and Prof Alex Haslam in Psychology, both now based at University of Queensland), Bangor University (Prof Lew Hardy and Prof Tim Woodman in Sport and Exercise Sciences), and the ECB (Dr Wil James, ECB National Lead Psychologist; and Dr Simon Timson, formerly ECB Head of Science and Medicine, now Director of Performance at UK Sport). The initial research areas considered were attachment, psychodynamics, stages of development (i.e., emotional, cognitive, and social), public and private behaviour (including self-awareness and self-presentation), emotions (i.e., neuroticism and alexithymia), biological maturation, brain development in adolescence, openness to experience, and social identity. During the first few months of the PhD, literature reviews were completed for each of these topics to gain further knowledge and understanding.

After researching into these areas and presenting the reviews to the ECB, the social identity approach was selected to provide the theoretical grounding for the research, as the important theoretical contribution that this approach has for understanding individual adjustment and well-being during times of change and transition has been extensively discussed in the literature. Furthermore, the social identity approach is an area of strength and expertise with researchers at Exeter University and also appears to be related to many of the research areas noted above (for example, social identities have been linked to attachment styles, individual and group behaviour, emotions, and openness to experience; Haslam, 2004; Richards & Schat, 2010; Tajfel & Turner, 1979).

The primary research presented within this thesis was carried out in collaboration with the ECB, and follows a large number of elite cricket players on national programmes over an extensive period of time to examine variations in their adjustment, well-being, and performance. However, two additional studies assessing similar concepts were also conducted with university students to reinforce the information presented to the ECB and to assess whether findings could be generalised across different contexts. In this section, I present an overview of the research included in this PhD.

## **1.2. Overview**

A main priority for the ECB is to ensure that players who are selected to join a national programme are able to cope with this transition. Transitions are challenging for individuals and are generally detrimental for well-being. The present research is interested in the beneficial impact of possessing multiple group memberships in the context of transitions that can lead to a loss of group memberships. Specifically, the research looked to provide a deeper understanding of the factors that promote players' resilience and post-transition adjustment by examining whether players' multiple group memberships contribute to their post-transition well-being and performance. Groups are defined broadly as relational structures with which two or more people are connected to each other by social relationships (Forsyth, 2006). Existing research suggests that people who enter a transition with multiple group memberships are more resilient and able to adjust more effectively to them,

maintaining greater well-being than people with fewer group memberships. In this thesis, I investigate whether the same can be said for programme and team transitions in elite and university sporting contexts. I also move beyond existing work and examine whether the beneficial implications that multiple groups memberships have for well-being may also contribute to higher levels of performance and persistence. Lastly, I examine whether there is any evidence that the psychological resources that have been postulated to accompany group memberships, such as social support and self-efficacy, are able to account for any of the beneficial effects that multiple group memberships have. In this way, this research aims to shed light on an existing lacuna in the social identity literature.

In order to explore these propositions, the research presented within this thesis draws on a variety of methods. In particular, I supplement the use of cross sectional methods, that characterise much of the existing literature, with longitudinal and experimental data collection methods, which provide more robust tests of the temporal and causal dynamics of group memberships and players' resilience (in terms of well-being, performance, and persistence). In the section that follows, I present an overview of these ideas and concepts, together with the aims and structure of the thesis.

### **1.3. Group Memberships and Health and Well-being**

Researchers to date have accumulated a considerable amount of evidence demonstrating that people who possess multiple group memberships are more resilient and able to adjust effectively to life transitions because these group memberships help them to maintain their health and well-being. The research presented in this thesis investigates whether players who possess multiple group memberships when transitioning onto a new cricket programme or university sport club and team are likely to adjust more effectively, maintaining higher levels of well-being, than those who have fewer group memberships. In this section I will provide a brief overview of the multiple group membership and well-being literature.

Over recent years, there has been a substantial growth in research investigating the relationship between social relationships—particularly those

encapsulated in an individual's group memberships—and health and well-being (for a discussion, see Haslam, Jetten, Postmes, & Haslam, 2009). The World Health Organisation (WHO) has defined mental health or psychological well-being as a fundamental component of health that is experienced as “a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2001). Psychological well-being has been described in the literature as consisting of a number of interrelated components, such as positive affect, low negative affect, low depression, and satisfaction with life, together with positive functioning and personal development (e.g., Bradburn, 1969; Diener, 1984; Kahneman, Diener, & Schwarz, 1999; Ryff, 1989; Shah & Marks, 2004; Waterman, 1993). A range of well-being dimensions, including life satisfaction, positive affect, negative affect, depression, and self-esteem have been considered within the present research.

Research performed within numerous fields, such as psychology, sociology, and epidemiology, has confirmed that our social environment, social relationships and the groups that we belong to (whether occupational, sports, religious or other groups) make an important contribution to our health and well-being (Cohen, 2004; Jetten, Haslam, & Haslam, 2012; Sani, 2012). Jetten, Haslam and Haslam (2012) have suggested that participating in group life provides a social cure—a way of protecting ourselves against threats to mental and physical health.

Research has revealed that a greater number of social relationships and group memberships are associated with a reduced chance of suffering a stroke (e.g., Boden-Albala, Litwak, Elkind, Rundek, & Sacco, 2005); cognitive decline (e.g., Ertel, Glymour, & Berkman, 2008); dementia (e.g., Jetten, Haslam, Pugliese, Tonks, & Haslam, 2010a); and developing the common cold (e.g., Cohen, Doyle, Turner, Alper, & Skoner, 2003), compared to those with fewer social relationships and group memberships. In contrast to fewer group memberships, a greater number of group memberships also facilitate our resiliency and ability to cope and adjust more effectively to life changes and transitions (Brook, Garcia, & Fleming, 2008; Haslam, Jetten, & Haslam, 2012a; Haslam et al., 2009; Iyer, Jetten, Tsivrikos, Postmes, & Haslam, 2009; Linville,

1985, 1987; Thoits, 1983). It is these life changes and transitions that are of particular interest in the present research. Specifically, the research discussed in this thesis looked at the effects of players' group memberships on their resilience after transitioning into sports clubs and teams and during important programme transitions in elite cricket, by measuring their well-being. By focusing on a sporting domain, the research attempted to build upon the previous literature, as this was an area that had not received much attention in the group memberships and transition research to date.

#### **1.4. Performance**

I also move beyond the existing work that has assessed the effects of group memberships on well-being and examine whether multiple group memberships may also contribute to resilience by having beneficial effects on players' performance. By this, I look to examine whether players who possess multiple group memberships when transitioning onto a new cricket programme tend to perform more highly than those who have fewer group memberships. I also look to examine whether multiple group memberships have beneficial effects on persistence in a sporting task. More information surrounding these different ideas is discussed below.

It is well accepted that performance is an important factor to consider within sport, particularly elite sport, as performance has primacy in sporting career success. Athletes face many sport related transitions throughout their careers that can disrupt their well-being and performance, in addition to transitions in their lives outside of sport, such as those related to educational, occupational, social, and personal transitions (Debois, Ledon, Argiolas, & Rosnet, 2012; Sinclair & Orlick, 1993; Stambulova, 2000; Wylleman, Alfermann, & Lavallee, 2004). Therefore, identifying the factors that may promote resilience by helping players' maintain their well-being and performance during times of change and adversity is a prominent focal point for athletes, coaches, and support staff alike. To date, however, there has been no research assessing the effects of multiple group memberships on sporting performance and therefore, the present research attempted to address this limitation within the literature.

Although there is no work that examines the impact of group memberships on performance directly, there is evidence that factors that are associated with group memberships may have performance implications. Specifically, an extensive body of research conducted within organisational contexts has found that high levels of psychological well-being are predictive of high levels of job performance (e.g., Cropanzano & Wright, 1999; Ford, Cerasoli, Higgins, & Decesare, 2011; Lyubomirsky, King, & Diener, 2005; Wright & Cropanzano, 2000; Wright & Cropanzano, 2004; Wright, Cropanzano, & Bonett, 2007). Furthermore, research in the sporting arena has shown that high levels of motivation, confidence, and perceived social support are also associated with high levels of sporting performance (Fletcher & Sarkar, 2012). It has been suggested that these psychological factors provide a protective buffer for athletes from the negative effects of stressors by influencing their appraisals and meta-cognitions. These factors promote the facilitative behaviours (such as effective decision-making, increased effort, and task engagement) that precede optimal sport performance. Thus, there appears to be considerable overlap between well-being, motivation, confidence, and social support and individual levels of performance and persistence.

Importantly, multiple group memberships have been shown to be associated with each of these constructs. For instance, the positive associations between group memberships and well-being have been repeatedly demonstrated in the literature. Multiple group memberships are also thought to provide a number of important psychological resources, including social support, self-efficacy, motivation, personal identity strength, and cognitive strength (Haslam et al., 2008a; Haslam, 2004). Furthermore, certain aspects of group memberships (i.e., intergroup competition, friendships in groups, the salience of group identification) have been linked to improvements in individual and group performance in cognitive and motor domains (e.g., Bornstein, Gneezy, & Nagel, 2002; James & Greenberg, 1989; Karau & Williams, 1997; Riketta, 2005; Riketta & Van Dick, 2005; Van Dick, Stellmacher, Wagner, Lemmer, & Tissington, 2009; Worchel, Rothgerber, Day, Hart, & Butemeyer, 1998). In light of the associations between these constructs, it seems reasonable to suggest that multiple group memberships may also be associated with sporting performance. Therefore, the present research attempted to examine the effects of group memberships on sporting performance, and also

incorporated measures of well-being, persistence, and other factors such as self-efficacy, social support, confidence, and motivation, as each of the constructs may have been linked to associations with one or another, or a mechanism through which these effects occurred.

### **1.5. Potential Social Psychological Mechanisms of Beneficial Effects**

Whilst examining the effects of group memberships on well-being, performance, and persistence during times of change and sporting tasks, I also look to assess whether a number of resources that group memberships are thought to provide, such as social support and self-efficacy, account for the ways in which beneficial effects of group memberships occur. Thus, this thesis aims to specify whether players who possess multiple group memberships when transitioning onto new programmes are able to maintain their well-being and performance, because these groups provide them with more sources of support or a greater sense of self-efficacy.

As noted above, it is well accepted that multiple group memberships have beneficial effects on a number of outcomes. However, less is known about what the group memberships provide that underlie these positive effects (Jones & Jetten, 2010). Consequently, a number of authors have identified the lack of evidence about the mechanisms through which multiple group memberships is able to affect outcomes as an important gap in the literature and our understanding (Cohen & Janicki-Deverts, 2009; Iyer et al., 2009). The research within this thesis endeavoured to provide a better understanding of the mechanisms through which multiple group memberships affect athletes' well-being, performance, and persistence. Jones and Jetten (2010) proposed several mechanisms in their concluding comments based on recent previous literature. These included personal identity strength (e.g., partial mediation shown in the research of Jetten et al., 2010a), self-concept clarity (Campbell et al., 1996), self-efficacy (e.g., Schwarzer, 1992), and social support (Jones & Jetten, 2010). Other important psychological factors such as motivation and confidence have also been linked to optimal performance and persistence in the literature (e.g., Fletcher & Sarkar, 2012). Therefore, the present research

included measures for these mechanisms to examine whether they underlined the relationships between multiple group memberships and outcomes.

## **1.6. Multi-methods Approach**

Within the research presented within this thesis, I have examined the effects of group memberships on well-being, performance, persistence, and the mechanisms associated with these effects through a variety of methods. This includes cross sectional, longitudinal, and experimental techniques to highlight the short-term and long-term effects of group memberships on outcomes. Ideas surrounding these different approaches are discussed below.

The majority of the existing research exploring the relationship between multiple group memberships and outcomes such as well-being, has been cross-sectional (Jones & Jetten, 2010). However, cross-sectional research cannot disentangle the nature of causal order or direction regarding bivariate relationships between variables (Menard, 1991). Furthermore, transitions involve change over time and the impact of a transition is not constant, it is dynamic. Therefore, in order to understand how transitions affect athletes and gain a sense of the dynamics of relationships over time, longitudinal research needs to be conducted (Haslam et al., 2008a). Currently, there is a paucity of longitudinal studies in the field, and thus a lack of information outlining the way in which group memberships naturally develop and change (Hays & Oxley, 1986; Iyer et al., 2009). Therefore, the present research adopted a longitudinal approach where the time period under investigation varied from three months (Study 1; Chapter 3) to two years (Study 2; Chapter 4). This approach provided the opportunity to assess in greater detail the trajectory of group memberships and ultimately how this affects long-term adjustment to change (Haslam et al., 2008a; Jetten, O'Brien, & Trindall, 2002). Accordingly, this should provide greater confidence in inferring causality that multiple group memberships cause improvements in well-being and performance during times of change, and also how they do so.

Finally, Chapter 5 outlines an experimental study conducted as part of this PhD. Currently, there are few experimental studies in the group membership field (e.g., Buss & Portnov, 1967; Cohen et al., 2003; Jones &

Jetten, 2010; Karau & Williams, 1997; Lambert, Libman, & Poser, 1960; Van Dick et al., 2009). The majority of this research has assessed the effects of manipulating group identification upon pain tolerance and performance in general cognitive and motor tasks (e.g., typing, anagram solving). The present research was primarily interested in the effects of group memberships on performance and persistence in a sporting context. Based on the recent work of Jones and Jetten (2010), the research specifically looked to manipulate the number of group memberships athletes reflected on and the effects this had on their performance and persistence after perceived performance failure (to provide an indication of resilience) in a golf putting task.

### **1.7. Summary of Thesis**

The aim of this thesis was to enhance and extend current knowledge in the area of group memberships, and their effects on well-being, performance, and persistence within sporting populations. The research specifically looked at the effects of group memberships on athletes' resilience by investigating well-being after transitions into university sports clubs and teams (Chapter 3), and well-being and performance in elite sport (Chapter 4), where the sporting context had not received much attention to date in the literature. Chapter 5 further examined the effects of manipulating group membership salience on performance and persistence in a sporting task. The effects of group memberships were assessed using a range of approaches, such as longitudinal with short-term follow up periods (Chapter 3), more long-term follow up periods with multiple data collection points (Chapter 4), and experimental (Chapter 5) approaches, to examine the effects of group memberships on well-being, performance, and persistence. Furthermore, each of the studies presented within the chapters looked to shed some light on the potential mechanisms that may be associated with how multiple group memberships affect outcomes, again, something that was lacking in the previous literature. Overviews of each empirical chapter are provided below:

### 1.7.1. Chapter 3 overview

*Longitudinal study to assess the effects of multiple group memberships on psychological well-being after transitions into sports clubs and teams.*

This longitudinal survey study aimed to examine the effects of university athletes' group memberships and changes in group memberships on well-being after transitions into sports clubs and teams. Furthermore, it also looked to assess the potential mechanisms that may be associated with how multiple group memberships affect well-being. Participants were 102 female university sports players (40 netball, 54 hockey, 8 rugby), whose ages ranged from 17 to 24 years ( $M = 19.66$  years,  $SD = 1.29$ ). Players were recruited via convenience sampling during team trials for each club. They completed a questionnaire prior to participating in the trials and again, three months later once they had trialed, potentially been selected for a team, and been participating in club activities.

### 1.7.2. Chapter 4 overview

*Longitudinal study to assess the effects of multiple group memberships on psychological well-being and performance after programme transitions in elite cricket.*

This longitudinal survey study aimed to assess the effects of players' group memberships and changes in group memberships on well-being and performance after important programme transitions in elite cricket. Furthermore, it also looked to examine the potential mechanisms that may underlie the relationships between multiple group memberships, well-being, and performance. Participants were a convenience sample of 257 elite cricket players from England Development and County Academy national programmes (223 males, 34 females, mean age 15.53 years,  $SD = 1.34$ ). From the sample, 134 players completed a questionnaire just once; the remaining players completed a baseline questionnaire and then repeated the same questionnaire at one or more time points over a follow up period of two years (i.e., two time points,  $n = 69$ ; three times points,  $n = 35$ ; four times points,  $n = 16$ ; five time points,  $n = 3$ ).

### 1.7.3. Chapter 5 overview

*The effects of manipulating group membership salience on performance and persistence within a sporting task.*

This experimental study aimed to examine the influence of manipulating the number of salient group memberships upon performance and persistence after perceived failure in a golf putting task. A further aim was to identify the potential social psychological mechanisms through which the multiple group memberships may operate on outcomes. Participants were a convenience sample of 63 university athletes (38 females, 25 males, mean age 20.37 years,  $SD = 1.52$ ). The experiment adopted a pre- and post- intervention design and participants were randomly assigned to a control condition, or to one of two experimental conditions (who received a group manipulation focussing on one group or five groups). Participants completed three performance trials, interspersed with a group manipulation, false performance feedback to assess resilience after perceived failure, and a series of questionnaires that were designed to assess potential mechanisms through which group memberships may have an effect.

## Chapter Two

### Literature Review

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In this thesis, I argue that an athlete's ability to adapt effectively to sporting transitions is influenced by their capacity to draw upon multiple group memberships. Those players who have more group memberships can be expected to show higher levels of psychological well-being and improved performance after transition than those players who have fewer group memberships. In this section, I review the literature that argues such a case. Specifically, I will begin by discussing evidence that transitions are challenging for people. As I will show, research that has been conducted in sporting and non-sporting contexts demonstrates that transitions may have negative consequences for players' well-being and performance. I will then discuss evidence that multiple group memberships may protect people against the challenges associated with transitions and adversity in sporting tasks. Finally, although the theoretical literature has proposed a number of mechanisms through which the beneficial effects of multiple group memberships may be realised, there has been very little empirical research that speaks to the validity of these. Therefore, I will also provide a summary of the mechanisms that are likely to account for the above effects and which this thesis will aim to shed light on. Lastly, I present the main aims and hypotheses of the thesis.

#### 2.1. Transitions

Human life is associated with many life changes, discontinuities, and turning points (Sinclair & Orlick, 1993). These changes or transitions occur in every aspect of life, where Schlossberg (1981) described a transition as "an event or a non-event which results in a change in assumptions about oneself and the world and thus requires a corresponding change in one's behaviour and relationships" (p.5). Transitions can be extremely challenging and tend to generate social instability that extends further than the on-going changes associated with everyday life (Wapner & Craig-Bay, 1992). These changes

require significant adjustment by people (Erpic, Wylleman, & Zupancic, 2004; Wylleman et al., 2004).

Despite being heavily cited within sport psychology literature, the general psychology definition of a transition proposed by Schlossberg (1981) has been challenged by transition research in sport for describing a transition as an event/non-event. For example, studies examining the athletic retirement transition have indicated that adaptation to post-career life generally took, on average, about a year (e.g., Sinclair & Orlick, 1993; Alfermann, 2000). This has lead researchers to suggest that transitions are more of a coping process that can generate both positive and negative outcomes, rather than a particular moment in time. This understanding and importance of a process approach to examining adjustment to sporting transitions is reflected within the theoretical frameworks discussed within the following section. The research presented within this thesis adopts a process approach and attempts to understand variations in players' adjustment to transitions by collecting data over time and taking into account the recency of each player's transition (i.e., examining variations between those who have recently transitioned compared to those a few months/years down the line after a transition).

Athletes have to face many transitions encompassing varying challenges and demands throughout their careers. An athletic career is relative to each individual (i.e., achieving his/her peak in athletic performance in one of several sport events), and relates to all levels of competitive amateur and professional sports (i.e., local, regional, national, or international; Alfermann & Stambulova, 2007; Stambulova, Alfermann, Statler, & Cote, 2009). This career has been defined as "the multiyear sports activities of the individual aimed at high level sports achievements and self-improvement in sport" (European Federation of Sport Psychology, 2000), and is composed of several stages or phases (Erpic et al., 2004; Wylleman, Lavallee, & Alfermann, 1999). In particular, athletes encounter many within-career sport related transitions associated with their attempts to develop their skill and expertise (Cote, 1999; Debois et al., 2012; Samuel & Tenenbaum, 2011; Stambulova, 2000), where athletes may move up, down, or horizontally within the sport system (e.g., transitioning to compete at a higher competitive level; Pummell, Harwood, & Lavallee, 2008). Furthermore, athletes also face transitions associated with their lives outside of sport, such as

those related to educational, occupational, social, and personal transitions (Debois et al., 2012; Sinclair & Orlick, 1993; Wylleman et al., 2004). Despite the numerous within-career transitions that athletes are likely to experience, the majority of research conducted on transitions in sport has primarily focused on retirement (Park, Lavalley, & Tod, 2013; Wylleman et al., 1999). Accordingly, researchers have expressed the need in a shift of research towards examining a range of within-career transitions (MacNamara & Collins, 2010; Pummell et al., 2008; Stambulova et al., 2009; Wylleman et al., 2004).

The numerous transitions that athletes are challenged with inside and outside of sport can be classified into two categories (Stambulova, 2000): non-normative transitions and normative transitions. Non-normative transitions are those that are unexpected, unplanned, and generally negative, such as job loss, injury, or de-selection from a team. Conversely, normative transitions are usually anticipated, predictable, and more positive, such as starting school and university, or transitions associated with the sports career, such as joining a higher level team or club, or progressing from junior to senior level (Debois et al., 2012; Iyer et al., 2009; Pummell et al., 2008; Samuel & Tenenbaum, 2011; Stambulova et al., 2009; Wylleman & Lavalley, 2004; Wylleman et al., 1999).

The quantity of normative and non-normative transitions that athletes experience in their lifetimes varies (Samuel & Tenenbaum, 2011). However, most athletes tend to experience many normative transitions within their career in order to progress up the performance pathway (Alfermann & Stambulova, 2007). Although non-normative transitions are generally more detrimental for an athlete's psychological well-being and require greater adjustment than normative transitions (Aneshensel, Botticello, & Yamamoto-Mitani, 2004; Dyson & Renk, 2006; Ethier & Deaux, 1994; Haslam et al., 2008a), there is evidence that any transition necessitates a degree of adjustment (Coakley, 1983). This is because most transitions are associated with uncertainty and discomforts, generating feelings of depression, stress, anxiety, and dissatisfaction (Ethier & Deaux, 1994; Hopkins & Reicher, 1997; Iyer et al., 2009; Jetten et al., 2002; Schweiger & DeNisi, 1991; Stambulova et al., 2009). Research conducted within psychological, sociological, and epidemiological fields has suggested that one of the reasons that transitions often have negative consequences for adjustment and well-being—at least in the short-term—is that they involve

changes to group memberships (Haslam et al., 2008a; Iyer et al., 2009; Kling, Ryff, Love, & Essex, 2003; Sani, 2008).

Two studies presented within this thesis focus on the frequent normative transitions that athletes face within their careers, in order to maintain participation, progress, and succeed within their sport. Specifically, the research investigates university athletes transitioning into sports clubs and teams, and elite adolescent cricketers experiencing programme transitions within high-level cricket. The research sought to examine the effects of players' multiple group memberships on their resilience and adjustment to transitions, through assessing their well-being and performance.

### **2.1.1. Transition frameworks**

Transitions are considered challenging for athletes as many aspects of their life interact to affect their experience of the transition (Ercic et al., 2004). In an attempt to understand and describe the process of an athlete's career transitions further, transitional frameworks were created (Park et al., 2013). A framework that has been frequently used within sport career transition research (e.g., Baillie & Danish, 1992; Parker, 1994; Sinclair & Orlick, 1993; Swain, 1991), is 'The Model of Human Adaptation to Transition' (Charner & Schlossberg, 1986; Schlossberg, 1981). This model proposes that people need to balance transitional demands with their resources in order to adjust after transition. It also suggests that there are three main factors that interact during times of transition: (a) the attributes of the person (e.g., sex, age, health status, ethnicity, previous experience with similar transitions), (b) their perception of the transition (e.g., role change, affect, occurrence of stress), and (c) the characteristics of the pre- and post-transition environments (e.g., support systems, norms of sport, culture; Finn & McKenna, 2010; Stambulova & Alfermann, 2009; Wylleman et al., 2004). This combination of factors determines an athlete's adaptive success or failure when experiencing transitions.

Transitional models have encompassed a greater range of influences than existing gerontological (the study of the aging process) and thanatological (the study of the process of death and dying) perspectives, which have been

widely criticised (e.g., because they generally view transitions as negative events and were developed from non-sport populations) and now receive little application and support in the sport transition literature (Taylor, Ogilvie, & Lavallee, 2006; Wylleman et al., 1999). However, the transitional models have also been criticised for their lack of detail in specifying the particular components connected to the adjustment process among athletes (Taylor & Ogilvie, 1994; Wylleman et al., 2004). Subsequently, more inclusive models of adaptation to career transition were offered (e.g., Gordon, 1995; Kerr & Dacyshyn, 2000; Taylor & Ogilvie, 1994, 1998).

Recently, developmental models of transitions have been introduced (e.g., Stambulova, 2000; Wylleman & Lavallee, 2004). The model proposed by Wylleman and Lavallee (2004) adopts a holistic approach and incorporates normative transitions experienced by athletes at the athletic, psychological, psychosocial, and academic/vocational levels (see Figure 2.1). This model seeks to explain how the development at each level interacts to influence an athlete's development of another level (Pummell et al., 2008). Each level consists of three to four stages and the transitions that athletes will face as part of their development for that particular aspect of their life. The athletic level contains initiation, development, and mastery stages as originally proposed by Bloom (1985), and also an additional discontinuation stage. The psychological level consists of childhood, adolescence, and (young) adulthood stages. The psychosocial stages represent changes in athletes' social providers as part of their psychosocial development and include family, peers, coaches, marital relationships, and further important others. The final level, the academic and vocational level, comprises of the stages and transitions related to primary, secondary, and higher education, and ultimately, professional occupation (Pummell et al., 2008; Wylleman et al., 2004).

The stages of the model were created through careers patterns of male and female athletes from various sports, countries, and competition levels. However, it is important to note that transitions within each level are an approximation, as the type of sport can affect the trajectory of sport participation. For example, sports vary in their demands on athletes and the ages at which athletes begin to specialise and achieve their peak performance (Stambulova et al., 2009). The mean age of the elite cricketers contributing

towards the ECB research is 15.5 years. Therefore, the model suggests that the majority of these players are adolescents and are within the developmental level of their athletic career. They will soon be experiencing transitions to the mastery stage and professional careers, and also transitions from adolescence to adulthood, and from secondary to higher education. However, some of these players may have already made the transition to the mastery stage and playing professional cricket, despite still being in the adolescence phase. Thus, these players are developing in a sport quicker than their psychological level and this may contribute to the adjustment and well-being problems witnessed on the programmes (i.e., players at this age may be struggling to deal with the high performance environment demands and expectations). Thus, the need to screen players during these transitions appears important to help them balance and adjust to the specific demands that each transition creates alongside their sporting career (Alfermann & Stambulova, 2007).

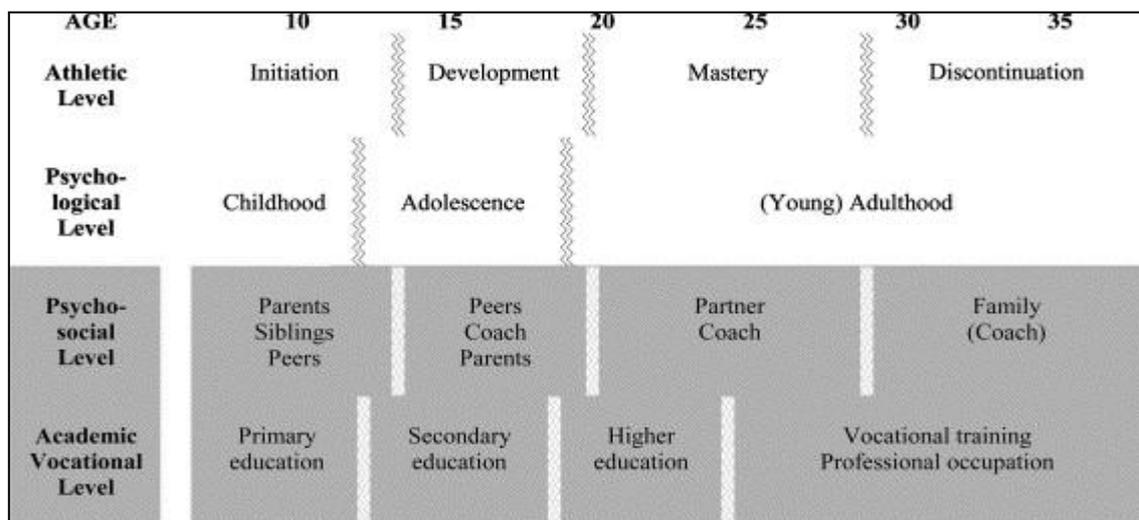


Figure 2.1. Wylleman and Lavallee (2004) developmental perspective on transitions faced by athletes.

By drawing on the developmental model of transitions, it becomes apparent that changes may be occurring in other aspects of an athlete's life (i.e., within their psychological, psychosocial, and academic levels), and this can influence their athletic development, participation, and adjustment to transitions within that domain. Therefore, these additional factors need to be taken into account when athletes are going through a transition. One way to

potentially capture and gauge the changes within these areas is through assessing the groups that athletes perceive themselves to belong to (i.e., their group memberships). Associations between the various aspects of their lives are structured by their group memberships, as people engage in activities within these domains in groups, and these groups underpin how people perceive and adjust to transitions (Haslam et al., 2008a; Iyer et al., 2009). How well a person adjusts to a transition can be determined by assessing whether or not they are able to maintain their well-being across a transition.

### **2.1.2. Well-being in transitions**

As outlined in the section above, transitions are challenging for athletes and may have negative consequences for psychological well-being. Research into well-being has received growing interest over recent years (e.g., Diener, Suh, Lucas, & Smith, 1999; Dodge, Daly, Huyton, & Sanders, 2012; Kahneman et al., 1999; Keyes, Shmotkin, & Ryff, 2002). Dodge et al (2012) has recently defined well-being as “the balance point between an individual’s resource pool and the challenges faced” (p.230). This definition of well-being was generated by drawing on the ideas of previous theories: that there is a set point for well-being (e.g., Brickman & Campbell, 1971; Headey & Wearing, 1989, 1991), the need for equilibrium or homeostasis (e.g., Cummins, 2010; Herzlich, 1973), and the oscillating state between challenges and resources (e.g., Csikszentmihalyi, 2002; Hendry & Kloep, 2002) that can influence equilibrium (Dodge et al., 2012).

As displayed in Figure 2.2, people experience stable well-being when they possess the necessary resources to meet the challenge. However, when the challenge outweighs the persons resources, this will cause an imbalance and a dip in their well-being (Dodge et al., 2012). This definition facilitates our understanding of how athletes may respond and cope with transitions in their lives, and ultimately, what effect this has on their well-being.

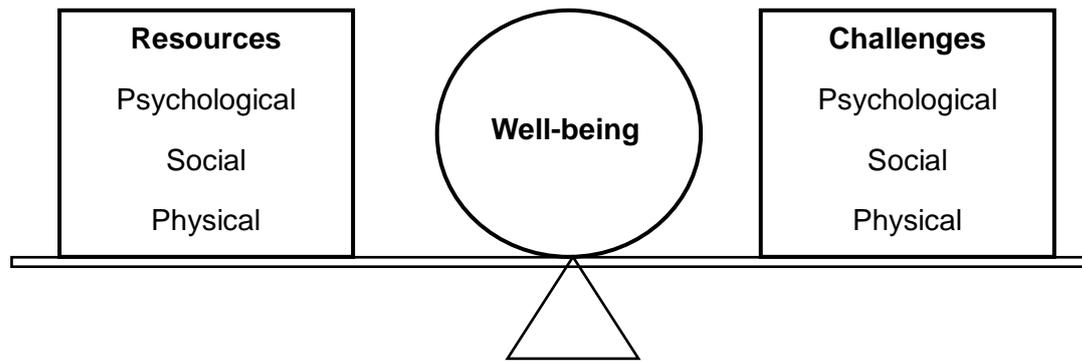


Figure 2.2. Dodge et al (2012) seesaw diagrammatic representation of their definition of well-being (p.230).

Although the definition by Dodge et al (2012) will be taken forward within the present research, it is important to note that psychological well-being is considered “a complex, multi-faceted construct that has continued to elude researchers’ attempts to define and measure” (Pollard & Lee, 2003, p.60). Part of this confusion is attributable to well-being being historically derived from two philosophies: the *hedonic* view is based on the notion of subjective well-being and focuses on happiness, affect (i.e., positive affect and low negative affect), and life satisfaction (Diener, 1984; Kahneman et al., 1999; Lyubomirsky & Lepper, 1999; Ryan & Deci, 2001); and the *eudaimonic* view focuses on realisation of human potential, where positive psychological functioning is achieved through dimensions such as fulfilment of personal growth, a sense of control, positive relations with others, and feelings of belongingness (Ryff, 1989; Stewart-Brown & Janmohamed, 2008; Waterman, 1993).

The two theoretical viewpoints have brought about a variety of definitions in the literature (i.e., definitions from an hedonic perspective, e.g., Bradburn, 1969; definitions from an eudaimonic perspective, e.g., Ryff, 1989; or definitions based on a combination of the two views, e.g., Shah & Marks, 2004). However, Dodge et al (2012) have commented that these existing definitions have been overly broad, representing descriptions of the dimensions of well-being rather than a definition. Furthermore, the array of definitions has produced a diverse range of methods in attempt to measure peoples’ well-being. For example, researchers have focussed on the individual dimensions that underlie well-being (e.g., life satisfaction), assessed the construct as a whole (e.g., well-being), or examined an amalgamation of various dimensions (e.g., positive affect,

negative effect, depression, life satisfaction, and self-esteem). To align with the methods of previous research assessing the effects of group memberships on well-being during transitions (e.g., Haslam et al., 2008; Iyer et al., 2009), the present research utilised a combination of dimensions to gain an indication of overall psychological well-being, stemming from both the hedonic (i.e., positive affect, negative affect, depression, and life satisfaction), and eudaimonic (i.e., self-esteem) perspectives. A brief description of these well-being dimensions is provided below, in addition to the commonly used self-report questionnaires to assess these particular dimensions.

The term affect encompasses the subjective experiences of any valence (pleasant or unpleasant) states, including the concepts of emotions, feelings, and moods. In particular, the affective domain is thought to have a hierarchical structure which extends from the 'core' affect, through to distinct emotions elicited as the stimulus-linked affective states following cognitive appraisals (Ekkekakis & Petruzzello, 2002; Rose & Parfitt, 2008; Russell, 2009). Therefore, affect represents peoples on-line evaluations of the events that occur in their lives (Diener et al., 1999), and can be used to gauge an athletes' well-being during transitions. The present research used The Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) to measure the incidence of various emotions, moods, and affects experienced by athletes during and after transitions.

Depression is characterised by symptoms such as sadness, loss of interest or pleasure, feelings of guilt or low self-worth, anxiety, decreased energy, disturbed sleep or appetite, and poor concentration (WHO, 2012). The challenges that life transitions create may trigger the onset of depression symptoms, which can impair a person's ability to handle everyday responsibilities (Kessler, 1997; Tennant, 2002). Thus, by measuring depression, this can provide an indication of those who have adjusted well to transitions and those who have not. In the present research, depression was measured using a scale developed by Branscombe, Schmitt, and Harvey (1999), which is reported to have good internal reliability (e.g., Branscombe et al., 1999; Iyer et al., 2009).

Life satisfaction is characterised as a global evaluation by an individual of his or her life (Pavot, Diener, Colvin, & Sandvik, 1991). These quality of life judgments are based on the individuals' own subjective 'standard' that they

perceive as appropriate for success and happiness, from which they compare the circumstances of their life to that standard (Pavot et al., 1991). Therefore, measuring life satisfaction during the process of a transition may be a useful indication of athletes' perceptions as to whether they have successfully adjusted after the transition. Life satisfaction was measured in the present research using The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS is considered a valid and reliable measure for assessing global life satisfaction (Pavot & Diener, 1993).

Self-esteem, or self-worth, is generally defined as how much an individual values themselves as a person (Harter & Whitesell, 2003). It encompasses the evaluative and affective components of self-concept (i.e., the description of the self; Biddle & Mutrie, 2008), and is considered as an indicator of emotional stability. Furthermore, self-esteem is associated with the ability to adjust to life demands and has also been linked to qualities such as resilience and recovery (Fox, 2000; Mann, Hosman, Schaalma, & de Vries, 2004). Thus, assessing self-esteem will provide a suitable indication of well-being in the context of adjusting to transitions. In the present research, athletes' global self-esteem was measured using the popular Rosenberg Self-Esteem Scale (Rosenberg, 1965).

Each of the well-being dimensions (i.e., affect, depression, life satisfaction, and self-esteem) are commonly used to assess psychological well-being. More specifically, they have been used to provide an indication of psychological well-being during life transitions (e.g., stroke survivors, students transitioning to university; Haslam et al., 2008a; Iyer et al., 2009). As emphasised in the definition by Dodge et al (2010), well-being can be disturbed by the challenges that people face if they do not have the necessary resources to meet those challenges. The transitions that athletes experience throughout their careers can be perceived as challenging. In order to adjust to transitions effectively through maintaining well-being, the literature has suggested that athletes often need to draw upon the resources that their group memberships and the social identities that are derived from them provide. These ideas will be expanded within the following sections.

### 2.1.3. Resources during within-career transitions

Athletes need to balance and overcome transitional demands by effectively drawing upon the resources available to them in order to experience a successful transition (Alfermann & Stambulova, 2007; Park et al., 2013; Schlossberg, 1981; Stambulova et al., 2009; Taylor & Ogilvie, 1994; Wylleman et al., 1999). Researchers have argued the importance of extending our knowledge of transitions and their demands within various sports and settings, mainly to understand the resources that are associated with facilitating an athlete's adjustment, well-being, and performance through the transition process (Alfermann & Stambulova, 2007; Coakley, 1983; MacNamara & Collins, 2010; Pummell et al., 2008; Sinclair & Orlick, 1993; Wylleman et al., 2004). By doing so, this will improve the provision of resources to assist athletes in coping with transitions successfully, contribute to their long-term success (MacNamara & Collins, 2010; Wylleman et al., 2004), and "programmes can be designed which facilitate athlete development, mitigate negative influences, and minimise talent loss" (Pummell et al., 2008, p.428).

This understanding of the resources associated with successfully negotiating within-career transitions appears fundamental in view of an athlete's career in high-level sport being relatively short compared to other careers (i.e., most tend to retire by 30 years of age; Baillie, 1993; Blinde & Greendorfer, 1985; Sinclair & Orlick, 1993; Wylleman et al., 1999). One resource that has been consistently linked to successful adaptation and coping with transitions in sport, and in more general life transitions such as joining university (i.e., by easing transition difficulties, minimising disruption, enhancing well-being, and positively influencing the quality of the transition), is the on-going availability of social support and access to social support networks (e.g., Baillie & Danish, 1992; Debois et al., 2012; Friedlander, Reid, Shupak, & Cribbie, 2007; Giacobbi et al., 2004; Grove, Lavalley, & Gordon, 1997; McKnight et al., 2009; Park et al., 2013; Pearson & Petitpas, 1990; Pummell et al., 2008; Schlossberg, 1981; Sinclair & Orlick, 1993; Stambulova et al., 2009; Swain, 1991; Werthner & Orlick, 1986; Young, Pearce, Kane, & Pain, 2006). Furthermore, sufficient support systems play an important role in helping athletes maintain their involvement and participation within in their sport, which ultimately helps to reduce the incidence of drop-out by facilitating the transition process (Bloom,

1985; MacNamara & Collins, 2010; Pummell et al., 2008). In effect, this has led researchers to recommend that the socialisation aspect of the transition, such as the support systems and networks associated with family, peers, coaches, and so forth, should not be overlooked, and further understanding is required of the social factors providing the resources to enhance athletes experiences with sporting transitions (MacNamara & Collins, 2010; Pratt, Bowers, Terzian, & Hunsberger, 2000; Pummell et al., 2008; Schlossberg, 1981).

Social factors that may need to be considered when assessing the numerous resources that are facilitative or detrimental during general life and sport transitions are group memberships. Sport transition research has suggested that an athlete's perception of a transition determines the influence the transition has and how well they react and adjust (Erpic et al., 2004; Pummell et al., 2008). Group memberships make important contributions to our interpretations, attitudes, and behaviours, and play a key role in an individuals' resilience and adjustment to changes and transitions in life (for a review, see Haslam et al., 2009). Transitions can involve changes to group memberships, particularly a loss of group memberships, and this can have negative consequences for adjustment and well-being (Haslam et al., 2008). As Sinclair and Orlick (1993) stated, "All transitions are followed by a period of disruption, in which old routines, assumptions, and relationships change and new ones evolve (p.148). Transitioning athletes may feel isolated from their former social networks (McKnight et al., 2009). For instance, joining a new sports team as a university athlete is likely to involve the loss or diminution of groups and the resources they provide associated with school, home friendship circles, and club or societies (MacNamara & Collins, 2010); at the same time it involves the acquisition of new groups associated with university, and clubs. Some athletes may also be able to maintain their group memberships across the life transition.

As discussed in more detail below, the social identity approach, comprised of social identity theory (Tajfel & Turner, 1979; Tajfel & Turner, 1986) and self-categorisation theory (Turner, 1982; Turner, Hogg, Oakes, Reicher, & Wetherall, 1987; Turner, Oakes, Haslam, & McGarty, 1994), argues that the continuity of groups and acquired groups play a key role in a person's resilience and capacity to adjust to the transition (Haslam et al., 2012a). Specifically, this approach claims that those who are able to maintain more group memberships

(i.e., lose fewer groups) and develop new group memberships (people who enter a transition with a greater number of groups are better able to do so) should weather the transition better and maintain well-being than those who lose more groups or acquire fewer groups. The social identity approach argues that this beneficial effect on well-being will occur because group memberships inform a person's sense of self (e.g., Branscombe et al., 1999; Haslam & Reicher, 2006; Jetten, Branscombe, Spears, & McKimmie, 2003; Levine & Reicher, 1996; Postmes & Branscombe, 2002; Schmitt, Spears, & Branscombe, 2003) and allow him or her to, among other things, access more social support (Iyer et al., 2009). In this way, group memberships can be considered to be the 'ground' (Lewin, 1948) upon which the self stands, and are claimed to be central to how we respond to change. In the sections that follow, these claims will be expanded and the evidence discussed demonstrating that group memberships are important for well-being, and how certain characteristics of these group memberships can affect adjustment to life transitions.

## **2.2. Social Identity and Self-Categorisation Theories**

The social identity theory was originally developed to understand and explain group processes, dynamics, and behaviour in association with intergroup conflict and discrimination (Jetten et al., 2012). This theory arose from a series of minimal group studies conducted by Tajfel and colleagues in the 1970s (e.g., Tajfel, Flament, Billig, & Bundy, 1971), which examined the minimal conditions sufficient to provoke discrimination between one's own group (ingroup), against other groups (outgroups; Reicher, Spears, & Haslam, 2010). Within the minimal group research, participants were randomly allocated to one of two previously meaningless groups (e.g., their liking for the painters Klee and Kandinsky). Participants were then instructed to reward points denoting small sums of money to members of each group. The experimenters found that the participants did not reward points equally to each group, but rather gave more points to their ingroup than the outgroup. Tajfel suggested that this ingroup favouritism was attributable to participants categorising themselves as members of a given group, that ultimately shaped their responses and behaviour to others who were perceived to belong to other groups (Haslam et al., 2012a; Haslam, 2001). Therefore, it appears that we can

define ourselves through the groups to which we belong in various social contexts—that is, through our social identities, and this can affect our interpretations, attitudes, and behaviours (Iyer, Jetten, & Tsivrikos, 2008).

According to social identity theory, the self-concept and the way people define and categorise themselves, encompasses a collection of both personal and social identities. Personal identities represent the idiosyncratic characteristics (i.e., personal characteristics) that can define people and distinguish them from other individuals (Ashforth & Mael, 1989). Social identities on the other hand, are acquired through group memberships and refers to a person's knowledge of belonging to a particular group accompanied by the emotional and value significance that the group memberships provides (Tajfel, 1972). Group memberships are therefore internalised in ways that partly contribute to a person's self-concept (Haslam et al., 2010; Haslam, Salvatore, Kessler, & Reicher, 2008b; Iyer et al., 2008; Tarrant, Hagger, & Farrow, 2012). Tajfel and Turner (1979) claim that people will aim to positively differentiate their own group(s) through comparison with relevant outgroup(s) to achieve or maintain a positive self-concept. Thus, this has lead researchers to describe social identities as a “cognitive mechanism that makes group behaviour possible” (Turner, 1982, p. 21).

Identities help people develop an understanding of themselves as an individual (e.g., through personal identities as 'I' and 'me'), but also of their place in the broader social world (e.g., through social identities as 'us' and 'we' cricketers; Jones & Jetten, 2010; Turner, Reynolds, Haslam, & Veenstra, 2006). Identities, in particular social identities, provide guidance on how to make sense of, interpret, and act in the world (Baumeister, 1986; Haslam, Reicher, & Levine, 2012b; Haslam, Turner, Oakes, Reynolds, & Doosje, 2002; Tarrant et al., 2012; Turner, 1982). It is the 'us-ness' that social identities represent, accompanied by the security, sense of belonging, and meaning they provide, that is argued to be essential to health and well-being (Baumeister & Leary, 1995; Correll & Park, 2005; Haslam et al., 2010; Haslam et al., 2009; Jones et al., 2011; Jones & Jetten, 2010; Tajfel & Turner, 1979; Thoits, 1983). It is these notions proposed by the social identity theory and the beneficial effects of social identities on outcomes that are of interest in the present research.

The ideas proposed by the social identity theory surrounding the effects of inter-group relations on attitudes and behaviour were further refined and extended within the self-categorisation theory (Turner et al., 1987; Turner et al., 1994). This was to provide an insight into the intragroup processes and the associations between operation of self and the group (Haslam et al., 2012a). This theory posits that people come to form and define themselves as a group through a shared social categorisation of themselves in contrast to others. The social context largely determines which identity exerts an influence and people take towards others in that situation (i.e., whether they see themselves as sharing a category membership with others or not), and different identities can become salient in different situations (Haslam et al., 2009; Voci, 2006). A shared social identity provides a basis for mutual social influence (Turner, 1991), as when a group becomes salient (or switched on), it becomes a basis of member's attitudes, feelings, and behaviours, where members will strive to achieve group goals. In particular, Turner (1987) stated that "group behaviour is the behaviour of individuals acting on the basis of the categorisation of self and others at a social, more 'inclusive' or 'higher order' level of abstraction than that involved in the categorisation of people as distinct, individual persons" (p. 2).

Importantly, not all groups are equal in this regard—it is largely determined by the members' level of identification with that group. Group identification has been described as "the perception of oneness with or belongingness to a group" (Ashforth & Mael, 1989; p. 34), where a group is psychologically meaningful and members are concerned with its fate (Ashforth & Mael, 1989; Sani, 2012). However, groups vary in how meaningful they are to people, who identify with them to differing degrees and incorporate them in their self-concept to a greater or lesser extent (Haslam et al., 2008a; Jetten et al., 2002). Therefore, the varying levels of identification can affect the extent to which the group identity exerts an influence on interpretations, attitudes, and behaviours (Doosje, Ellemers, & Spears, 1995). It is specifically the amount of change that people experience in their important group memberships that is likely to distinguish between those who come through life transitions with enhanced well-being and those who do not. These ideas are discussed further in the following sections.

## **2.3. The Influence of Group Memberships on Adjustment to Life Transitions**

Certain characteristics of peoples' existing group memberships are likely to influence how well they adjust to a life transition and their ability to cope with changes to their group memberships (both their loss and acquisition; Iyer et al., 2008; Jetten, Haslam, Iyer, & Haslam, 2010b). In this section, the research is summarised demonstrating that the number of group memberships that an individual has and their ability to maintain group memberships, are important factors to consider during life transitions. For instance, recent findings (e.g., Haslam et al., 2008a; Iyer et al., 2009) suggest that players who possess more group memberships and who are able to maintain group memberships (i.e., minimise the loss of groups) across a team or programme transition, are more likely to adjust well to the transition, adopt the new group membership, and have higher levels of well-being than those who have fewer groups and who lose more groups. The evidence that multiple group memberships and the continuity of group memberships are linked to well-being are discussed below in turn.

### **2.3.1. Multiple group memberships and continuity of group memberships**

Traditionally, role theorists believed that having multiple group memberships was disadvantageous to health, as it generated uncertainty and stress from role conflict and involved a demanding life (Jetten, Haslam, Haslam, & Branscombe, 2009; Seiber, 1974). However, research has now moved away from this idea (see Marks, 1977), and has presented a wealth of evidence demonstrating the positive impact of social relationships and group memberships on health and well-being, and the key role they play in facilitating adjustment to life transitions and the ability to cope with changes in group memberships (Haslam et al., 2009; Iyer et al., 2008; Iyer et al., 2009; Jetten et al., 2009). An overview of this research has been provided below.

Putnam (2000), in his review of research assessing the relationship between group memberships and health, demonstrated group importance by stating, "as a rough rule of thumb, if you belong to no groups but decide to join one, you cut your risk of dying over the next year in half" (p. 331). A meta-

analysis conducted by Holt-Lunstad et al (2010) has confirmed that the effect of social connectedness in predicting reduced risk of mortality is equivalent to quitting smoking, and exceeds the detrimental effect on mortality risk of obesity, high blood pressure, and physical inactivity. These effects on the life span remain visible even after controlling for other variables known to affect health (e.g., initial health status; for a review, see House, Umberson, & Landis, 1988).

Other research (e.g., Boden-Albala, Litwak, Elkind, Rundek, & Sacco, 2005) has found that out of 655 stroke survivor patients who were followed up over a five year period, those who exhibited few meaningful social relationships were almost at double the risk (40%) of suffering another stroke when compared to those with multiple meaningful social relationships. The effects of social isolation on encountering another stroke exceeded that of physical inactivity, hypertension, smoking, and family history of coronary heart disease (all of which increased the risk of another stroke by approximately 10-30%). Furthermore, in a correlational questionnaire study assessing the effects of group memberships on well-being and adjustment in 53 patients recovering from stroke, Haslam et al (2008a) found that life satisfaction after stroke was much higher for those who possessed a greater number of group memberships before their stroke.

Social relationships and group memberships have also been shown to have an effect on cognitive decline. A longitudinal study that followed 16,638 elderly Americans over a six year period has established that those who were more socially integrated and active, occupied up to half the reduced memory decline compared to those who were more socially isolated (Ertel et al., 2008). This relationship has also been demonstrated among people reporting memory loss and life satisfaction connected with dementia (e.g., Jetten et al., 2010a). Research conducted within residential care settings has also shown that those who participated within social group activities as part of a short-term or long-term intervention, for example, water clubs, group reminiscence, games, or contributing to the décor of their care home, reported greater levels of well-being (e.g., life satisfaction, quality of life, life improvement, mood) than those who did not (Gleibs, Haslam, Haslam, & Jones, 2011; Haslam et al., 2010; Knight, Haslam, & Haslam, 2010).

Symptoms associated with injury and illnesses have also been linked to social relationships and group memberships. For example, research has demonstrated that coping with acquired brain injury is connected with developing social relationships and group memberships, as they assist in the reduction of post-traumatic stress symptoms, enhance well-being, and help people become stronger (e.g., Jones et al., 2011; Jones et al., 2012). A health related study has also revealed that participants with a diverse social network were far less susceptible to the common cold when compared to those with smaller social networks (Cohen et al., 2003). Again, a similar magnitude of effect with other research findings arises here, as the less sociable individuals were twice as likely to develop colds.

Multiple group memberships have also been shown to bolster mental health and well-being (Hirsch, 1981; Iyer et al., 2008; Jetten, Branscombe, Schmitt, & Spears, 2001; Sarbin & Allen, 1968), by lowering depression (Iyer et al., 2009), boosting positive affect (e.g., Brook et al., 2008), resilience (e.g., Haslam et al., 2008a; Haslam et al., 2009; Jones & Jetten, 2010), and physical and mental activity (Haslam et al., 2010). Additionally, group memberships have positive consequences for well-being in the face of stressors, arising from group-based discrimination (e.g., Branscombe et al., 1999), and organisational pressures (e.g., Haslam, O'Brien, Jetten, Vormedal, & Penna, 2005).

A limitation to the majority of the research noted above is that it has focussed primarily on the relationships between social aspects and health on an individual basis (i.e., the relationships and interactions that individuals have with other individuals). As Sani (2012) suggested, this research fails to acknowledge that “these individuals are part of a social grouping, the family, which is important as a collective and not merely the number of individuals” (p. 27). Furthermore, the majority of the research has demonstrated positive associations between social aspects and well-being through the use of correlational techniques (although, there has been a range of weak and strong relationships), and there is a need for longitudinal and experimental studies in the field (Haslam et al., 2008a; Jones & Jetten, 2010). This is because cross-sectional analyses can only reveal the nature of relationships to some extent, but more sophisticated approaches (i.e., longitudinal and experimental) are needed to provide greater confidence in inferring that multiple group

memberships cause improvements in outcomes such as well-being and performance. Furthermore, transitions are about change over time; the impact of a transition is not constant; it is dynamic. Therefore, to understand how transitions affect athletes, a longitudinal approach is required. The present research sought to address these limitations within the literature by examining athletes' *group* memberships and the effects that multiple group memberships have on their resilience by measuring well-being, performance, and persistence after sport transitions and during sporting tasks. To assess these relationships, the present research adopted a range of cross-sectional, longitudinal, and experimental approaches.

Multiple group memberships also appear to be important when adopting a new group membership. For example, Iyer et al (2009) demonstrated in their four month longitudinal questionnaire study, that students entering university who initially had a greater number of group memberships before the transition (two months before they enrolled), were more likely to identify with the new university student identity two months later, and experience lower levels of depression compared to those with a fewer group memberships. The effect of multiple group memberships on well-being remained significant even after adjusting for other factors that may have potentially influenced a person's transition to university (e.g., uncertainty, social support availability, and academic obstacles). Furthermore, the identification with the new identity mediated the relationship between multiple group memberships and well-being.

Another longitudinal study assessing identity accumulation also revealed that the greater the number of identities or group memberships an individual occupied, the more pronounced was the ameliorative effect of taking on a new identity on well-being (Thoits, 1983). Therefore, identifying and connecting with a new group provides people with an essential tool to help adjust and cope with life changes, as it provides them with a new sense of belonging and bolsters well-being (Branscombe et al., 1999; Haslam & Reicher, 2006; Hirsch, 1981; Jetten et al., 2001; Jetten et al., 2003; Jones et al., 2012; Levine & Reicher, 1996; Schmitt et al., 2003). Thus, group identification is considered a vital resource for people experiencing changes to their identities (Branscombe et al., 1999; Postmes & Branscombe, 2002).

It is thought that group memberships have positive effects for well-being because they provide a number of important resources, such as providing individuals with an important basis for both receiving and benefiting from social support (Aspinwall & Taylor, 1997; for a detailed theoretical discussion see Haslam, 2004; Haslam et al., 2005; Haslam et al., 2012b; Iyer et al., 2009; Levine, Prosser, Evans, & Reicher, 2005; Underwood, 2000). For example, analyses by Haslam et al (2008a) revealed that the beneficial effects of multiple group memberships on life satisfaction of stroke recovery patients were accountable to having a larger social support network to fall back on. Furthermore, Iyer et al (2009, study 2) showed a positive correlation between the number of group memberships and the amount of social support students felt they were receiving. People are also thought to gain specific knowledge (cultural capital) and opportunities (social capital) from their group memberships (Bourdieu, 1979/1984), and additional emotional, intellectual, instrumental, and practical resources (Haslam et al., 2005). These resources are thought to protect individuals from the detrimental effects related to changes in group memberships and act as a strong motivator of a number of factors such as emotions, perceptions, leadership, communication, expectations, motivation, learning, helping, cooperation, trust, and behaviour (Berkman & Glass, 2000; Burt, 1997; Ellemers, De Gilder, & Haslam, 2004; Ellemers, Spears, & Doosje, 1999; Foddy, Platow, & Yamagishi, 2009; Haslam et al., 2012a; Haslam, 2001; Haslam, Postmes, & Ellemers, 2003; Haslam et al., 2012b; Kawachi & Berkman, 2001; Linville, 1985; Putnam, 2000; Reicher, Haslam, & Hopkins, 2005; Tajfel & Turner, 1979; Turner et al., 1994; Tyler & Blader, 2000). One limitation within the existing research is the failure to examine what it is that group memberships and the resources associated with them provide for the self that leads to a beneficial effect on well-being. The research presented within this thesis attempted to acknowledge this limitation and assessed the potential social psychological mechanisms based on recommendations from recent literature. These mechanisms are discussed later on in the chapter.

As discussed above, belonging to multiple groups is important for adjusting to change and well-being due to the resources they provide. Consequently, if a person is able to minimise the loss of their group memberships by maintaining group memberships across a life transition, this should also have positive consequences. Emerging evidence supports this

claim, as the continuity of group memberships has been shown to be an important predictor of mental health and well-being (Ballis, Chipperfield, & Helgason, 2008; Bluck & Alea, 2008; Chandler, Lalonde, Sokol, & Hallett, 2003; Haslam et al., 2008a; Iyer et al., 2009; Michinov, Fouquereau, & Fernandez, 2008; Sani, Bowe, & Herrera, 2008), and the ability to cope with, and adjust to change (e.g., Chandler & Lalonde, 1998; Clarke & Black, 2005; Haslam et al., 2008a). For example, Clarke and Black (2005) qualitatively examined the effects of a stroke survivor's continuity of group memberships on well-being and found that her regular involvement in a tai chi class was associated with an enhanced quality of life. Path analyses conducted in the stroke recovery survey by Haslam et al (2008a) further revealed that the possession of multiple group memberships before transition increased the likelihood of being able to sustain some of the group memberships, and thus, sources of support, after a life transition. These findings add to the growing body of literature demonstrating the importance of social identity continuity for well-being, where in contrast, discontinuity has been shown to generate feelings of negative affect, depression, and anxiety (Chandler & Lalonde, 1998; Jetten et al., 2010a; Jetten et al., 2002; Lampinen, Odegard, & Leding, 2004; Sani, 2008).

If players are able to minimise the loss of group memberships across a transition, this will provide a continuing source of self-definition and self-esteem (Haslam et al., 2009; Iyer et al., 2008; Sani, 2008; Tajfel & Turner, 1979), help preserve a stable sense of self, meaning, and security over time, reinforce relational bonds (Bluck & Alea, 2008; Iyer & Jetten, 2011; Jetten & Wohl, in press; Landau, Greenberg, & Solomon, 2008; Sani et al., 2008; Sedikides, Wildschut, Gaertner, Routledge, & Arndt, 2008), and also provide the drive to withstand stresses and envisage a positive future (Haslam & Reicher, 2006). People who have identified more highly with a group will benefit most from the way in which group membership buffers threats to the self and are likely to be more relaxed in new group environments. However, factors such as a change in abilities or resources, are likely to hinder an individual's ability to sustain their regular activities, and therefore, continuity of group memberships (Haslam et al., 2008a; Iyer & Jetten, 2011). For example, being on the ECB national programmes will require significant investment from the players, where they are unlikely to be able to maintain their existing activities and involvements prior to the programme.

Jetten et al (2009) quoted “It is best not to have all your eggs (social identities) in one basket in case misfortune strikes. It is better, research suggests, to spread your metaphorical eggs around a number of baskets (that is, to have multiple social identities so that the loss of one still leaves you with others” (p.29). Changes to group memberships during transitions (i.e., adopting new groups) may not seem so distressing when players possess multiple group memberships and know they have other group memberships to fall back on (Jetten et al., 2010b). These players should be attracted to new opportunities rather than remaining engaged on familiar experiences and surroundings (Iyer & Jetten, 2011). On the contrary, players that possess few group memberships and lose a greater number of these group memberships are more susceptible to the detrimental effects of change, as their self-concept is devoted solely in those groups (Haslam et al., 2008a; Jetten et al., 2010b). For example, if a cricketer had to withdraw from the sport due to injury, the cost would be far more extreme for someone that invests themselves exclusively to being a cricketer (not only for the dimension itself but also for the person’s overall self-concept). This narrow focus on a particular identity has been described as identity foreclosure and is discussed in greater detail in the following section.

### **2.3.1.1. Identity foreclosure**

Identity foreclosure for athletes tends to occur during adolescence (Taylor et al., 2006). This is due to their relatively short careers and the requirement of specialising early within a particular domain to increase the chance of reaching the top. The majority of the players on the ECB national programmes contributing to the research are adolescents. Erikson’s (1963) depiction of the life cycle suggests that adolescence is an important time for identity formation and the construction of a person’s self-concept. During this time, adolescents should participate in self-exploration and experiment with various opportunities and roles associated with their interests, values, and talents in order to develop and grow as individuals (Lavalley & Robinson, 2007). This process is fundamental to developing a coherent self-concept and making sense of who we are as individuals. What happens at this stage of the life cycle can have long-term effects on a person’s self-concept, as identities are

generally viewed as both enduring and dynamic (Lally, 2007; Lavalley & Robinson, 2007).

Typically, athletes competing at a high level are driven by the need to progress and dedicate the majority of their lives to training and competing. However, the severe time constraints, and the physical, mental, and social commitments usually come at the expense of exploring and pursuing other life activities, options, and roles outside of sport (Baillie & Danish, 1992; Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Lavalley & Robinson, 2007; McKnight et al., 2009; Sinclair & Orlick, 1993; Werthner & Orlick, 1986). This causes an imbalance between acquiring a wide range of different identities by forming a narrow and dominant focus on the athletic identity and a foreclosed self-concept (Heyman & Andersen, 1998). Therefore, they tend to bypass the identity development and formation process (Brewer, Van Raalte, & Linder, 1993; Pearson & Petitpas, 1990). The athletic identity has been defined as “the degree to which an individual identifies with the athlete role” (Brewer et al., 1993), and those who strongly identify with the role have been characterised as ‘unidimensional’ or ‘role restricted’ people (Ogilvie & Howe, 1982; Taylor et al., 2006). This is because these athletes have only experienced interacting with others and attaining roles specific to the sport setting (Taylor et al., 2006).

Researchers have suggested that this identity narrowing may be beneficial for the athletic role, as these athletes tend to devote greater amounts of time to sport participation and possess greater sport motivation (e.g., Brewer et al., 1993; Cornelius, 1995; Curry & Weaner, 1987). Furthermore, the strong athletic identity has also been associated with perceptions of good performance during the competitive season (e.g., Brewer, Selby, Linder, & Petitpas, 1999; Grove, Fish, & Eklund, 2004). However, the identity and sport retirement transition research has demonstrated that those who those who strongly immerse themselves in the athlete role impedes their identity development and may also suffer identity issues when withdrawing from sport (Crook & Robertson, 1991; Lally, 2007; Lavalley & Robinson, 2007; Pummell et al., 2008). These athletes have also been shown to experience greater distress when retiring (Grove et al., 1997), are less prepared for post-sport careers (Baillie & Danish, 1992), have lower levels of self-efficacy (Brown, Glastetter-Fender, & Shelton, 2000), and have little to support their self-concept and self-

esteem (Coakley, 1983; Pearson & Petitpas, 1990). Therefore, these athletes tend to experience adjustment and coping difficulties after the retirement transition (Crook & Robertson, 1991; Park et al., 2013; Werthner & Orlick, 1986; Wylleman et al., 1999), as they possess little skills and options outside the sport and often fail to make effective life choices and career or educational plans (Blann, 1985; Lavalley & Robinson, 2007; Sinclair & Orlick, 1993). On the contrary, those who possess a broad and consistent self-concept, that encompasses numerous social identities (e.g., identities associated with family, friends, education, and occupation) are able to effectively adapt following the sports career termination and negotiate health and well-being during this time by making effective decisions (Lavalley & Robinson, 2007; Taylor et al., 2006).

Taken together, it appears that players who identify highly with the athlete role tend to experience identity issues and adjustment difficulties following transitions in sport, compared to those who identify less strongly and have a broader self-concept. This has lead researchers to suggest that athletes, particularly adolescent athletes, should be encouraged by governing bodies and support teams to develop well-rounded and multiple identities, and prevent identity foreclosure by maintaining some balance in their lives outside of sport while engaging in competitive sports (Pummell et al., 2008; Sinclair & Orlick, 1993; Stambulova et al., 2009; Wylleman & Lavalley, 2004). A balanced life will help promote a healthy level of athletic identity and allows people to explore different roles and relationships outside of sport that are important for the identity formation process (Wylleman et al., 1999). Ultimately, this helps to reduce the identity issues and coping difficulties following transitions (Harrison & Lawrence, 2003, 2004; Kerr & Dacyshyn, 2000; Lally, 2007; Sinclair & Orlick, 1993; Stambulova et al., 2009).

The research discussed within the previous section certainly suggests that multiple social identities, and the group memberships associated with them, help people adjust to life transitions by facilitating well-being. However, this form of research has not been conducted within a sporting context and the present research attempted to address this gap in the literature by assessing whether the same can be said for team and programme transitions within the sporting career. Furthermore, the present research looks beyond examining just the effects of group memberships on players' resilience and adjustment through

assessing well-being, but by also looking at the outcome that is extremely important in sport—performance. For athletes, particularly those competing at a high-level, performing consistently to the maximum of their abilities across transitions is fundamental, as this is usually a key determinant in their selection, and maintenance of participation within teams and programmes.

## **2.4. Performance**

During an athlete's sporting career, the main focus of most coaches and support teams is assisting athletes to maximise their competitive performances and help them progress to the very top of the sport (Taylor et al., 2006). However, in order to achieve this success, athletes generally have to face many sport related transitions, in addition to the transitions in their lives outside of sport, which can disturb their well-being and performance (Debois et al., 2012; Sinclair & Orlick, 1993; Stambulova, 2000; Wylleman et al., 2004). Thus, identifying the factors that may be associated with maintaining well-being and performance, and how these outcomes are related to one another during times of change and adversity is of key interest to athletes and support teams.

The previous sections in this review have already discussed the important implications that multiple group memberships have for adjustment to transitions by enhancing well-being. The present research further examines whether multiple group memberships may also promote players' resilience during times of transition by having beneficial effects on their performance. The research also explores whether psychological factors can account for this effect. Furthermore, the experimental research presented within Chapter 5 of this thesis attempts to examine whether the salience of group memberships has immediate effects on performance and resilience by measuring persistence after perceived performance failure in a sporting task. The effects of multiple group memberships on sport performance have not received attention in the literature to date. However, the variables of interest in the present research (e.g., resilience, well-being, social support, self-efficacy, motivation, and so forth) have been associated with performance, and also group memberships. Thus, these constructs may explain the relationships between multiple group

memberships and performance. The literature surrounding these ideas is discussed below.

The previous literature discussed in Chapter 1 has demonstrated links between a number of factors and enhanced performance in a variety of different contexts. This includes research conducted within organisational contexts that has found associations between various measures of psychological well-being (e.g., general well-being, happiness, positive affect, life satisfaction, depression, general anxiety) and measures of job related performance (e.g., productivity, creativity, flexibility, management performance evaluations and ratings, goal emphasis, support, team building, task performance), such that high levels of employee psychological well-being are linked to greater job related performance (e.g., Cropanzano & Wright, 1999; Ford et al., 2011; Lyubomirsky et al., 2005; Wright & Cropanzano, 2000; Wright & Cropanzano, 2004; Wright et al., 2007). Dimensions of well-being such as emotions, mood, and anxiety have also been shown to have facilitative or debilitating effects on sports performance (Hanin, 2010; Hardy, Jones, & Gould, 1996; Jones, 2003; Lazarus, 2000; Totterdell, 2000). For example, negative emotional states may have a detrimental effect on athletes' performance during training and competing, which can ultimately affect the outcome of a competition (Butler, 1996). It is important to note that the influence of various emotions, moods, and anxiety on performance is largely dependent on the individual and how they interpret and appraise stimuli (e.g., negative emotional states can also have beneficial effects on performance), yet this is outside the scope of this thesis. Therefore, it appears that well-being and performance are related, and well-being may account for the ways in which group memberships have beneficial effects on sport performance in the present research. For example, multiple group memberships may be associated with high levels of well-being, and this well-being may help sports performers to cope with the pressures of the performance environment (i.e., the stressors, training loads, and need for results), and enjoy successful performance over the long-term.

A recent qualitative study with Olympic champions conducted by Fletcher and Sarkar (2012) explored the relationship between resilience and optimal sport performance. Within their research, they confirmed five psychological factors (i.e., positive personality, motivation, confidence, focus, and perceived

social support) that provide a protective buffer for athletes from the negative effects of stressors by influencing challenge appraisals and meta-cognitions (e.g., perceiving stressors as an opportunity for growth and development). These factors were argued by the researchers to promote facilitative behaviours, such as effective decision-making, facilitative interpretation of emotions, increased effort and task engagement, which precede optimal sport performance.

Constructs such as social support, self-efficacy, and motivation, have also been linked to one another within the literature, and have been directly related to various aspects of performance within a variety of fields such as organisational and sport (Chowdhury, 2007; Druckman, 2004; Madjar, Oldham, & Pratt, 2002; Park, Wilson, & Lee, 2004; Rees & Freeman, 2009; Sarason & Sarason, 1986). One factor that has been highly associated with well-being, performance, resilience, and other psychological factors such as social support, self-efficacy, and motivation outside the sport context, is group memberships.

The relationships between group memberships and well-being have been discussed in detail in Section 2.3.1. However, there has been no research to date that has assessed the effects of multiple group memberships on sport performance. Nevertheless, aspects of group memberships (e.g., group competition, friendships in groups, the salience of group identification) have been associated to high levels of performance in a number of contexts such as organisational and academic fields using a range of participants. This research has consistently demonstrated that these characteristics of group memberships can improve individual and group performance in a series of tasks—for example, cognitive and motor tasks such as typing, anagram solving, brainstorming, and games (e.g., Bornstein et al., 2002; James & Greenberg, 1989; Karau & Williams, 1997; Riketta, 2005; Riketta & Van Dick, 2005; Van Dick et al., 2009; Worchel et al., 1998). The present research investigates whether the same is true for multiple group memberships and sporting performance. For example, are players who possess multiple group memberships before and after transition, and are able to maintain their group memberships after transition (i.e., minimise the loss of groups), more resilient as they are more likely to experience higher levels of performance?

As discussed previously in Section 2.3.1, researchers have also suggested that group memberships provide numerous resources that are valuable during times of change and transition (e.g., social support, self-efficacy, motivation, personal identity strength, and cognitive strength, Haslam et al., 2008a; Haslam, 2004). Thus, significant overlap appears to exist between each of the constructs and the present research endeavoured to assess the effects of group memberships on sport performance, while also integrating measures of well-being, resilience, and other psychological factors such as social support, self-efficacy, motivation, and so forth, in attempt to understand how the variables may relate to one another.

The primary aim of the present research is to examine the relationships between multiple group memberships and players' resilience by examining well-being and performance after sport transitions and during sporting tasks. The ideas surrounding the potential relationships between group memberships, well-being, and performance have been discussed in the previous sections. The following section will now move on to resilience.

## **2.5. Resilience**

Resilience is deemed an important factor to consider in sport and has been linked to high levels of sporting achievement and performance (e.g., Holt & Dunn, 2004; Weissensteiner, Abernethy, & Farrow, 2009). Despite the considerable debates regarding the definition of resilience (e.g., Davydov, Stewart, Ritchie, & Chaudieu, 2010), it is generally accepted that resilience is “a dynamic process encompassing positive adaptation within the context of significant adversity” (Luthar, Cicchetti, & Becker, 2000, p.543). Therefore, resilience encompasses two conditions: first, exposure to adversity, and second, the ability to maintain psychological and physical functioning, or experience positive adjustment following this exposure (Gucciardi, Jackson, Coulter, & Mallett, 2011; Luthar & Cicchetti, 2000; Masten, 2001; Morgan, Fletcher, & Sarkar, 2013). The present research investigates whether multiple group memberships promote resilience and adjustment by helping players' maintain their well-being, performance, and persistence after sporting transitions and during sporting tasks.

There have been relatively few sport psychology investigations assessing resilience within sport settings (Gucciardi et al., 2011; Morgan et al., 2013), despite resilience being related to high levels of sporting achievement. Only recently has research endeavoured to examine psychological resilience in athletes (e.g., Fletcher & Sarkar, 2012; Galli & Vealey, 2008; Gucciardi et al., 2011; Martin-Krumm, Sarrazin, Peterson, & Famose, 2003; Mummery, Schofield, & Perry, 2004; Schinke, Peterson, & Couture, 2004). This is surprising considering adversity and stress are regularly experienced within sport (Gucciardi et al., 2011; Hanton, Fletcher, & Coughlan, 2005), and being able to positively adapt to perform well is challenging for athletes (Morgan et al., 2013).

Further to the lack of research assessing resilience in sport, there has also been no research to date that has assessed the effects of multiple group memberships on resilience in sporting contexts. However, multiple group memberships have been linked to enhanced resiliency in other fields, both in the short-term and long-term, demonstrated by the ability to bounce back and endure the adversity associated with anticipated or unanticipated life challenges such as illness, injury, transitions, and everyday demands (for a review, see Haslam et al., 2009; Jones & Jetten, 2010). For example, recent experimental research conducted by Jones and Jetten (2010), has confirmed that multiple group memberships have an immediate effect upon peoples' responses to novel physical challenges, by making a unique contribution to resilience. In these researchers first study, twelve members of the British Royal Air Force attended a five-day ice camp in which novice athletes were split into three sports: bobsleigh, luge, and skeleton. The researchers were interested in whether athletes who reported having multiple group memberships would recover physiologically more quickly from these challenges. To assess recovery, participants wore heart-rate monitors during the training sessions, which were activated five minutes before each run and left running five minutes after they completed the run. Faster decreases in heart rate would demonstrate a faster recovery, and thus, greater resilience. Consistent with the researchers' predictions, the results provided evidence that multiple group memberships improved recovery in the face of a novel challenge.

In their second study, Jones and Jetten (2010) wanted to manipulate the number and type of groups that participants focused on. For this purpose the study incorporated a manipulation that involved assigning students to one of three conditions in which they were instructed to define themselves as members of one, three, or five different groups based on social category memberships (i.e., age, gender, nationality, study major, and occupation). This time, researchers were interested in the effects of multiple group memberships on resilience, where resilience was assessed using a cold-pressor task in which 56 students were timed to see how long they could hold their hand in an ice-cold bucket of water. The results revealed that participants who reflected on five groups held their hand in the water longer than those who reflected on only one group or three groups. No differences in endurance were observed across the one-group and three-group conditions.

Jones and Jetten (2010) concluded that multiple group memberships are a valuable psychological resource for resilience. The experimental approach adopted by the researchers determined that this contribution was independent of the other benefits that group memberships may supply (e.g., social support). Nevertheless, they noted that their research was not without limitations. In particular, a criticism of the second study is that no control groups were included to assess whether these people would persist with the task in the same way as those receiving group manipulations. A further limitation of both studies was that no baseline measures of resilience were obtained to allow for pre-post comparisons.

Here, alongside the findings that support networks influence challenge appraisals and meta-cognitions (i.e., resilience-related mechanisms), that promote facilitative responses and lead to optimal sport performance from Fletcher and Sakar (2012), the research of Jones and Jetten (2010) certainly makes it reasonable to hypothesise that group memberships may also provide a unique contribution to resilience in sport. The longitudinal research presented in Chapters 3 and 4, examines the effects of multiple group memberships on players' resilience by examining their psychological well-being and also performance (in Chapter 4) after transitions in sport. Chapter 5 adopts an experimental approach, and assesses the effects of group memberships on participants' resilience by examining their persistence with a sporting task in the

face of failure. This experiment addressed the limitations noted above in the research of Jones and Jetten (2010).

As discussed throughout the previous sections, multiple group memberships have been linked to well-being, performance, and resilience in other contexts. On the basis of the research and theory reviewed above, it was speculated that group memberships may also be associated with sporting well-being, performance, and resilience. Furthermore, the research is also interested in the potential mechanisms through which these effects occur.

## **2.6. Potential Social Psychological Mechanisms of Beneficial Effects**

It is well documented that multiple group memberships have beneficial effects on a number of outcomes, however, there remains a lack of empirical evidence for the specific mechanisms through which group memberships operate (Jones & Jetten, 2010). This is surprising, given the potential for such research to enhance theory and consequently, the examination of the mechanisms associated with how multiple group memberships affect outcomes, has been a prominent vocal point in the conclusions of existing research (e.g., Cohen & Janicki-Deverts, 2009; Iyer et al., 2009). Therefore, in line with suggestions by previous researchers, the research within this thesis attempted to provide a better understanding of the social psychological mechanisms that underlie the positive effects of multiple group memberships on resilience (in terms of well-being, performance, and persistence). Furthermore, this was to address the limited research within the field examining the mechanisms and processes associated with group membership effects.

In this regard, there are several mechanisms that might underpin the impact of multiple group memberships on outcomes such as well-being (e.g., Jones & Jetten, 2010). These included personal identity strength (e.g., partial mediation shown in the research of Jetten et al., 2010a), self-concept clarity (Campbell et al., 1996), self-efficacy (e.g., Schwarzer, 1992), and social support (Jones & Jetten, 2010). Some of these constructs have also been linked with performance and resilience. For example, Druckman (2004) has suggested that self-efficacy is a key variable for enhancing all aspects of human performance. Furthermore, Bandura (1997) suggested that athletes must have a strong sense

of self-efficacy to sustain effort in the face of failure and competitive pressure. Social support has also been associated with improvements in performance in a range of tasks and sectors (e.g., Madjar et al., 2002; Park et al., 2004; Rees & Freeman, 2009; Sarason & Sarason, 1986). Recent resilience and performance literature in sport has also suggested that control (Connor & Davidson, 2003), tolerance of negative affect (Connor & Davidson, 2003; Gucciardi et al., 2011), lower cognitive interference (Hatzigeorgiadis & Biddle, 2000; Lazarus, 2000), motivation, and self-confidence (Fletcher & Sarkar, 2012; Galli & Vealey, 2008) may act as mechanisms and resources associated with positively adjusting to adversity, which can then lead to optimal performance. These constructs have also been linked to multiple group memberships.

The present research includes measures for psychological factors such as social support, self-efficacy, personal identity strength, self-esteem, control, emotions, cognitive interference, motivation, self-confidence, and cognitive interference, as each of the constructs may act as a mechanism through which group membership effects occur.

## **2.7. Research Summary**

The past literature has generally studied health outcomes and behaviours at the individual level and the role of group membership have been largely left unexplored (Jetten, Haslam & Haslam, 2012). However, more recent research from several disciplines using a variety of participants with different circumstances has emphasised the importance of group memberships for health and well-being (Haslam et al., 2012a). Additionally, the literature has also demonstrated that group memberships are important predictors of resilience and adjustment to change, by helping people maintain well-being following life transitions and adversity (e.g., Iyer et al., 2009). Therefore, it would seem logical to hypothesise that these effects may also be apparent in the sporting domain, although this is an area that has not been tested. This thesis attempts to address this gap in the literature and investigates whether the same can be said for club, team, and programme transitions in university and elite sport. Specifically, it explores the relationship between multiple group memberships before and after transition on well-being with university athletes, and well-being

and performance with elite cricket players, following club and team or programme transitions.

Players' group memberships need to be considered when attempting to understand adjustment to change, as the groups to which they belong define their self-concept. The challenge in this research was to understand the athletes but also the individual contexts. In addition to the general challenges encompassed within a transition, committing to a sport is generally a losing groups environment—they are joining a new sporting group but are losing other groups. Therefore, do multiple group memberships provide a firm foundation and platform to successfully adjust to the transition and make the most out of the programme and team? Are players willing to establish new identifications, while effectively drawing upon the resources associated with old and new group memberships to become involved in the new club, team, or programme and its members and are they able to deal with its demands? What contribution does this have to their state of mind, well-being and performance in this context?

The ideas discussed within the previous sections surrounding multiple group memberships has received support in a number of settings, including lab settings, clinical populations, among university students, the general population, people who have suffered head injuries and so forth. However, in the research to date, there has been little examination of the implications of these factors for performance and no examination of their importance within a sport population. The present research investigates the effects of multiple group memberships on performance, not only after transitions, but extends this investigation further by also assessing the immediate effects of manipulating group salience on performance and persistence during a sporting task. The fiercely competitive nature of professional sports today mean that players who hope to reach the top are expected to sacrifice a balanced and well-rounded life for a complete commitment to their sport; in other words, they are expected to set aside the majority of their group memberships when they transition into an elite training programme. The ECB has acknowledged that a number of players on national programmes have suffered from adjustment problems, in some cases causing players to drop out of the programmes. Maybe this is a result of a lack of social resources attributable to the group memberships they leave behind or the

continual time away from their family and friends while touring. The research outlined above would suggest that this loss may have detrimental consequences for the well-being of these athletes. It could also adversely affect their performance and it is this negative effect that the present research seeks to address.

Beyond this, this work seeks to contribute to the gaps in the existing literature by examining the effects of the continuity of group memberships, as it is a new avenue of social identity research during transitions and has received little attention to date (e.g., Haslam et al., 2008a). The elite sport and university sport contexts provides a good opportunity for examining these issues, as it is heavily characterised by numerous transitions as athletes progress through the programmes, age groups, performance groups, teams, and so forth (see Figure 2.3 as an example of the England cricket pathway transitions). Further, this work seeks to provide a better understanding of the mechanisms and processes through which multiple group memberships can affect outcomes such as well-being, performance, and persistence (Cohen & Janicki-Deverts, 2009).

To assess these ideas, the present research adopts a variety of methods ranging from longitudinal survey studies with short-term and long-term follow ups (i.e., three months and two years), through to an experimental approach. Currently, there is a paucity of longitudinal and experimental studies in the field as the majority of the existing research exploring the relationship between multiple group memberships and outcomes such as well-being has been cross-sectional (Haslam et al., 2008a; Jones & Jetten, 2010). Therefore, the present research attempted to address this gap in the literature. The longitudinal studies included in this thesis examined the effects of multiple group memberships before and after transition on resilience by examining well-being after transitioning into university sports clubs and teams (Chapter 3), and well-being and performance after important programme transitions in elite cricket (Chapter 4). The experimental study reported in Chapter 5 goes on to examine the effects of manipulating the number of group memberships that an athlete has psychological access to on their performance and resilience (through measuring persistence after perceived failure) in a golf putting task. This combination of methods allows for the examination of the temporal dynamics of relationships

between group memberships and outcomes over time, but also the more short-term and immediate effects.

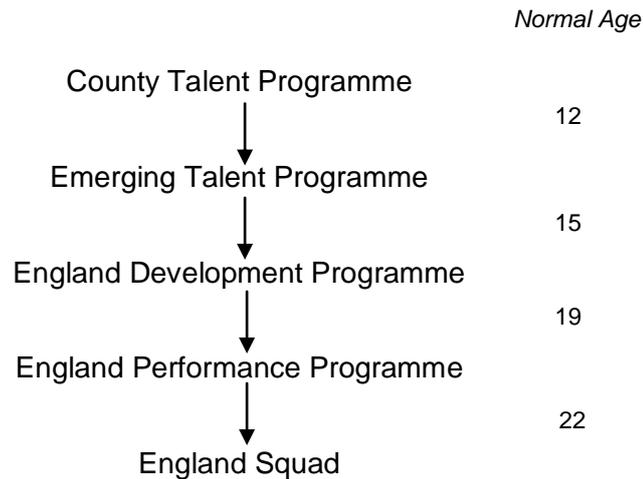


Figure 2.3. England cricket pathway transitions.

The aims and hypotheses for the research are presented below:

### 2.7.1. Aims

1. Examine the effects of multiple group memberships before and after transition on adjustment to club, team, and programme transitions in sport through assessing post-transition well-being.
2. Examine whether multiple group memberships before and after transition may also have beneficial effects on players' performance post-transition.
3. Examine whether multiple group memberships before transition increase the likelihood of players maintaining those group memberships after transition.
4. Examine whether multiple group memberships before transition increase the likelihood of players identifying highly with the new club, team, or programme and other players.

5. Examine whether a number of psychological resources that group memberships are thought to provide account for the ways in which the beneficial effects of group memberships on outcomes occur.
6. Examine whether manipulating the salience of group memberships has immediate effects on athletes' performance, and also persistence after perceived failure in a sporting task.

### **2.7.2. Hypotheses**

1. The more groups that players belong to before and after the transition, the more likely they are to have high levels of post-transition well-being and performance.
2. The more groups that players belong to before the transition, the more likely they are to maintain these group memberships across the transition.
3. The more groups that players belong to before the transition, the more likely they are to identify highly with the new club, team, or programme and other group members.
4. Identification with the new club, team, or programme will mediate the relationship between multiple group memberships before transition and post-transition well-being and performance.
5. The mechanisms (i.e., personal identity strength, self-efficacy, and social support) will also mediate the effect of group memberships on well-being and performance.
6. Participants will display improved performance and greater persistence to the extent that more group memberships are made salient in a sporting task.
7. Within the experiment, the impact of multiple group memberships on performance and persistence will be mediated by personal identity strength, self-efficacy, self-esteem, control, emotions, motivation, self-confidence, and cognitive interference.

## **CHAPTER THREE**

### **Longitudinal Study to Assess the Effects of Multiple Group Memberships on Psychological Well-being after Transitions into Sports Clubs and Teams**

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Every academic year marks a time of transition for university students as they enter and move through the multitude of clubs and groups that characterise university life. This environment provides an ideal opportunity for investigating the impact of multiple group memberships on athletes' resilience and ability to adjust following a sporting transition by examining their well-being. The research described in this chapter followed female student athletes over a three-month period in order to examine the relationships between these athletes' group memberships and their well-being over time. In this way, this research was able to explore temporal dynamics in group memberships (is it the case that individuals with a greater number of group membership are better able to maintain these groups and better able to adopt new ones?) as well as exploring the impact of multiple group memberships across the transition on player well-being.

Beyond this, this research also aimed to contribute to the literature by exploring whether various theorised mechanisms were able to account for the observed impact of group memberships on well-being. Finally, this research also aimed to contribute to our understanding about the temporal nature of transitions by comparing new and returning members of sports teams. Both returning and new members will be experiencing transitions, as there will be new teams forming, and new team members and coaches to bond with; challenges that require adjustment. However, the recency of the transition is likely to influence their adjustment to the club and teams, as the transition faced by the new members is substantially greater than that faced by returning members. Thus, the present research examines whether the beneficial effects of multiple group memberships on well-being is more prominent for the new members than returning members.

### **3.1. Literature Review**

#### **3.1.1. Transitions**

Human life is characterised by numerous changes and transitions, such as starting school or university, job loss, divorce, or moving house (Sinclair & Orlick, 1993). These transitions require a considerable amount of adjustment if individuals are to successfully cope with the change and adversity (Erpic et al., 2004; Wapner & Craig-Bay, 1992; Wylleman et al., 2004).

Athletes also experience many transitions throughout their careers. For example, these transitions may involve joining a new club or team, progressing to senior level competition, or working with a new coach. In addition, student-athletes are required to manage transitions in their educational surroundings simultaneously (Stambulova et al., 2009; Wylleman et al., 2004). In general, research has tended to disregard the numerous within-career transitions that athletes are likely to experience, focusing primarily on the major transition of retirement (Park et al., 2013; Wylleman et al., 1999). The present research attempts to address this gap in the literature and examines the transitions into sports clubs and teams experienced by university athletes.

While unpredicted transitions (e.g., de-selection from a team) may be especially detrimental to an athlete's well-being and involve higher levels of adjustment than predicted transitions (e.g., joining a new sports club or team; Aneshensel et al., 2004; Dyson & Renk, 2006; Haslam et al., 2008a; Iyer et al., 2009), there is evidence that all transitions require adjustment and can compromise well-being (Ethier & Deaux, 1994; Schweiger & DeNisi, 1991; Stambulova et al., 2009).

#### **3.1.2. Multiple group memberships and well-being**

Transitions are associated with changes to group memberships, and these changes can disturb an individuals' adjustment and well-being (Haslam et al., 2008a; Iyer et al., 2009; Kling et al., 2003; Sani, 2008). Group memberships are considered important determinants of people's responses to change. Based on this premise, the social identity approach comprised of the social identity theory (Tajfel & Turner, 1979; Tajfel & Turner, 1986) and self-categorisation

theory (Turner, 1982; Turner et al., 1987; Turner et al., 1994), argues that belonging to multiple group memberships before a transition and belonging to multiple groups after a transition (i.e., a lack of change in the number of group memberships across the transition), will determine a student-athletes capacity to adjust to the club or team transition (Haslam et al., 2012a). This is because group memberships provide individuals with social identities, and these identities are important for health and well-being (Baumeister & Leary, 1995; Correll & Park, 2005; Haslam et al., 2009; Iyer et al., 2009; Jones et al., 2011; Tarrant et al., 2012; Thoits, 1983).

The literature has presented a wealth of evidence demonstrating the beneficial impact of multiple group memberships on people's adjustment to transitions and enhancing their health and well-being (Brook et al., 2008; Haslam et al., 2008a; Haslam et al., 2012a; Haslam et al., 2009; Iyer et al., 2009; Jones et al., 2011; Jones et al., 2012; Linville, 1985, 1987; Thoits, 1983). To date, however, no research has assessed the effects of multiple group memberships on well-being during transitions in sport. The present study attempts to address this gap in the literature and investigates whether players who possess multiple group memberships before and after transitioning into sports clubs and teams, experience higher well-being after the transition.

Multiple group memberships before a transition have beneficial effects on well-being by increasing the likelihood of individuals maintaining some of those memberships across the transition (i.e., minimising the loss of group memberships) and adopting new group memberships. These ideas are discussed below in turn.

### **3.1.2.1. Multiple group memberships and the maintenance of group memberships**

Student-athletes who belong to multiple group memberships before the transition may experience greater well-being after the transition as they are more likely to maintain some of these group memberships across the transition (e.g., Haslam et al., 2008a). The ability to minimise the loss of group memberships over the course of a transition is associated with enhanced mental health and well-being (Ballis et al., 2008; Bluck & Alea, 2008; Chandler

et al., 2003; Haslam et al., 2008a; Iyer et al., 2009; Michinov et al., 2008; Sani et al., 2008), and improvements in an individuals' ability to adjust to change (e.g., Chandler & Lalonde, 1998; Clarke & Black, 2005; Haslam et al., 2008a). This is because group memberships provide a source of self-definition and self-esteem (Haslam et al., 2009; Iyer et al., 2008; Sani, 2008; Tajfel & Turner, 1979), and are associated with meaningful relationships that people can rely upon during times of change (Bluck & Alea, 2008; Iyer & Jetten, 2011; Jetten & Wohl, in press; Landau et al., 2008; Sani et al., 2008; Sedikides et al., 2008). The present study will assess the relationship between multiple group memberships before transition and the continuity of group memberships across the transition. Furthermore, it will also examine whether losing fewer group memberships across the transition has beneficial effects on well-being compared to losing a greater number of groups.

### **3.1.2.2. Multiple group memberships and the acquisition of group memberships**

Multiple group memberships may also have positive consequences for well-being during the transition as they may increase the likelihood of student-athletes adopting the new club and team group membership (e.g., Iyer et al., 2009; Thoits, 1983). The ability to join a new group provides a new sense of belonging and can help people adjust to transitions by bolstering well-being (Branscombe et al., 1999; Haslam & Reicher, 2006; Hirsch, 1981; Jetten et al., 2001; 2003; Jones et al., 2012; Levine & Reicher, 1996; Postmes & Branscombe, 2002; Schmitt et al., 2003). Identification with a new group membership has been shown to act as a mechanism through which multiple group memberships before transition have a beneficial impact on well-being after transition (e.g., Iyer et al., 2009). The relationship between multiple group memberships, identification, and well-being will be examined in the present study. Further potential mechanisms of the relationship between group memberships and well-being will also be assessed and are outlined below.

### **3.1.3. Potential social psychological mechanisms of beneficial group membership effects**

One limitation within the existing research is the failure to examine what it is that group memberships and the resources associated with them provide for the self that leads to enhanced well-being. The present study sought to examine the potential social psychological mechanisms that may be important for well-being (e.g., Jones & Jetten, 2010): personal identity strength (e.g., Jetten et al., 2010a), self-efficacy (e.g., Schwarzer, 1992), and social support (e.g., Haslam et al., 2008a; Iyer et al., 2009). This study includes measures for each of these psychological factors, as they may act as a mechanism through which beneficial effects of group membership occur.

### **3.1.4. The present study**

The primary aim of the present study was to examine the effects of student-athletes' multiple group memberships and changes to group memberships on their resilience and adjustment to club and team transitions, through assessing post-transition well-being. It also sought to assess whether the group membership effects varied as a function of the recency of the transition (i.e., new or returning members). A further aim was to examine the potential social psychological mechanisms through which group memberships have an effect on well-being. It was hypothesised that:

#### **The dynamics of group memberships over a transition:**

- H<sub>1</sub>: The more group memberships that student-athletes belong to before the transition, the more likely they are to maintain these group memberships across the transition.
- H<sub>2</sub>: The more group memberships that student-athletes belong to before the transition, the more likely they are to identify highly with the new club and team and other group members.

**Relationships between multiple group memberships and well-being:**

H<sub>3a</sub>: The more group memberships that student-athletes belong to before and after the transition, the more likely they are to have high levels of post-transition well-being.

H<sub>3b</sub>: The beneficial impact of multiple group memberships on well-being will be more prominent for the new members to the clubs and teams than for returning members.

**Relationships between multiple group memberships and mechanisms:**

H<sub>4</sub>: Identification with the new club and team will mediate the relationship between multiple group memberships before transition and post-transition well-being.

H<sub>5</sub>: The mechanisms (i.e., social support, personal identity strength, and self-efficacy) will also mediate the effect of group memberships on well-being.

## 3.2. Method

### 3.2.1. Participants

The sample consisted of 102 female members of three university sports clubs: netball ( $n = 40$ ), hockey ( $n = 54$ ), and rugby ( $n = 8$ ). The players ranged in age from 17 to 24 years ( $M = 19.66$  years,  $SD = 1.29$ ). Forty-five participants were returning players who had joined the clubs three ( $n = 5$ ), two ( $n = 19$ ), or one year previously ( $n = 21$ ). The remaining participants were new players. The majority of the players were selected to represent a club team ( $n = 91$ ); the remaining players ( $n = 11$ ) belonged to one of the clubs (and participated in training sessions) but were not selected for a team.

### 3.2.2. Procedure

Ethics approval was obtained from the College of Life and Environmental Sciences at the University of Exeter prior to the research taking place (Appendix 1.1). Players were invited to participate in the research at the club team trials held at the beginning of the year. Participants were assured that their responses would be kept completely confidential and would not be shared with club coaches or other players. Participants who agreed to take part in the research after reading an information sheet (Appendix 3.1) completed an informed consent form (Appendix 2.1) and a Time 1 questionnaire on the same day as the club trial (Appendix 4.1). A Time 2 questionnaire was completed after a training session three months later.

One hundred and thirty one female sports players completed the Time 1 questionnaire; the main data analysis was conducted with the 102 players who completed both Time 1 and Time 2 questionnaires (there was an attrition rate of 22%). Sample attrition was due to players who were not selected for a team at the trial deciding not to participate in future club activities.

### 3.2.3. Measures

At both Time 1 and Time 2, new and returning players were responding to the measures retrospectively after the transition (this method has been used in previous research, e.g., Haslam et al., 2008a). Details of the scales used

within the questionnaires of the present study, and where relevant, the reliability coefficients, are provided below.<sup>1</sup>

**Objective group membership listings.** To measure players' group memberships, players were asked to list the groups that they belonged to before they joined their sports club or team and then to list the groups that they belonged to since they had joined their sports club or team (Haslam et al., 2008a). To analyse these *listings*, the total number of groups that players listed pre- and post-transition were counted. The latter post-transition count was also separated as a function of whether the groups were maintained across the transition (continuity of group memberships) or were new (unique) groups joined after the transition.

**Subjective group membership ratings.** Players' perceptions of their multiple group memberships were assessed using the Exeter Identity Transition Scales (EXITS; Haslam et al., 2008a). The scale consists of 12 items and players were asked to indicate their agreement with the items on seven-point scales (1= strongly disagree, 7 = strongly agree). The first four items measure perceptions of *multiple group memberships before the transition* (Time 1,  $\alpha = .84$ ; Time 2,  $\alpha = .82$ ), the next four items measure perceptions of *continuity of pre-transition group memberships after the transition* (Time 1,  $\alpha = .76$ ; Time 2,  $\alpha = .81$ ), and the final four items measure perceptions of *new group memberships after the transition* (Time 1,  $\alpha = .83$ ; Time 2,  $\alpha = .87$ ). Each of the three scales included a statement in relation to the number of groups players' belonged to, how often they participate in the activities of these groups, their friendships within these groups, and whether they felt strong ties with these groups. The EXITS have been found to have good reliability within previous research (e.g.,  $\alpha$ s = .80 - .93; C Haslam et al., 2008; Iyer et al., 2009).

The previous research assessing the effects of group memberships on well-being has tended to use shortened versions of the subjective EXITS

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<sup>1</sup> Additional measures were included in the original questionnaires (Appendix 4.1), but are not reported in this section. These measures assessed social class (single item adopted from Iyer et al, 2009); perceived compatibility of identities (3 items adapted from Iyer et al, 2009); personality (using the Big Five Inventory -10; Rammstedt & John (2007)); and social connections (3 items adapted from Onyx and Bullen (2000)). These measures were not used within the analyses either because they had poor reliability coefficients (e.g.,  $\alpha$ s < .49) or they were not relevant to the focus of the research.

measure (e.g., Iyer et al., 2009; Jetten et al., 2010). However, Haslam et al (2008a) incorporated both the subjective ratings and objective listings within their research and noted differences in well-being between the two measures. Thus, the present study also incorporated both measures of group memberships to examine the importance of players' subjective (i.e., the feeling of belonging to lots of groups) and objective group memberships (i.e., the actual number of groups players belong to) on their well-being after transition.

**Level of identification with the team/club.** To measure players' social identification with the club and team, an adapted version of the scales within the studies of Iyer et al (2009) and Doosje, Ellemers and Spears (1995) was used. The scales covered cognitive, evaluative, and affective aspects of identification. The adapted club and team identification scale consisted of six items (Time 1,  $\alpha = .88$ ; Time 2,  $\alpha = .93$ ) and players were asked to indicate their agreement with items such as "I am pleased to be a player in my team/club", "I feel strong ties with other players in my team/club", and "I have a strong sense of belonging to my team/club" on identical seven-point scales (1 = strongly disagree, 7 = strongly agree). The items, originally developed by Doosje et al (1995), are extensively used by organisational and social psychologists (e.g., see Haslam, 2001).

### 3.2.3.1. Mechanisms

**Social support.** Social support was assessed using a shortened version of an existing 10-item measure (Haslam et al., 2005). The four-item measure (Time 1,  $\alpha = .81$ ; Time 2,  $\alpha = .85$ ) used within the present study incorporated items designed to assess four aspects of social support: (a) emotional support, (b) companionship support, (c) instrumental support, and (d) informational support (House, 1981). Players were asked to indicate their agreement with the items "Do you get the emotional support you need from other people?", "Do you get the help you need from other people?", "Do you get the resources you need from other people?", and "Do you get the advice you need from other people?" on identical seven-point scales (1 = not at all, 7 = completely).

**Self-efficacy.** Players' self-efficacy was measured using a single item taken from the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995).

Players were asked to indicate their agreement with the item “I can usually handle whatever comes my way” on identical seven-point scales (1 = strongly disagree, 7 = strongly agree).

**Personal identity strength.** To assess the extent to which players’ had a clear understanding of who they are, a scale that previous research (e.g., Haslam et al., 2010; Jetten et al., 2010) has adapted from existing self-clarity (Campbell et al., 1996) and personal identity strength (Baray, Postmes, & Jetten, 2009) scales was used. This scale consists of five-items (Time 1,  $\alpha = .78$ ; Time 2,  $\alpha = .76$ ) and players were asked to indicate their agreement with the items “I know what I like and what I don’t like”, “I know what is right and wrong”, “I have strong beliefs”, “I know what I want from my life”, and “I am aware of the roles and responsibilities I have in my life” on identical five-point scales (1 = strongly disagree, 5 = strongly agree). Higher ratings denote a stronger understanding of self. Previous research (e.g., C. Haslam et al., 2010; Jetten et al., 2010) has reported satisfactory internal reliabilities for this scale (e.g.,  $\alpha s = .65 - .81$ ).

### 3.2.3.2. Dependent variables

For each of the well-being measures listed below, players were asked to indicate how often or to what extent they had felt that way since becoming a member of the club and teams.

**Life satisfaction.** The multi-item Satisfaction With Life Scale (SWLS; Diener et al., 1985) was used to assess the extent to which players’ were satisfied with their life in general after the club and team transition. The SWLS consists of five items (Time 1,  $\alpha = .87$ ; Time 2,  $\alpha = .80$ ) and players were asked to indicate their agreement with the items “In most ways my life is close to ideal”, “The conditions of my life are excellent”, “I am satisfied with my life”, “So far I have gotten the important things I want in life”, and “If I could live my life over, I would change almost nothing” on identical seven-point scales (1= strongly disagree, 7= strongly agree).

**Positive and negative affect.** Positive and negative affect were measured using the Positive and Negative Affect Schedule (PANAS; Watson et

al., 1988). The PANAS consists of ten items of positive affect (Time 1,  $\alpha = .84$ ; Time 2,  $\alpha = .87$ ) and ten items for negative affect (Time 1,  $\alpha = .84$ ; Time 2,  $\alpha = .71$ ). Players were asked to indicate their agreement with the items for positive affect (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active) and the items for negative affect (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid) on identical five-point scales (1 = very slightly or not at all, 5 = extremely). The scales within the PANAS have been shown to have high internal consistency (e.g.,  $\alpha$ s = .84 - .90; Watson et al., 1988).

**Depression.** Depression was measured using a scale developed by Branscombe, Schmitt, and Harvey (1999; see also Iyer et al., 2009). The scale consisted of six negative thoughts and feelings (Time 1,  $\alpha = .91$ ; Time 2,  $\alpha = .95$ ) and players were asked to indicate their agreement with the items depression, lifelessness, helplessness, sadness, unhappiness, and weariness on identical nine-point scales (1 = very infrequently, 9 = very frequently). Previous research has reported good internal reliabilities for the scale (e.g.,  $\alpha = .89$ , Branscombe et al., 1999;  $\alpha = .86$ , Iyer et al., 2009).

**Self-esteem.** Self-esteem was measured using the Rosenberg (1965) Self-Esteem Scale. The scale consists of ten items (Time 1,  $\alpha = .79$ ; Time 2,  $\alpha = .83$ ) and players were asked to indicate their agreement with items such as “I feel I have a number of good qualities”, and “I certainly feel useless at times” on identical five-point scales (1 = strongly disagree, 5 = strongly agree). Half of the items in the measure are reverse scored. The Rosenberg Self-esteem scale is a well validated measure of global self-esteem (Cassidy, O'Connor, Howe, & Warden, 2005), and previous studies (e.g., Gray-Little, Williams, & Hancock, 1997) have indicated that the scale has high reliability (e.g.,  $\alpha = .88$ ).<sup>2</sup>

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<sup>2</sup> As the sample consisted of returning and new members to the clubs and teams, performance ratings could not be obtained at both Time 1 and Time 2, as the new members were yet to play at Time 1. By failing to obtain measures of performance during both time points, this would restrict the ability to control for performance at Time 1, which is necessary to infer the unique effects of group memberships at Time 1 on performance at Time 2 (Kenny, 1975). Thus, performance was not measured in the present study.

### **3.3. Results**

#### **3.3.1. Descriptive statistics and bivariate correlations**

Means, standard deviations, and bivariate correlations of the study variables are provided separately for new and returning players at Time 1 and Time 2 (see Tables 3.1-3.4). These correlations provide definitive tests for the predictions outlined in Hypotheses 1 and 2, and although further analyses are required to accurately test the predictions of Hypotheses 3a, 3b, 4, and 5, the correlations can still provide some evidence for these hypotheses.

##### **3.3.1.1. Group membership dynamics and well-being across the transition**

As displayed in Tables 3.1, 3.2, 3.3, and 3.4, there appears to be only a few associations between the subjective and objective group memberships for both new and returning players. Further results from the correlations relating to each of the hypotheses are described below.

###### **3.3.1.1.1. Relationships between multiple group memberships and the maintenance and acquisition of group memberships**

The correlations provide a sufficient test of the predictions in Hypothesis 1 as to whether players who belonged to more group memberships before the transition, were more likely to maintain these group memberships across the transition. Support can be provided for Hypothesis 1, as players who belonged to a greater number of objective group memberships before transition were able to maintain more of those groups after transition (i.e., three of the four relevant correlations were positive and significant, providing consistent support; see Tables 3.1, 3.3, and 3.4).

A definitive test of the predictions outlined in Hypothesis 2 is also provided by the correlation analyses. This hypothesis stated that the more group memberships players belonged to before the transition, the more likely they were to identify highly with the new club and team and other group members. In line with this, new players who belonged to multiple subjective group memberships before transition (and to some extent, objective group

**Table 3.1.** Time 1 descriptive statistics and bivariate correlations for returning players.

Time 1 Measure	M (SD)	Correlations																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<b>Objective Group Listings</b>																		
1. Number of groups pre-transition	5.61 (2.39)		.24	.34*	.02	.25	.34*	.21	-.20	.08	-.03	.09	.27	-.11	-.01	.12	.25	
2. Number of groups post-transition	3.42 (1.98)			.74**	.69**	.02	-.01	.18	.04	.27	.06	-.16	-.14	.25	.28 <sup>†</sup>	.18	.13	
3. Number of old groups post-transition	1.36 (1.46)				.02	.13	-.03	.12	.01	.29 <sup>†</sup>	.11	-.25	-.07	.32 <sup>†</sup>	.08	.15	.16	
4. Number of new groups post-transition	2.03 (1.34)					-.12	.01	.12	.03	.08	-.07	.05	-.14	.02	.32 <sup>†</sup>	.08	.00	
<b>Subjective Group Ratings</b>																		
5. Multiple groups pre-transition	6.01 (0.65)						-.07	.32 <sup>†</sup>	-.14	-.02	-.02	.16	.39*	-.17	-.25	.21	.18	
6. Old groups post-transition	4.70 (1.21)							.36*	-.15	.02	.05	-.21	.13	.01	-.16	.20	.35*	
7. New groups post-transition	5.44 (1.39)								.10	.46**	.20	-.35*	-.13	.22	-.02	.44**	.43**	
<b>Mechanisms &amp; DVs</b>																		
8. Club / team identification	6.33 (0.65)									.08	.22	-.02	-.16	-.01	.31 <sup>†</sup>	.09	-.03	
9. Life satisfaction	5.42 (0.84)										.27	-.49**	-.69**	.45**	.18	.55**	.37*	
10. Positive affect	3.98 (0.43)											-.02	-.34*	.16	.36*	.23	.30 <sup>†</sup>	
11. Negative affect	1.68 (0.61)												.59**	-.63**	-.07	-.51**	-.31 <sup>†</sup>	
12. Depression	1.70 (1.29)													-.66**	-.32 <sup>†</sup>	-.42*	-.25	
13. Self-esteem	3.14 (0.37)														.27	.39*	.32 <sup>†</sup>	
14. Social support	6.10 (0.56)															.12	-.02	
15. Self-efficacy	5.53 (0.65)																.70**	
16. Personal ID strength	4.14 (0.45)																	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ . Listwise  $N = 36$

**Table 3.2.** Time 1 descriptive statistics and bivariate correlations for new players.

Time 1 Measure	M (SD)	Correlations																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<b>Objective Group Listings</b>																		
1. Number of groups pre-transition	5.34 (2.42)		.05	-.01	.06	.40*	-.15	.22	.11	.18	.35 <sup>†</sup>	.04	.17	.11	.06	.07	-.01	
2. Number of groups post-transition	3.48 (1.55)			.53**	.63**	-.01	-.01	-.12	-.57**	-.15	-.10	-.08	.13	-.04	-.44*	-.21	-.18	
3. Number of old groups post-transition	1.28 (1.22)				-.30	-.20	-.03	-.30	-.22	-.24	-.12	.22	.03	-.22	-.22	-.11	-.19	
4. Number of new groups post-transition	2.14 (1.36)					.17	.03	.14	-.42*	.04	.01	-.23	.07	.14	-.30	-.11	.02	
<b>Subjective Group Ratings</b>																		
5. Multiple groups pre-transition	5.70 (0.92)						.37*	.65**	.27*	.65**	.34 <sup>†</sup>	.22	-.17	.20	.40*	.23	.48**	
6. Old groups post-transition	4.96 (1.03)							.42*	.10	.52**	-.14	-.10	-.41*	.29	.33 <sup>†</sup>	.39*	.35 <sup>†</sup>	
7. New groups post-transition	5.76 (0.72)								.51**	.48**	.43*	.06	-.01	.21	.51**	.47*	.34 <sup>†</sup>	
<b>Mechanisms &amp; DVs</b>																		
8. Club / team identification	5.77 (0.56)									.18	.46*	.26	.00	.16	.57**	.52**	.25	
9. Life satisfaction	5.59 (0.76)										.08	-.15	-.42*	.51**	.56**	.41*	.52**	
10. Positive affect	3.57 (0.84)											.44*	.09	.07	.37*	.27	.18	
11. Negative affect	1.39 (0.31)												.16	-.26	.18	-.01	-.13	
12. Depression	1.42 (0.55)													-.39*	-.35 <sup>†</sup>	-.38*	-.25	
13. Self-esteem	3.09 (0.30)														.22	.42*	.25	
14. Social support	5.91 (0.75)															.43*	.25	
15. Self-efficacy	5.41 (0.63)																.33 <sup>†</sup>	
16. Personal ID strength	4.19 (0.44)																	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ . Listwise  $N = 29$

**Table 3.3.** Time 2 descriptive statistics and bivariate correlations for returning players.

Time 2 Measure	M (SD)	Correlations																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<b>Objective Group Listings</b>																		
1. Number of groups pre-transition	5.86 (2.47)		.58**	.33*	.43**	.24	-.14	-.13	.22	-.10	-.12	-.13	.15	.04	.14	.10	-.26 <sup>†</sup>	
2. Number of groups post-transition	4.05 (2.32)			.48**	.79**	.07	.19	.13	-.04	-.11	-.11	-.14	.14	-.03	.03	.12	-.24	
3. Number of old groups post-transition	1.14 (1.41)				-.16	-.05	.22	-.02	-.03	-.09	-.07	-.17	-.05	-.07	-.14	.10	-.19	
4. Number of new groups post-transition	2.88 (2.01)					.10	.07	.16	-.01	-.06	-.08	-.03	.20	-.00	.14	.06	-.14	
<b>Subjective Group Ratings</b>																		
5. Multiple groups pre-transition	5.91 (0.73)						-.07	.10	.25	.10	.33*	-.02	.08	.28 <sup>†</sup>	.37*	.05	.14	
6. Old groups post-transition	4.55 (1.21)							.29 <sup>†</sup>	-.09	.29 <sup>†</sup>	.28 <sup>†</sup>	-.06	-.16	.08	.09	.20	.18	
7. New groups post-transition	5.67 (1.11)								.26 <sup>†</sup>	.45**	.52**	-.18	-.34*	.12	.39*	.22	.25	
<b>Mechanisms &amp; DVs</b>																		
8. Club / team identification	6.35 (0.56)									.15	.42**	.15	.02	.11	.43**	.12	.22	
9. Life satisfaction	5.36 (0.61)										.48**	-.41**	-.47**	.66**	.33*	.40**	.34*	
10. Positive affect	4.11 (0.55)											-.05	-.37*	.49**	.42**	.31*	.45**	
11. Negative affect	1.72 (0.53)												.56**	-.51**	-.22	-.53**	-.19	
12. Depression	2.07 (1.59)													-.38*	-.21	-.27 <sup>†</sup>	-.45**	
13. Self-esteem	3.21 (0.41)														.33*	.50**	.25 <sup>†</sup>	
14. Social support	5.99 (0.75)															.24 <sup>†</sup>	.32*	
15. Self-efficacy	5.38 (0.79)																	.43**
16. Personal ID strength	4.20 (0.40)																	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ . Listwise  $N = 42$

**Table 3.4.** Time 2 descriptive statistics and bivariate correlations for new players.

Time 2 Measure	M (SD)	Correlations															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Objective Group Listings</b>																	
1. Number of groups pre-transition	5.15 (2.12)		.62**	.42**	.46**	.16	.12	.16	.30*	-.09	.12	-.11	.02	-.15	.03	-.08	-.02
2. Number of groups post-transition	3.49 (2.21)			.68**	.74**	-.04	.32*	.33*	.20	-.01	-.01	-.14	-.04	-.27*	.09	-.08	-.01
3. Number of old groups post-transition	1.04 (1.49)				.01	-.17	.28*	-.07	.01	-.07	-.04	-.05	.04	-.35**	-.05	-.22	-.17
4. Number of new groups post-transition	2.45 (1.61)					.10	.17	.51**	.26 <sup>†</sup>	.05	-.02	-.15	-.10	-.04	.17	.09	.14
<b>Subjective Group Ratings</b>																	
5. Multiple groups pre-transition	6.05 (0.74)						-.05	.15	.28*	.05	.20	-.00	-.07	.32*	-.01	.36**	.19
6. Old groups post-transition	4.75 (1.17)							.26 <sup>†</sup>	.20	.27 <sup>†</sup>	.00	.01	-.07	.07	.42**	.17	.29*
7. New groups post-transition	5.49 (1.11)								.20	-.12	.25 <sup>†</sup>	.19	.13	.06	.23 <sup>†</sup>	.10	-.01
<b>Mechanisms &amp; DVs</b>																	
8. Club / team identification	5.92 (0.81)									.19	.47**	-.15	-.21	.17	.35*	.06	.00
9. Life satisfaction	5.49 (0.83)										.12	-.24 <sup>†</sup>	-.28*	.50**	.36**	.38**	.37**
10. Positive affect	3.90 (0.60)											.11	-.18	.22	.21	.03	.07
11. Negative affect	1.59 (0.52)												.22	-.10	-.08	-.12	-.12
12. Depression	1.84 (1.22)													-.24 <sup>†</sup>	-.17	-.22	-.19
13. Self-esteem	3.20 (0.39)														.05	.48**	.47**
14. Social support	5.75 (0.78)															.23 <sup>†</sup>	.34*
15. Self-efficacy	5.51 (0.87)																.49**
16. Personal ID strength	4.10 (0.57)																

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ . Listwise  $N = 53$

memberships) subsequently identified more highly with the new club and team (see Tables 3.2 and 3.4). These relationships between the number of groups before transition and identification with the team or club provide support for Hypothesis 2 (i.e., three of the four relevant correlations for new players were significant and in a positive direction, providing sufficient support).

#### **3.3.1.1.2. Relationships between multiple group memberships and well-being**

Hypothesis 3a predicted that the more groups players belonged to before and after the transition, the more likely they were to experience high levels of post-transition well-being. Objective group memberships generally did not show the expected positive relationships with returning and new players self-reported well-being and do not support the predictions of Hypotheses 3a. In contrast, partial support can be provided for Hypothesis 3a as the subjective group memberships were associated with returning and new player well-being in the expected ways (although at Time 2, the associations between subjective group memberships and new player well-being were no longer present; see Table 3.4). For example, a greater number of subjective groups were associated with higher levels of positive emotions and self-esteem, and lower levels of depression.

#### **3.3.1.1.3. Relationships between multiple group memberships, mechanisms, and well-being**

Hypotheses 4 and 5 predicted that identification with the new clubs and teams and other social psychological mechanisms (i.e., social support, self-efficacy, and personal identity strength) will mediate the relationship between group memberships and well-being. Although mediation analyses are required to fully test these hypotheses, an overview of the correlations between groups, mechanisms, and well-being is provided. Generally, across Tables 3.1 to 3.4, it can be seen that for both returning and new players, there are positive associations between subjective group memberships and social support, self-efficacy, and personal identity strength, as would be expected. In addition, both

returning and new players who were able to identify highly with the new clubs and teams experienced higher positive emotions and social support, in line with expectations. Associations between well-being and social psychological mechanisms for returning and new players were in the expected directions. For example, life satisfaction, positive affect, and self-esteem, were generally associated with higher levels of social support, self-efficacy, personal identity strength, whereas, the opposite occurred for negative affect and depression. These associations were more prominent for the returning players.

The results from the correlation analyses noted above provide sufficient support for Hypotheses 1 and 2. However, further examination is needed to support the hypotheses stating that more subjective and objective group memberships before and after the transition are associated with higher levels of well-being after transition (Hypotheses 3a), and that the group memberships effects will be more prominent for the new members (Hypothesis 3b). To accurately test these hypotheses, moderated regression analyses were conducted.

### **3.3.2. Examination of the relationships between group memberships and well-being**

These analyses were designed to assess Hypotheses 3a by examining whether players' subjective and objective group memberships prior to a sporting transition predicted well-being three months later. The analyses also assessed whether these group effects varied as a function of the recency of transition (i.e., returning or new players) and thus, provided a test of Hypothesis 3b. To test these associations, moderated regression analyses (Baron & Kenny, 1986; DeWall et al., 2011; Jaccard, Turrisi, & Wan, 1990) were conducted. The independent variables were the number of groups players' belonged to before transition (PG), the continuity of group memberships across the transition (CG), the new groups that players' joined after transition (NG), the number of groups players' belonged to after transition (PtG; this variable was only present for objective group listings), and transition recency categorical variable (RN; returning players received a score of -1, new players received a score of +1). Before conducting the moderated regression analyses, all independent

variables were standardised and interaction terms computed (Jaccard et al., 1990). The independent variables and their two- and three-way interaction terms were entered simultaneously. Three different regression equations were used and are described in greater detail below. All equations controlled for the dependent variables at Time 1 (Kenny, 1975), in order to infer the unique effects that the Time 1 independent variables had on the dependent variables at Time 2 (accounting for the relationship between the dependent variables at Time 1 and Time 2).

Assumptions for regression analyses were satisfied. Specifically, variance inflation factors were below 10, tolerance values were above 0.2, and intercorrelations between independent variables were below 0.8, which suggests that multicollinearity was not a concern (Field, 2009). Further, the assumption about the independence of observations was met (values of the Durban-Watson statistic lying within the accepted range of above 1 and below 3). Finally, scatter plots and Normal P-P plots revealed that the residuals were normally distributed at each level of the predictor, satisfying the assumptions of linearity, homoscedasticity and normally distributed errors.<sup>3</sup>

The results from the three regression analyses are presented below in turn. The first regression analysis was designed to assess the effects of players' subjective group membership ratings upon their well-being. The second regression analysis tests the importance of objective group listings for well-being. The third analysis builds on that of the second and examines the effects of the change in the overall number of objective group memberships across the transition by assessing the number of groups before and after transition. In this way, these analyses are able to inform an understanding of the impact of different measures of group memberships on well-being (e.g., the importance of players feeling like they belong to a lot of groups compared with the absolute number of groups that they actually belong to). The three regression analyses are described in more detail throughout the following sections.

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<sup>3</sup> Some standardised residuals were marginally greater than 2.58 in absolute value. The effect of each data point on each model's predictive ability was determined using Cook's distance. Cook's distance values for each of these residuals were acceptable (i.e., < 1), and were not deemed as highly influential points within each of the regression models predictive capability.

### 3.3.2.1. Subjective group membership ratings and well-being

The first regression equation was constructed to test the predictions of Hypotheses 3a and 3b by examining the influence of players' Time 1 subjective perceptions of group memberships (i.e., by using the subjective group membership ratings) upon Time 2 well-being, and their effects as a function of the recency of transition (i.e., new or returning players). This equation controlled for the dependent variable at Time 1, and further consisted of Time 1 subjective ratings of the groups that players felt they belonged to before transition (PG), the continuity of groups across the transition (CG), the new groups that players joined after transition (NG), and the recency of player transition (RN; returning or new) to assess their main effects upon well-being at Time 2. It also assessed the effects of the subjective group memberships as a function of whether they were a returning or new player, thus creating three two-way interaction terms. The equation was as follows:

$$DV (\text{Time } 2) = DV (\text{Time } 1) + PG (\text{Time } 1) + CG (\text{Time } 1) + NG (\text{Time } 1) + RN + RN*PG (\text{Time } 1) + RN*CG (\text{Time } 1) + RN*NG (\text{Time } 1).$$

The standardised beta-values displayed in Table 3.5 demonstrate that there is generally a strong positive relationship between players' self-reported well-being at Time 1 and at Time 2. In contrast to the predictions outlined in Hypothesis 3a, the number of subjective groups that players felt they belonged to before the transition generally had negative consequences for well-being after transition (i.e., lower life satisfaction, higher levels of negative emotions, and lower self-esteem). There is some evidence that the continuity of groups across the transition is less important than the number of new groups after transition, as those players with greater number of new groups experienced higher positive emotions and lower depression. Beyond that, there appears to be some differences in the impact of groups before transition and after transition (both maintained and newly acquired groups) on negative emotions and depression, dependent on the recency of the transition (i.e., returning or new members). These associations are displayed graphically in Figures 3.1, 3.2, and 3.3.

**Table 3.5.** Effects of Time 1 subjective group memberships, recency of transition, and interactions upon life satisfaction, positive emotions, negative emotions, depression, and self-esteem at Time 2.

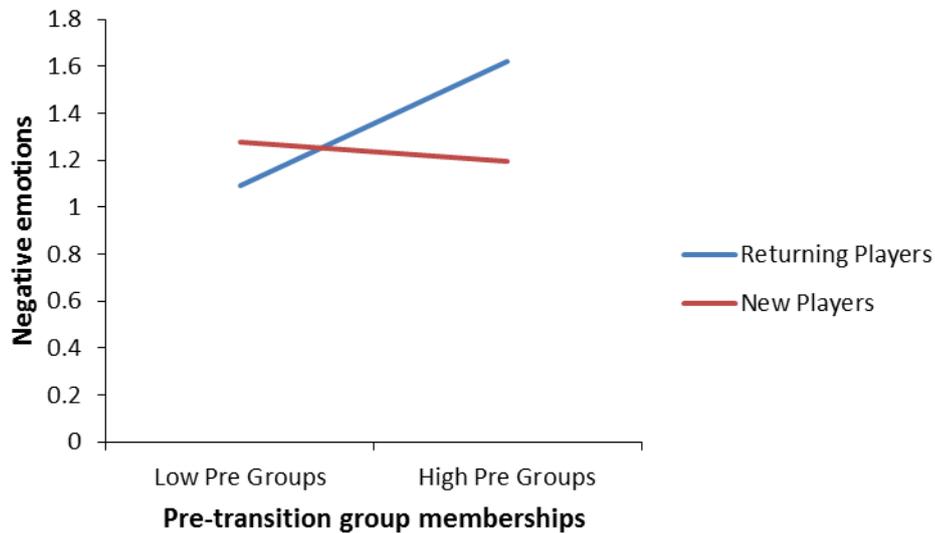
Time 1 Effect	Life Satisfaction		Positive Emotions		Negative Emotions		Depression		Self-esteem	
	<i>B</i>	Sig								
DV	.38**	.00	.28**	.01	.19*	.03	.52**	.00	.58**	.00
PG	-.26*	.03	-.04	.73	.17*	.03	.36	.11	-.10 <sup>†</sup>	.08
CG	.03	.69	-.04	.50	.04	.40	-.00	.99	.03	.48
NG	.02	.78	.12 <sup>†</sup>	.09	-.04	.47	-.23 <sup>†</sup>	.10	.01	.78
RN	-.00	.97	-.13*	.04	-.05	.33	-.01	.96	-.05	.16
RN*PG	-.01	.95	.07	.50	-.21**	.01	-.23	.32	.09	.11
RN*CG	-.00	.97	-.01	.88	-.03	.46	-.25*	.05	.03	.32
RN*NG	.04	.65	.02	.71	.11*	.03	.03	.82	.01	.88
<i>R</i> <sup>2</sup>	.20*		.22**		.22**		.28**		.35**	
<i>N</i>	95		95		95		95		95	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$

PG = groups before transition; CG = continuity of groups across transition; NG = new groups after transition; RN = recency of transition; RN\*PG = the interaction of the recency of transition and groups before transition; RN\*CG = the interaction of the recency of transition and continuity of groups across transition; RN\*NG = the interaction of the recency of transition and new groups after transition.

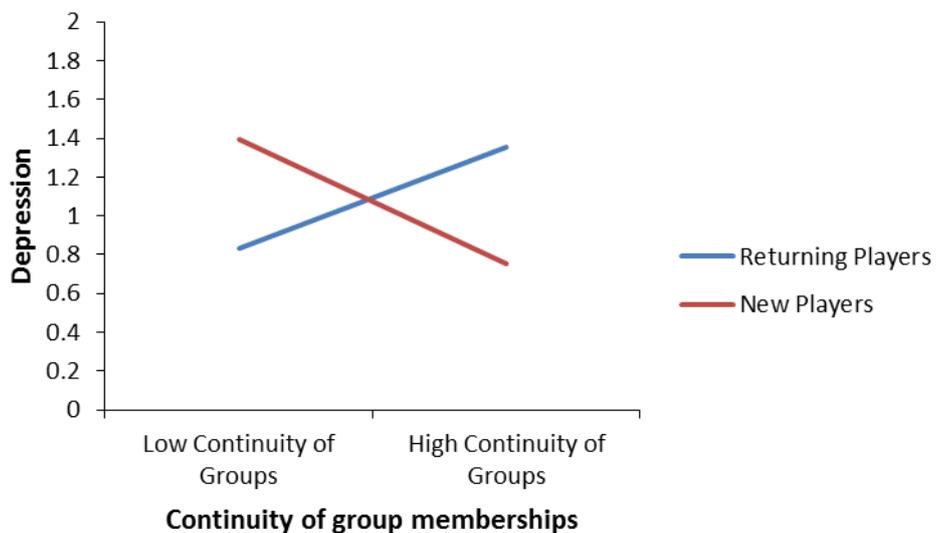
The figures below outline the differences between returning and new players group memberships at Time 1 upon negative emotions and depression at Time 2.

Figure 3.1 reveals that new players who felt that they belonged to greater number of groups before joining their new club or team experienced slightly lower levels of negative emotions than those with fewer groups before transition. The opposite occurred for returning players, as those who felt they belonged to more groups before transition, actually experienced higher levels of negative emotions than returning players with fewer groups before transition. Thus, the significant main effect noted above, demonstrating that players' with a higher number of groups before transition reporting higher levels of negative emotions, is most marked among returning players.



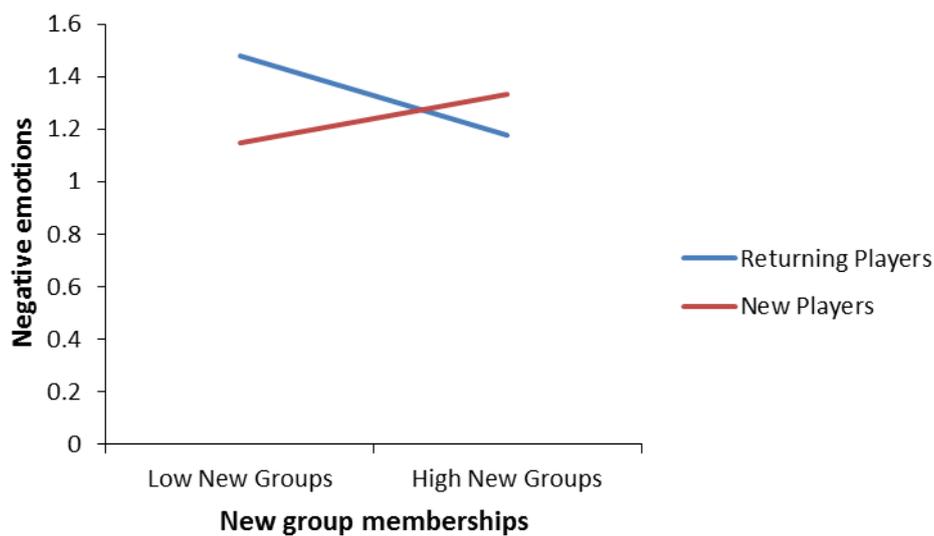
*Figure 3.1.* The effects of Time 1 subjective groups before transition upon Time 2 negative emotions, as a function of the recency of transition.

Furthermore, Figure 3.2 demonstrates that new players who felt that they maintained a greater number of their group memberships after joining their new club or team, experienced lower levels of depression than those with a lower continuity of groups. The opposite occurred for returning members, as those who reported a lower continuity of groups across the transition, experienced lower levels of depression than returning players with a higher continuity of groups.



*Figure 3.2.* The effects of Time 1 subjective continuity of groups across the transition upon Time 2 depression, as a function of the recency of transition.

In contrast to the associations demonstrated in Figures 3.1 and 3.2 above, Figure 3.3 reveals a different and unexpected direction of relationships between new groups joined after transition and negative emotions for new players. Interestingly, new players who felt they had joined a greater number of new group memberships after joining their new club and team, experienced higher levels of negative emotions compared to those with fewer new group memberships. The opposite occurred for returning players, as those who felt that they had acquired more new groups after the transition, experienced lower levels of negative emotions than those with fewer new group memberships.



*Figure 3.3.* The effects of Time 1 subjective new group memberships after the transition upon Time 2 negative emotions, as a function of the recency of transition.

The results from the first regression analyses provide little support for Hypothesis 3a, as the subjective perceptions of group memberships around the transition are important for well-being, but not in the expected ways. However, this pattern of results did depend on the recency of the transition, as the associations between group memberships and well-being were more prominent for the returning players. In particular, the returning players who felt that they belonged to a greater number of groups before transition and felt that they had maintained a greater number of groups across the transition, experienced higher negative emotions and depression after transition. The opposite occurred for the new players, suggesting that the number of groups players felt they

belonged to before transition and the number of groups they maintained across the transition were particularly beneficial for their well-being. This pattern of results provides support for Hypothesis 3b. However, the number of new groups joined after transition appeared to be more important for the returning players, as a greater number was associated with lower negative emotions. In this regard, the beneficial effects of the subjective group memberships on well-being, as a function of the recency of membership can offer partial support for the predictions outlined in Hypothesis 3a.

### 3.3.2.2. Objective group membership listings and well-being

Where the first analysis examined the importance of the subjective perceptions of group memberships, analysis two tests the importance of objective group listings for well-being. Thus, to further test the predictions of Hypotheses 3a and 3b, moderated regression analyses were repeated using the group listing data to assess the effects of Time 1 objective group memberships upon Time 2 well-being. This equation examined the same main effects and interactions as those used for the subjective rating data, but this time substituted the subjective groups with objective groups. Again, the dependent variable at Time 1 was controlled for. The equation was as follows:

$$\text{DV (Time 2)} = \text{DV (Time 1)} + \text{PG (Time 1)} + \text{CG (Time 1)} + \text{NG (Time 1)} \\ + \text{RN} + \text{RN*PG (Time 1)} + \text{RN*CG (Time 1)} + \text{RN*NG (Time 1)}.$$

Table 3.6, displaying the effects of Time 1 objective group listings on well-being, portrays a very different set of results to that of the preceding analyses with Time 1 subjective group rating data (Table 3.5). In contrast to the predictions outlined in Hypotheses 3a and 3b, there were no significant main or interaction effects for objective groups and recency of transition (i.e., returning and new players) on well-being at Time 2 ( $p > .05$ ). These results suggest that the number of objective group memberships that players' belonged to before joining their new club and team, their continuity of groups across the transition, and the number of new groups they joined afterwards, were not important for well-being after the transition.

**Table 3.6.** Effects of Time 1 objective group memberships, recency of transition, and interactions upon life satisfaction, positive emotions, negative emotions, depression, and self-esteem at Time 2.

Time 1 Effect	Life Satisfaction		Positive Emotions		Negative Emotions		Depression		Self-esteem	
	<i>B</i>	Sig	<i>B</i>	Sig	<i>B</i>	Sig	<i>B</i>	Sig	<i>B</i>	Sig
DV	.32**	.01	.53**	.00	.40**	.00	.87**	.00	.65**	.00
PG	-.06	.12	-.01	.78	-.00	.85	-.11	.13	-.02	.27
CG	-.03	.73	.00	.99	-.01	.91	.15	.26	-.03	.38
NG	.09	.21	-.01	.90	-.04	.33	.15	.23	.01	.76
RN	.04	.68	.02	.78	.02	.71	-.01	.95	.00	.97
RN*PG	-.05	.21	.02	.43	-.01	.77	.02	.75	-.01	.54
RN*CG	-.05	.52	-.02	.74	.04	.37	.26 <sup>†</sup>	.06	-.05	.24
RN*NG	.12 <sup>†</sup>	.09	.03	.55	.06	.17	.19	.13	-.00	.98
<i>R</i> <sup>2</sup>	.23*		.35**		.26*		.38**		.34**	
<i>N</i>	66		66		66		66		66	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$

PG = groups before transition; CG = continuity of groups across transition; NG = new groups after transition; RN = recency of transition; RN\*PG = the interaction of the recency of transition and groups before transition; RN\*CG = the interaction of the recency of transition and continuity of groups across transition; RN\*NG = the interaction of the recency of transition and new groups after transition.<sup>4</sup>

### 3.3.2.2.1. Additional analyses for objective group membership listings and well-being

Where analyses one and two examined the importance of the subjective and objective pre-transition groups, continuity of groups, and new groups respectively, the third analysis examined an additional aspect of group memberships that the objective listings captured. This additional aspect was changes in the overall number of group memberships after transition.

<sup>4</sup> The sample sizes within the analyses of the objective group memberships are much lower than the subjective group membership analyses, due to missing data within the group listing measure at Time 1.

Consistent with analysis two, the third analysis examined the effects of the groups that players' belonged to before transitioning into their new club and team, but also examined the effects of their groups after transition (PtG; the overall number of groups rather than the continuity or number of new groups) upon well-being at Time 2. Furthermore, the third analysis was also designed to examine the interaction between the groups players' belonged to before and after their transition (i.e., the net loss and gain of group memberships across the transition) and the effects this had upon well-being. Subsequently, the objective group listing data was used within another set of moderated regression analyses to assess the effects of the overall number of objective group memberships and further test the predictions outlined in Hypotheses 3a and 3b. The equation was as follows:

$$DV (\text{Time } 2) = DV (\text{Time } 1) + PG (\text{Time } 1) + PtG (\text{Time } 1) + RN + PG * PtG (\text{Time } 1) + RN * PG (\text{Time } 1) + RN * PtG (\text{Time } 1) + RN * PG * PtG (\text{Time } 1).$$

Table 3.7 provides considerable support for Hypothesis 3a and suggests that the objective group memberships are associated with life satisfaction, negative emotions, and self-esteem, but not positive emotions and depression. The number of groups that players belonged to before the transition is less important than the number they belong to afterwards, as those players with a greater number of post-transition groups experienced higher life satisfaction and lower levels of negative emotions. However, there is some evidence that the impact of groups after transition on self-esteem does depend on the groups before transition, such that more groups before and after transition had positive consequences. This association is displayed graphically in Figure 3.4. Beyond these results, there appears to be some differences in the impact of groups before and after transition on life satisfaction and negative emotions, dependent on the recency of transition (i.e., returning or new players). These associations are displayed graphically in Figures 3.5 and 3.6.

**Table 3.7.** Effects of changes in Time 1 objective group memberships, recency of transition, and interactions upon life satisfaction, positive emotions, negative emotions, depression, and self-esteem at Time 2.

Time 1 Effect	Life Satisfaction		Positive Emotions		Negative Emotions		Depression		Self-esteem	
	<i>B</i>	Sig	<i>B</i>	Sig	<i>B</i>	Sig	<i>B</i>	Sig	<i>B</i>	Sig
DV	.43**	.00	.54**	.00	.43**	.00	.87**	.00	.64**	.00
PG	-.01	.71	-.01	.99	-.02	.36	-.13	.10	-.01	.70
PtG	.14*	.03	.01	.81	-.08*	.04	.05	.69	.01	.68
RN	.03	.71	.02	.74	.05	.35	.06	.74	.01	.76
PG*PtG	.12**	.00	.01	.54	-.04 <sup>†</sup>	.05	-.03	.66	.04**	.01
RN*PG	-.01	.78	.03	.42	-.03	.19	-.00	.96	-.00	.95
RN*PtG	.19**	.01	.03	.56	.01	.80	.17	.16	.02	.50
RN*PG*PtG	.08**	.01	.01	.78	-.05**	.01	-.08	.16	.01	.44
<i>R</i> <sup>2</sup>	.34**		.35**		.35**		.40**		.42**	
<i>N</i>	66		66		66		66		66	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$

PG = groups before transition; PtG = groups after transition; RN = recency of transition; PG\*PtG = the interaction of groups before transition and groups after transition; RN\*PG = the interaction of the recency of transition and groups before transition; RN\*PtG = the interaction of the recency of transition and groups after transition; RN\*PG\*PtG = the interaction of the recency of transition, groups before transition, and groups after transition.<sup>5</sup>

Figure 3.4 reveals that players who belonged to a greater number of objective group memberships before and after their transition into the new club and team, experienced higher self-esteem compared to those with fewer groups before transition but a high number of groups after transition. Players who belonged to a high number of groups before transition but a low number of groups afterwards, actually had lower self-esteem than those with both a low number of groups before and after transition. Thus, it appears that a lack of change in the overall number of group memberships across the transition was most favourable for player self-esteem at Time 2, providing support for Hypothesis 3a.

<sup>5</sup> Again, the sample sizes within the regression analyses for objective group memberships are much lower compared to that of the subjective group memberships analyses, due to missing data within the group listing measure at Time 1.

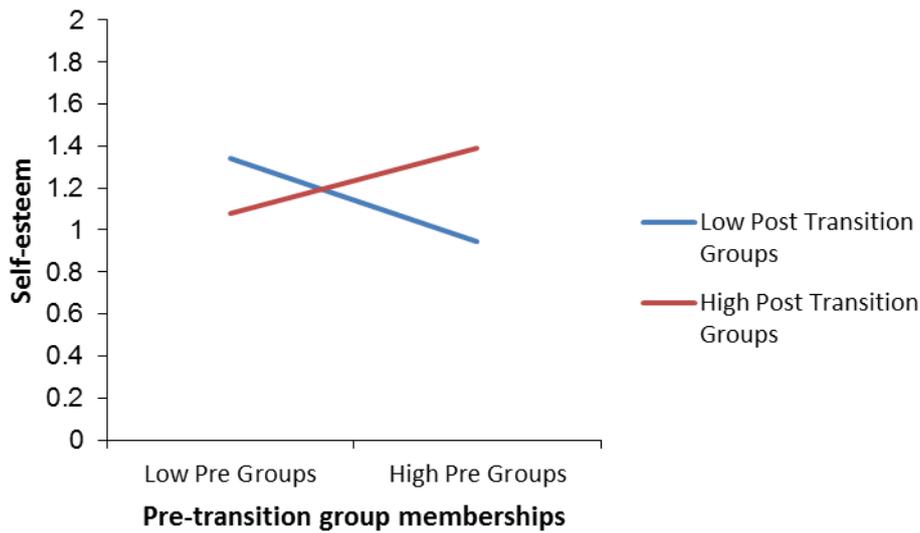


Figure 3.4. The effects of Time 1 objective groups before transition upon Time 2 self-esteem, as a function of groups after transition.

Figure 3.5 reveals that new players who belonged to a higher number of groups before and after their transition into the new club and team experienced the highest levels of life satisfaction. However, new players who belonged a high number of groups before transition but lost groups across the transition experienced the lowest levels of life satisfaction. Little variation occurred in life satisfaction for returning players. Therefore, both a high number of groups before and after transition are most favourable for life satisfaction at Time 2 for new players, providing further support for Hypotheses 3a and 3b.

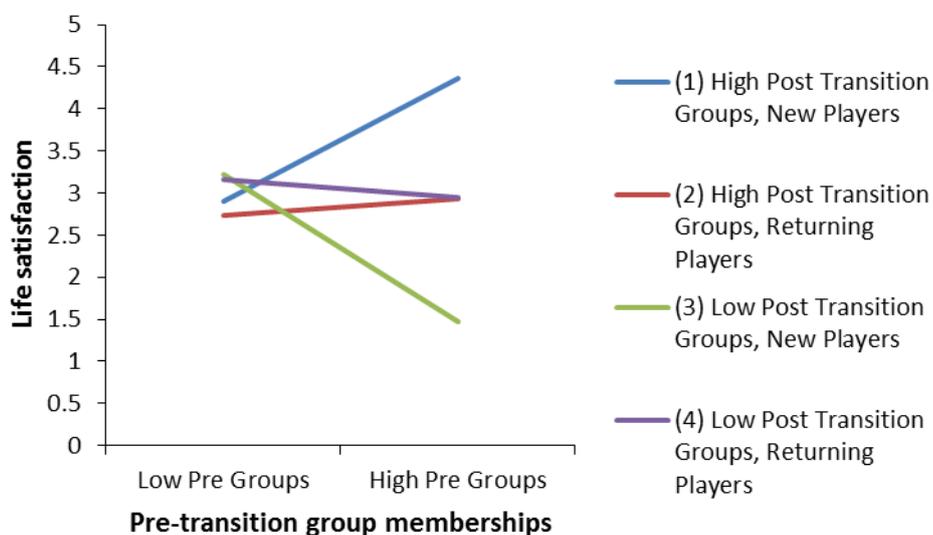
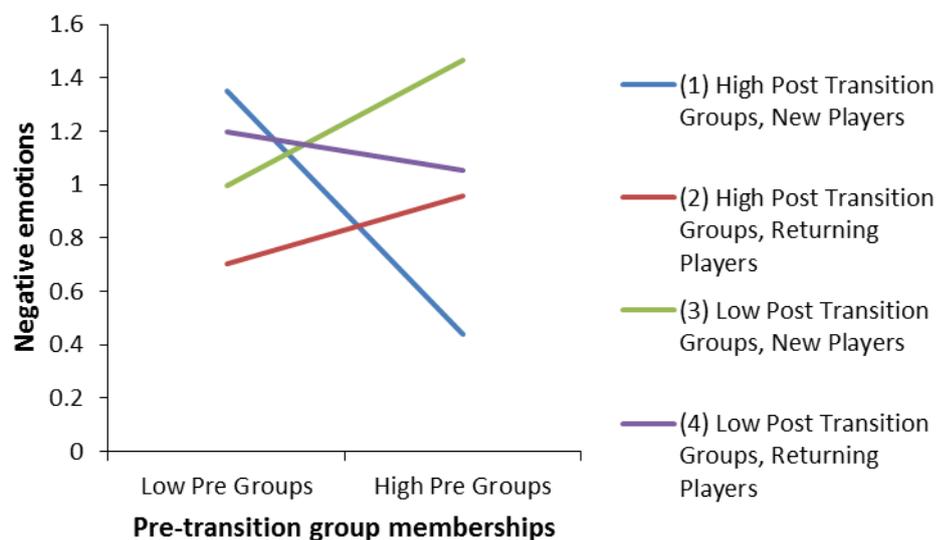


Figure 3.5. The effects of Time 1 objective groups before transition upon Time 2 life satisfaction, as a function of groups after transition and the recency of transition.

A similar story also emerged for the impact of objective group memberships before and after transition upon negative emotions. Figure 3.6 provides support for Hypotheses 3a and 3b, as the new players who belonged to a high number of groups before and after joining their new club and team (i.e., a lack of change in the number of group memberships across the transition) experienced the lowest levels of negative emotions. In contrast, new players who belonged to a high number of groups before transition but lost groups across the transition experienced the highest levels of negative emotions. This pattern of results for the new players is consistent with that of life satisfaction in Figure 3.4. Returning players, who belonged to a high number of groups before and after transition, actually experienced slightly higher levels of negative emotions compared to those with a high number of groups after transition but a low number of groups before transition. The opposite occurred for returning players with a low number of groups after transition.



*Figure 3.6.* The effects of Time 1 objective groups before transition upon Time 2 negative emotions, as a function of groups after transition and the recency of transition.

Taken together, the results from the regression analyses provide support for the predictions outlined in Hypothesis 3a. In particular, they suggest that objective group memberships around the point of transition are important for well-being of both returning and new players, three months later. This is demonstrated by a greater number of main and interaction effects within the

objective group membership analyses compared to those of the subjective group memberships. Thus, it appears that the number of groups a player actually belongs to before and after the transition is of greater importance than the perception of belonging to lots of groups. In particular, players who reported both a greater number of objective group memberships before and after joining their new club and team (i.e., a lack of change in the overall number of group memberships across the transition), experienced greater beneficial effects on their well-being and adjustment to the transition. However, this combination was dependent on the recency of membership as the group membership effects were more prominent for the new players, providing support for Hypothesis 3b. For example, the combination of both a greater number of groups before and after transition was particularly beneficial for new player life satisfaction and lowering negative emotions. However, belonging to a high number of groups before transition but losing groups after transition (i.e., a change in the number of group memberships across the transition) was most detrimental for life satisfaction and negative emotions for these players. This may imply that the overall number of groups that they belonged to after their transition were more important for their well-being than the number of groups they belonged to before transition.<sup>6</sup>

The moderated regression analyses were followed up by mediation analyses in order to test the predictions outlined in Hypotheses 4 and 5 as to whether the subjective and objective group membership effects on well-being

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<sup>6</sup> After conducting the regression analyses using Time 1 groups and Time 2 well-being, the present study was also interested in examining whether the groups reported at Time 2 also had beneficial effects on well-being. To examine this, the same equations were used, but this time, subjective and objective groups reported at Time 2 were included. In contrast to Time 1, there were no significant main or interaction effects for objective groups on well-being. However, players who felt they belonged to multiple subjective groups before transition, experienced higher positive emotions ( $b = .13, p < .05$ ) and self-esteem ( $b = .09, p < .01$ ). Players who felt they maintained more groups experienced higher life satisfaction ( $b = .16, p < .05$ ). Additionally, players who felt they had joined new groups experienced higher positive emotions ( $b = .13, p < .05$ ). A significant interaction also occurred between new groups and recency of transition upon life satisfaction ( $b = -.21, p < .01$ ), where returning members who felt they joined more new groups, experienced higher life satisfaction. The opposite occurred for new players. These results suggest that at Time 2, the subjective groups mattered more for player well-being (demonstrated by the objective group effects dropping out compared to Time 1). Furthermore, this may also suggest that the differences between returning and new players at Time 1 may be due to cohort effects, as when Time 2 groups were used within the analyses, these differences were no longer present or nuanced. Thus, the effects of a transition for new players were much more apparent at the immediate time of transition, but a couple of months later, the new player effects were similar to those of the returning players.

occurred through certain mechanisms. Details of these analyses can be found below.

### **3.3.3. Mediation analyses**

A series of moderated multiple mediation analyses were employed, using the PROCESS SPSS custom dialog developed by Hayes (2013) to assess the predictions of Hypotheses 4 and 5. Analyses were conducted with the significant highest order interactions demonstrated in the first and third moderated regression analyses. Mediation analyses assessed whether players' identification with the club and team, and other social psychological mechanisms (i.e., social support, self-efficacy, and personal identity strength) could be considered as mediators of the effects of the group memberships and recency of transition at Time 1, on well-being at Time 2, when including well-being at Time 1 as a covariate. The potential mediating effects of club and team identification were only assessed in relation to groups before transition.

Bootstrap confidence intervals showed that the indirect effects via identification, social support, self-efficacy, and personal identity strength were non-significant (see Table 3.8). Thus, the process measures did not mediate the relationships between group memberships and well-being.

**Table 3.8.** Moderated mediation results for all moderated regression interaction effects.

Effect	Mechanism	Negative emotions			Depression			Self-esteem			Life satisfaction		
		Effect	SE	95% CI	Effect	SE	95% CI	Effect	SE	95% CI	Effect	SE	95% CI
<b>Subjective:</b>													
RN*PG	Social support	.00	.01	(-.01 to .04)									
	Self-efficacy	-.03	.03	(-.10 to .01)									
	Personal identity strength	-.00	.01	(-.03 to .01)	-	-	-	-	-	-	-	-	-
	Identification	.00	.01	(-.01 to .04)									
RN*CG	Social support				-.01	.02	(-.06 to .01)						
	Self-efficacy	-	-	-	.00	.01	(-.03 to .03)	-	-	-	-	-	-
	Personal identity strength				-.01	.03	(-.11 to .03)						
RN*NG	Social support	-.00	.01	(-.01 to .01)									
	Self-efficacy	.00	.02	(-.03 to .05)	-	-	-	-	-	-	-	-	-
	Personal identity strength	.00	.01	(-.00 to .03)									
<b>Objective:</b>													
PG*PtG	Social support							.00	.00	(-.00 to .01)			
	Self-efficacy							-.00	.01	(-.02 to .01)			
	Personal identity strength	-	-	-	-	-	-	-.00	.00	(-.01 to .00)	-	-	-
	Identification							-.00	.00	(-.01 to .00)			
RN*PG*PtG	Social support										.00	.00	(-.00 to .02)
	Self-efficacy										.00	.01	(-.01 to .02)
	Personal identity strength	-	-	-	-	-	-	-	-	-	.01	.01	(-.00 to .06)
	Identification										-.00	.00	(-.02 to .00)
RN*PG*PtG	Social support	-.00	.00	(-.01 to .00)									
	Self-efficacy	-.00	.00	(-.01 to .01)									
	Personal identity strength	.00	.00	(-.00 to .02)	-	-	-	-	-	-	-	-	-
	Identification	.00	.00	(-.00 to .01)									

Note: CI = confidence interval; RN\*PG = the interaction of the recency of transition and subjective groups before transition; RN\*CG = the interaction of the recency of transition and subjective continuity of groups across transition; RN\*NG = the interaction of the recency of transition and subjective new groups after transition; PG\*PtG = the interaction of objective groups before transition and groups after transition; RN\*PG\*PtG = the interaction of the recency of transition and objective groups before and after transition.

### 3.4. Discussion

The present study makes a key contribution to the literature by addressing the paucity of longitudinal studies in the field assessing the effects of group memberships (Iyer et al., 2009; Jones & Jetten, 2010). Adopting this approach provided the opportunity to assess how group memberships develop and change over time, and ultimately, how this affects well-being and long-term adjustment to change (Haslam et al., 2008a; Hays & Oxley, 1986; Jetten et al., 2002). A primary aim of the present study was to examine the effects of multiple group memberships on players' resilience and adjustment to sports club and team transitions through assessing post-transition well-being. As the sample consisted of returning and new members, the recency of transition was included as a factor in the analyses and allowed the examination of the temporal dynamics of the group membership effects upon well-being over time.

The first analysis was interested in whether the feeling of belonging to lots of groups before and after transition was important for player well-being. Overall, the analyses incorporating the subjective group memberships provided little support for Hypothesis 3a, as although these groups were seemingly important for well-being three months after a transition, this was not in the manner expected (e.g., more groups before transition generally had negative consequences for well-being after transition). However, these findings varied as a function of the recency of transition as the negative associations between groups and well-being were more prominent for the returning players. In contrast, new players who belonged to a greater number of groups before transition, and who were able to maintain their group memberships across the transition, experienced lower negative emotions and depression after transition (providing support for Hypothesis 3b). Belonging to a greater number of groups before transition meant that new players experienced a .21 unit decrease in negative emotions. Furthermore, the maintenance of group memberships was associated with a .25 unit decrease in depression. This may make the difference between those who are able to maintain their participation within the clubs and teams by being able to experience negative emotions and depression less frequently, and those who do not. However, there was a beneficial effect of new group memberships upon negative emotions for returning players, as those who joined a greater number of new groups after transition experienced lower

negative emotions. The opposite occurred for the new players. Thus, when the recency of membership is taken into consideration, the beneficial effects of the groups can offer some support for Hypothesis 3a.

The second and third analyses were interested in the effects of the absolute number of group memberships before and after the transition. The results from the objective group membership analyses provide greater support for Hypothesis 3a, with evidence suggesting that the number of these groups apparent immediately around the transition, are important for player well-being three months later. Players who reported belonging to both a greater number of groups before and after joining their club and team (i.e., a lack of change in the number of group memberships across the transition), experienced higher levels life satisfaction and self-esteem, and lower negative emotions. This combination of pre- and post-transition groups was particularly beneficial for new player well-being (providing support for Hypothesis 3b), as the opposite generally occurred for returning player well-being. However, new players who possessed a high number of groups before transition but lost groups after transition experienced the lowest life satisfaction and highest negative emotions.

The present study also examined whether multiple group memberships before transition increased the likelihood of a player maintaining those group memberships across the transition (Hypothesis 1), and the likelihood of identifying with the club and team (Hypothesis 2). There was evidence to support Hypothesis 1 in the correlation analyses for both new and returning players (however, this only occurred for objective listings). These findings provide some support for those found by Haslam et al (2008). Furthermore, multiple subjective and objective group memberships before the transition were associated with identification (although, this only occurred for new players). This result provides support for Hypothesis 2 and the findings of Iyer et al (2009). The present study went on to assess whether identification mediated the relationship between group memberships before transition and well-being (e.g., Iyer et al., 2009). However, as no mediation effects via identification occurred, no support can be provided for Hypothesis 4.

The present study is one of the first investigations of the role of potential social psychological mechanisms (social support, self-efficacy, and personal identity strength) in relationship between group memberships and well-being.

Unfortunately, as no significant mediation effects occurred via mechanisms, there was no evidence to support Hypothesis 5. This lack of processes raises some questions within the literature (e.g., have previous studies not reported any results here due to failing to find any mediating effects rather than having not examined mechanisms?). The lack of mediation effects in the present study might suggest that the wrong variables were measured. However, the potential mechanisms were selected based on research showing direct associations between these variables and group memberships and well-being (e.g., Haslam et al., 2008; Iyer et al., 2009; Jetten et al., 2010; Schwarzer, 1992).

The findings provide the first demonstration within the literature that multiple group memberships are associated with enhanced well-being during within-career sport transitions. The robustness of the analyses used within the present study meant that these effects remained after controlling for Time 1 well-being. These findings support the theoretical argument that group memberships are important for mental health and well-being (Chandler & Lalonde, 1998; Haslam et al., 2008a; Haslam et al., 2009; Iyer et al., 2009; Jetten et al., 2012; Sani, 2012), and contribute to the research that claims group memberships promote resilience and are a predictor of adjustment to change following life transitions (e.g., Haslam et al., 2008a; Iyer et al., 2009).

The different moderated regression analyses examined the importance of players feeling like they belonged to a lot of groups compared with the absolute number of groups they actually belonged to. In line with the fact that there was little association between players' subjective and objective group memberships, there were different effects of these group memberships on well-being. Furthermore, the relationships between group memberships and well-being appear to matter at different times in a transition, providing an indication of the temporal nature of the group membership dynamics during transitions. For example, the beneficial effects of the group memberships upon well-being were more prominent for the new players than the returning players (i.e., those who recently transitioned), and this pattern of relationships emerged through a number of different variables.

The results suggest that new players experiencing a sport transition for the first time can be helped to successfully adjust to sports club and team transitions by the groups to which they belong. This may be because group

memberships act as a psychological resource and provide stability in the face of life changes (Iyer et al., 2009; Jones & Jetten, 2010). New players should be encouraged to effectively draw upon the resources that their groups provide before transition, maintain access to these resources across the transition, and obtain a high number of groups after transition. This is likely to facilitate their adjustment to change, ability to identify with the new club or team, and make important contributions to their well-being (although, the effect sizes of observed effects in the present study were generally small, and therefore, it is uncertain whether the same effects of multiple group memberships will occur across all individuals and in other populations and contexts). However, the results also suggest that returning players should be encouraged to join new groups after the transition, as this could also have beneficial effects on their well-being.

The present study highlights some important findings and contributes uniquely to the existing literature, yet some minor limitations should be noted. Primarily, the self-report measures used within the present study may be viewed as a potential limitation, as they may be subject to the effects of negative affectivity (Watson & Pennebaker, 1989), social desirability (Starkes & Young, 2006), and the avoidance of extreme responses on the scales, leading to inflated relationships (Cohen, Kessler, & Underwood, 1997). However, psychological well-being is commonly measured through self-report measures (Warr, 2012), and questionnaires are frequently used in transition research assessing the effects of group memberships on well-being (e.g., Haslam et al., 2008a; Iyer et al., 2009). Despite the availability of other measurement methods (e.g., interviews), they are viewed as too labour intensive for research this size. Furthermore, the reliability coefficients for the measures used within the present study were all above an acceptable reliability standard ( $> .70$ ; George & Mallery, 2003; Kline, 1999). Measures used to gauge well-being such as the PANAS, SWLS, and Rosenberg (1965) Self-esteem Scale, are considered as highly reliable and well-validated scales (e.g., Cassidy et al., 2005; Gray-Little et al., 1997; Pavot & Diener, 1993; Watson et al., 1988), and were appropriate to the population of interest.

Secondly, the players were responding to the measures retrospectively in the present study. The majority of the transition literature has employed retrospective data collection methods, yet this methodology has been regularly

criticised for memory decay and recall bias (Brewer, Van Raalte, Linder, & Van Raalte, 1991; Debois et al., 2012; Kerr & Dacyshyn, 2000; Pummell et al., 2008; Samuel & Tenenbaum, 2011). However, researchers (e.g., Lavalley & Robinson, 2007) have suggested that retrospective designs may be more advantageous, as respondents are able to reflect on the transition from the perspective of more mature personalities. Nevertheless, future research should employ prospective research designs to capture athletes before and after their transitions to help lower the possibility of recall hindrance.

Researchers have suggested that when examining an individual's group memberships, the number, importance, and quality should be considered (Haslam et al., 2012a). The present study assessed the number of groups, but did not examine the importance or quality of those groups listed by participants, though the objective group listing measure was able to capture importance to a certain extent, as the measure asked participants to list groups that were 'important in their life'. However, measures have been created to directly assess this (e.g., Haslam et al., 2008a). Additionally, it may also be important to determine the quality of participant's groups and whether the resources they provide are sufficient to support their needs. Consequently, future research should consider examining the importance and quality of groups, and how they affect adjustment to change.

A homogenous sample was used within the present study, minimising the influence of personal characteristics compared to heterogeneous samples (Samuel & Tenenbaum, 2011), yet poses questions regarding the representativeness of the results. Therefore, future research could assess whether group memberships are also important for well-being during sport transitions with males. It also remains unclear as to how group memberships exerted their effects on well-being. Thus, research should continue to examine the potential mechanisms through which group membership's act as a resource. These ideas are addressed in the following chapter.

### **3.4.1. Conclusion**

Belonging to multiple group memberships before and after transitioning into sports clubs and teams can make important contributions to a player's well-

being post-transition (although, it is important to note that the causal nature of relationships cannot be determined from the approach used within the present study). However, this depends largely on the recency of the transition, as the beneficial effects are more prominent for new members. In this way, the groups a new player belongs to can provide a platform to successfully adjust to the challenges associated with joining new sports clubs and teams.

## CHAPTER FOUR

### **Longitudinal Study to Assess the Effects of Multiple Group Memberships on Psychological Well-being and Performance after Programme Transitions in Elite Cricket**

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A cricketer's career is filled with transitions in order to progress and reach the top within their sport. A large number of these transitions are associated with joining new training programmes and the impact that the transitions have may change over time. A main priority for the ECB is to prevent players from dropping out of the national programmes by providing them with the support they need to maintain their well-being and sustain high levels of performance. The present chapter investigates whether multiple group memberships can contribute to players' resilience and adjustment to change after the programme transitions. To do this, the research examined the relationships between players' group memberships and their well-being and performance over a two year period using multiple data collection points. By taking time into consideration, the research hopes to gain an insight into the temporal dynamics of group memberships and whether their beneficial effects on well-being and performance vary as a function of the recency of the transition. For example, are players who enter a transition with more groups, can minimise the loss of these groups, and who are better able to acquire new groups (and players who possess multiple groups are better at maintaining and joining new groups), likely to show higher levels of well-being and performance? The potential mechanisms through which group memberships exert their effects on well-being and performance are also assessed in the present research. These ideas are discussed in greater detail throughout the following sections.

#### **4.1. Literature Review**

##### **4.1.1. Transitions**

Athletes who compete in professional sport are required to invest a significant amount of time to training and competing, both nationally and internationally in order to reach the top. During their careers, the cricketers are

likely to face many transitions (Debois et al., 2012; Samuel & Tenenbaum, 2011; Stambulova, 2000), and the main focus of support teams is assisting athletes to maximise their competitive performances (Taylor et al., 2006). These transitions may involve progressing from junior to professional competition, joining a new elite training programme, or recovering from injury. These transitions can be extremely challenging, as they require significant adjustment by the players in order to cope with the transitional demands (Erpic et al., 2004; Wapner & Craig-Bay, 1992; Wylleman et al., 2004).

The present research examines the transitions players experience when joining elite training programmes. When the players join an elite sporting environment, this is likely to disturb their well-being and performance (Coakley, 1983; Debois et al., 2012; Ethier & Deaux, 1994; Schweiger & DeNisi, 1991; Sinclair & Orlick, 1993; Stambulova et al., 2009). Thus, identifying the factors that may contribute to a players' resilience by helping them to maintain well-being and performance during times of change is of high importance to athletes, coaches, and support staff alike.

#### **4.1.2. Multiple group memberships, well-being, and performance**

Transitions generally compromise well-being because they involve changes to people's group memberships (Haslam et al., 2008a; Iyer et al., 2009; Kling et al., 2003; Sani, 2008). According to the Social Identity Theory (Tajfel & Turner, 1979; Tajfel & Turner, 1986) and Self-Categorisation Theory (Turner, 1982; Turner et al., 1987; Turner et al., 1994), group memberships are central to the way people experience and respond to change. This is because group memberships furnish individuals with a sense of social identity (Haslam et al., 2008b; Iyer et al., 2008; Tarrant et al., 2012), and these identities have important implications for well-being (Baumeister & Leary, 1995; Correll & Park, 2005; Haslam et al., 2009; Jones et al., 2011; Thoits, 1983). The theories suggest that being a member of multiple group memberships before and after a transition (either through maintaining groups across the transition or acquiring new groups), plays an important role in helping people adjust to change (Haslam et al., 2012a).

The present chapter builds upon the previous chapter by further examining whether players who belong to a greater number of group memberships before and after transitioning into elite cricket programmes, experience higher levels of adjustment through enhanced well-being and performance after the transition. There is a substantial amount of research claiming that multiple group memberships have positive consequences for health and well-being, and help people adjust and cope with change during transitions (Brook et al., 2008; Haslam et al., 2008a; Haslam et al., 2012a; Haslam et al., 2009; Iyer et al., 2009; Jones et al., 2011; Jones et al., 2012; Linville, 1985, 1987; Thoits, 1983). In contrast to the wealth of evidence demonstrating the effects of multiple group memberships on well-being, there has been no research to date looking at their effects on performance. The present study attempts to address this gap in the literature and investigates whether multiple group memberships are also associated with higher levels of performance after programme transitions in elite cricket.

For players to adjust to programme transitions effectively, they need to draw upon their resource pool. Group memberships supply numerous important resources, including social support (Aspinwall & Taylor, 1997; Haslam et al., 2008a; for a detailed theoretical discussion see Haslam, 2004; Haslam et al., 2005; Haslam et al., 2012b; Iyer et al., 2009; Levine et al., 2005; Underwood, 2000), knowledge and opportunities (Bourdieu, 1979/1984), and other emotional, instrumental, and practical resources (Haslam et al., 2005). Thus, the ability to effectively draw upon the group membership resources required to balance out transitional challenges, is thought to protect athletes' well-being and performance from the threats of transitions and changes in group memberships (Alfermann & Stambulova, 2007; Dodge et al., 2012; Schlossberg, 1981; Stambulova et al., 2009; Taylor & Ogilvie, 1994).

However, players' commitment to elite sport usually comes at the cost of pursuing a balanced lifestyle. This is due to their relatively short careers and the need of specialising early to maximise their chance of reaching the top. Thus, players may fail to explore other life activities (i.e., they do not participate in self-exploration and identity formation processes; Erikson, 1963) to focus primarily on the sport role, which leads to players forming fewer connections with group memberships outside sport (Baillie & Danish, 1992; Good et al., 1993; Lavallee

& Robinson, 2007; McKnight et al., 2009; Sinclair & Orlick, 1993). Past research suggests that athletes who immerse themselves in the athletic role tend to experience adjustment difficulties after transitions in sport (e.g., Crook & Robertson, 1991; Werthner & Orlick, 1986; Wylleman et al., 1999). Therefore, for those players who are able to maintain some balance in their lives and possess multiple group memberships, does this provide them with a foundation to successfully adjust to the transition and contribute to their well-being and performance? It is this possibility that the present research seeks to address.

#### **4.1.2.1. Multiple group memberships and the maintenance of group memberships**

Belonging to multiple groups prior to joining the programmes may offer further protection from the harmful effects of the transition by increasing the likelihood of players maintaining their group memberships across the transition (Haslam et al., 2008a). This continuity of group memberships is likely to be an important determinant of players' adjustment to change (e.g., Chandler & Lalonde, 1998; Clarke & Black, 2005; Haslam et al., 2008a), and well-being and performance on the programme (Ballis et al., 2008; Bluck & Alea, 2008; Chandler et al., 2003; Haslam et al., 2008a; Iyer et al., 2009; Michinov et al., 2008; Sani et al., 2008). This is because group memberships are a source of social psychological resources (or capital), whereby maintaining group memberships provides a continual basis of self-definition and self-esteem (Haslam et al., 2009; Iyer et al., 2008; Sani, 2008; Tajfel & Turner, 1979), and reinforces relational bonds to obtain support from during times of change (Bluck & Alea, 2008; Iyer & Jetten, 2011; Jetten & Wohl, in press; Landau et al., 2008; Sani et al., 2008; Sedikides et al., 2008).

However, professional sports generally expect players to relinquish their pre-existing group memberships when they join an elite training programme in order to focus more strongly on the sport. Furthermore, the extensive amount of time that players invest in the sport may leave them with little time to participate in their activities prior to the programme. For those players that are able to find some balance and minimise the loss of group memberships across the transition, is this associated with enhanced well-being and performance? Also,

does belonging to multiple group memberships before the transition increase the likelihood of maintaining some of those groups across the transition? It is these ideas that the present research sought to explore.

#### **4.1.2.2. Multiple group memberships and the acquisition of group memberships**

Being able to adopt the programme group membership is largely determined by whether players belong to multiple group memberships before their transition. Past research has demonstrated that possessing multiple group memberships upon entering a transition helps people to identify with new groups and incorporate them into their self-concept (e.g., Iyer et al., 2009; Thoits, 1983). By doing so, the new sense of belonging that group memberships provide, helps people adjust to transitions by having a positive effect on their well-being (Branscombe et al., 1999; Haslam & Reicher, 2006; Hirsch, 1981; Jetten et al., 2003; Jones et al., 2012). Furthermore, research conducted by Iyer et al (2009) has also shown that identifying a new group membership mediates the relationship between multiple group memberships before transition and lowering depression after transition. In applying this to the present study, belonging to multiple groups before the transition may predict well-being and performance after the transition, as players are able to identify highly with the new programme and other players on the programme. The relationships between multiple group memberships, identification, well-being, and performance will be examined in the present study. Additional mechanisms will also be assessed and are outlined below.

#### **4.1.3. Potential social psychological mechanisms of beneficial group membership effects**

The present chapter further examines the potential mechanisms through which group memberships operate upon well-being and performance in an elite sporting context. These mechanisms include personal identity strength (Jetten et al., 2010a), self-efficacy (e.g., Druckman, 2004; Schwarzer, 1992), and social support (e.g., Haslam et al., 2008a; Iyer et al., 2009; Rees & Freeman, 2009; Sarason & Sarason, 1986). The present study assesses whether personal

identity strength, self-efficacy, and social support could be considered as potential mediators of the effects of multiple group memberships on well-being and performance.

#### **4.1.4. The present study**

The primary aim of the present study was to examine the effects of players' multiple group memberships on their well-being and performance after programme transitions in elite cricket. A secondary aim was to investigate whether the group membership effects varied as a function of the time since the transition. A final aim was to assess the potential social psychological mechanisms through which group memberships have an effect on well-being and performance. It was hypothesised that:

##### **The dynamics of group memberships over a transition:**

- H<sub>1</sub>: The more group memberships that players belong to before the transition, the more likely they are to maintain these group memberships across the transition.
- H<sub>2</sub>: The more group memberships that players belong to before the transition, the more likely they are to identify highly with the new programme and other players.

##### **Relationships between multiple group memberships, well-being and performance:**

- H<sub>3a</sub>: The more group memberships that players belong to before and after the transition, the more likely they are to have high levels of post-transition well-being and performance.
- H<sub>3b</sub>: The beneficial effects of group memberships on well-being and performance are likely to vary as a function of the recency of the transition.

##### **Relationships between multiple group memberships and mechanisms:**

- H<sub>4</sub>: Identification with the programme will mediate the relationship between multiple group memberships before transition and post-transition well-being and performance.

H<sub>5</sub>: The mechanisms (i.e., social support, personal identity strength, and self-efficacy) will also mediate the effect of group memberships on well-being and performance.

## 4.2. Method

### 4.2.1. Participants

The baseline sample consisted of 257 UK male and female elite cricket players (34 females, 223 males). The players ranged in age from 12 to 19 years ( $M = 15.53$ ,  $SD = 1.34$ ). Players were recruited through ECB Cricket Talent Testing events and County Academy sessions ( $n = 206$ ), and also within England Development Programme sessions (EDP;  $n = 51$ ). Players were recruited on average 12.10 months ( $SD = 11.59$ ) after their programme transition. These players, in particular the EDP players, are top of the sport for this age range.

### 4.2.2. Procedure

Ethics approval was obtained from the College of Life and Environmental Sciences at the University of Exeter prior to the research taking place (see Appendix 1.1). Players were invited to participate in the research during programme training sessions, ECB talent testing events, and through administration by academy directors and support staff. Players were assured that their responses would be kept completely confidential and would not be shared with coaches, support staff, or other players, nor affect their participation in the programme in any way. Players who agreed to take part in the research after reading an information sheet (see Appendix 3.2) completed an informed consent form, in addition to their parents or guardians for those under 18 years of age (see Appendix 2.2), and a Time 1 baseline questionnaire (see Appendix 4.2). The players' coaches were also asked to complete a short questionnaire (see Appendix 4.3). Players were invited to repeat the questionnaire at later time points over a follow up period of two years.

From the sample, 134 players completed a questionnaire only once. The remaining players completed a baseline questionnaire and then repeated the same questionnaire at another time point or numerous time points over two years (i.e., two time points,  $n = 69$ ; three times points,  $n = 35$ ; four times points,  $n = 16$ ; five time points,  $n = 3$ ). Sample attrition was due to players who had left the programmes either due to time restraints, programme age restrictions, moving onto university, injury, or de-selection through poor performance and adherence.

Upon completion of data entry, data were checked for outliers. Furthermore, a random sample of 10% of the questionnaires were checked for accuracy of data entry.

### 4.2.3. Measures

Players were responding to the measures within the questionnaires retrospectively after their programme transition (this method has been used in previous research, i.e., retrospectively after change; Haslam et al., 2008a). Details of the scales used within the questionnaires of the present study, and where relevant, the reliability coefficients, are provided below.<sup>7</sup>

**Objective group membership listings.** To measure players' group memberships, players were asked to list the groups that they belonged to before they joined their programme and then to list the groups that they belonged to since they had joined their programme (Haslam et al., 2008a). Players were told, "a group is anything that you belong to with other people. For example, you could belong to groups through work, through school, through your hobbies and interests, through your social life, or through sports". To analyse these *listings*, the total number of groups that players' listed pre- and post-transition were counted. The latter post-transition count was also separated as a function of whether the groups were maintained across the transition (continuity of group memberships) or were new (unique) groups joined after the transition.

**Subjective group membership ratings.** Players' perceptions of their multiple group memberships were assessed using the Exeter Identity Transition Scales (EXITS; Haslam et al., 2008a). The scale consists of 12 items and

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<sup>7</sup> Additional measures were included in the original questionnaires (see Appendix 4.2), however, they are not reported in this section. These measures assessed social class (single item adopted from Iyer et al., (2009)); perceived compatibility of identities (three items measure adapted from Iyer et al., (2009)); attachment (using the Relationship Structures Questionnaire of the Experiences in Close Relationships: Fraley, Heffernan, Vicary and Brumbaugh (2011)); personality (using the Big Five Inventory -10: Rammstedt and John (2007); and the Single-Item Measures of Personality: Woods and Hampson (2005)); internal control (six items adapted from the Internal Control Index; Duttweiler, 1984), and social connections (three items adapted from Onyx and Bullen (2000)). These measures were not used within the analyses either because they had poor reliability coefficients (e.g.,  $\alpha_s < .46$ ) or were primarily included due to the interests of the ECB and were not relevant to the main focus of the research.

players' were asked to indicate their agreement with the items on seven-point scales (1= strongly disagree, 7 = strongly agree). The first four items measure perceptions of *multiple group memberships before the transition* ( $\alpha = .87$ ), the next four items measure perceptions of *continuity of pre-transition group memberships after the transition* ( $\alpha = .83$ ), and the final four items measure perceptions of *new group memberships after the transition* ( $\alpha = .86$ ). Each of the three scales included a statement in relation to the number of group memberships players' belonged to, how often they participate in the activities of these groups, their friendships within these groups, and whether they felt strong ties with these groups.

**Level of identification with the programme.** To measure players' social identification with the programme, an adapted version of the scales within the studies of Iyer et al (2009) and Doosje, Ellemers and Spears (1995) was used. The scales covered cognitive, evaluative, and affective aspects of identification. The adapted programme identification scale consisted of six items ( $\alpha = .86$ ) and players were asked to indicate their agreement with items such as "I am pleased to be a player in my programme", "I feel strong ties with other players in my programme", and "I have a strong sense of belonging to my programme" on identical seven-point scales (1 = strongly disagree, 7 = strongly agree).

#### 4.2.3.1. Mechanisms

**Social support.** Social support was assessed using a shortened version of an existing 10-item measure (Haslam et al., 2005). The four-item measure ( $\alpha = .76$ ) used within the present study incorporated items designed to assess four aspects of social support: (a) emotional support, (b) companionship, (c) instrumental support, and (d) informational support (House, 1981). Players were asked to indicate their agreement with the items "Do you get the emotional support you need from other people?", "Do you get the help you need from other people?", "Do you get the resources you need from other people?", and "Do you get the advice you need from other people?" on identical seven-point scales (1 = not at all, 7 = completely).

**Self-efficacy.** Players' self-efficacy was measured using a single item taken from the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). Players were asked to indicate their agreement with the item "I can usually handle whatever comes my way" on identical seven-point scales (1 = strongly disagree, 7 = strongly agree).

**Personal identity strength.** To assess the extent to which players had a clear understanding of who they are, a scale that previous research (Haslam et al., 2010; Jetten et al., 2010) has adapted from existing self-clarity (Campbell et al., 1996) and personal identity strength (Baray et al., 2009) scales was used. This scale consists of five-items ( $\alpha = .70$ ) and players were asked to indicate their agreement with the items "I know what I like and what I don't like", "I know what is right and wrong", "I have strong beliefs", "I know what I want from my life", and "I am aware of the roles and responsibilities I have in my life" on identical five-point scales (1 = strongly disagree, 5 = strongly agree). Higher ratings denote a stronger understanding of self.

#### 4.2.3.2. Dependent variables

For each of the well-being measures listed below, players were asked to indicate how often or to what extent they had felt that way since becoming a member of the programme.

**Life satisfaction.** The multi-item Satisfaction With Life Scale (SWLS; Diener et al., 1985) was used to assess the extent to which players were satisfied with their life in general after the programme transition. The SWLS consists of five items ( $\alpha = .82$ ) and players were asked to indicate their agreement with the items "In most ways my life is close to ideal", "The conditions of my life are excellent", "I am satisfied with my life", "So far I have gotten the important things I want in life", and "If I could live my life over, I would change almost nothing" on identical seven-point scales (1= strongly disagree, 7= strongly agree).

**Positive and negative affect.** Positive and negative affect were measured using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). The PANAS consists of ten items of positive affect ( $\alpha = .82$ ) and ten

items for negative affect ( $\alpha = .81$ ). Players were asked to indicate their agreement with the items for positive affect (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active) and the items for negative affect (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid) on identical five-point scales (1= very slightly or not at all, 5 = extremely).

**Self-esteem.** Self-esteem was measured using the Rosenberg (1965) Self-Esteem Scale. The scale consists of ten items ( $\alpha = .83$ ) and players were asked to indicate their agreement with items such as “I feel I have a number of good qualities”, and “I certainly feel useless at times” on identical five-point scales (1 = strongly disagree, 5 = strongly agree). Half of the items in the measure are reverse scored.

**Adjustment and performance.** The players perception of adjustment and performance on their programme was assessed in the questionnaires using a six-item measure ( $\alpha = .77$ ). Players were asked to indicate their agreement with the items “Do you think you have adjusted well to your programme?”, “Are you satisfied with your performance since becoming a member of your programme?”, “Are you performing well right now?”, “Has your performance been consistently better than it was before joining your programme?”, “Has your performance been consistently worse than it was before joining your programme?”, and “Overall since joining your programme, has your performance been better than other members of your programme?” on identical seven-point scales (1 = strong no, 7 = strong yes) to the items.

**Coaches perceptions of players' adjustment and performance.** The players coaches were asked to fill out a questionnaire each time a player filled out a questionnaire to assess their perceptions of each player's adjustment and performance in the programme. A measure consisting of three items ( $\alpha = .87$ ) was used, and coaches were asked to indicate their agreement with the items “Do you think the player has adjusted well to the programme environment?”, “Since participating in the programme, has the player been performing well?”, and “Do you think the player has the potential to perform well in the future?” on identical seven-point scale (1 = strong no, 7 = strong yes).

### 4.3. Results

Cross-sectional analyses were first conducted with the baseline data to gain an indication of the nature of relationships between group memberships, mechanisms, well-being, and performance.

#### 4.3.1. Descriptive statistics and bivariate correlations

Means, standard deviations, and bivariate correlations of the study variables are provided (see Table 4.1). These correlations provide satisfactory tests for the predictions of Hypotheses 1 and 2, and although further analyses are required to accurately test the predictions of Hypothesis 3a, 3b, 4, and 5, the correlations can still provide some evidence for these hypotheses.

Objective group membership listings revealed that players belonged to an average of 6.16 groups ( $SD = 2.58$ , range: 1-15) before joining their programme, belonged to an average of 5.70 groups ( $SD = 2.27$ , range: 1-13) after joining their programme, maintained an average of 3.98 ( $SD = 2.16$ , range: 0-11) groups across the transition, and joined an average of 1.72 new groups ( $SD = 1.15$ , range: 1-8) after transition. Sporting groups (e.g., belonging to school sports teams, sports clubs, gym membership) were the most frequently listed group category ( $M = 4.80$ ,  $SD = 2.32$ , range: 1-13).

##### 4.3.1.1. Group membership dynamics and well-being and performance across the transition

As displayed in Table 4.1, there appears to be some association between players' subjective and objective group memberships. Further results from the correlation analyses relating to each of the hypotheses are found below:

###### 4.3.1.1.1. Relationships between multiple group memberships and the maintenance and acquisition of group memberships

A definitive test of the predictions outlined in Hypothesis 1 is provided by the correlation analyses. This hypothesis stated that the more group memberships players belonged to before the transition, the more likely they

**Table 4.1.** Baseline descriptive statistics and bivariate correlations.

Measure	M (SD)	Correlations																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Objective Group Listings</b>																		
1. Number of groups pre-transition	6.16 (2.58)		.59**	.63**	-.01	.34**	.09	.05	.28**	.27**	.13**	-.01	.13*	.30**	.20**	.03	.26**	.26**
2. Number of groups post-transition	5.70 (2.27)			.87**	.35**	.18**	.23**	.16**	.28**	.30**	.08	.06	.04	.29**	.09	-.08	.15*	.20**
3. Number of old groups post-transition	3.98 (2.16)				-.17**	.15*	.25**	.02	.20**	.23**	.01	.05	.03	.24**	.06	-.14	.14*	.18**
4. Number of new groups post-transition	1.72 (1.15)					.07	-.01	.29**	.17**	.17**	.15*	.02	.01	.10	.05	.11	.04	.07
<b>Subjective Group Ratings</b>																		
5. Multiple groups pre-transition	5.27 (1.03)						.16**	.16**	.29**	.33**	.31**	-.17**	.32**	.24**	.08	.07	.33**	.20**
6. Old groups post-transition	5.16 (1.10)							.18**	.31**	.28**	.20**	-.23**	-.18**	.21**	.08	-.13	.20**	.04
7. New groups post-transition	4.97 (1.23)								.13*	.15*	.25**	.09	.09	.22**	.02	.02	.02	.03
<b>Mechanisms &amp; DVs</b>																		
8. Group identification	5.89 (0.69)									.56**	.41**	-.32**	.35**	.17*	.14 <sup>†</sup>	.19**	.42**	.20**
9. Life satisfaction	5.33 (0.84)										.40**	-.28**	-.47**	.27**	.18**	.24**	.40**	.26**
10. Positive affect	4.15 (0.46)											-.11 <sup>†</sup>	.43**	.23**	.10	.23**	.33**	.20**
11. Negative affect	1.77 (0.54)												-.44**	-.13 <sup>†</sup>	-.18*	.04	-.21**	-.11 <sup>†</sup>
12. Self-esteem	3.21 (0.42)													.19**	.35**	.11	.42**	.25**
13. Social support	5.79 (0.79)														.17*	.16*	.09	.11
14. Self-efficacy	5.59 (0.78)															.19**	.11	.10
15. Personal ID strength	4.24 (0.43)																.14*	.15*
16. Player performance	5.41 (0.73)																	.30**
17. Coach performance	5.27 (0.97)																	

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ ; Listwise  $N = 255$ ; Mechanism Analyses Listwise  $N = 195$  (i.e., social support, self-efficacy, and personal identity strength).

were to maintain these group memberships across the transition. Support can be provided for Hypothesis 1, as players who reported belonging to both a greater number of subjective and objective groups before transition was positively associated to the maintenance of group memberships after transition.

The correlations also provide a sufficient test of the predictions in Hypothesis 2 as to whether players who belonged to multiple group memberships before the transition were more likely to identify highly with the new programme and other players. As expected, belonging to a greater number of subjective and objective group memberships before transitioning onto the programme was associated with higher identification. Thus, this pattern of results provides support for Hypothesis 2.

#### **4.3.1.1.2. Relationships between multiple group memberships, well-being, and performance**

Hypothesis 3a predicted that the more group memberships players belonged to before and after the transition, the more likely they were to have high levels of well-being and performance after the transition. Multiple subjective group memberships generally showed the expected relationships with players' self-reported well-being, in that more group memberships were positively associated with well-being (i.e., higher life satisfaction, positive emotions, self-esteem, and lower negative emotions). However, multiple objective group memberships are also important, particularly for life satisfaction. In addition, multiple subjective and objective group memberships before and after transition are associated with higher ratings of player and coach performance (however, new group memberships joined after transition does not seem to matter for performance). These associations between multiple group memberships, well-being, and performance offer support for Hypothesis 3a.

#### **4.3.1.1.3. Relationships between multiple group memberships, mechanisms, well-being, and performance**

Hypotheses 4 and 5 predicted that identification with the programme and other social psychological mechanisms (i.e., social support, self-efficacy, and

personal identity strength) will mediate the relationships between multiple group memberships, well-being, and performance. Although mediation analyses are required to accurately test these hypotheses, an overview of the associations demonstrated in the correlations between groups, mechanisms, well-being, and performance is provided. For instance, multiple subjective and objective group memberships were associated with higher levels of social support, but not self-efficacy and personal identity strength. In addition, players' who identified highly with the programme experienced higher levels of well-being, performance, and mechanisms. Associations between well-being and mechanisms were in the expected directions. For example, life satisfaction, positive affect, and self-esteem, were generally associated with higher levels of social support, personal identity strength, and self-efficacy, whereas the opposite occurred to negative affect. However, only personal identity strength appears to be important for both player and coach rated performance. Players' who experienced high levels of well-being also had high levels of player and coach rated performance. Lastly, relationships between mechanisms and performance were positively associated with one another.

The cross-sectional analyses discussed above provide sufficient support for Hypotheses 1 and 2. However, further examination is needed to support the hypotheses stating that more subjective and objective group memberships before and after transition are associated with higher levels of well-being and performance after transition (Hypotheses 3a), and that the group memberships effects will vary as a function of the time since transition (Hypotheses 3b). To test these hypotheses, multilevel modelling analyses were conducted.

#### **4.3.2. Examination of group membership effects on well-being and performance**

Multilevel modelling (MLM) was used to analyse the data as it is much more flexible for modelling the effects of time and handling missing data than the standard univariate ANOVA approach. MLM can make use of all available data in the estimation of parameters due to its flexible treatment of the time predictor (Brown & Prescott, 2006; Field, 2009). The number of repeat measures that each person has can vary (either by design or attrition), and

individuals who only provide baseline data can still be included in an analysis and contribute to the estimation of model parameters. Also, the time between the repeated measures can vary too. MLM simply factors the variation in time into the model. Both these features—varying number of measures and varying time between them—are inherent in the data set.

MLM allows for between-person variation in both the initial measurement (random intercepts) and the progression of the measure over time (random slopes). This is appropriate for the data set of the present study as the initial levels of well-being, for example, are likely to vary between the players (some will be high, some will be middling, others will be low) and the trajectories of well-being scores over time may also vary between players (well-being may increase with time in some players, remain stable in some, and deteriorate in others). Allowing intercepts and time-related slopes to vary like this allows for the present research to partition the error/unexplained variance into two components—between-player variance and within-player variance. With some, or much of the ‘error’ variance explained by the variation between players, the present research could potentially reveal even subtle associations to be statistically significant.

MLM analyses were conducted to assess the predictions outlined in Hypothesis 3a: is belonging to a greater number of group memberships (subjective and objective) before and after joining the programmes, associated with higher well-being and cricketing performance during their time on the programme? The analyses also assessed whether the group membership effects varied as a function of the time since the players joined their programme (Hypothesis 3b). There were four independent variables, all of which related to group memberships: pre-groups (PG; the number of groups the players belonged to before joining the programme), new groups (NG; the number of new groups the players had acquired since joining the programme), continuity of groups (CG; the number of groups the player had maintained across the transition), and post-groups (PtG; the number of groups the player belonged to post-transition). Post-groups, however, was only present for the objective group listings. The time variable in the analysis reflected ‘time since transition’ (months since the players had joined the programmes) and was collapsed into three categories which represented key time points of programme life ( $\leq 6$

months,  $n = 140$ ; 7-18 months,  $n = 191$ ; >18 months,  $n = 120$ ). The 0-6 month category would demonstrate any short-term group membership effects on well-being and performance during the settling in period of the programme. The latter categories (7-18 months; >18months) represent the long-term effects of group memberships during the main programme period, and align with the age progression in the programmes (e.g., in the EDP, players are generally in the programme for around 18 months before progressing to the next age group).

When modelling the well-being and performance outcomes; age, months since transition, and one or more of the group membership variables were entered into the model as fixed effects, and months since transition was also entered as a random effect, allowing for both random intercepts and random slopes. Each of the models controlled for player age. As the present study was interested in whether the effects of group memberships on well-being and performance changed with time, interaction terms between group memberships and months since transition categories were entered into the models. Three different sets of multilevel models were conducted and are presented below in turn.<sup>8</sup>

The first and second sets of models were designed to assess the effects of players' subjective group membership ratings and objective group membership listings upon their well-being and performance respectively. The third set of models builds on the second set, and examines the effects of the overall number of objective group memberships players belonged to before and after transition. In this regard, these analyses examine the impact of different measures of group memberships on well-being and performance (e.g., the importance of players feeling like they belong to a lot of groups compared with the absolute number of groups that they actually belong to). The three sets of multilevel models are described in more detail throughout the following sections.

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<sup>8</sup> Assumptions for multilevel modelling were satisfied. Histograms and scatterplots revealed that the residuals were normally distributed around the overall models.

#### 4.3.2.1. Subjective group membership ratings, well-being, and performance

The first set of multilevel models was designed to test the predictions outlined in Hypotheses 3a and 3b by examining the influence of players' subjective perceptions of group memberships upon well-being and performance, and their effects as a function of the time since the transition (see Tables 4.2 and 4.3). These models controlled for player age, and further consisted of subjective ratings of the groups that players felt they belonged to before transition (PG), the new groups that players developed after transition (NG), and the continuity of groups across the transition (CG), to assess their main effects upon well-being and performance after transition. Subjective group memberships were collapsed into two categories based on the one to seven ratings scale in the EXITS measure:  $>5$  (i.e., mean response of "agree" or "strongly agree" to items; PG scale,  $n = 285$ ; NG scale,  $n = 244$ ; CG scale,  $n = 210$ ) and  $\leq 5$  (i.e., mean response of "strongly disagree" to "slightly agree" to items; PG scale,  $n = 171$ ; NG scale,  $n = 212$ ; CG scale,  $n = 246$ ). The models also assessed the effects of the subjective group memberships as a function of the months since the transition (MST; 0-6 months; 7-18 months;  $>18$  months), thus creating six two-way interaction terms.

The coefficients displayed in Table 4.2 demonstrates that players who agreed that they belonged to multiple group memberships before transition, experienced higher levels of life satisfaction, positive emotions, and self-esteem after transition than those who disagreed or agreed to a lesser extent. Furthermore, there is evidence that players who agreed that they were able to maintain their group memberships across the transition, was important for their life satisfaction after transition in a positive direction. Players' agreement that they had developed new group memberships since joining their programme was also associated with higher life satisfaction and positive emotions. New group memberships were also important for self-esteem, however, this effect varied as a function of the time since the transition (see Figure 4.1). More specifically, the beneficial effect of new group memberships upon self-esteem occurred during the first six months of joining the programme compared to the reference MST (longer than 18 months).

**Table 4.2.** Effects of subjective group memberships and interactions with months since transition upon life satisfaction, positive emotions, negative emotions, and self-esteem.

Effect	Life Satisfaction		Positive Emotions		Negative Emotions		Self-esteem	
	B	95% CI	B	95% CI	B	95% CI	B	95% CI
PG(>5)	.36**	(.20 to .51)	.14**	(.06 to .22)	-.03	(-.13 to .07)	.14**	(.06 to .21)
NG(>5)	.16*	(.01 to .30)	.13**	(.06 to .21)	.00	(-.09 to .10)	-.08	(-.21 to .05)
CG(>5)	.28**	(.13 to .42)	.03	(-.05 to .10)	-.09 <sup>†</sup>	(-.19 to .00)	.05	(-.02 to .12)
PG(>5)*MST(0-6)	-	-	-	-	-	-	-	-
PG(>5)*MST(7-18)	-	-	-	-	-	-	-	-
PG(>5)*MST(>18)	-	-	-	-	-	-	-	-
NG(>5)*MST(0-6)	-	-	-	-	-	-	.24**	(.07 to .42)
NG(>5)*MST(7-18)	-	-	-	-	-	-	.10	(-.07 to .27)
NG(>5)*MST(>18)	-	-	-	-	-	-	0	-
CG(>5)*MST(0-6)	-	-	-	-	-	-	-	-
CG(>5)*MST(7-18)	-	-	-	-	-	-	-	-
CG(>5)*MST(>18)	-	-	-	-	-	-	-	-

**Table 4.3.** Effects of subjective group memberships and interactions with months since transition upon player and coach rated performance.

Effect	Player Performance		Coach Performance	
	B	95% CI	B	95% CI
PG(>5)	.24**	(.11 to .37)	.29**	(.12 to .47)
NG(>5)	-.12	(-.35 to .11)	.12	(-.05 to .28)
CG(>5)	.13*	(.01 to .26)	.03	(-.14 to .20)
PG(>5)*MST(0-6)	-	-	-	-
PG(>5)*MST(7-18)	-	-	-	-
PG(>5)*MST(>18)	-	-	-	-
NG(>5)*MST(0-6)	.30 <sup>†</sup>	(-.02 to .61)	-	-
NG(>5)*MST(7-18)	.30*	(.01 to .60)	-	-
NG(>5)*MST(>18)	0	-	-	-
CG(>5)*MST(0-6)	-	-	-	-
CG(>5)*MST(7-18)	-	-	-	-
CG(>5)*MST(>18)	-	-	-	-

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ .

PG = groups before transition; NG = new groups after transition; CG = continuity of groups across transition; PG\*MST = the interaction of groups before transition and months since transition; NG\*MST = the interaction of new groups after transition and months since transition; CG\*MST = the interaction of continuity of groups across transition and months since transition.

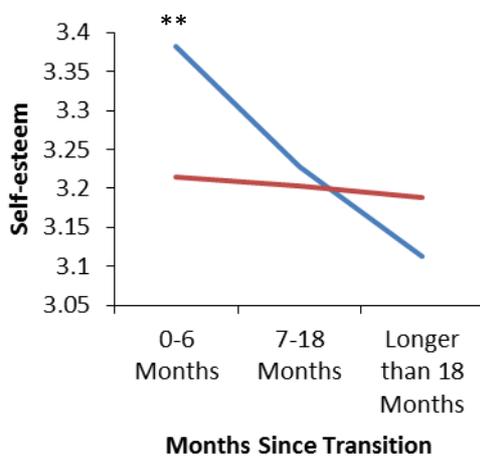


Figure 4.1.

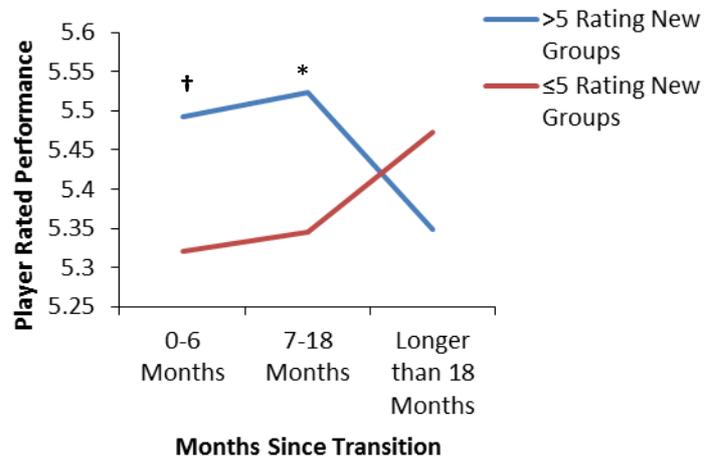


Figure 4.2.

Note. Symbols indicate a significant (or near significant) difference between the two groups in that particular MST compared to the reference MST (longer than 18 months) [ $**p < .01$ ;  $*p < .05$ ;  $†p < .10$ ].

Table 4.3 reveals that players who agreed that they belonged to multiple group memberships before the transition experienced higher levels of player and coach rated performance after their transition, than those who disagreed or agreed to a lesser extent. Players' agreement that they maintained their group memberships across the transition also appears to be important for player rated performance. The effects of groups before transition and continuity of groups across the transition did not vary as a function of the time since the transition. Beyond these results, there appears to be some differences in the impact of new group memberships upon player rated performance, dependent on the time since the transition (see Figure 4.2). The positive effects of new groups for player performance occurred from six to eighteen months after the transition compared to the reference MST (longer than 18 months). The effects of new groups during the first six months were also approaching significance. The results of the subjective group memberships noted above provide support for Hypotheses 3a and 3b in the present study.

#### 4.3.2.2. Objective group membership listings, well-being, and performance

Where the first set of multilevel models examined the effects of players' subjective group memberships on well-being and performance, the second set

examines the importance of the objective group memberships. Thus, to further test Hypotheses 3a and 3b, analyses were repeated using the group listing data to assess the effects of objective group memberships upon well-being and performance after transition (see Tables 4.4 and 4.5). These models examined the same main effects and interactions with months since transition as those used for the subjective models, but this time replaced the subjective groups with objective groups from the group listing data. Again, the models controlled for player age. Group memberships before transition were considered a fixed variable, as the actual number of groups players reported should have been consistent from one time point to the next. Thus, group memberships before transition were collapsed into two categories based on the mean number of groups players belonged to ( $>5$  groups,  $n = 231$ ;  $\leq 5$  groups,  $n = 223$ ). However, the new group memberships players developed after transition and the continuity of group memberships across the transition were kept as continuous variables as they were changing with time.

Tables 4.4 and 4.5 reveal that the objective group membership effects appear to vary as a function of the time since the transition to a greater extent than was the case with the subjective group membership effects. Players who reported belonging to more than five groups before transition, experienced higher levels of life satisfaction and positive emotions. However, the effect of groups before transition upon positive emotions varied as a function of the time since transition, as the positive effect occurred during the first six months of joining the programme compared to the reference MST (longer than 18 months; see Figure 4.3). Beyond these results, there appears to be some differences in the impact of the new group memberships upon positive emotions and self-esteem, dependent on the time since the transition (see Figures 4.4 and 4.5). More specifically, advantageous effects of a greater number of new group memberships occurred during the first six months of the transition, and also from six months to eighteen months, compared to the reference MST (longer than 18 months). Furthermore, the maintenance of a greater number of group memberships across the transition also appears to be important for self-esteem. However, these effects varied as a function of the time since transition, as the apparent beneficial effects that occurred in the first six months disappeared by seven to eighteen months, and became detrimental thereafter (see Figure 4.6).

**Table 4.4.** Effects of objective group memberships and interactions with months since transition upon life satisfaction, positive emotions, negative emotions, and self-esteem.

Effect	Life Satisfaction		Positive Emotions		Negative Emotions		Self-esteem	
	<i>B</i>	95% CI	<i>B</i>	95% CI	<i>B</i>	95% CI	<i>B</i>	95% CI
PG(>5)	.24**	(.08 to .41)	-.01	(-.17 to .14)	-.07	(-.18 to .04)	.06	(-.02 to .14)
NG	.12**	(.06 to .18)	-.01	(-.06 to .04)	.01	(-.03 to .05)	-.05*	(-.10 to -.01)
CG	.09**	(.05 to .13)	.00	(-.02 to .02)	.02	(-.01 to .05)	-.04*	(-.08 to -.00)
PG(>5)*MST(0-6)	-	-	.22*	(.02 to .41)	-	-	-	-
PG(>5)*MST(7-18)	-	-	.08	(-.11 to .26)	-	-	-	-
PG(>5)*MST(>18)	-	-	0	-	-	-	-	-
NG*MST(0-6)	-	-	.14**	(.05 to .22)	-	-	.11**	(.03 to .20)
NG*MST(7-18)	-	-	.07*	(.00 to .13)	-	-	.08**	(.02 to .14)
NG*MST(>18)	-	-	0	-	-	-	0	-
CG*MST(0-6)	-	-	-	-	-	-	.08**	(.03 to .12)
CG*MST(7-18)	-	-	-	-	-	-	.04*	(.00 to .09)
CG*MST(>18)	-	-	-	-	-	-	0	-

**Table 4.5.** Effects of objective group memberships and interactions with months since transition upon player and coach rated performance.

Effect	Player Performance		Coach Performance	
	<i>B</i>	95% CI	<i>B</i>	95% CI
PG(>5)	.01	(-.23 to .24)	.35**	(.16 to .54)
NG	.04	(-.01 to .09)	.07*	(.01 to .14)
CG	.03	(-.01 to .06)	.03	(-.02 to .08)
PG(>5)*MST(0-6)	.49**	(.18 to .80)	-	-
PG(>5)*MST(7-18)	.26 <sup>†</sup>	(-.03 to .56)	-	-
PG(>5)*MST(>18)	0	-	-	-
NG*MST(0-6)	-	-	-	-
NG*MST(7-18)	-	-	-	-
NG*MST(>18)	-	-	-	-
CG*MST(0-6)	-	-	-	-
CG*MST(7-18)	-	-	-	-
CG*MST(>18)	-	-	-	-

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ .

PG = groups before transition; NG = new groups after transition; CG = continuity of groups across transition; PG\*MST = the interaction of groups before transition and months since transition; NG\*MST = the interaction of new groups after transition and months since transition; CG\*MST = the interaction of continuity of groups across transition and months since transition.

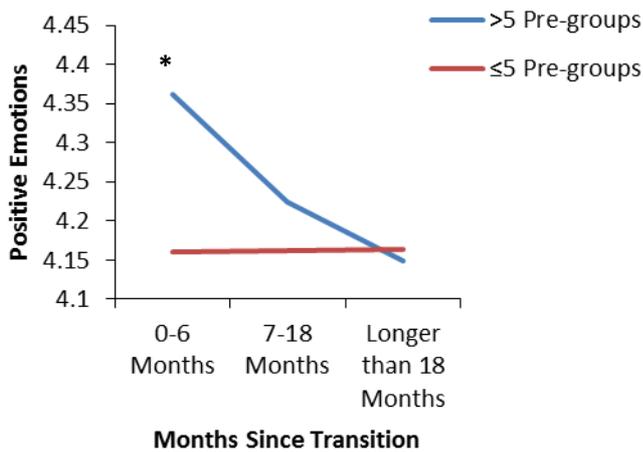


Figure 4.3.

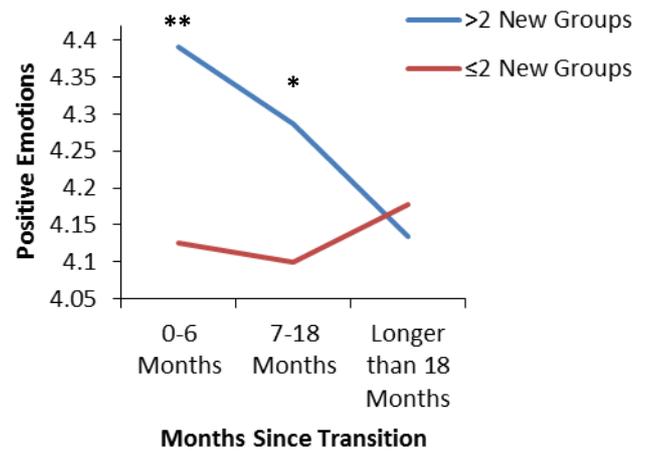


Figure 4.4.

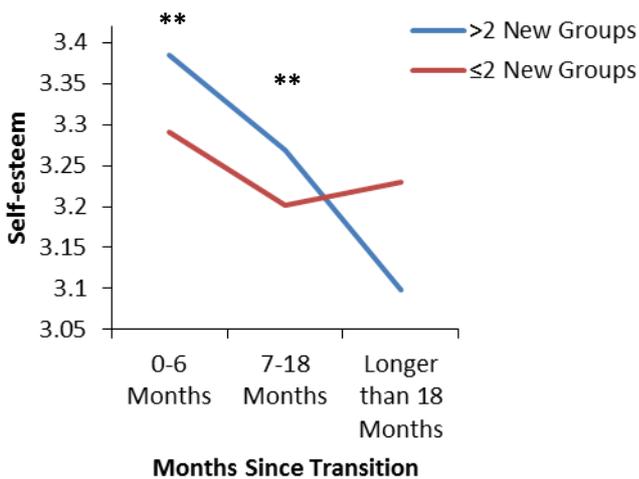


Figure 4.5.

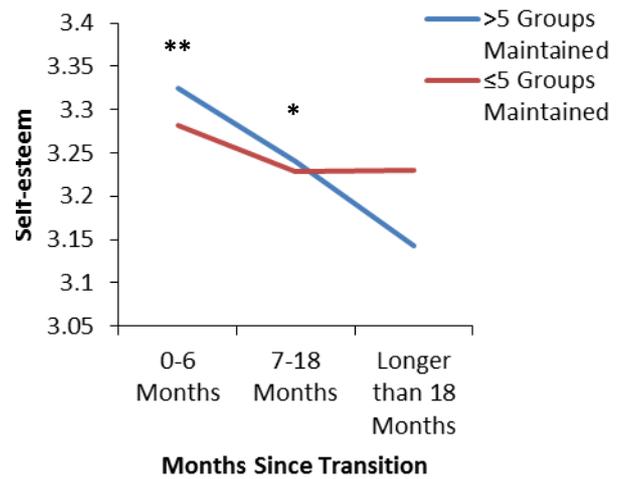


Figure 4.6.

Note. Asterisks indicate a significant difference between the two groups in that particular MST compared to the reference MST (longer than 18 months) [**\*\***  $p < .01$ ; \*  $p < .05$ ].<sup>9</sup>

Table 4.5 further demonstrates that players who belonged to more than five groups before the programme transition, experienced higher levels of player and coach rated performance than those with fewer than five groups. The beneficial effect of belonging to more than five groups before transition upon player rated performance was dependent on the time since the transition, as the effect occurred during the first six months of joining the programme,

<sup>9</sup> To graph the interactions between objective new groups and MST, and continuity of groups and MST (i.e., Figures 4.4, 4.5, 4.6), categorisations of these group memberships were created based on the sample mean number of new groups and continuity of groups.

compared to the reference MST (longer than 18 months; see Figure 4.7). The effects of groups before transition during the first eighteen months were also approaching significance. Furthermore, developing new group memberships after transition were also important for coach rated performance, as a greater number of new groups were associated with higher coach performance ratings. The results of the objective group memberships discussed above provide clear support for Hypotheses 3a and 3b.

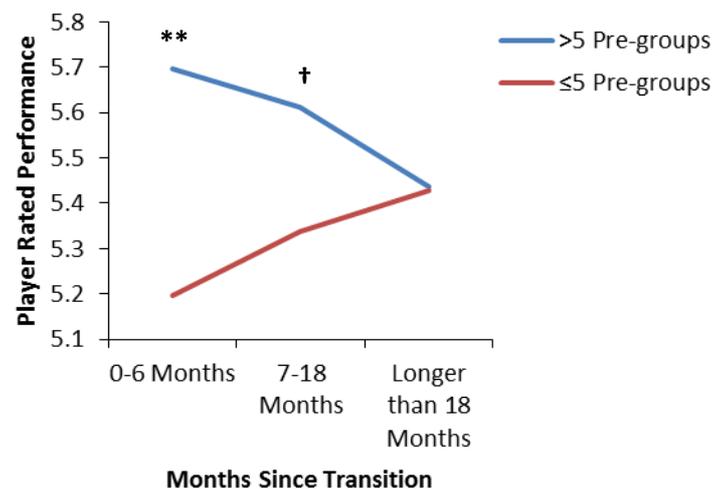


Figure 4.7.

Note. Symbols indicate a significant (or near significant) difference between the two groups in that particular MST compared to the reference MST (longer than 18 months) [ $**p < .01$ ;  $†p < .10$ ].

#### 4.3.2.2.1. Additional analyses for objective group membership listings, well-being, and performance

Where equations one and two examined the importance of the subjective and objective pre-transition groups, continuity of groups, and new groups respectively, analysis three examined an additional aspect of group memberships that the objective listings captured—the overall number of group memberships after transition (see Tables 4.6 and 4.7). Consistent with the second set of models, the third models were interested in examining the effects of the overall number of objective group memberships players belonged to before transition (PG), but also examined the effects of their group

memberships after transition (PtG; the overall number of groups rather than the continuity or number of new groups) upon well-being and performance after transition. Thus, the group listing data was used within another set of models to further test the predictions outlined in Hypotheses 3a and 3b. Consistent with the categorisations of the objective groups before transition, objective groups after transition was collapsed into two categories based on the mean number of groups players belonged to (>5 groups,  $n = 208$ ;  $\leq 5$  groups,  $n = 241$ ). The models also assessed the effects of the objective group memberships before and after transition as a function of the months since the transition, thus creating six two-way interaction terms.<sup>10</sup>

Consistent with the pattern of results displayed in the preceding objective group membership models, Table 4.6 demonstrates that players who belonged to more than five groups before transitioning into their programme experienced greater life satisfaction and positive emotions. The differences in positive emotions were dependent on the time since the transition, as the positive effect of belonging to more than five groups before transition occurred during the first six months of the programme compared to the reference MST (longer than 18 months; see Figure 4.8). Furthermore, belonging to more than five groups after transition also appears to be important for negative emotions and self-esteem, as a function of the time since the transition. More specifically, the beneficial effect of group memberships after transition upon lowering negative emotions occurred during the first six months of joining the programme compared to the reference MST (see Figure 4.9). For self-esteem, the apparent beneficial effects that occurred in the first six months disappeared by seven to eighteen months, and became detrimental after eighteen months (see Figure 4.10).

Table 4.7 further displays that belonging to more than five groups before the transition, was associated with higher levels of player and coach rated performance compared to those with less than five groups. The effects on player performance varied as a function of the time since the transition, as the positive effect occurred during the first six months of the programme compared

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<sup>10</sup> The interaction between the number of groups players belonged to before and after their transition (i.e., the changes in their group memberships across the transition) and the effects this had upon well-being and performance were also examined. However, these effects were far from significance and were not included in the final models presented in Tables 4.6 and 4.7.

**Table 4.6.** Effects of objective group memberships and interactions with months since transition upon life satisfaction, positive emotions, negative emotions, and self-esteem.

Effect	Life Satisfaction		Positive Emotions		Negative Emotions		Self-esteem	
	<i>B</i>	95% CI	<i>B</i>	95% CI	<i>B</i>	95% CI	<i>B</i>	95% CI
PG(>5)	.30**	(.14 to .46)	-.01	(-.16 to .15)	-.04	(-.15 to .06)	.06 <sup>†</sup>	(-.01 to .14)
PtG(>5)	.26**	(.10 to .42)	-.00	(-.08 to .08)	.18 <sup>†</sup>	(-.01 to .37)	-.19*	(-.33 to -.04)
PG(>5)*MST(0-6)	-	-	.20*	(.01 to .40)	-	-	-	-
PG(>5)*MST(7-18)	-	-	.09	(-.10 to .28)	-	-	-	-
PG(>5)*MST(>18)	-	-	0	-	-	-	-	-
PtG(>5)*MST(0-6)	-	-	-	-	-.29*	(-.54 to -.04)	.29**	(.11 to .48)
PtG(>5)*MST(7-18)	-	-	-	-	-.09	(-.32 to .14)	.20*	(.02 to .37)
PtG(>5)*MST(>18)	-	-	-	-	0	-	0	-

**Table 4.7.** Effects of objective group memberships and interactions with months since transition upon player and coach rated performance.

Effect	Player Performance		Coach Performance	
	<i>B</i>	95% CI	<i>B</i>	95% CI
PG(>5)	.01	(-.22 to .25)	.37**	(.19 to .55)
PtG(>5)	.13*	(.00 to .27)	.08	(-.11 to .26)
PG(>5)*MST(0-6)	.47**	(.17 to .78)	-	-
PG(>5)*MST(7-18)	.25 <sup>†</sup>	(-.04 to .54)	-	-
PG(>5)*MST(>18)	0	-	-	-
PtG(>5)*MST(0-6)	-	-	-	-
PtG(>5)*MST(7-18)	-	-	-	-
PtG(>5)*MST(>18)	-	-	-	-

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ .

PG = groups before transition; PtG = groups after transition; PG\*MST = the interaction of groups before transition and months since transition; PtG\*MST = the interaction of groups after transition and months since transition.

to the reference MST of longer than 18 months (see Figure 4.11). The effects of groups before transition during the first eighteen months were also approaching significance. Belonging to more than five groups after transition was also associated with high levels of player rated performance, regardless of the time since the transition. The results of the objective group memberships noted above provide further support for Hypotheses 3a and 3b.

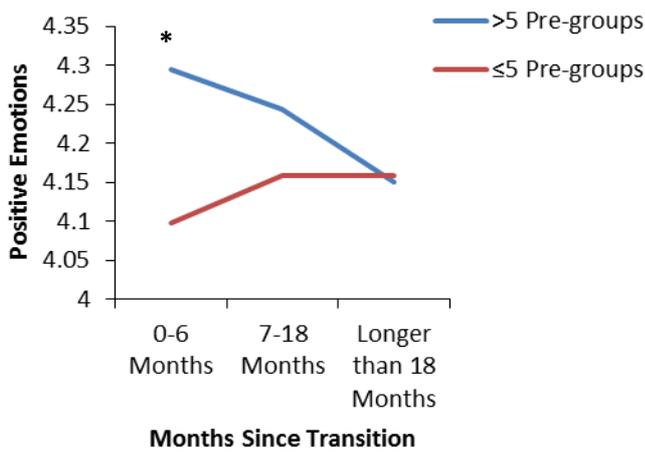


Figure 4.8.

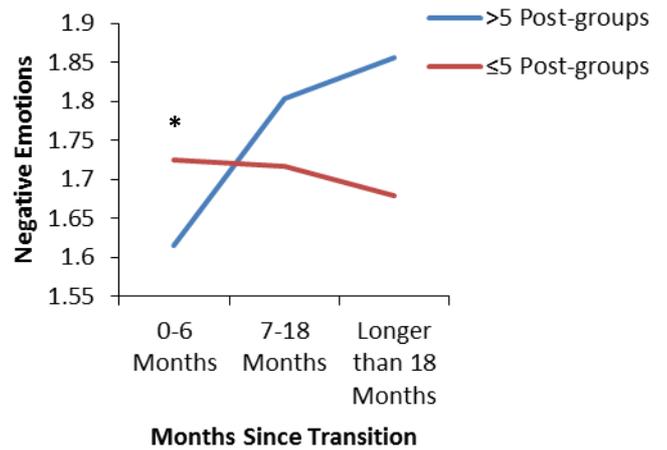


Figure 4.9.

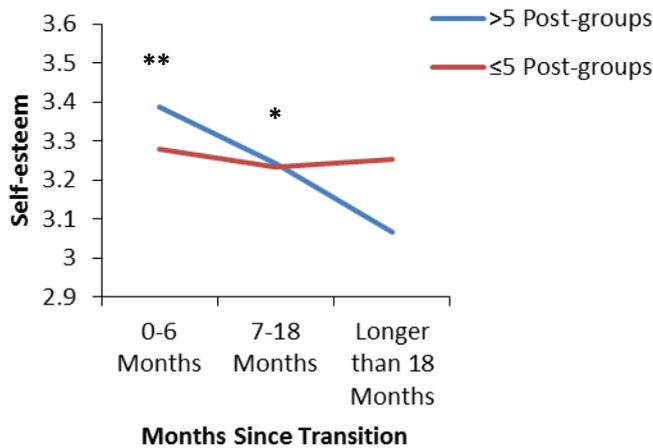


Figure 4.10.

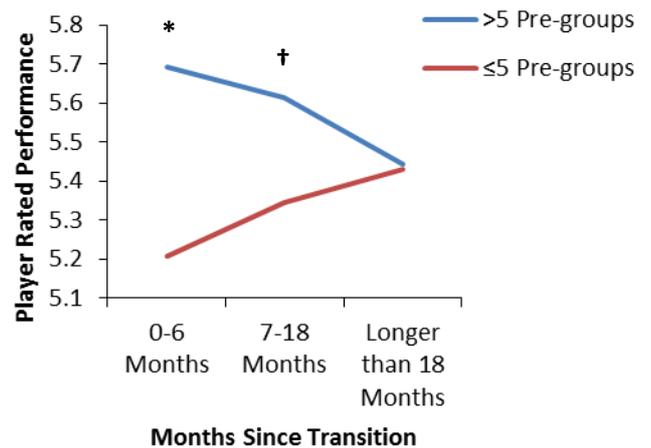


Figure 4.11.

Note. Symbols indicate a significant (or near significant) difference between the two groups in that particular MST compared to the reference MST (longer than 18 months) [ $**p < .01$ ;  $*p < .05$ ;  $†p < .10$ ].

The multilevel modelling analyses were followed up by mediation analyses in order to test the predictions outlined in Hypotheses 4 and 5 as to whether the subjective and objective group membership effects on well-being and performance occurred through certain mechanisms. Details of these analyses can be found below.

### **4.3.3. Mediation analyses**

Multilevel modelling analyses and multilevel mediation is becoming increasingly popular within the psychology literature. Bias corrected bootstrap procedures are generally believed to be the most accurate method to assess the significance of the indirect effect in non-nested data (Preacher & Hayes, 2004). However, there is currently no facility to generate bias corrected bootstrap confidence intervals in multilevel analyses. Although recent previous research (e.g., Smith, Calum, Hardy, Callow, & Williams, 2013) has used the Monte Carlo Method for Assessing Mediation (Bauer, Preacher, & Gil, 2006; MacKinnon, Lockwood, & Williams, 2004) to estimate confidence intervals for indirect effects within multilevel data, this method is not able to test indirect effects via multiple mediators simultaneously. Thus, the Baron and Kenny (1986) procedure offers the most sophisticated analyses for assessing multiple mediation within the present research (Krull & MacKinnon, 2001).

Mediation analyses were conducted to assess the predictions of Hypotheses 4 and 5 as to whether players' identification with the programme, and other social psychological mechanisms (i.e., social support, self-efficacy, and personal identity strength) could be considered as mediators of the effects of subjective and objective group memberships on well-being and performance (See Tables 4.8 to 4.10). To assess for mediation, the subjective and objective multilevel modelling analyses were repeated to include the potential mechanisms within the models (Step 2 in Tables). These analyses examined whether the mechanisms significantly reduced the relationships between group membership and outcomes, or made the relationships non-significant (i.e., the requirements for mediation to be present).

**Table 4.8.** Mediation results for all subjective group memberships effects.

Variable	Mediator	Step	Life Satisfaction		Positive Emotions		Negative Emotions		Self-esteem		Player Rated Performance		Coach Rated Performance	
			1	2	1	2	1	2	1	2	1	2	1	2
			B	B	B	B	B	B	B	B	B	B	B	B
PG(>5)			.36**	.13	.14**	.01	-.03	.09	.14**	.03	.24**	.02	.29**	.07
NG(>5)			.16**	.06	.13**	.09*	.00	.01	-.08	-.03	-.12	-.09	.12	.08
CG(>5)			.28**	.15	.03	-.05	-.09 <sup>†</sup>	.01	.05	-.01	.13*	.01	.03	-.11
PG(>5)*MST(0-6)			-	-	-	-	-	-	-	-	-	-	-	-
PG(>5)*MST(7-18)			-	-	-	-	-	-	-	-	-	-	-	-
PG(>5)*MST(>18)			-	-	-	-	-	-	-	-	-	-	-	-
NG(>5)*MST(0-6)			-	-	-	-	-	.24**	.10	.30 <sup>†</sup>	.21	-	-	-
NG(>5)*MST(7-18)			-	-	-	-	-	.10	.03	.30*	.22	-	-	-
NG(>5)*MST(>18)			-	-	-	-	-	0	-	0	-	-	-	-
CG(>5)*MST(0-6)			-	-	-	-	-	-	-	-	-	-	-	-
CG(>5)*MST(7-18)			-	-	-	-	-	-	-	-	-	-	-	-
CG(>5)*MST(>18)			-	-	-	-	-	-	-	-	-	-	-	-
	Identification		-	.51**	-	.20**	-	-.14**	-	.11**	-	.31**	-	.27**
	Social Support		-	.05	-	.08**	-	-.04	-	.03	-	.00	-	.04
	Self-efficacy		-	.07	-	.03	-	-.09*	-	.14**	-	.07	-	.09
	Personal Identity Strength		-	.15 <sup>†</sup>	-	.11*	-	.03	-	.02	-	.15*	-	.18 <sup>†</sup>

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ .

PG = groups before transition; NG = new groups after transition; CG = continuity of groups across transition; PG\*MST = the interaction of groups before transition and months since transition; NG\*MST = the interaction of new groups after transition and months since transition; CG\*MST = the interaction of continuity of groups across transition and months since transition.

**Table 4.9.** Mediation results for all objective group memberships effects.

Variable	Mediator	Step	Life Satisfaction		Positive Emotions		Negative Emotions		Self-esteem		Player Rated Performance		Coach Rated Performance	
			1	2	1	2	1	2	1	2	1	2	1	2
			B	B	B	B	B	B	B	B	B	B	B	B
PG(>5)			.24**	-.02	-.01	-.08	-.07	.07	.06	-.09*	.01	-.05	.35**	.12
NG			.12**	.06 <sup>†</sup>	-.01	-.01	.01	.03	-.05*	-.02	.04	.01	.07*	.06
CG			.09**	.07**	.00	-.01	.02	.03	-.04*	-.03 <sup>†</sup>	.03	.01	.03	.02
PG(>5)*MST(0-6)			-	-	.22*	.09	-	-	-	-	.49**	.15	-	-
PG(>5)*MST(7-18)			-	-	.08	-.03	-	-	-	-	.26 <sup>†</sup>	.16	-	-
PG(>5)*MST(>18)			-	-	0	-	-	-	-	-	0	-	-	-
NG*MST(0-6)			-	-	.14**	.06	-	-	.11**	.05	-	-	-	-
NG*MST(7-18)			-	-	.07*	.04	-	-	.08**	.04	-	-	-	-
NG*MST(>18)			-	-	0	-	-	-	0	-	-	-	-	-
CG*MST(0-6)			-	-	-	-	-	-	.08**	.05*	-	-	-	-
CG*MST(7-18)			-	-	-	-	-	-	.04*	.04*	-	-	-	-
CG*MST(>18)			-	-	-	-	-	-	0	-	-	-	-	-
	Identification		-	.48**	-	.22**	-	-.18**	-	.13**	-	.28**	-	.22**
	Social Support		-	.08 <sup>†</sup>	-	.10**	-	-.04	-	.03	-	-.01	-	.03
	Self-efficacy		-	.08	-	.03	-	-.08*	-	.14**	-	.07 <sup>†</sup>	-	.09
	Personal Identity Strength		-	.15 <sup>†</sup>	-	.11**	-	.04	-	.03	-	.14*	-	.21*

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ .

PG = groups before transition; NG = new groups after transition; CG = continuity of groups across transition; PG\*MST = the interaction of groups before transition and months since transition; NG\*MST = the interaction of new groups after transition and months since transition; CG\*MST = the interaction of continuity of groups across transition and months since transition.

**Table 4.10.** Mediation results for additional objective group memberships effects.

Variable	Mediator	Step	Life Satisfaction		Positive Emotions		Negative Emotions		Self-esteem		Player Rated Performance		Coach Rated Performance	
			1	2	1	2	1	2	1	2	1	2	1	2
			B	B	B	B	B	B	B	B	B	B	B	B
PG(>5)			.30**	.03	-.01	-.10	-.04	.09	.06 <sup>†</sup>	-.09*	.01	-.05	.37**	.14
PtG(>5)			.26**	.16 <sup>†</sup>	-.00	-.03	.18 <sup>†</sup>	.11	-.19*	-.11	.13*	.09	.08	.02
PG(>5)*MST(0-6)			-	-	.20*	.08	-	-	-	-	.47**	.13	-	-
PG(>5)*MST(7-18)			-	-	.09	-.02	-	-	-	-	.25 <sup>†</sup>	.14	-	-
PG(>5)*MST(>18)			-	-	0	-	-	-	-	-	0	-	-	-
PtG(>5)*MST(0-6)			-	-	-	-	-.29*	-.07	.29**	.15	-	-	-	-
PtG(>5)*MST(7-18)			-	-	-	-	-.09	.01	.20*	.14 <sup>†</sup>	-	-	-	-
PtG(>5)*MST(>18)			-	-	-	-	0	-	0	-	-	-	-	-
	Identification		-	.49**	-	.23**	-	-.18**	-	.13**	-	.28**	-	.23**
	Social Support		-	.09 <sup>†</sup>	-	.09**	-	-.04	-	.03	-	-.01	-	.03
	Self-efficacy		-	.08	-	.03	-	-.08*	-	.14**	-	.07 <sup>†</sup>	-	.09
	Personal Identity Strength		-	.15 <sup>†</sup>	-	.12**	-	.04	-	.03	-	.14*	-	.21*

Note: \*\*  $p < .01$ . \*  $p < .05$ . <sup>†</sup>  $p < .10$ .

PG = groups before transition; PtG = groups after transition; PG\*MST = the interaction of groups before transition and months since transition; PtG\*MST = the interaction of groups after transition and months since transition.

As displayed in Tables 4.8, 4.9, and 4.10, there is some evidence for indirect effects via the mechanisms (demonstrated by significantly reducing group membership effect sizes and making most relationships non-significant). Furthermore, the patterns of evidence for mediating effects are consistent throughout the subjective and objective group membership effects. Group identification appears to be a key mechanism for group membership effects on both well-being and performance. This suggests that players who belonged to multiple group memberships before and after transition experienced higher levels of well-being and performance, as they were able to identify highly with the new programme and other players on the programme. Personal identity strength also appears to be important, particularly for player and coach rated performance. These results provide support for the predictions outlined in Hypotheses 4 and 5 of the present study.

#### 4.4. Discussion

The present study contributes to the few longitudinal studies in the field assessing the effects of group memberships (Iyer et al., 2009; Jones & Jetten, 2010), and extends upon the previous chapter by further examining their effects on well-being and performance. The cricketers captured during the data collection presented a range of time periods since joining their elite training programmes and were followed up over a period of two years. A primary aim of the present study was to examine the effects of multiple group memberships on players' resilience and adjustment to the programme transitions through assessing post-transition well-being and performance. By adopting a longitudinal approach, it allowed for the examination of the temporal dynamics of the group membership effects and how this affects long-term adjustment to change (Haslam et al., 2008a; Hays & Oxley, 1986; Jetten et al., 2002).

The first set of analyses were interested in whether players' subjective group memberships before and after transition (by maintaining and developing new group memberships) were important for their well-being and performance after transition. The results provided considerable support for Hypothesis 3a and demonstrated that the effects of subjective group memberships generally did not vary as a function of time since the transition. More specifically, players who agreed that they belonged to multiple group memberships before transition experienced higher life satisfaction, positive emotions, self-esteem, and player and coach rated performance. The agreement of belonging to a greater number of groups before transition was associated with a .36 unit increase in life satisfaction (and potentially as great as .51 according to the confidence intervals). This greater satisfaction may determine the players who are able to successfully maintain their participation within pressurising training programmes, which is a key focus for the ECB. Furthermore, players who agreed that they had maintained group memberships across the transition, enjoyed greater life satisfaction and player rated performance. Developing new group memberships after transition was also associated with higher life satisfaction and positive emotions. New group memberships also had beneficial effects upon self-esteem and player rated performance, particularly within the first six months (self-esteem) and eighteen months (player performance) of the programme transition (providing support for Hypothesis 3b).

The second and third set of analyses were interested in the effects of players' objective group memberships before and after transition (the actual number and by maintaining and developing new group memberships) upon their well-being and performance. These analyses revealed a different pattern of results to that of the subjective analyses, as the objective group membership effects generally varied as a function of the time since the transition. Both analyses demonstrated that players who belonged to more than five groups before transition experienced higher positive emotions and player rated performance within the first six months of joining the programme. The effect sizes for player rated performance were particularly strong, as players who belonged to more than five groups before transition, experienced a .47 to .49 unit increase in performance (and potentially up to .80). More than five groups before transition were also associated with higher life satisfaction and coach rated performance, irrespective of time since the transition. Having more than five groups before transition was associated with a .35 to .37 unit increase in coach rated performance (and even as great as .55). The coach ratings of player performance and progression have a large influence on player retention within the programmes. Thus, the increments in player and coach rated performance associated with more than five pre-transition groups may make the difference between those who are selected for a team or an elite training programme, compared to those who are not. The second set of analyses further revealed that players who joined a greater number of new groups after transition, enjoyed higher life satisfaction and coach rated performance (regardless of time since transition), and higher positive emotions and self-esteem up to 18 months after joining the programme. Maintaining a greater number of group memberships across the transition was also associated with greater life satisfaction, and also higher self-esteem within the first six months of transition. The third set of analyses went on to examine the effects of the actual number of groups after transition rather than the maintenance and acquisition of groups. The results revealed that players who belonged to more than five groups after transition experienced greater life satisfaction and player rated performance (irrespective of time since transition), and also lower negative emotions and higher self-esteem (up to six months after transition). These results provide support for Hypotheses 3a and 3b in the present study.

A further aim of the present study was to assess whether players who belonged to multiple group memberships before transition, were able to maintain those groups across the transition (Hypothesis 1), and identify highly with the programme and other players on the programme (Hypothesis 2). There was evidence to support Hypothesis 1 in the cross-sectional analyses, as players who belonged to multiple subjective and objective groups before the transition, experienced a higher continuity of groups. This was particularly prevalent for subjective group memberships ( $r = .63$ ). These findings offer support to those found by Haslam et al (2008a), and may make the all important difference for helping players keep support systems in tact to make the most out of the programmes, handle the demands, and progress up the performance pathway. Furthermore, support can be provided for Hypothesis 2 and the findings of Iyer et al (2009), as players who belonged to multiple subjective and objective groups before the transition, enjoyed higher levels of identification. The present study went on to examine whether this identification with the programme mediated the relationship between group memberships before transition, and well-being and performance after transition (Hypothesis 4). Support can be provided for Hypothesis 4 as mediation analyses demonstrated that identification appears to be a key mechanism in the relationship between multiple group memberships, well-being, and performance in an elite sporting context. This implies that players who belonged to multiple groups before and after transition had high levels of well-being and performance because they were able to identify highly with the new group compared to those with fewer groups.

The present study also sought to examine whether social support, self-efficacy, and personal identity strength operated as mechanisms through which the beneficial effects of group memberships occurred (Hypothesis 5). The mediation analyses revealed some evidence of indirect effects via social support and self-efficacy, and greater evidence for personal identity strength, particularly for player and coach rate performance. These results provide some support for Hypothesis 5. The majority of the previous literature has generally failed to uncover any significant mediating effects for social psychological mechanisms through which group memberships exert their effects. The evidence of mediation in the present study may suggest that longitudinal techniques with repeated measures and multilevel modelling analyses are

required in order to uncover processes. However, future research would benefit from a facility to test in greater detail multiple mediation in multilevel data, in attempt to understand the processes underlying relationships between group memberships, well-being, and performance.

These findings support the literature claiming that group memberships are essential for mental health and well-being (Chandler & Lalonde, 1998; Haslam et al., 2008a; Haslam et al., 2009; Iyer et al., 2009; Jetten et al., 2012; Sani, 2012), and are a predictor of adjustment to change following transitions (e.g., Haslam et al., 2008a; Iyer et al., 2009). The present research extends the previous literature by demonstrating that multiple group memberships also have beneficial effects after transitions in an elite sporting context. This may be because group memberships provide stability during times of change by supplying important psychology resources (e.g., social support, self-efficacy, and personal identity strength) and ensuring members are more socially connected (Haslam, 2004; Haslam et al., 2008a; 2009; Iyer et al., 2009; Jetten et al., 2010; Jones & Jetten, 2010).

The results suggest that group memberships appear to provide a platform in an elite sporting context to help players successfully adjust to programme transitions. If players are able to effectively draw upon the resources that their groups provide before transition, maintain access to these resources across transition, and develop new group memberships after transition, this is likely to facilitate their ability to become involved with the new programme and experience successful adjustment by making an important contribution to their well-being and performance. The results further suggest that players should be encouraged to belong to five groups or more before and after transition and the beneficial effects of group memberships can occur up to 18 months after joining the programme. Thus, group memberships may be a critical factor to consider in the profiling tool that the ECB are constructing, as they may highlight markers for potential difficulties in adjusting to change (i.e., players who do not 'agree' or belong to less than five groups). This may allow coaches and support teams to intervene early and provide players with the support they need to minimise the risk of adjustment problems and players dropping out of the programmes. However, as the effect sizes of observed effects in the present study were varied and ranged in size, it is uncertain

whether the same effects of multiple group memberships will occur across all individuals and in other sporting populations.

A limitation to the present study is that players were responding to the self-report measures retrospectively after their transition. As discussed in Chapter 3, this type of measurement can be associated with systematic error due to social desirability (Starkes & Young, 2006), negative affectivity (Watson & Pennebaker, 1989), memory decay, and recall bias (Brewer et al., 1991; Debois et al., 2012; Kerr & Dacyshyn, 2000; Pummell et al., 2008; Samuel & Tenenbaum, 2011). The young age range of the players may have also limited their ability to accurately respond to measures and reflect on their transition experiences. Furthermore, the participants in the present study did not complete the same number of questionnaires and there were large variations in the amount of time between each questionnaire during the follow up. This may have been due to the length of the questionnaires, absence during administration, attrition, or the time constraints that the elite sporting context creates. Future transition research should look to employ prospective designs and achieve an equal amount of repeated measures during follow up, separated by consistent time points.

The present study failed to examine the quality of players' group memberships. Researchers (e.g., Haslam et al., 2012) have suggested that this aspect of group memberships may be important for determining whether groups are able to support player needs. For example, a player may belong to just a couple of group memberships, but they may be able to obtain adequate support through effectively drawing upon the resources the group memberships provide. Thus, players who do not confirm to the 'above five groups' template may not necessarily mean that they will have lower levels of well-being and performance. However, the aim of the profiling system is to identify players who *might* be at potential risk of adjustment and well-being problems. A large amount of evidence suggests that players who exhibit few group memberships are far more susceptible to the detrimental effects of change. Even though the low number of group memberships may be sufficient to support player needs at present, they may not be in the future.

The longitudinal approach in the present study allowed for the temporal dynamics of relationships between group memberships, well-being, and

performance to be examined with greater confidence than cross-sectional analyses (Baron & Kenny, 1986). However, unlike an experimental approach, the longitudinal approach is still unable to determine the causal nature of the relationships. Thus, an experimental approach is used within the next chapter.

#### **4.4.1. Conclusion**

Players who belong to multiple group memberships before and after transitioning onto ECB national programmes are more likely to experience higher levels of well-being and performance than those with fewer group memberships (although, the approach used within the present study limits the ability to unravel the causal relationships). The results suggest that more than five group memberships (and minimising the loss of groups across the transition) have beneficial effects, particularly within the first 18 months of joining the programmes. Thus, players who belong to less than five groups when joining the programme should be encouraged to increase the number of group memberships they have access to. This should provide important resources in helping them adjust to change, become integrated within the programme, and contribute to their well-being and performance. By doing so, this may help the ECB in preventing the drop out of players from the programmes through minimising the risk of well-being and adjustment problems.

## CHAPTER FIVE

### The Effects of Manipulating Group Membership Salience on Performance and Persistence within a Sporting Task

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The research presented in this chapter supplements the longitudinal research presented in Chapters 3 and 4 by investigating whether it is possible to improve performance and persistence in a sporting task by changing athletes' group memberships. More specifically, this research adopts an experimental approach to examine the immediate effects of manipulating the number of group memberships on performance and persistence within a golf-putting task. Furthermore, the present research seeks to identify the potential mechanisms through which the group memberships influence performance and persistence.

#### 5.1. Literature Review

##### 5.1.1. Benefits of multiple group memberships

The benefits of multiple group memberships on outcomes have been well documented (for a discussion, see Haslam et al., 2009). Indeed, having access to a greater number of group memberships facilitates our ability to adjust to life changes and transitions (Brook et al., 2008; Haslam et al., 2008a; Haslam et al., 2012a; Haslam et al., 2009; Iyer et al., 2009; Jones et al., 2011; Jones et al., 2012; Linville, 1985, 1987; Thoits, 1983). Having fewer social relationships and group memberships is associated with negative consequences, for example, a greater chance of suffering a stroke (e.g., Boden-Albala, Litwak, Elkind, Rundek, & Sacco, 2005), cognitive decline (e.g., Ertel et al., 2008), dementia (e.g., Jetten et al., 2010a), and suffering from the common cold (Cohen et al., 2003).

It remains the case, though, that most of the research exploring the relationship between multiple group memberships and social, organisational, and clinical outcomes has been correlational in nature (Haslam et al., 2008a). An experimental approach would provide a new avenue for exploring the effects of group memberships, not least because it allows researchers to draw strong causal conclusions (Jones & Jetten, 2010).

### 5.1.2. Multiple group memberships, performance, and persistence

One of the strengths of the present study arises from the fact that, to date, no research has assessed the effects of multiple group memberships on performance. The present study attempts to address this gap in the literature and investigates whether manipulating the number of group memberships that people have access to is associated with improvement in their performance on a sporting task.

In addition, this study aimed to address whether multiple group memberships also affect one's persistence with a task after a perceived performance failure. Persistence is characterised as a sense of endurance or the refusal to give up in spite of fatigue or frustration (Bandura, 1986; Cloninger, Svrakic, & Przybeck, 1993). The extent to which participants persisted with the task in the face of failure demonstrates their ability and/or willingness to attempt to bounce back and recover after the adversity of the failed performance. In this regard, the measurement of participants' persistence may provide an indication of resilience.

Resilience has been described as the process of positively adapting to significant adversity (Luthar et al., 2000). Resilience encapsulates two conditions: first, experiencing exposure to adversity; and second, the ability to maintain psychological and physical functioning within the context of the adversity (Gucciardi et al., 2011; Luthar & Cicchetti, 2000; Masten, 2001; Morgan et al., 2013). High levels of sporting achievement and performance have been linked with resilience (e.g., Holt & Dunn, 2004; Weissensteiner, Abernethy, & Farrow, 2009).

Multiple group memberships have been associated with enhanced resilience, by helping people to adapt and endure the adversity accompanying life challenges, transitions, and everyday demands (for a review, see Haslam et al., 2009; Jones & Jetten, 2010). For example, recent experimental research conducted by Jones and Jetten (2010) with performers in the sports of bobsleigh, luge, and skeleton has demonstrated that multiple group memberships have an immediate effect upon individuals' responses to novel physical challenges, by contributing to their resilience. Those who reported having multiple group memberships recovered physiologically more quickly from

these challenges by demonstrating faster decreases in heart rate. In a second study, Jones and Jetten (2010) assigned students to one of three conditions in which they were instructed to define themselves as members of one, three, or five different groups. This time, resilience was assessed by timing how long students could hold their hand in an ice-cold bucket of water. Those who reflected on five groups held their hand in the water longer than those who reflected on only one group or three groups.

Jones and Jetten (2010) concluded that multiple group memberships are a valuable psychological resource for resilience. The researchers' experimental approach also established that this contribution was independent of the other benefits group memberships might provide (e.g., social support). However, this research had some limitations. In particular, there were no control conditions or baseline measures of resilience to allow for pre-post comparisons. The present study sought to address these limitations by examining whether manipulating the number of group memberships participants' reflected on after receiving performance failure feedback in a sporting task led to improvement in their performance and persistence (and thus, their resilience).

### **5.1.3. Potential mechanisms of beneficial effects**

The present research is also interested in the potential mechanisms through which the effects of group memberships occur, as little is known about what underlies their positive effects (Jones & Jetten, 2010). In this regard, there are several mechanisms that may be important (e.g., Jones & Jetten, 2010): personal identity strength (Jetten et al., 2010a), self-efficacy (e.g., Schwarzer, 1992), and self-esteem (e.g., Rosenberg, 1965). Some of these constructs have also been linked with performance and persistence in sport. For example, high levels of self-efficacy are required in sport in order to sustain effort and persist in the face of failure (Bandura, 1997). Recent sport literature has proposed that control (Connor & Davidson, 2003), management of negative affect (Connor & Davidson, 2003; Gucciardi et al., 2011), minimising cognitive interference (Hatzigeorgiadis & Biddle, 2000), and high levels of motivation, and confidence (Fletcher & Sarkar, 2012; Galli & Vealey, 2008) may also act as mechanisms associated with adjusting to adversity and achieving optimal performance. Thus,

measures for psychological factors such as personal identity strength, self-efficacy, self-esteem, control, emotions, cognitive interference, motivation, self-confidence, and cognitive interference are included in the present research to assess whether these constructs act as a mechanism through which group membership effects occur on performance and persistence.

#### **5.1.4. Experiment overview**

The present study consisted of participants conducting three golf-putting performance trials, interspersed with questionnaires to assess potential mechanisms. Participants were assigned to one of three experimental conditions: a control condition, a one-group condition, or a five-group condition. The experiment adopted a pre- and post-intervention design, with the group manipulation administered after the baseline performance trial (Trial 1). For the two conditions in which group salience was manipulated, participants were instructed to define themselves as members of one or five groups. The control condition did not receive this manipulation. After Trial 2, participants were provided with failure performance feedback before moving on to Trial 3. Persistence was measured within the practice periods that preceded Trial 1 and Trial 3, by filming participants' engagement in the putting task when the experimenters have left the laboratory. A schematic overview of the experimental procedure can be found in Figure 1.

#### **5.1.5. Aims and hypotheses**

The aim of the present study was to examine the effects of manipulating group membership salience on performance and persistence in a golf-putting task. A secondary aim was to examine the potential social psychological mechanisms through which multiple group memberships have an effect. The mechanisms examined were personal identity strength, self-efficacy, self-esteem, control, emotions, cognitive interference, motivation, self-confidence, and cognitive interference. It was hypothesised that:

- H<sub>1</sub>: Relative to baseline, participants would display improved performance and greater persistence after the group manipulation and after the failure feedback to the extent that more group

memberships were made salient (i.e., values in the five group condition would be better than in the one group and control conditions, and values in the one group condition would be better than in the control condition).

H<sub>2</sub>: The impact of multiple group memberships on performance and persistence would be mediated by personal identity strength, self-efficacy, self-esteem, control, emotions, cognitive interference, motivation, self-confidence, and cognitive interference.

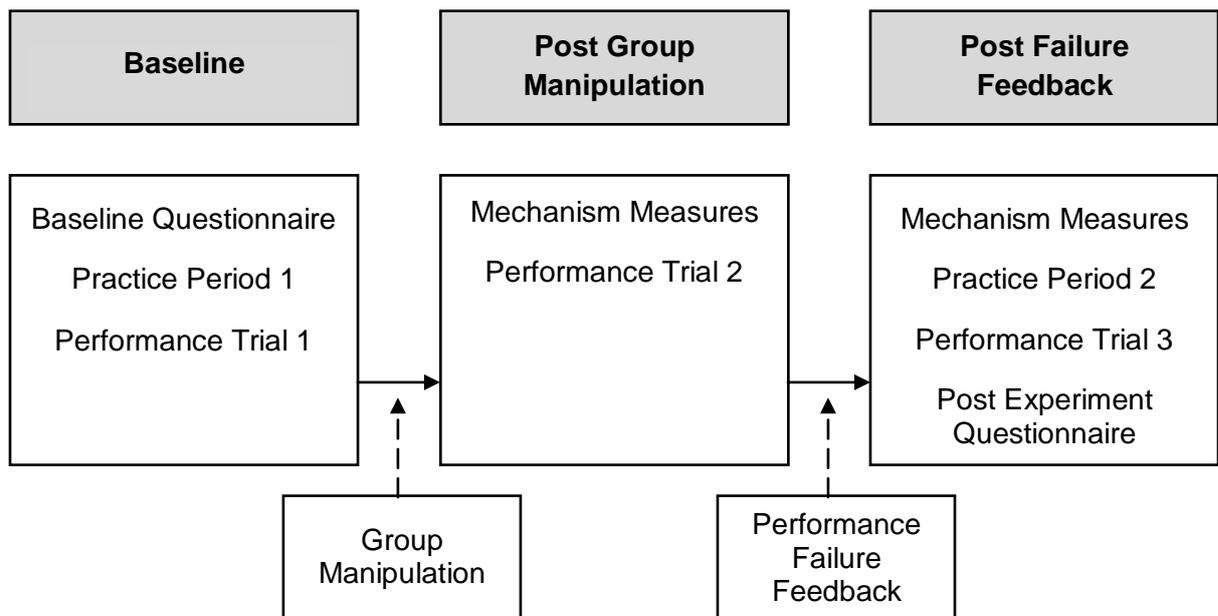


Figure 5.1. Procedure overview.

## 5.2. Method

### 5.2.1. Participants

Participants were a convenience sample of 63 university athletes (38 females, 25 males, mean age 20.37 years,  $SD = 1.52$ ). All participants participated regularly in a variety of individual and team sports, with competition levels ranging from club ( $n = 32$ ), to county ( $n = 10$ ), regional ( $n = 9$ ), national ( $n = 8$ ), and international ( $n = 4$ ). The majority of participants reported having no experience ( $n = 17$ ), or very little experience ( $n = 43$ ) of golf putting, with only three participants reporting moderate experience.

### 5.2.2. Materials

The equipment consisted of a 490 cm (length) by 185 cm (width) artificial putting carpet, with a putting marker 305 cm away from a circle target (the target circle was 10 cm in width), a standard 90 cm adult size 'Dunlop Tour Classic DP1 and DP5' right- and left-handed golf putters (as appropriate for the participant; Dunlop Sport, UK), and two standard competition size (4.27 cm diameter) golf balls (Wilson Hyper Titanium, Chicago, USA).

### 5.2.3. Procedure

Ethics approval was obtained from the College of Life and Environmental Sciences at the University of Exeter (see Appendix 1.3). After providing informed consent (see Appendix 2.1), participants entered the laboratory and were provided with an explanation of the requirements of the task. They were then asked to complete a baseline questionnaire (see Appendix 4.4). Participants were randomly assigned to one of three conditions: a control group ( $n = 21$ ), a one group-condition ( $n = 21$ ), or a five-group condition ( $n = 21$ ). The sample size within each experimental condition was deemed appropriate for the present research based on the recommendations of Simmons, Nelson, and Simonsohn (2011), who suggested at least 20 observations per cell provides a reasonable chance of detecting effects.

The present study consisted of participants conducting three golf-putting performance trials, each encompassing six putts: Trial 1 (the baseline measure), Trial 2 (following the group manipulation), and Trial 3 (following performance failure feedback). Trials were interspersed with questionnaires that were designed to assess potential mechanisms. The group manipulation was

administered after Trial 1. For the two conditions in which group salience was manipulated, participants were instructed to (a) reflect on either one group or on five groups in their life, (b) rate the importance of each group membership using a seven-point scale (1 = strongly disagree, 7 = strongly agree), and (c) provide a brief explanation for their rating in response to the statement "... take a moment to think about your group. In a few words, please describe why your group is important or unimportant to you" (see Appendix 4.5). Participants in the control condition received no group manipulation and were only required to fill out the mechanism questionnaire. This enabled the examination of the group manipulation effects on performance in the subsequent trial, Trial 2. After Trial 2, participants were provided with failure performance feedback informing them that their performance scores from Trial 1 and Trial 2 had placed them in the bottom 30 percent of participants' scores. This type of failure feedback using performance comparisons to other participants has been used within previous research (e.g., Coffee, Rees, & Haslam, 2009; Martin-Krumm et al., 2003), and allowed for the assessment of the earlier group manipulation effects on persistence and performance in the final trial, Trial 3. Short-term persistence was measured in the practice period that preceded Trial 3 (after failure feedback), by assessing participants' engagement in the putting task and comparing this to their behaviour in the practice period that preceded Trial 1. To finish, participants were asked to complete a post-experimental questionnaire (see Appendix 4.7).

**Performance trials.** Performance trials took place under identical experimental conditions. Trials were assessed by calculating the mean performance error (i.e., the average distance that the ball finished from the centre of the target in centimetres for each trial). This method of measuring performance has been used in recent golf-putting experimental research (e.g., Moore, Vine, Cooke, Ring, & Wilson, 2012; Moore, Vine, Wilson, & Freeman, 2012; Vine, Moore, & Wilson, 2011). Preceding each performance trial, participants were instructed by the main experimenter to try and achieve the best performance possible and to start each putt from the marker and putt towards the target. Best performance was defined as stopping the ball in the very centre of the target and participants were informed that they had six putts in each trial.

Performance trials were followed up with short mechanism questionnaires (see Appendix 4.6) asking the respondents questions in relation to the next performance trial. These questionnaires were completed after receiving the group manipulation (if applicable) and failure performance feedback.

**Persistence.** The present study was interested in assessing participants' short-term persistence after perceived failure to gain an indication of their resilience. In line with existing research, such as that in the attributional feedback field (e.g., Gernigon & Fleurance, 1998; Johnson & Biddle, 1989; Le Foll, Rasclé, & Higgins, 2008; Rasclé, Le Foll, & Higgins, 2008), short-term persistence was measured after perceived failure by assessing participants' engagement in the putting task (i.e., the number of putt attempts), during a practice period of two minutes under the same conditions as the main task itself (i.e., starting from a putting marker carpet). This duration was deemed appropriate on the basis of previous research (i.e., studies using six putts within a performance trial: Le Foll et al., 2008; Rasclé et al., 2008), as it closely replicates the timing of the performance trial length. Consistent with the methods used by Le Foll et al (2008), Le Foll, Rasclé, and Higgins (2006), and Rudisill and Singer (1988), a variety of magazines were left in the laboratory on the table next to the participants where they completed their questionnaires. During the practice periods, the experimenters left the laboratory. Before leaving, the experimenter explained to the participants that they could do anything they wanted during that time: practice putting, have a rest, or read the magazines. To observe participant behaviour during the practice period, a video camera (as used in other studies, e.g., Le Foll et al., 2006; Le Foll et al., 2008; Martin-Krumm et al., 2003; Rasclé et al., 2008; Rudisill, 1988) was set up at the start of the experiment and left filming throughout. The participants were informed at the start of the study about the presence of the camera but were not informed that their practice periods were being observed. Participants were given the opportunity to refuse to be filmed, but none did.

## 5.2.4. Measures

### 5.2.4.1. Baseline questionnaire measures<sup>11</sup>

**Multiple group memberships.** Participants were asked to indicate their agreement with the single item “I belong to multiple groups”, on a seven-point scale (1= strongly disagree, 7 = strongly agree). This scale was adapted from Iyer et al (2009).

**Social support.** Social support was assessed using a shortened version of a 10-item measure (Haslam et al., 2005) that assessed the four key aspects of social support identified by House (1981): (a) emotional support, (b) companionship, (c) instrumental support, and (d) informational support. Participants were asked to indicate their agreement with the four items ( $\alpha = .68$ ) “Do you get the emotional support you need from other people?”, “Do you get the help you need from other people?”, “Do you get the resources you need from other people?”, and “Do you get the advice you need from other people?” on identical seven-point scales (1 = not at all, 7 = completely).

**Personal identity strength.** A five-item scale ( $\alpha = .68$ ) assessed the extent to which participants had a clear understanding of who they are. These items were adapted from a self-clarity scale (Campbell et al., 1996) and a personal identity strength scale (Baray et al., 2009). Participants were asked to indicate their agreement with the items “I know what I like and what I don’t like”, “I know what is right and wrong”, “I have strong beliefs”, “I know what I want from my life”, and “I am aware of the roles and responsibilities I have in my life” on identical five-point scales (1 = strongly disagree, 5 = strongly agree). Higher ratings denote a stronger understanding of self.

**Self-efficacy.** This measure was based on Bandura’s (2005) *Guide for Constructing Self-Efficacy Scales*. Participants were presented with items displaying different levels of self-efficacy beliefs in relation to task demands. They were then asked to rate the level and strength of their belief in their ability

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<sup>11</sup> Other measures were also included in the baseline questionnaire. This included a measure consisting of two items adapted from a sport-orientated version of the Intrinsic Motivation Inventory (McAuley, Duncan, & Tammen, 1989) to assess intrinsic motivation. Another measure consisting of four items adapted from the Internal Control Index (Duttweiler, 1984) was also used to assess internal control. However, these measures could not be used within the analyses due to extremely poor Cronbach reliability coefficients (e.g.,  $\alpha$ s < .41; alphas above .70 are deemed an acceptable reliability standard; George & Mallery, 2003).

to execute the golf-putting task at that point in time. Responses of self-efficacy strength beliefs were made on 100-point scales.

**Self-confidence.** Four items ( $\alpha = .82$ ) were adapted from the Competitive State Anxiety Inventory-2 (CSAI-2; Martens, Burton, Vealey, Bump, & Smith, 1990) to measure self-confidence. Participants were asked to indicate their agreement with the items “I’m self-confident”, “I’m confident I can meet the challenge”, “I’m confident about performing well”, and “I’m confident about coming through under pressure” in relation to the upcoming task on identical four-point scales (1 = not at all, 4 = very much so).

**Life satisfaction.** Diener’s Satisfaction With Life Scale (SWLS; Diener et al., 1985) was used to assess the extent to which participants were satisfied with their life in general. This scale consists of five items ( $\alpha = .76$ ) and participants were asked to indicate their agreement with the items “In most ways my life is close to ideal”, “The conditions of my life are excellent”, “I am satisfied with my life”, “So far I have gotten the important things I want in life”, and “If I could live my life over, I would change almost nothing” on identical seven-point scales (1= strongly disagree, 7= strongly agree).

**Positive and negative affect.** Positive and negative affect were measured using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). The PANAS consists of ten items of positive affect ( $\alpha = .88$ ) and ten items for negative affect ( $\alpha = .83$ ). Participants were asked to indicate their agreement with the items for positive affect (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active) and the items for negative affect (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid) on identical five-point scales (1= very slightly or not at all, 5 = extremely).

**Self-esteem.** Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The scale consists of ten items ( $\alpha = .81$ ) and participants were asked to indicate their agreement with items such as “I feel I have a number of good qualities”, and “I certainly feel useless at times” on identical five-point scales (1 = strongly disagree, 5 = strongly agree). Half of the items in the measure are reverse scored.<sup>12</sup>

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<sup>12</sup> The majority of the baseline measures were not used in the main analyses as they were no longer relevant to the study and the relationships of interest.

#### 5.2.4.2. Mechanism questionnaire measures

Shortened versions of the measures used at baseline (i.e., a single item for self-efficacy level; a single item for motivation, “I intend to put a lot of effort into this task”; a two item confidence scale [ $\alpha_s = .64 - .69$ ], with the items “I’m confident about performing well” and “I’m confident about coming through under pressure”; and a discreet positive emotion, excited), were repeated in the mechanism questionnaires administered throughout the experiment.<sup>13</sup> These questionnaires asked participants to respond to the items in relation to the upcoming performance trial.

#### 5.2.4.3. Post experiment questionnaire measures<sup>14</sup>

**Task evaluation.** Participants were asked to rate how they found the trials overall (i.e., easy, enjoyable, challenging, and stressful) on identical seven-point scales (1= not at all, 7 = extremely).

**Manipulation check.** At the end of the experiment, participants were asked to identify the experimental condition (i.e., control group, one-group condition, or five-group condition), to which they had been allocated. All participants correctly circled the condition to which they had been assigned.

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<sup>13</sup> Other measures were also included in a mechanism questionnaire administered immediately after performance trials, asking questions in relation to the trial they had just completed and before receiving the group manipulation and performance failure feedback (see Appendix 4.8). This included a four item measure to capture perceptions of internal and external control, cognitive interference (3 items adapted from the Thought Occurrence Questionnaire for Sport; Hatzigeorgiadis & Biddle, 2000), motivation (an additional item to those used at baseline from the Intrinsic Motivation Inventory to assess motivation and performance satisfaction; McAuley et al., 1989), and also shortened versions of the measures used at baseline for personal identity strength, personal self-esteem, positive emotions and negative emotions measures. However, these measures could not be used within the mechanism analyses due to extremely poor Cronbach reliability coefficients (e.g.,  $\alpha_s < .53$ ).

<sup>14</sup> Additional measures were also included in the post experiment questionnaire. This included two self-confidence items from the CSAI-2 (Martens et al., 1990), and three further items to those used at baseline from the Intrinsic Motivation Inventory (McAuley et al., 1989) to assess motivation throughout the experiment and make a five-item scale. However, the Cronbach reliability coefficients for these scales were poor and could not be used within the analyses (e.g.,  $\alpha_s < .50$ ).

## 5.3. Results

### 5.3.1. Performance

The primary research question was whether increasing the number of salient group memberships would improve performance relative to baseline. Thus, change scores were constructed for the performance data, representing (a) the change from baseline to post group manipulation, and (b) the change from baseline to post failure feedback.<sup>15</sup> The former would allow for the examination of the initial question as to whether the manipulation of group salience would lead to a change in performance scores. The latter would allow for the assessment of whether the impact of the manipulation of group salience would become important for performance following failure feedback.

The study thus had a pre-test, post-test design, with ANCOVA conducted on gain scores. Although participants were randomised to groups, individual variation in demographic characteristics (i.e., age, gender) was controlled for, as well as level of experience in golf, and baseline perceptions of possessing multiple group memberships, by entering these variables as covariates in the analysis. Assumptions for ANCOVA were tested and met: the covariates were independent of the group manipulation ( $F_{(2,60)} < 2.53$ ,  $ps > .09$ ); and there was homogeneity of regression slopes ( $F_{(2,48)} < 1.34$ ,  $ps > .27$ ). The analysis showed that none of the covariates were significantly related to the change scores following the group manipulation or failure feedback ( $F_{(1,56)} < 2.76$ ,  $ps > .10$ ).

Analyses were first conducted on post group manipulation change scores, where a significant difference occurred between experimental conditions ( $F_{(2,56)} = 4.81$ ,  $p = .01$ ; see Figure 5.2, left panel). In line with Hypothesis 1, Bonferroni-corrected pairwise comparisons demonstrated that, compared to baseline, participants in the five-group condition ( $M = 28.56$ ,  $SE = 7.18$ , 95% CI [42.94, 14.18]) improved their performance more than participants in both the one-group condition ( $M = 1.37$ ,  $SE = 7.11$ , 95% CI [15.60, -12.87],  $p = .03$ ) and the control group condition ( $M = 0.41$ ,  $SE = 7.07$ , 95% CI [14.57, -13.75],  $p = .02$ ). The difference between the one-group condition and the control group condition was non-significant ( $p = 1.00$ ). Thus immediate and

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<sup>15</sup> Normality of performance and persistence change scores was examined through normality plots and skewness and kurtosis values. Change scores from baseline to post manipulation and from baseline to post failure feedback were normally distributed for each experimental condition.

beneficial performance effects were most apparent to the extent that participants reflected on more group memberships.

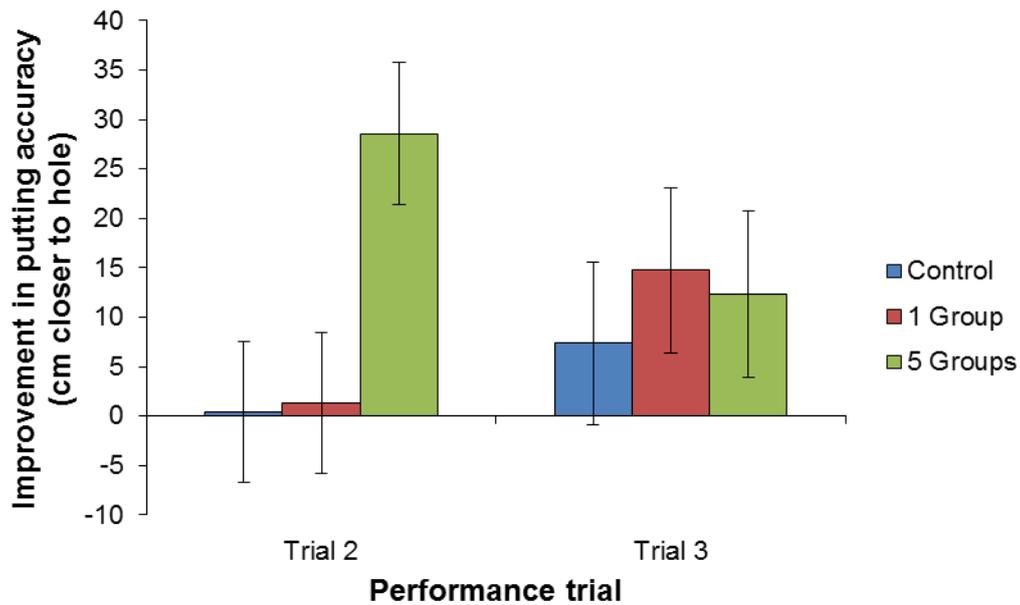


Figure 5.2. The comparison of performance change scores (cm) relative to baseline between experimental conditions (with means and error bars to indicate standard errors).

Repeating the previous test, but this time using the change scores following failure feedback, there was a non-significant effect ( $F_{(2,56)} = .21, p = .82$ ; see Figure 5.2, right panel). Thus the greater improvement previously noted for participants in the five-group condition was not maintained after the failure feedback, and does not align with the predictions of Hypothesis 1.

### 5.3.2. Persistence

To examine participants' persistence, scores were calculated to represent the change in the number of practice putts that participants took from baseline to post failure feedback. This allowed for the examination of a second key question; whether the manipulation of group membership salience would affect participants' persistence in putting practice following failure feedback.

Demographic characteristics, level of experience in golf, and baseline perceptions of possessing multiple group memberships were again entered as covariates. The assumption of homogeneity of regression slopes ( $F_{(2,48)} < .96$ ,

$ps > .39$ ) was again met. As before, none of the covariates were significantly related with persistence ( $F_{(1,56)} < 2.13$ ,  $ps > .15$ ).

There was a significant difference in the groups' persistence from baseline to post failure feedback ( $F_{(2,56)} = 11.75$ ,  $p < .001$ ; see Figure 3). In line with Hypothesis 1, Bonferroni-corrected pairwise comparisons demonstrated that, compared to baseline, participants in the control group condition ( $M = -3.14$ ,  $SE = 0.64$ , 95% CI [-4.41, -1.86]) demonstrated significantly reduced levels of persistence than participants in either the one-group condition ( $M = -0.14$ ,  $SE = 0.64$ , 95% CI [-1.42, 1.14],  $p = .01$ ) or the five-group condition ( $M = 1.18$ ,  $SE = 0.65$ , 95% CI [-0.11, 2.48],  $p < .001$ ). The difference between the one-group condition and the five-group condition was non-significant ( $p = .47$ ). Thus, those participants for whom groups were made salient prior to receiving failure feedback about their performance showed more persistence than those for whom groups were not made salient. This was due to a decline in practice putts for the control condition, maintenance of putts for the one-group condition, and an increase in putts for the five-group condition. This pattern of results is consistent with Hypothesis 1, but not significant (i.e., the difference between the one- and five-group conditions).

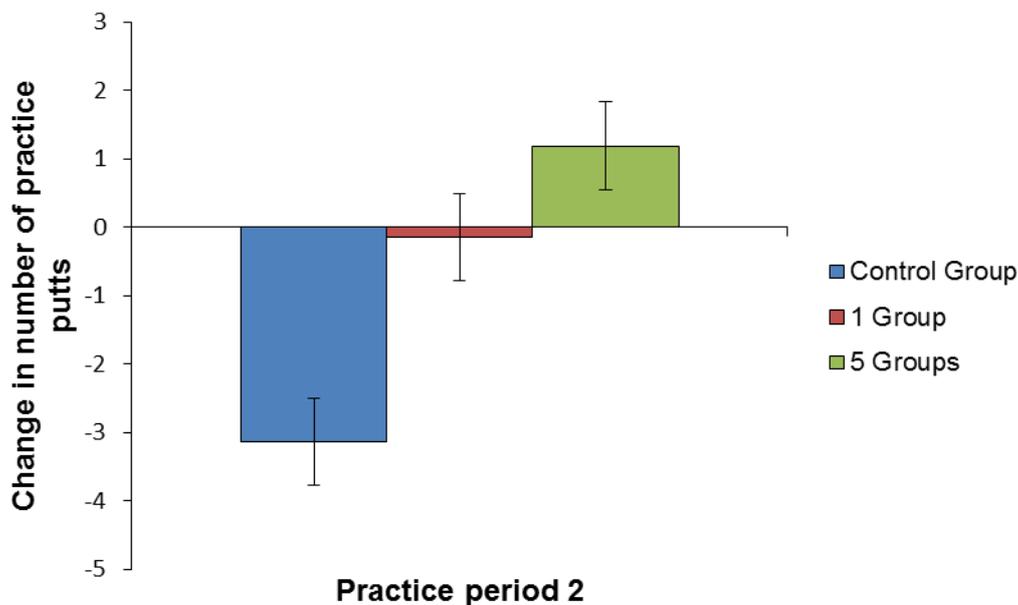


Figure 5.3. The comparison of persistence between experimental conditions (with means and error bars to indicate standard errors).

### 5.3.3. Examination of potential processes of change in performance and persistence

Analyses were conducted to identify potential mediators of the above effects. Consistent with the performance and persistence analyses, change scores were calculated to represent the change in mechanisms from baseline to post group manipulation and post failure feedback. Means and standard deviations of mechanism change scores are provided (see Table 5.1).<sup>16</sup>

**Table 5.1.** Descriptive statistics for mechanism change scores.

Mechanism Change Score	Control Group Condition		One-group Condition		Five-group Condition	
	M	SD	M	SD	M	SD
<b>Baseline to Post Group Manipulation:</b>						
Self-efficacy Level	0.57	1.12	0.00	1.26	-0.24	1.14
Self-confidence	0.45	0.57	0.00	0.47	0.10	0.46
Positive Emotions	0.57	1.12	0.48	0.93	-0.19	1.17
<b>Baseline to Post Failure Feedback:</b>						
Self-efficacy Level	-0.33	1.32	-0.57	1.63	-0.81	1.25
Self-confidence	0.14	0.57	-0.38	0.52	-0.26	0.64
Positive Emotions	-0.10	1.14	-0.14	1.15	-0.62	1.07

Again, demographic characteristics, level of experience in golf, and pre-existing perceptions of belonging to groups were entered as covariates. The assumption of homogeneity of regression slopes ( $F_{(2,48)} < 2.92$ ,  $ps > .06$ ) was again met. Prior multiple group membership was significantly related to change in self-confidence from baseline to post group manipulation ( $F_{(1,56)} = 4.49$ ,  $p = .04$ ), in a positive direction. None of the other covariates were significantly related with the change in mechanisms ( $F_{(1,56)} < 2.58$ ,  $ps > .11$ ).

There were no significant differences in the groups' mean change in self-efficacy level and positive emotions from baseline to post-group manipulation and post failure feedback ( $F_{(1,56)} < 3.00$ ,  $ps > .06$ ). In contrast, there was a significant difference in the groups' mean change in self-confidence from

<sup>16</sup> Normality of mechanism change scores were also examined through normality plots and skewness and kurtosis values. Change scores from baseline to post manipulation and from baseline to post failure feedback were normally distributed for each experimental condition.

baseline to both post group manipulation ( $F_{(2,56)} = 5.49, p = .01$ ) and post failure feedback ( $F_{(2,56)} = 5.35, p = .01$ ). Bonferroni-corrected pairwise comparisons indicated that, compared to baseline, participants in the control group condition ( $M = 0.45, SE = 0.12, 95\% CI [0.19, 0.71]$ ) demonstrated significantly higher levels of self-confidence post group manipulation than participants in the one-group condition ( $M = 0.00, SE = 0.10, 95\% CI [-0.22, 0.22], p = .02$ ) and the five-group condition ( $M = 0.10, SE = 0.10, 95\% CI [-0.12, 0.31], p = .04$ ). Pairwise comparisons also revealed that, compared to baseline, participants in the control group condition ( $M = 0.14, SE = 0.13, 95\% CI [-0.12, 0.40]$ ) demonstrated significantly higher levels of self-confidence post failure feedback than participants in the one-group condition ( $M = -0.38, SE = 0.11, 95\% CI [-0.62, -0.14], p = .02$ ). However, the difference between the control group condition and the five-group condition ( $M = -0.26, SE = 0.14, 95\% CI [-0.56, 0.32]$ ) was non-significant ( $p = .08$ ).

#### 5.3.4. Mediation analyses

Analyses were conducted to examine whether change in self-confidence, self-efficacy level, and positive emotions could be considered as mediators of the effects of the experimental manipulation on improvement in performance (from baseline to post group manipulation) and persistence. Using the *MEDIATE* procedure and SPSS macro developed by Hayes and Preacher (2011), a series of multiple mediation analyses were conducted. The experimental manipulation was entered as a categorical independent variable with three levels, reflecting each of the experimental conditions (i.e., control group condition, one-group condition and five-group condition). Bootstrap confidence intervals demonstrated that the indirect effects via change in self-confidence (95% CI = -1.74 to 6.51), self-efficacy level (95% CI = -0.26 to 3.15), and positive emotions (95% CI = -0.52 to 2.76) were non-significant for performance (prior multiple groups was included as a covariate for examining indirect effects via change in self-confidence). Furthermore, indirect effects via change in self-confidence (95% CI = -1.72 to 4.22), self-efficacy level (95% CI = -0.61 to 0.18), and positive emotions (95% CI = -1.09 to 0.27) were also non-significant for persistence. Thus, change in self-confidence, self-efficacy level, and positive emotions did not mediate the relationship between the

experimental manipulation and either performance post group manipulation or persistence.

Overall, the participants' evaluated the golf-putting task as easy ( $M = 3.17$ ,  $SD = 1.10$ ), enjoyable ( $M = 4.86$ ,  $SD = 0.96$ ), challenging ( $M = 5.00$ ,  $SD = 1.03$ ) and stressful ( $M = 2.63$ ,  $SD = 1.51$ ).

## 5.4. Discussion

The present study makes a key contribution to the literature that has generally lacked experimental examination of the effects of group memberships. A primary aim was to examine the effect of manipulating group membership salience on performance in a golf-putting task. The results demonstrated that, compared to baseline, participants in the five-group condition improved their performance more than those in both the one-group and control group condition. This means that from baseline to post group-manipulation, athletes who reflected on five groups that they belonged to, improved their putting performance by putting the ball 28cm closer to the target compared to their first trial average. Thus, reflecting on five groups can have immediate beneficial effects on performance in a sporting task. This finding provides the first demonstration that multiple group memberships lead to improvements in performance. Furthermore, these findings extend the growing body of literature demonstrating that group memberships have beneficial effects on a range of outcomes (e.g., boosting well-being, reducing risk of mortality, reducing memory loss; Haslam et al., 2009; Holt-Lunstad et al., 2010; Jetten et al., 2010a).

Another important contribution of the present research is that it provides the first demonstration that group memberships can contribute to persistence. The results demonstrated that those who received a group manipulation showed more persistence following the receipt of failure feedback than those who did not. Thus, it appears that merely reflecting on either one or multiple groups can help promote persistence. This finding further extends the empirical evidence in support of the beneficial effects of group memberships. In so much as this finding also demonstrates participants' resilience in the face of failure, this finding also complements the body of work demonstrating that multiple group memberships are linked with enhanced resiliency during life challenges and demands (e.g., Jones & Jetten, 2010; for a review, see Haslam et al., 2009). This promotion of persistence could make the difference in a players' determination to keep working on skills they find difficult, putting maximum effort into training sessions, or maintaining participation in a programme.

The differences between the five-group and control group conditions were consistent and in the expected direction for both performance and persistence. However, the differences in relation to the one-group condition were inconsistent across the two outcomes. This pattern of results raises a

question about how multiple groups operate (e.g., should we expect a linear increase in performance and persistence as a function of increases in the number of salient group memberships?). Drawing on one of the first investigations manipulating the salience of group memberships, Jones and Jetten (2010) used a one-, three-, and five-group manipulation (without a control condition). Their results revealed that both the three- and five-group conditions displayed higher resilience than the one-group condition. Thus, it was expected in the present study that the five-group condition would demonstrate better performance and persistence compared to the one-group condition. This was true for performance but not for persistence. Correlational studies have suggested that a positive linear relationship occurs between the number of group memberships and dependent variables (e.g., Haslam et al., 2008a). However, previous experimental studies (e.g., Jones & Jetten, 2010) do not support this linear relationship, and suggest, in line with the present set of results, that there may be more of a threshold (non-linear) effect, which varies across dependent variables. With this in mind, it is perhaps not surprising that the present study found inconsistent results between the effects of the one- and five-group conditions upon performance and persistence, and as a result, provides only partial support for Hypothesis 1.

Another unique aspect of the present study is that it is one of the first to examine the potential social psychological *mechanisms* through which multiple group memberships exert their effects. However, despite some evidence in the present research that the groups differed in terms of their change in self-confidence (i.e., those in the control group demonstrated greater confidence after the group manipulation and following failure feedback), there was little evidence that the process measures could account for the significant effects of the experimental manipulation on performance improvement and persistence. Thus, there was no support for Hypothesis 2 and although an interesting result, little explanation can be offered as to why the control group condition showed greater confidence than experimental conditions. The lack of significant process effects in the present research and previous research in the field raises the question as to whether (a) the “wrong” process variables are being measured (i.e., the theory is under-developed), (b) the measures of process are weak in the present study (e.g., poorly designed and/or measured with error), or potentially (c) previous research has neglected to report the results of non-

significant tests of process. Although the present study cannot speculate at length over point (c) above, point (a) can be addressed at least by commenting that potential mechanisms were chosen based on previous research showing direct associations between these variables and multiple group memberships, performance, and persistence (e.g., Bandura, 1997; Fletcher & Sarkar, 2012; Schwarzer, 1992). It seems more realistic that the measures in the present research are unable to access process, such that any process effects as a result of group differences operate in a more implicit way (i.e., they are not available to consciousness). If this is the case, a better way to test the mediation process in future research may be via experimental manipulation of the mediator (see Spencer, Zanna, & Fong, 2005).

Athletes' social networks and perceptions of support have been highlighted as key contributors to performance in sport (e.g., Fletcher & Sarkar, 2012; Freeman & Rees, 2008; Rees, Hardy, & Freeman, 2007). The present study proposes that athletes' group memberships may also be important. As the findings demonstrated that just reflecting on a greater number of groups could improve performance and persistence, this may suggest that athletes should also increase the number of group memberships they belong to, as this might be beneficial for their performance and persistence in the face of failure. Furthermore, as a 28cm putting performance improvement was observed with novice athletes when reflecting on five groups, this may be an important implication for experienced golfers to consider, as it may lead to the performance improvements required to gain that important competitive edge over other competitors.

A limitation of the present study is a lack of external and ecological validity, as participants were novice university athletes within a narrow age category, and the laboratory setting meant that behaviour was not observed within natural sport settings. However, the experimental approach did allow for high internal control, and the pre- and post-manipulation design used within the present study, together with experimental and control group conditions, allowed for strong causal conclusions to be drawn. Future research should use a range of an increasing number of group memberships, while also incorporating control conditions, to further examine the nature of group membership effects on performance and persistence. Despite the one- and five-group conditions maintaining their persistence after failure feedback, this did not translate into

improved performance within the final trial. However, the maintained persistence may affect performance over time, and this may be a way that group memberships can aid performance in the long term. It also remains unclear as to how group memberships exerted their effects on performance and persistence. Thus, future research should continue to examine the potential mechanisms through which group memberships act as a resource.

#### **5.4.1. Conclusion**

Merely getting people to reflect on a greater number of groups to which they belong is enough to create improvements in performance, as well as more persistence in a sporting task. This may suggest that increasing the number of group memberships an individual has access to is also likely to help and provide an important psychological resource. This combination of results provides an exciting avenue for research opportunities within the psychology literature.

## Chapter Six

### General Discussion

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In attempt to understand the relationships between multiple group memberships, well-being, performance, and persistence, three studies were undertaken in this thesis, drawing on a variety of methods, including cross-sectional, longitudinal, and experimental designs. A primary aim of Chapters 3 and 4 was to examine the effects of multiple group memberships and changes in group memberships on well-being and performance after transitions in sport (i.e., after joining sports clubs and teams in Chapter 3, and programme transitions in elite cricket in Chapter 4). Furthermore, the research assessed whether the beneficial effects of multiple group memberships upon well-being and performance were due to the increased likelihood of maintaining group memberships across transitions and whether this helped players adopt new group memberships. By taking into consideration the recency of the transition, the present research also hoped to gain an insight into the temporal dynamics of group memberships. A final aim was to examine whether a number of resources provided by group memberships account for the ways in which the beneficial effects of group memberships occur.

Chapter 5 moved on to examine the effects of manipulating the salience of group memberships on performance and persistence in a golf putting task. Consistent with Chapters 3 and 4, Chapter 5 also attempted to examine the potential mechanisms through which the group memberships exerted their effects. An overview of the results from each of the research chapters is provided below.

#### 6.1. Overview of Findings

The research presented in Chapters 3 and 4 of this thesis make a key contribution to the literature by addressing the paucity of longitudinal studies in the field assessing the effects of group memberships (Iyer et al., 2009; Jones & Jetten, 2010). Adopting a longitudinal approach provided the opportunity to

assess how group memberships develop and change over time, and the effects this had on well-being and long-term adjustment to change (Haslam et al., 2008a; Hays & Oxley, 1986; Jetten et al., 2002). A primary aim of this research was to examine the long-term effects of multiple group memberships before and after transition, on players' resilience and adjustment to joining sport clubs and teams, and programmes in elite cricket (through assessing post-transition well-being). It was hypothesised that the more group memberships players belonged to before and after transition, the more likely they were to have high levels of post-transition well-being. Both chapters analysed the effects of both subjective and objective group memberships through moderated regression (Chapter 3) and multilevel modelling (Chapter 4): a summary of the results from each chapter is provided below.

### **6.1.1. Subjective group membership ratings and well-being**

The first analyses within the chapters examined whether the feeling or perception of belonging to multiple groups prior to and post a club, team, or programme transition was important for player well-being. Within the analyses, groups after transition were assessed through the continuity of group memberships across the transition along with new group memberships developed after transition.

The results from Chapter 3 revealed that student-athletes' subjective group memberships were important for well-being after transition, but not in the expected manner (i.e., subjective groups generally had negative consequences for well-being). However, the effects of subjective group memberships depended on the recency of the transition (i.e., new or returning players), as the negative associations between group memberships and well-being were more prominent for the returning players. In contrast, new players who felt that they belonged to multiple group memberships before transition, and felt that they had maintained their group memberships across the transition (i.e., lost fewer groups), experienced lower negative emotions and depression after transition. However, having a greater number of new group memberships post transition was associated with lower negative emotions for returning players. In this regard, when the recency of transition was taken into consideration, the

subjective group memberships had beneficial effects on well-being after the club and team transitions.

In Chapter 4, the effects of the subjective group memberships generally did not vary as a function of time since the programme transition. The results demonstrated that the cricket players who agreed that they belonged to multiple group memberships before the programme transition, experienced higher life satisfaction, positive emotions, and self-esteem. Furthermore, players who agreed that they were able to maintain group memberships across the transition by minimising the loss of groups, enjoyed greater life satisfaction. Players' agreement that they had acquired new group memberships since the programme transition was also associated with higher life satisfaction and positive emotions. Additionally, new group memberships also had beneficial effects upon self-esteem, particularly within the first six months of the transition.

### **6.1.2. Objective group membership listings and well-being**

The next set of analyses within Chapters 3 and 4 were interested in the effects of the absolute number of group memberships before and after transition on well-being, rather than the subjective perception of membership. Consistent with previous analyses, objective group memberships after transition were first assessed through the continuity of group memberships across the transition as well as new group memberships developed post transition. Additional analyses were then conducted to assess the effects of the overall number of group memberships before and after transition (i.e., not broken down into continuity and new).

The results from Chapter 3 demonstrated that the objective group memberships around the point of the club and team transition were important for both new and returning players' well-being three months later. However, it was the actual number of groups that players belonged to after transition that appeared to be more important for well-being, as opposed to the maintenance or acquisition of new group memberships. More specifically, players who reported both a greater number of group memberships before and after joining their new club and team (i.e., a lack of change in the overall number of group memberships across the transition), experienced greater beneficial effects on

their adjustment and well-being after transition (i.e., greater life satisfaction and self-esteem, and lower negative emotions) compared to those with fewer group memberships before and after transition. These beneficial effects were however more prominent for new player well-being, than for returning player; once again signifying the importance of transition recency. Additionally, the results of Chapter 3 also revealed that a reduction in the number of groups post transition compared to the number prior to the occurrence of transition (i.e., a change in the overall number of group memberships across the transition) was most detrimental for the well-being of the new players. This may imply that the number of group memberships that new players belonged to after transition may be more important for their well-being than the number of group memberships they belonged to before transition.

The results from Chapter 4 also demonstrated the beneficial effects of objective group memberships upon player well-being after programme transitions, in elite cricketers. Consistent with Chapter 3, analyses revealed that the actual number of group memberships were again important for player well-being and performance. However, the results also indicate that the continuity of group memberships across transitions, and new group memberships developed after transition, individually contribute to well-being and performance. The results showed that players who belonged to more than five groups before their programme transition, experienced higher life satisfaction and positive emotions than those with less than five group memberships before transition. The beneficial effect of a greater number of group memberships before transition on positive emotions occurred in the first six months of players joining the programmes. Furthermore, joining a greater number of new group memberships after transition was also associated with higher life satisfaction (regardless of time since transition), and higher positive emotions and self-esteem up to 18 months after joining the programme. Players who were able to minimise the loss of group memberships across the transition, enjoyed greater life satisfaction, and higher self-esteem within the first 18 months of transition. The actual number of group memberships after transition also had beneficial effects on player well-being. For example, players who reported belonging to more than five groups after transition, experienced higher life satisfaction (regardless of the time since transition), and also lower negative emotions and higher self-esteem (up to 18 months after transition).

### **6.1.3. Multiple group memberships and performance**

A further aim in Chapter 4 was to build upon assessing post-transition well-being, and to examine whether the long-term effects of multiple group memberships before and after transition, extended to post-transition performance (coach and player rated). These results demonstrated that players who agreed that they belonged to multiple subjective group memberships before transition, belonged to more than five objective group memberships before transition, and developed new objective group memberships after transition experienced higher levels of coach rated performance. The agreement that players belonged to multiple subjective group memberships before transition, agreement that they had maintained their groups across transition, and belonged to more than five objective group memberships after transition was also associated with higher player rated performance. These effects did not vary as a function of the time since the programme transition. Belonging to more than five objective group memberships before transition also had positive consequences for player rated performance. In contrast to the coach rated performance, differences in player rated performance were dependent on the time since the transition; the positive effect of belonging to more than five objective groups before transition was particularly prominent during the first six months of the programme (and was also approaching significance for the first eighteen months) compared to longer than eighteen months. Furthermore, players' who agreed that they had joined new subjective group memberships after the transition, experienced higher player rated performance within the first eighteen months of joining the programme.

### **6.1.4. Multiple group memberships before transition and the maintenance and acquisition of group memberships after transition**

An additional aim of the research presented in Chapters 3 and 4 was to assess whether multiple group memberships before transition increased the likelihood of maintaining group memberships across the transition. From the cross-sectional analyses, both studies revealed that players, who belonged to multiple group memberships before the club, team or programme transitions, were able to maintain these group memberships across the transition (however,

this only occurred for the objective group listings in Chapter 3). These findings provide support for those found by Haslam et al (2008a).

The transitional research also aimed to examine whether multiple group memberships before transition increased the likelihood of identifying with the new group. The results from both chapters revealed that multiple group memberships before transition were associated with identifying highly with the new club, team, programme, and other players after transition (however, this only occurred for the new players in Chapter 3). These findings offer support to those found by Iyer et al (2009). The present research was also interested in whether this identification then went on to mediate the relationship between multiple group memberships before transition and post-transition well-being (and also post-transition performance in Chapter 4). Chapter 3 revealed that the indirect effects via identification were non-significant in relationship between multiple group memberships before transition and well-being. However, the mediation analyses in Chapter 4 suggested that identification appears to be a key mechanism through which multiple group memberships exert their effects on well-being and performance in an elite sporting context. Thus, players who belonged to multiple group memberships before and after transition had high levels of well-being and performance because they were able to identify highly with the new group compared to those with fewer group memberships.

#### **6.1.5. Multiple group memberships and social psychological mechanisms**

The research presented in Chapters 3 and 4 provide one of the first investigations of the role of potential social psychological mechanisms (i.e., social support, self-efficacy, and personal identity strength) through which multiple group memberships may improve well-being and performance. There was no evidence of mediation via social psychological mechanisms in Chapter 3. In contrast, the mediation analyses in Chapter 4 revealed some evidence of indirect effects via social support and self-efficacy, and greater evidence for personal identity strength, particularly for player and coach rated performance. Thus, players who belonged to multiple group memberships before and after transition had high levels of well-being and performance, because they had

more sources of support to draw upon and higher levels of self-efficacy and personal identity strength compared to those with fewer group memberships.

#### **6.1.6. Experimental examination of the relationships between multiple group memberships, performance, and persistence**

The longitudinal approaches adopted in Chapters 3 and 4 allowed for the temporal dynamics of relationships between group memberships, well-being, and performance to be examined with greater confidence than cross-sectional analyses. However, unlike an experimental approach, the longitudinal approach is still unable to determine the causal nature of the relationships. Thus, an experimental approach was employed in Chapter 5 and makes a key contribution to the literature that has generally lacked experimental examination of the effects of group memberships. Furthermore, experimental research may indicate the likely efficacy of an intervention that targets group memberships (i.e., by showing that individual differences do not underlie the beneficial effects). The aim of this research was to examine the effects of manipulating group membership salience on performance and persistence in a golf-putting task. The results revealed that, compared to baseline, participants in the five-group condition improved their performance post group manipulation more than those in both the one-group and control group conditions. However, this performance improvement demonstrated by participants in the five-group condition was not maintained after the failure feedback. Another important contribution of the research was that it provided the first demonstration that group memberships can contribute to persistence, as those who received a group manipulation showed more persistence following performance failure feedback than those who did not.

A secondary aim of the experimental research was to examine the potential social psychological mechanisms (i.e., change in self-confidence, positive emotions, and self-efficacy level) through which multiple group memberships have an effect. Mediation analyses revealed that the indirect effects via process measures were non-significant for both performance and persistence. Thus, the process measures did not mediate the relationship between the experimental manipulation and either performance or persistence.

## 6.2. Theoretical Implications

Together, the results contribute to the wider literature by providing the first demonstration that multiple group memberships are associated with enhanced well-being, performance, and persistence after transitions in sport and during sporting tasks. These findings extend the growing body of literature demonstrating that group memberships have beneficial effects on a range of outcomes, and support the theoretical argument that multiple group memberships are essential for health and well-being (Chandler & Lalonde, 1998; Haslam et al., 2008a; Haslam et al., 2009; Iyer et al., 2009; Jetten et al., 2012; Sani, 2008; Sani, 2012), and are a predictor of adjustment following life transitions and challenges (Haslam et al., 2008a; Iyer et al., 2009). Previous literature has suggested that this may be due to the stability provided by group memberships during times of change through the provision of important psychological resources such as social support, self-efficacy, and personal identity strength (Haslam, 2004; Haslam et al., 2008a; 2009; Iyer et al., 2009; Jetten et al., 2010; Jones & Jetten, 2010; Schwarzer, 1992). However, the results from this thesis can only provide partial support for this suggestion, as there was only evidence of mediation via these resources in relationship between multiple group memberships, well-being, and performance in Chapter 4.

The results from the present research also provide support for the research suggesting that multiple group memberships before transition increase the likelihood of being able to sustain some of those group memberships across the transition (e.g., Haslam et al., 2008a). The continuity of group memberships is a relatively new avenue of social identity research during transitions and has received little attention to date. Thus, the findings add to the literature demonstrating that the ability to minimise the loss of group memberships is an important predictor of well-being and the ability to cope with, and adjust to change (Ballis et al., 2008; Bluck & Alea, 2008; Chandler & Lalonde, 1998; Chandler et al., 2003; Clarke & Black, 2005; Haslam et al., 2008a; Iyer et al., 2009; Michinov et al., 2008; Sani et al., 2008).

The present research also reinforces the literature, stating that multiple group memberships are important for helping people identify with new group memberships (e.g., Iyer et al., 2009; Thoits, 1983), which can in turn help

people adjust to transitions and changes in group memberships by bolstering well-being (Branscombe et al., 1999; Haslam & Reicher, 2006; Hirsch, 1981; Jetten et al., 2001; 2003; Jones et al., 2012; Levine & Reicher, 1996; Postmes & Branscombe, 2002; Schmitt et al., 2003). The results from Chapter 4 suggest that the ability to better acquire new group memberships after the programme transition was more important for player well-being and performance than maintaining group memberships across the transition. This was demonstrated by a greater number of main and interaction effects for new group memberships. The cricketers may have found it more difficult to maintain their existing group memberships and activities when joining the programmes (i.e., lost groups), but were able to develop new group memberships associated with the programmes after the transition. Thus, the ability to identify and connect with the new groups provided the players with a new sense of belonging and boosted their well-being and performance (Branscombe et al., 1999; Haslam & Reicher, 2006; Hirsch, 1981; Jetten et al., 2001; Jetten et al., 2003; Jones et al., 2012; Levine & Reicher, 1996; Schmitt et al., 2003). However, the results from Chapter 3 revealed no differences between continuity of groups across the transition and new groups acquired after transition, as it was the absolute number of groups after transition that was important for player well-being. This pattern of results suggests that the effects of group membership continuity and developing new group memberships on well-being and performance may vary dependent on the context and nature of the transition.

The measures of well-being, performance, and persistence in the present research were thought to provide an indication of participants' resilience by effectively adapting to the adversity of the transitions and the perceived performance failure during the sporting task. In this way, the results can support the literature stating that multiple group memberships are associated with an enhanced resiliency, both in the short-term and long-term, demonstrated by the ability to bounce back and recover from the adversity associated with anticipated or unanticipated life challenges such as illness, injury, transitions, and everyday demands (for a review, see Haslam et al., 2009; Jones & Jetten, 2010).

The longitudinal approach adopted in Chapters 3 and 4 of this thesis provided the opportunity to examine the transition process as it unfolds (Park et

al., 2013; Pummell et al., 2008; Wylleman et al., 1999). The results presented in these chapters demonstrate that the relationships between group memberships, well-being, and performance appear to matter at different times in a transition, providing an indication of the temporal nature of group membership dynamics during transitions. For example, when the recency of the transition was taken into consideration, it appears that the beneficial effects of group memberships upon well-being and performance primarily occurs for those who have recently experienced the transition (i.e., new members to clubs and teams and during the first six to eighteen months of joining a cricket training programme). For these players, they may have belonged to multiple groups before and after the transitions, which may have still been exerting an influence on their well-being and performance. On the other hand, those who had been a part of the clubs, teams, and programmes for a long period of time, may have had multiple group memberships previously but due to a considerable amount of time being passed since the transition, the group memberships may not have had the same positive consequences as when they first transitioned. Nevertheless, the main effects demonstrated in Chapters 3 and 4 suggest that group memberships can have beneficial effects on well-being and performance regardless of the time since the transition. These patterns of relationships noted above emerged through a number of different variables.

### **6.3. Applied Implications**

Across each of the research chapters, it appears that multiple group memberships can have beneficial effects on well-being, performance, and persistence after transitions in sport and during sporting tasks. More specifically, the results suggest that the group memberships players belong to can provide a platform to help players successfully adjust to transitions in both university and elite sporting contexts (i.e., joining new clubs and teams or joining an elite training programme). Furthermore, the experimental research reported in Chapter 5 suggests that simply reflecting on a greater number of groups could improve performance and persistence in the face of failure. Thus, players should be encouraged to increase the number of group memberships that they belong to and avoid a foreclosed self-concept (i.e., the results from Chapter 4 would suggest that more than five groups before and after transition,

and the results from the experimental chapter suggest reflecting on five groups), as this may be advantageous for their well-being, performance, and persistence. Players experiencing transitions should aim to effectively draw upon the resources that their groups provide before transition, maintain access to these resources across the transition, and develop new group memberships after transition in order to balance transitional challenges. This is likely to facilitate their ability to become involved and identify with the new clubs, teams, and programmes and in turn experience successful adjustment, through making an important contribution to their well-being and performance (particularly for new members to the clubs, teams, and programmes).

Overall, the results from Chapter 4 suggest that group memberships may be a critical factor to consider in the profiling tool that the ECB are constructing, as they may highlight markers for potential difficulties in adjusting to change (i.e., players who do not 'agree' or belong to less than five groups). This may allow coaches and support teams to undertake early intervention and provide players with the necessary support to minimise the risk of adjustment problems and players dropping out of programmes.

#### **6.4. Limitations and Future Research**

The present research highlights some important findings and contributes uniquely to the existing literature, yet some limitations should be noted. For instance, there may have been other circumstances in the athletes lives that were eliciting potentially confounding variables and influencing their psychological well-being and performance, than merely the group memberships themselves. This may be particularly important during the longitudinal chapters in which potentially confounding variables may change over time. For example, situations in their education, profession, or social relationships may have been exerting an influence on well-being and athletic performance. Confounding variables may also exist at an individual level such as interpersonal competencies and the ability to positively interact with others. For example, it is possible that when examining associations between multiple group memberships and well-being in the present research, the questionnaires may have actually been measuring an association between interpersonal

competencies and well-being (but that people with high interpersonal competencies also belong to multiple groups). Different groups and their norms can value different kinds of people and interaction styles and it is likely that outgoing people belong to more groups (although, this is not always the case; Haslam, 2001). Thus, people who are more extraverted and more open to new experiences may be expected to have better interpersonal skills and consequently join more groups. However, personality measures (e.g., BFI-10, Rammstedt & John, 2007; Single-Item Measures of Personality, Woods & Hampson, 2005) were included within the questionnaires conducted with the cricketers in Chapter 4 as requested by the ECB and no associations were found between the group membership measures and personality constructs, or between personality variables and well-being and performance measures. Furthermore, the experimental study reported in Chapter 5 also failed to find any effects of individual level relationships on the associations between experimental condition, performance, and persistence. Despite the lack of evidence, it is still not possible to rule out for sure that interpersonal competences had no influence on the observed relationships between group memberships, well-being, and performance in the present research.

Within the research presented within this thesis, quantitative methodology was used. Quantitative methods are appropriate when the research questions are focussed on examining the effects of one variable on another, testing theory, and researchers wanting to generalise the research findings from the study sample to the larger target population. Alternatively, qualitative methods attempt to find meaning and understand the participants' subjective experiences to help develop theory when the research is not attempting to generalise findings beyond the study sample (Field, 2009). As an abundant amount of research has demonstrated that multiple group memberships are associated with enhanced well-being and performance after transitions in non-sporting populations (Haslam et al., 2009), the primary aim of the present research was to explore the relationships between these variables in a sporting population. Once descriptive level relationships between variables had been tested, the present research was also interested in assessing cause and effect relationships. Thus, a quantitative approach (i.e., surveys, experimental) was deemed most appropriate by the ECB and University of Exeter due to the research questions being asked. Furthermore, as the main

research presented within this thesis captured responses from elite athletes, surveys were most suitable due to the large sample size, player's limited availability, wanting to cause minimal disruptions to programmes and training camps, and would allow players to be followed up over long periods of time. The research also wanted to be able to generalise the research findings from the study sample to the larger cricketer population within the national programmes. However, future research should consider qualitative methods such as interviews (e.g., structured, semi-structured) if time is not a restriction. This approach would contribute greatly to the body of research by offering a more exploratory and meaningful account of athletes subjective experiences when adjusting to transitions and the role that group memberships have in facilitating this process. Interviews could be used alongside questionnaires (i.e., a mixed-methods approach) to allow participants to build upon their responses and provide additional information which may not be captured within the questionnaires.

As the transitional research presented in Chapters 3 and 4 employed self-report questionnaires to measure the variables of interest, this research may have been subject to systematic error through common method variance (CMV; Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). CMV refers to the shared variance among variables that is attributable to the measurement method rather than to the constructs the measures represent (Podsakoff et al., 2003). This variance can have a confounding influence on research findings and result in misleading conclusions (Campbell & Fiske, 1959). Furthermore, CMV can under- or over-estimate the observed relationships between constructs, causing Type I and Type II errors respectively (Doty & Glick, 1998; Podsakoff et al., 2003). However, such measures were necessary because other measurement methods (e.g., interviews) were too labour intensive for research of this size. Furthermore, self-report measures are commonly used to measure psychological well-being (Warr, 2012), and questionnaires are frequently used in transitional research assessing the effects of group memberships on well-being (e.g., Haslam et al., 2008a; Iyer et al., 2009).

The use of questionnaires also presents further limitations; participants may introduce bias to the study by responding in a socially desirable manner. For example, participants control their responses in the measures to present

themselves in a favourable way, rather than reporting their true responses (Crown & Marlowe, 1964; Starkes & Young, 2006). Despite being informed that responses were confidential, social desirability may have occurred with the elite cricketers (Chapter 4), as they may have been cautious that their responses would affect their participation on the programme, or their coaches would see the responses. Furthermore, participants' affectivity (i.e., positive and negative mood dispositions) may have also influenced their responses (Watson & Pennebaker, 1989). For example, individuals with high positive affectivity view themselves, events, environments, and other aspects around them in a positive light. This increases the likelihood of over-reporting on positive items within the questionnaires and influences the relationships between variables (Watson & Clark, 1984). The opposite would occur for those with high negative affectivity. Other characteristics such as the design of individual measures and questionnaires as a whole (e.g., length, common scale formats, wording), and the context in which the questionnaire are completed (i.e., time, location) can also contribute to non-differential (random) error by influencing responses (Podsakoff et al., 2003).

The retrospective nature of the questionnaires may have resulted in responses being subject to memory decay and recall bias (Brewer et al., 1991; Debois et al., 2012; Kerr & Dacyshyn, 2000; Pummell et al., 2008; Samuel & Tenenbaum, 2011). Furthermore, the retrospective design and the use of repeated measures in the present research may have created a propensity for participants to try and maintain consistency in their responses to items in each questionnaire (the consistency motif; Podsakoff & Organ, 1986). Future research should attempt to employ prospective research designs to capture athletes before and after their transitions to help lower the possibility of recall hindrance.

The present research employed two measures to examine participants' group memberships; an objective group listing measure and a subjective group rating measure (EXITS; Haslam et al., 2008a). These measures sought to capture the importance of players' perceiving that they belong to lots of groups compared to the actual number of groups a player belongs to. Consistent with some of the findings of Haslam et al (2008a), the results of Chapters 3 and 4 demonstrated that these measures can have varying effects on outcomes such

as well-being and performance. For example, results revealed a greater number of main and interaction effects with time since the transition with the use of the objective group membership analyses compared to the subjective group memberships. Despite the high reliability coefficients in the present research (e.g.,  $\alpha_s > .76$ ), responses to the subjective EXITS measure are far more prone to bias than the objective group listings (for reasons such as social desirability and affectivity noted above). Nostalgia effects may also be associated with the ratings, whereby participants who are not doing well after transitions may imagine that everything was good before the transition (e.g., I'm lonely now, so I must have belonged to more group memberships before the transition). Furthermore, there appears to be a lack of consistency between each of the items within the corresponding scales of the EXITS. For example, the friendship item in the pre-transition group scale asks, "Before my transition I had friends who were members of lots of different groups" and the equivalent friendship item in the continuity of groups scale states "After my transition, I am friends with people in the same groups as I was before my transition". Thus, the two items are technically asking very different questions. In this regard, the objective listings may provide a more reliable measure of group memberships than the subjective ratings. However, the objective group listing measure may be criticised for the potential overlapping of groups listed by participants (i.e., despite being listed as separate groups, the groups are in fact highly related and connected to one another but may still be counted as separate entities). Regardless, the social identity perspective would stipulate that the overlapping of groups would not matter as long as the individual perceives the groups to be distinct entities (Haslam, 2004), and thus, it is unlikely that this would have influenced the objective group membership results within the present research. Therefore, if researchers are interested in examining the effects of the subjective group memberships, it is recommended that research should consider incorporating both subjective and objective measures within their research to compare effects, rather than using the subjective measure in isolation.

The present research did not examine the quality of players' group memberships. Although the quality of group memberships has received little attention in research to date, Haslam et al (2012a) have suggested that this

aspect of group memberships may be important for determining whether groups are able to support player needs. For example, some players may belong to only a few group memberships, yet are able to obtain adequate support from these group memberships as they participate regularly in the group activities, have lots of friendships within those groups, and have strong ties with those groups. On the other hand, some players may belong to a greater number of group memberships but rarely participate in their activities, have fewer friendships within the groups, and have a weaker connection to the groups. Thus, multiple groups of a lower quality may provide a weaker foundation of support than fewer groups of a higher quality. Changes to group memberships of a higher quality may also require higher levels of adjustment. Therefore, future research should consider examining the quality of group memberships, and how this affects adjustment to change during and after transitions.

Although there was evidence of mediation through group identification, and social psychological resources in relationship between group memberships, well-being, and performance in Chapter 4, Chapters 3 and 5 failed to find any significant mediating effects. These results provide some indication of how the multiple group memberships exerted their effects, however, the lack of consistency means that the exact mechanisms remain unclear. The inconsistency in mediation may be explained by the different research designs adopted within the studies. For example, the evidence of mediation seen in Chapter 4 may suggest that longitudinal techniques with extensive follow up periods, a large number of subjects, multiple data collection points, and sophisticated analyses such as multilevel modelling are required in order to uncover processes. Thus, future research should take this in to consideration when examining the potential mechanisms through which group memberships act as a resource, whilst ensuring that potential mechanisms are included through strong theoretical rationale and are measured through reliable and well-designed instruments. This may increase the likelihood of uncovering the mechanisms through which group memberships exert their effects on outcomes such as well-being, performance, and persistence. Nevertheless, research that fails to find significant mediating effects should not avoid reporting the results in order to help progress ideas within the field.

Despite the interesting results derived from the transitional research presented in Chapters 3 and 4, the use of questionnaires and the correlational, regression, and multi-level modeling analyses mean that no conclusions can be made regarding causality other than that there is a relationship between tested variables (Menard, 1991). Thus, it is possible that there are alternative interpretations of the relationships observed in the present research. For example, it may be that the maintenance of group memberships leads to higher levels of well-being and adjustment but higher levels of well-being and adjustment may encourage players to maintain their group memberships (i.e., reverse causality). This dilemma presents a strong case for future research to focus on experimental designs to help disentangle the nature of causal order regarding relationships between variables (Haslam et al., 2008a).

Lastly, experimental research should continue to examine a range of an increasing number of group memberships in attempt to assess the nature of group membership effects on various outcomes (while also incorporating control conditions). Currently, findings from experimental research (e.g., Jones & Jetten, 2010) contradict the correlational research, which suggests a positive linear relationship between the number of group memberships and dependent variables (e.g., Haslam et al., 2008a). Instead, the experimental research proposes a non-linear effect may be present, which varies across different dependent variables (e.g. the persistence results presented in Chapter 5 aligns with this). Thus, experimental research that attempts to understand the nature in which group memberships operate upon outcomes will be valuable to the literature.

## **6.5. Conclusion**

This thesis has highlighted that belonging to multiple group memberships before and after transitions in sport (e.g., joining sports clubs and teams or joining an elite training programme) can make important contributions to players' well-being, performance, and integration with the group after transition. The effects of belonging to multiple group memberships are particularly beneficial for those who have recently transitioned or are new to the clubs, teams, and programmes. In this way, the groups that players belong to can

provide a platform that allows them to successfully adjust to the challenges associated with joining new sports clubs and teams or elite training programmes. In addition, this thesis has also shown that simply getting people to reflect on a greater number of group memberships is sufficient to create improvements in performance and persistence during a sporting task. Together, these results suggest that athletes should be encouraged to increase the number of group memberships that they belong to, as this may provide an important psychological resource and contribute to the maintenance of their well-being, performance, and persistence in the face of failure. Furthermore, the findings highlight that group memberships may also be used to identify players that are more likely to struggle with transitions in sport. This combination of results obtained from a variety of cross-sectional, longitudinal, and experimental designs provide an exciting avenue for research opportunities within the psychology literature. These implications may help prevent the drop out of players from the ECB national programmes through minimising the risk of well-being and adjustment problems and helping players sustain an excellent level of performance under the pressures of elite cricket.

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## Appendix 1: Ethical Approval for Studies 1, 2, and 3

### Appendix 1.1.



#### SPORT AND HEALTH SCIENCES

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#### Certificate of Ethical Approval

Title: 2011/20 "Do multiple group memberships and social identity continuity predict well-being and adjustment after transitions into university sports teams?"  
Applicants: Ms Jodie Green and Dr Tim Rees

The proposal was reviewed by a Representative on the Committee.

**Decision: The proposal was approved from October 2011 to July 2012**

Signature:

A handwritten signature in blue ink, appearing to be 'D. Wilkerson'.

Date: 20-05-13

Name/Title of Ethics Committee Reviewer: Dr. D. Wilkerson

*Your attention is drawn to the attached paper which reminds the researcher of information that needs to be observed when Ethics Committee approval is given.*

Appendix 1.2.



**SPORT AND HEALTH SCIENCES**

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**Certificate of Ethical Approval**

Title: 2012/195 "Do multiple group memberships and compatibility predict well-being and performance following programme transitions in elite cricket?"  
Applicants: Ms Jodie Green and Dr Tim Rees

The proposal was reviewed by a Representative on the Committee.

**Decision: The proposal was approved from December 2010 to July 2013**

Signature:

A handwritten signature in blue ink, appearing to be "D. Wilkerson".

Date:

20-05-13

Name/Title of Ethics Committee Reviewer: Dr. D. Wilkerson

*Your attention is drawn to the attached paper which reminds the researcher of information that needs to be observed when Ethics Committee approval is given.*

## Appendix 1.3.

**SPORT AND HEALTH SCIENCES**

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**Certificate of Ethical Approval**

Title: 2013/559 "Does manipulating group membership salience have immediate effects on persistence, resilience and performance in a sport related task: An experimental study"

Applicants: Ms Jodie Green, Dr Tim Rees, Mr Ben Davies and Ms Charlotte Bowman

The proposal was reviewed by a Representative on the Committee.

**Decision: The proposal was approved from December 2012 to July 2013**

Signature: 

Date: 13-05-13

Name/Title of Ethics Committee Reviewer: Dr. D. Wilkerson

*Your attention is drawn to the attached paper which reminds the researcher of information that needs to be observed when Ethics Committee approval is given.*

## Appendix 2: Informed Consent and Assent Forms for Studies 1, 2, and 3

### Appendix 2.1.



SPORT AND HEALTH SCIENCES  
 College of Life and Environmental Sciences  
 St Lukes Campus  
 Heavitree Road  
 Exeter  
 EX1 2LU

#### INFORMED CONSENT FORM FOR PARTICIPANTS

I have been clearly explained the purpose of this study and any risks involved in my participation. All my questions have been satisfactorily answered and I understand that I am free to request further information at any stage. In addition, I agree that:

- My participation in this project is entirely voluntary;
- I have the right to withdraw from the study at any time without disadvantage;
- All raw data should be stored in a secure location at the University of Exeter, where only supervisors and researchers will have access to it;
- The results of the project may be published but I will not be identifiable in any way;
- And, after the study has been completed and used for publication, all raw data will be destroyed.

Having read the information sheet and consent form, I agree to participate in this study by signing below:

**Signature of Participant:** \_\_\_\_\_

**Print name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

If you have any questions about this project, either now or in the future, please feel free to contact us:

Jodie Green – Primary Researcher  
 Sport and Health Sciences  
[jg248@exeter.ac.uk](mailto:jg248@exeter.ac.uk)

Dr Tim Rees - Supervisor  
 Sport and Health Sciences  
[t.j.rees@exeter.ac.uk](mailto:t.j.rees@exeter.ac.uk)

## Appendix 2.2.



SPORT AND HEALTH SCIENCES  
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**PARENTAL/GUARDIAN/CHILD ASSENT FORM**

I have been clearly explained the purpose of this study and any risks involved in my child's participation. All my questions have been satisfactorily answered and I understand that I am free to request further information at any stage. In addition, I agree that:

- My child's participation in this project is entirely voluntary;
- My child has the right to withdraw from the study at any time without disadvantage;
- All raw data should be stored in a secure location at the University of Exeter, where only supervisors and researchers will have access to it;
- The results of the project may be published but my child will not be identifiable in any way;
- And, after the study has been completed and used for publication, all raw data will be destroyed.

**Parent/Guardian:**

I have read the information sheet and assent form and understand the expectations for my child's participation. I understand any changes to this will be discussed with me.

I agree / do not agree to permit my child to participate in this study (*delete as appropriate*).

Parent/Guardian of Participants Signature: \_\_\_\_\_

Parent/Guardian of Participants Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Participant:**

I have read the information sheet and assent form and understand the expectations for my participation.

I agree / do not agree to participate in this study (*delete as appropriate*).

Participants Signature: \_\_\_\_\_

Participants Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

If you have any questions about this project, either now or in the future, please feel free to contact us:

Jodie Green – Primary Researcher  
Sport and Health Sciences  
[jg248@exeter.ac.uk](mailto:jg248@exeter.ac.uk)

Dr Tim Rees - Supervisor  
Sport and Health Sciences  
[t.j.rees@exeter.ac.uk](mailto:t.j.rees@exeter.ac.uk)

The Ethics Committee of the College of Life and Environmental Sciences at the University of Exeter has reviewed and approved this project.

## Appendix 3: Information Sheets for Studies 1, 2, and 3

### Appendix 3.1.



#### **SPORT AND HEALTH SCIENCES**

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Email: [sshs-school-office@exeter.ac.uk](mailto:sshs-school-office@exeter.ac.uk)

#### **PSYCHOLOGY**

College of Life and Environmental Sciences  
Washington Singer Building  
Perry Road  
Exeter  
EX4 4QG

Tel: +44 (0)1392 724611  
Fax: +44 (0)1392 724623  
Email: [psyadmin@ex.ac.uk](mailto:psyadmin@ex.ac.uk)

### **INFORMATION SHEET FOR PARTICIPANTS**

Thank you for showing interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part, there will be no disadvantage to you of any kind and we thank you for considering our request.

#### **What is the aim of the project?**

The aim of this particular study is to investigate the effects of multiple group memberships, how well groups fit together, and continuity of group memberships on well-being after transitions into university sport clubs/teams.

#### **What type of participants are needed?**

Participants need to be over 18 years of age and have recently joined a new university sports club or team at the start of the academic year or are a returning member.

#### **What will participants be asked to do?**

Should you agree to take part in this project, you will be asked to firstly complete an informed consent form. Once consent has been provided, you will then be asked to fill out a questionnaire booklet, which should take approximately 25 minutes of your time. You will be required to fill out the booklet twice at two separate time points (3 month gap).

#### **Can participants change their mind and withdraw from the project?**

You may withdraw from participation in the project at any time without giving reason, and without any disadvantage to yourself of any kind.

#### **What data or information will be collected and what use will be made of it?**

Some general information (such as name, age, email, university sport club, date when you joined the sports club, and whether you have been selected for a team) is asked for on the front of the questionnaire booklet. You will then be asked to answer questions about the groups you belong to before and after the transition, social class background, how well your

groups fit together, how well you have adopted the club/team group membership, life satisfaction, emotions, depression, self-esteem, personality, personal identity strength, self-efficacy, social support and social connections. Data will be used to gain an insight as to whether group memberships before and during the club/team transition, predict adjustment and well-being after the transition.

You are assured of the following safeguards to protect your confidentiality. Even though we will ask for your name on the questionnaire, your responses will be kept private. Your completed questionnaire will be stored in a locked filing cabinet at the University of Exeter, only accessible by Jodie Green (primary researcher) and Dr Kim Peters (supervisor) until the project is complete, at which point the questionnaires will be shredded. Results of this project may be published but any data included will be in a group format and will in no way be linked to any specific participants. You are most welcome to request a copy of the results from the project.

**What if participants have any questions?**

If you have any questions about this project, either now or in the future, or would like to receive feedback regarding the results, please feel free to contact either:

Jodie Green – Primary Researcher  
Sport and Health Sciences  
[jg248@exeter.ac.uk](mailto:jg248@exeter.ac.uk)

Dr Kim Peters - Supervisor  
Psychology  
[K.O.Peters@exeter.ac.uk](mailto:K.O.Peters@exeter.ac.uk)

The Ethics Committee of the College of Life and Environmental Sciences at the University of Exeter has reviewed and approved this project.

## Appendix 3.2.



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 Fax: +44 (0)1392 724726  
 Email: sshs-school-office@exeter.ac.uk

### INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part, there will be no disadvantage to you of any kind and we thank you for considering our request.

#### **What is the aim of the project?**

My name is Jodie Green and I am studying for a PhD in Sport and Exercise Science at the University of Exeter. As part of my thesis, I will be undertaking several research projects in partnership with the ECB. The aim of this particular study is to investigate the effects of multiple group memberships, how well groups fit together, and continuity of group memberships on well-being and adaptation after transitions in elite cricket.

#### **What type of participants are needed?**

Participants need to be elite cricket players that are members of ECB national programmes i.e., EPP, EDP, County Academy, County Talent, Club programmes and so forth.

#### **What will participants be asked to do?**

Should you agree to take part in this project, you will be asked to fill out a questionnaire booklet, which should take approximately 25 minutes of your time. You may be asked to repeat the questionnaire at several time points as a follow up.

#### **Can participants change their mind and withdraw from the project?**

You may withdraw from participation in the project at any time without giving reason, and without any disadvantage to yourself of any kind.

#### **What data or information will be collected and what use will be made of it?**

Some general information (such as name, age, programme, date when you joined the programme, county and discipline) is asked for on the front of the questionnaire booklet. You will then be asked to answer questions about the groups you belong to before and after the transition, social class background, how well your groups fit together, how well you have adopted the programme membership, life satisfaction, emotions, personal self-esteem,

personality, attachment, social support, self-efficacy, control, personal identity strength, social connections, adjustment and performance on the programme. Data will be used to gain an insight as to whether group memberships before and during the programme transition predict well-being, adaptation, and performance after the transition.

You are assured of the following safeguards to protect your confidentiality. Even though we will ask for your name on the questionnaire, your responses will be kept private and no individual data will be shared with anyone in the ECB. We will only pass on average responses to them (e.g., average scores across the group from each of the measures). Your completed questionnaire will be stored in a locked filing cabinet at the University of Exeter, only accessible by Jodie Green and Dr Tim Rees (supervisor) until the project is complete, at which point the questionnaires will be shredded. Of course questionnaires can be destroyed at an earlier time on your request. Results of this project may be published but any data included will be in a group format and will be in no way be linked to any specific participants. You are most welcome to request a copy of the results from the project.

**What if participants have any questions?**

If you have any questions about this project, either now or in the future, or would like to receive feedback regarding the results, please feel free to contact either:

Jodie Green - Researcher  
Sport and Health Sciences  
[jg248@exeter.ac.uk](mailto:jg248@exeter.ac.uk)

Dr Tim Rees - Supervisor  
Sport and Health Sciences  
[Tim.J.Rees@exeter.ac.uk](mailto:Tim.J.Rees@exeter.ac.uk)

The Ethics Committee of the College of Life and Environmental Sciences at the University of Exeter has reviewed and approved this project.

## Appendix 3.3.



**SPORT AND HEALTH SCIENCES**  
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 Exeter  
 EX1 2LU

### INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part, there will be no disadvantage to you of any kind and we thank you for considering our request.

#### **What is the aim of the project?**

The aim of this particular study is to investigate the effects of group memberships on golf-putting performance of University sports athletes.

#### **What type of participants are needed?**

Participants need to be over 18 years of age and a member of a University Sports Club.

#### **What will participants be asked to do?**

Should you agree to take part in this project, you will be asked to firstly complete an informed consent form. Once consent has been provided, you will then be asked to take part in a laboratory experiment consisting of a series of questionnaires and golf putting performance trials. The experiment will take approximately 30 minutes to complete.

#### **Can participants change their mind and withdraw from the project?**

You may withdraw from participation in the project at any time without giving reason, and without any disadvantage to yourself of any kind.

#### **What data or information will be collected and what use will be made of it?**

Some general information (such as name, age, email and university sport club) is asked for at the start of the experiment. You will be required to fill out a questionnaire at the start of experiment asking questions in relation to group memberships, social support, control, personal identity strength, life satisfaction, self-esteem, emotions, motivation, confidence and self-efficacy. You will also be asked to answer questions about some of these factors at

3 separate time points throughout the experiment, interspersed with 3 golf-putting performance trials. You will be filmed throughout the experiment for performance analysis purposes. Data will be used to gain an insight as to whether group memberships predict performance during a sport related task.

You are assured of the following safeguards to protect your confidentiality. Your responses will be kept private and completed questionnaires and performance sheets will be stored in a locked filing cabinet at the University of Exeter, only accessible by Jodie Green (primary researcher) and Dr Tim Rees (supervisor) until the project is complete, at which point the questionnaires will be shredded. Results of this project may be published but any data included will be in a group format and will be in no way be linked to any specific participants. You are most welcome to request a copy of the results from the project.

**What if participants have any questions?**

If you have any questions about this project, either now or in the future, or would like to receive feedback regarding the results, please feel free to contact either:

Jodie Green – Primary Researcher  
Sport and Health Sciences  
[jg248@exeter.ac.uk](mailto:jg248@exeter.ac.uk)

Dr Tim Rees - Supervisor  
Sport and Health Sciences  
[tim.j.rees@exeter.ac.uk](mailto:tim.j.rees@exeter.ac.uk)

The Ethics Committee of the College of Life and Environmental Sciences at the University of Exeter has reviewed and approved this project.

## Appendix 4: Questionnaires for Studies 1, 2, and 3

### Appendix 4.1.



Please answer all questions. If you are unsure about something, put what you think is as reasonable an answer as you can, given the question. There are no right or wrong answers. **From Section 2 onwards, please check you have answered every question and where relevant, have entered/circled just one number for each question.** Please make sure you read each question carefully as the scales you will use to rate your responses change frequently. If even one question has not been answered in this way we cannot use your data.

Please remember that we take your anonymity very seriously and your responses will be kept private. Your completed questionnaire will be stored in a secure location at the University of Exeter.

Firstly, please fill out the information about yourself below:

**Name:**

**Age:**

**Email:**

**University sports club:**

**Date of joining the club (MM/YY):**

**NOW PLEASE ANSWER THE QUESTIONS IN THIS BOOKLET.**

**WHEN YOU HAVE FINISHED, PLEASE CHECK YOU HAVE COMPLETED ALL THE QUESTIONS.**

**THANK YOU.**

**SECTION 1**

In this section, we are interested in the groups that you belong to in your life. For the purposes of this questionnaire, a group is anything that you belong to with other people. For example, you could belong to groups through *work* (e.g., being a waiter/waitress), through school (e.g., being a prefect), through your *hobbies and interests* (e.g., belonging to a band), through your *social life* (e.g., a friendship / family group or being a supporter of your favourite sports team) or through *sports* (e.g., belonging to a local cricket or football club). All of us belong to many groups in our life, but only some of these groups are important to us. We want to know about the groups that have been *important to you*.

In the table below, please list the groups that you belonged to ***before you joined the University Sports Club/Team*** (left hand column) and the groups that you belong to ***now*** (right hand column). In some cases, the groups that you belong to now will be *the same* as the ones you belonged to before joining the University Sports Club/Team. Where this happens you will write this group in both columns. In some cases, the groups that you belong to now will be *different* from the ones you belonged to before joining the University Sports Club/Team. Where this happens you will write the group in only one column. You can write as many or as few groups as feels natural to you.

THEN: Groups Before Club/Team Transition	NOW: Groups After Club/Team Transition

**SECTION 2**

Using the 1 to 7 scale below, write a number in the box beside each of the statements to indicate how much you agree with them.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

Before the University Sports Club/Team transition, I belonged to lots of different groups	.....
Before the University Sports Club/Team transition, I joined in the activities of lots of different groups	.....
Before the University Sports Club/Team transition, I had friends who were members of lots of different groups	.....
Before the University Sports Club/Team transition, I had strong ties with lots of different groups	.....

Since the University Sports Club/Team transition, I still belong to the same groups I was a member of before the University Sports Club/Team transition	.....
Since the University Sports Club/Team transition, I still join in the same group activities as before the University Sports Club/Team transition	.....
Since the University Sports Club/Team transition, I am friends with people in the same groups as I was before the University Sports Club/Team transition	.....
Since the University Sports Club/Team transition, I continue to have strong ties with the same groups as before the University Sports Club/Team transition	.....

Since the University Sports Club/Team transition, I have joined one or more new groups	.....
Since the University Sports Club/Team transition, I have joined the activities of new groups	.....
Since the University Sports Club/Team transition, I am friends with people from one or more of these new groups	.....
Since the University Sports Club/Team transition, I have strong ties with one or more new groups	.....

**SECTION 3**

Our society is arranged into groups known as social classes. This includes the lower, middle, and upper class. Please indicate your family social class background by circling a number on the scale below:

1    2    3    4    5    6    7    8    9  
**Lower Class                      Middle Class                      Upper Class**

**SECTION 4**

This section is interested in how much overlap you think there is between being a member of the University Sports Club/Team and other aspects of your life. This includes your family background, your friends, and other social activities in your life. You will be asked to report the overlap by using a set of circles. The circles on the far left represent no overlap between that particular aspect of your life and being a member of the University Sports Club/Team, i.e., they do not fit together or are very different. The circles on the far right however, represent high overlap between the two, i.e., they fit very well together or are very similar. There are no right or wrong answers here – your gut feeling is usually the correct one.

**(1a)** Choose the pair of circles that best represents the amount of overlap, fit and similarity between being a member of the University Sports Club/Team and your family background.

**fam** = your family background      **uni** = being a member of the sports club/team



**(1b)** Please explain why you chose the answer you did by writing in the space below.  
(Why do you think they fit or do not fit well together?)

**(2a)** Choose the pair of circles that best represents the amount of overlap, fit and similarity between being a member of the University Sports Club/Team and your friends back home.

**fri** = your friends      **uni** = being a member of the sports club/team



**(2b)** Please explain why you chose the answer you did by writing in the space below.  
(Why do you think they fit or do not fit well together?)

**(3a)** Choose the pair of circles that best represents the amount of overlap, fit and similarity between being a member of the University Sports Club/Team and the other social activities in your life.

**soc** = other social activities      **uni** = being a member of the sports club/team



**(3b)** Please explain why you chose the answer you did by writing in the space below.  
(Why do you think they fit or do not fit well together?)

**SECTION 5**

Using the 1 to 7 scale below, write a number in the box beside each of the statements to indicate how much you agree with them in relation to your University Sports Club/Team.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

I identify with other University Sports Club/Team players	.....
I see myself as an University Sports Club/Team player	.....
I am pleased to be a University Sports Club/Team player	.....
I feel strong ties with University Sports Club/Team players	.....
The University Sports Club/Team is an important part of who I am	.....
I have a strong sense of belonging to the University Sports Club/Team	.....

**SECTION 6**

Using the 1 to 7 scale below, write a number in the box beside each of the statements to indicate how much you agree with them since becoming a member of the University Sports Club/Team.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

In most ways my life is close to ideal	.....
The conditions of my life are excellent	.....
I am satisfied with my life	.....
So far I have got the important things I want in life	.....
If I could live my life over, I would change almost nothing	.....

**SECTION 7**

The scale below consists of a number of words that describe different feelings and emotions. Read each item and then circle/highlight the appropriate answer in the boxes beside that word. Indicate to what extent you have felt this way since becoming a member of the University Sports Club/Team. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

1.	<b>Interested</b>	1	2	3	4	5
2.	<b>Distressed</b>	1	2	3	4	5
3.	<b>Excited</b>	1	2	3	4	5
4.	<b>Upset</b>	1	2	3	4	5
5.	<b>Strong</b>	1	2	3	4	5
6.	<b>Guilty</b>	1	2	3	4	5
7.	<b>Scared</b>	1	2	3	4	5
8.	<b>Hostile</b>	1	2	3	4	5
9.	<b>Enthusiastic</b>	1	2	3	4	5
10.	<b>Proud</b>	1	2	3	4	5
11.	<b>Irritable</b>	1	2	3	4	5
12.	<b>Alert</b>	1	2	3	4	5
13.	<b>Ashamed</b>	1	2	3	4	5
14.	<b>Inspired</b>	1	2	3	4	5
15.	<b>Nervous</b>	1	2	3	4	5
16.	<b>Determined</b>	1	2	3	4	5
17.	<b>Attentive</b>	1	2	3	4	5
18.	<b>Jittery</b>	1	2	3	4	5
19.	<b>Active</b>	1	2	3	4	5
20.	<b>Afraid</b>	1	2	3	4	5

**SECTION 8**

Using the 1 to 9 scale below, circle/highlight a number in the boxes beside each of the emotions to indicate how often you have felt this way since becoming a member of the University Sports Club/Team.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
very infrequently				moderately				very frequently

<b>Depression</b>	1	2	3	4	5	6	7	8	9
<b>Lifelessness</b>	1	2	3	4	5	6	7	8	9
<b>Helplessness</b>	1	2	3	4	5	6	7	8	9
<b>Sadness</b>	1	2	3	4	5	6	7	8	9
<b>Unhappiness</b>	1	2	3	4	5	6	7	8	9
<b>Weariness</b>	1	2	3	4	5	6	7	8	9

**SECTION 9**

Using the 1 to 4 scale below, write a number in the boxes beside each of the statements to indicate how much you agree with them since becoming a member of the University Sports Club/Team.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
strongly disagree	disagree	agree	strongly agree

On the whole, I am satisfied with myself	.....
At times, I think I am no good at all	.....
I feel that I have a number of good qualities	.....
I am able to do things as well as most other people	.....
I feel I do not have much to be proud of	.....
I certainly feel useless at times	.....
I feel that I'm a person of worth, at least on an equal plane with others	.....
I wish I could have more respect for myself	.....
All in all, I am inclined to feel that I am a failure	.....
I take a positive attitude toward myself	.....

**SECTION 10**

Using the 1 to 5 scale below, write a number in the boxes beside each of the statements to indicate how much they describe your personality.

1	2	3	4	5
strongly disagree	disagree a little	neither agree nor disagree	agree a little	strongly agree

I see myself as someone who:

...is reserved	.....
...is generally trusting	.....
...tends to be lazy	.....
...is relaxed, handles stress well	.....
...has few artistic interest	.....
...is outgoing, sociable	.....
...tends to find fault with others	.....
...does a thorough job	.....
...gets nervous easily	.....
...has an active imagination	.....

**SECTION 11**

Using the 1 to 5 scale below, write a number in the boxes beside each of the statements to indicate how much you agree with them.

1	2	3	4	5
strongly disagree	disagree a little	neither agree nor disagree	agree a little	strongly agree

I know what I like and what I don't like	.....
I know what my morals are	.....
I have strong beliefs	.....
I know what I want from life	.....
I am aware of the roles and responsibilities I have in my life	.....

**SECTION 12**

Using the 1 to 4 scale below, write a number in the box beside the statement to indicate how much you agree with it.

1	2	3	4	5	6	7
not at all			neutral			completely

I can usually handle whatever comes my way	.....
--	-------

**SECTION 13**

Using the 1 to 7 scale below, write a number in the boxes beside each of the statements to indicate how much you agree with them.

1	2	3	4	5	6	7
not at all			neutral			completely

Do you get the emotional support you need from other people (e.g., are there people who can cheer you up)?	.....
--	-------

Do you get the help you need from other people (e.g., are there people who do things for you to give you more time to concentrate on other tasks)?	.....
--	-------

Do you get the resources you need from other people (e.g., are there people who provide you with financial assistance)?	.....
---	-------

Do you get the advice you need from other people (e.g., are there people who give you advice to help you cope with different situations)?	.....
---	-------

**SECTION 14**

Please answer each of the following statements by writing a number in the box.

In the average week, how many phone/internet conversations do you have with your relatives or friends?	.....
--	-------

On the average day, how many people do you talk to?	.....
---	-------

In the average week, how many times do you meet up with friends or relatives outside your household?	.....
--	-------

- END OF QUESTIONNAIRE -

## Appendix 4.2.



Please answer all questions in this booklet. If you are unsure about something, put what you think is as reasonable an answer as you can, given the question. If even one question has not been answered, your questionnaire will be destroyed. There are no right or wrong answers. Please read each question carefully as the scales you will use to respond with change frequently.

Your responses will be kept private and no individual data will be shared with the ECB. We will only pass on average responses to them (e.g., average score across the group from each of the measures). Your completed questionnaire will be securely stored at the University of Exeter and you can request for the questionnaire to be destroyed at any time. All questionnaires will be automatically destroyed once the data has been analysed.

Firstly, please fill out the information about yourself below:

**Name:**

**Age:**

**Programme - e.g., EDP, County Academy etc:**

(Please answer questions in the booklet in relation to this programme)

**Date of joining the programme (MM/YY):**

**County:**

**Discipline – e.g., spin bowler, batsmen etc:**

**NOW PLEASE ANSWER THE QUESTIONS IN THIS BOOKLET.**

**WHEN YOU HAVE FINISHED, PLEASE CHECK YOU HAVE COMPLETED ALL THE QUESTIONS.**

**SECTION 1**

In this section, we are interested in the groups that you belong to in your life. For the purposes of this questionnaire, a group is anything that you belong to with other people. For example, you could belong to groups through *work* (e.g., being a paper round boy), through school (e.g., being a prefect), through your *hobbies and interests* (e.g., belonging to a band), through your *social life* (e.g., a friendship / family group or being a supporter of your favourite sports team) or through *sports* (e.g., belonging to a local cricket or football club). All of us belong to many groups in our life, but only some of these groups are important to us. We want to know about the groups that have been *important to you*.

In the table below, please list the groups that you belonged to ***before you joined your programme*** (left hand column) and the groups that you belong to ***now*** (right hand column). In some cases, the groups that you belong to now will be *the same* as the ones you belonged to before joining your programme. Where this happens you will write this group in both columns. In some cases, the groups that you belong to now will be *different* from the ones you belonged to before joining your programme. Where this happens you will write the group in only one column. You can write as many or as few groups as feels natural to you.

THEN: Groups Before Programme Transition	NOW: Groups After Programme Transition

**SECTION 2**

Using the 1 to 7 scale below, write a number in the box beside each of the statements to indicate how much you agree with them. Please enter just **one** response for each statement.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

Before the programme transition, I belonged to lots of different groups	.....
Before the programme transition, I joined in the activities of lots of different groups	.....
Before the programme transition, I had friends who were members of lots of different groups	.....
Before the programme transition, I had strong ties with lots of different groups	.....

Since the programme transition, I still belong to the same groups I was a member of before the programme transition	.....
Since the programme transition, I still join in the same group activities as before the programme transition	.....
Since the programme transition, I am friends with people in the same groups as I was before the programme transition	.....
Since the programme transition, I continue to have strong ties with the same groups as before the programme transition	.....

Since the programme transition, I have joined one or more new groups	.....
Since the programme transition, I have joined the activities of new groups	.....
Since the programme transition, I am friends with people from one or more of these new groups	.....
Since the programme transition, I have strong ties with one or more new groups	.....

**SECTION 3**

Our society is arranged into groups known as social classes. This includes the lower, middle, and upper class. Please indicate your family social class background by circling **a** number on the scale below:

1      2      3      4      5      6      7      8      9  
 Lower Class                      Middle Class                      Upper Class

**SECTION 4**

This section is interested in how much overlap you think there is between being a member of your programme and other aspects of your life. This includes your family background, your friends, and other social activities in your life. You will be asked to report the overlap by using a set of circles. The circles on the far left represent no overlap between that particular aspect of your life and being a member of your programme, i.e., they do not fit together or are very different. The circles on the far right however, represent high overlap between the two, i.e., they fit very well together or are very similar. There are no right or wrong answers here – your gut feeling is usually the correct one.

**(1a)** Choose the pair of circles that best represents the amount of overlap, fit and similarity between being a member of your programme and your *family* background.

fam = your family background      prog = being a member of your programme (e.g., EDP etc)



**(2a)** Choose the pair of circles that best represents the amount of overlap, fit and similarity between being a member of your programme and your *friends* back home.

fri = your friends      prog = being a member of your programme (e.g., EDP etc)



**(3a)** Choose the pair of circles that best represents the amount of overlap, fit and similarity between being a member of your programme and the other *social* activities in your life.

soc = other social activities      prog = being a member of your programme (e.g., EDP etc)



**SECTION 5**

Using the 1 to 7 scale below, write a number in the box beside each of the statements to indicate how much you agree with them. Please enter just **one** response for each statement.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

I identify with other players on my programme (e.g., EDP, County Academy etc.)	.....
I see myself as a player on my programme	.....
I am pleased to be player on my programme	.....
I feel strong ties with other players on my programme	.....
Being a player on my programme is an important part of who I am	.....
I have a strong sense of belonging to my programme	.....

**SECTION 6**

Using the 1 to 7 scale below, write a number in the box beside each of the statements to indicate how much you agree with them since becoming a member of your programme. Please enter just **one** response for each statement.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

In most ways my life is close to ideal	.....
The conditions of my life are excellent	.....
I am satisfied with my life	.....
So far I have got the important things I want in life	.....
If I could live my life over, I would change almost nothing	.....

**SECTION 7**

The scale below consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer in the boxes beside that word. Indicate to what extent you have felt this way since becoming a member of your programme. Use the following scale to record your answers. Please circle just **one** number for each feeling/emotion.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

1.	Interested	1	2	3	4	5
2.	Distressed	1	2	3	4	5
3.	Excited	1	2	3	4	5
4.	Upset	1	2	3	4	5
5.	Strong	1	2	3	4	5
6.	Guilty	1	2	3	4	5
7.	Scared	1	2	3	4	5
8.	Hostile	1	2	3	4	5
9.	Enthusiastic	1	2	3	4	5
10.	Proud	1	2	3	4	5
11.	Irritable	1	2	3	4	5
12.	Alert	1	2	3	4	5
13.	Ashamed	1	2	3	4	5
14.	Inspired	1	2	3	4	5
15.	Nervous	1	2	3	4	5
16.	Determined	1	2	3	4	5
17.	Attentive	1	2	3	4	5
18.	Jittery	1	2	3	4	5
19.	Active	1	2	3	4	5
20.	Afraid	1	2	3	4	5

**SECTION 8**

Using the 1 to 4 scale below, write a number in the boxes beside each of the statements to indicate how much you agree with them since becoming a member of your programme. Please enter just **one** response for each statement.

1	2	3	4
strongly disagree	disagree	agree	strongly agree

On the whole, I am satisfied with myself	.....
At times, I think I am no good at all	.....
I feel that I have a number of good qualities	.....
I am able to do things as well as most other people	.....
I feel I do not have much to be proud of	.....
I certainly feel useless at times	.....
I feel that I'm a person of worth, at least on an equal plane with others	.....
I wish I could have more respect for myself	.....
All in all, I am inclined to feel that I am a failure	.....
I take a positive attitude toward myself	.....

**SECTION 9**

Using the 1 to 7 scale below, please indicate the extent to which you agree or disagree with each statement by writing a number in the boxes alongside. You'll be asked to answer questions about your mother, father and your best friend. **Please fill in ALL boxes.**

1	2	3	4	5	6	7
strongly disagree	disagree moderately	disagree a little	neither agree nor disagree	agree a little	agree moderately	strongly agree

	Mother/Mother Like Figure	Father/Father Like Figure	Best Friend
It helps to turn to this person in times of need	.....	.....	.....
I usually discuss my problems and concerns with this person	.....	.....	.....
I talk things over with this person	.....	.....	.....
I find it easy to depend on this person	.....	.....	.....
I don't feel comfortable opening up to this person	.....	.....	.....
I prefer not to show this person how I feel deep down	.....	.....	.....
I often worry that this person doesn't really care for me	.....	.....	.....
I'm afraid that this person may abandon me	.....	.....	.....
I worry that this person won't care about me as much as I care about him or her	.....	.....	.....

**SECTION 10**

Using the 1 to 7 scale below, write a number in the 'scale rating' boxes beside each of the statements to indicate how much you agree with them. Then go on to enter how many people in total you feel you can turn to for this support. Please enter just **one** response for each statement.

1	2	3	4	5	6	7
not at all			neutral			completely

	Scale Rating	How many people can you turn to for this support e.g., 4, 10?
Do you get the emotional support you need from other people (e.g., are there people who can cheer you up)?	.....	.....
Do you get the help you need from other people (e.g., are there people who do things for you to give you more time to concentrate on other tasks)?	.....	.....
Do you get the resources you need from other people (e.g., are there people who provide you with financial assistance)?	.....	.....
Do you get the advice you need from other people (e.g., are there people who give you advice to help you cope with different situations)?	.....	.....

**SECTION 11**

Using the 1 to 7 scale below, write a number in the box beside the statement to indicate how much you agree with it.

1	2	3	4	5	6	7
not at all			neutral			completely

I can usually handle whatever comes my way

.....

**SECTION 12**

Using the scale below, write in a number in the \_\_\_\_ provided to indicate what your normal or usual attitude, feeling, or behaviour would be:

1	2	3	4	5
Rarely (less than 10% of the time)	Occasionally (about 30% of the time)	Sometimes (about half the time)	Frequently (about 70% of the time)	Usually (more than 90% of the time)

If I want something I \_\_\_\_ work hard to get it

When part of a group I \_\_\_\_ prefer to let other people make all the decisions

I am \_\_\_\_ sure enough of my opinion to try and influence others

I \_\_\_\_ prefer situations where I can depend on someone else's ability rather than just my own

When something is going to affect me I \_\_\_\_ learn as much about it as I can

What other people think \_\_\_\_ has a great influence in my behaviour

**SECTION 13**

Using the 1 to 5 scale below, write a number in the boxes beside each of the statements to indicate how much they describe your personality.

1	2	3	4	5
strongly disagree	disagree a little	neither agree nor disagree	agree a little	strongly agree

I see myself as someone who:

...is reserved	.....
...is generally trusting	.....
...tends to be lazy	.....
...is relaxed, handles stress well	.....
...has few artistic interest	.....
...is outgoing, sociable	.....
...tends to find fault with others	.....
...does a thorough job	.....
...gets nervous easily	.....
...has an active imagination	.....
...is considerate and kind to almost everyone	.....

**SECTION 14**

Please answer each of the following statements by writing a number in the box.

In the past week, how many phone conversations did you have with your relatives or friends?	.....
In the past week, how many times did you meet socially with friends or relatives outside your household?	.....
In the past week, how often did you participate in the activities of the groups you belong?	.....

**SECTION 15**

Using the 1 to 5 scale below, write a number in the boxes beside each of the statements to indicate how much you agree with them. Please enter just **one** response for the statement.

1	2	3	4	5
strongly disagree	disagree a little	neither agree nor disagree	agree a little	strongly agree

I know what I like and what I don't like	.....
I know what is right and wrong	.....
I have strong beliefs	.....
I know what I want from life	.....
I am aware of the roles and responsibilities I have in my life	.....

**SECTION 16**

Using the 1 to 7 scale below, write a number in the box beside the questions to indicate how much you agree with them. Please enter just **one** response for the statement.

1	2	3	4	5	6	7
strong no	no	slight no	neither no nor yes	slight yes	yes	strong yes

Do you think you have adjusted well to your programme?	.....
Are you satisfied with your performance since becoming a member of your programme?	.....
Are you performing well right now?	.....
Has your performance been consistently better than it was before joining your programme?	.....
Has your performance been consistently worse than it was before joining your programme?	.....
Overall since joining your programme, has your performance been better than other members of the programme?	.....

**\*\*END OF QUESTIONNAIRE\*\***

## Appendix 4.3.



Name of Coach/Assessor: \_\_\_\_\_

Name of Player: \_\_\_\_\_

Please indicate your *knowledge/familiarity* with the player by circling a number using the scale below:

1                      2                      3                      4                      5  
None at all      A little      Moderate      Quite a bit      Extremely well

How long have you known the player for (days/weeks/months/years):

\_\_\_\_\_

Using the 1 to 7 scale below, write a number in the boxes beside each of the questions to indicate how much you agree with them about the player:

1	2	3	4	5	6	7
Strong no	No	Slight no	Neither no nor yes	Slight yes	Yes	Strong yes

Do you think the player has adjusted well to the Programme/CTT environment?	.....
Since participating in the Programme/CTT, has the player been performing well?	.....
Do you think the player has the potential to perform well in the future?	.....

## Appendix 4.4.

<b>Participant Details Form</b>	No. _____
---------------------------------	-----------

---

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Age (in years): \_\_\_\_\_

Gender (please circle):            Male            Female

Main Sport: \_\_\_\_\_

Competition Level (please tick the most appropriate option below):

International	<input type="checkbox"/>
National	<input type="checkbox"/>
Regional	<input type="checkbox"/>
County	<input type="checkbox"/>
Club	<input type="checkbox"/>

How much experience do you have in golf putting? (Please tick the most appropriate option below):

No experience	<input type="checkbox"/>
Very little experience	<input type="checkbox"/>
Moderate experience	<input type="checkbox"/>
A lot of experience	<input type="checkbox"/>

Are you (please circle):    Right handed    or    Left handed

- Now please fill out the questionnaire overleaf -

### Section A.

---

Using the 1 to 7 scale below, write a number in the box beside the statement to indicate how much you agree with it. A group is anything you belong to with other people. For example, you could belong to a group through work, university, hobbies and interests, social life, sports and so forth. Take a minute to think about the groups that you belong to before answering the following question.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

I belong to many groups	.....
-------------------------	-------

### Section B.

---

Using the 1 to 7 scale below, write a number in the box beside the statements to indicate how much you agree with them.

1	2	3	4	5	6	7
Not At All						Completely

Do you get the emotional support you need from other people (e.g., are there people who can cheer you up)?	.....
Do you get the help you need from other people (e.g., are there people who do things for you to give you more time to concentrate on other tasks)?	.....
Do you get the resources you need from other people (e.g., are there people who provide you with financial assistance)?	.....
Do you get the advice you need from other people (e.g., are there people who give you advice to help you cope with different situations)?	.....

### Section C.

---

Using the 1 to 7 scale below, write a number in the box beside the statements to indicate how much you agree with them.

1	2	3	4	5
Rarely (less than 10% of the time)	Occasionally (about 30% of the time)	Sometimes (about half of the time)	Frequently (about 70% of the time)	Usually (more than 90% of the time)

If I want something I ____ work hard to get it	
When something is going to affect me I ____ learn as much about it as I can	
What other people think ____ has a great influence on my behaviour	
I ____ get discouraged when doing something that takes a long time to achieve results	

### Section D.

---

Using the 1 to 7 scale below, write a number in the box beside the statements to indicate how much you agree with them.

1	2	3	4	5
Strongly Disagree	Disagree a little	Neither Agree Nor Disagree	Agree a Little	Strongly Agree

I know what I like and what I don't like	.....
I know what is right and wrong	.....
I have strong beliefs	.....
I know what I want from my life	.....
I am aware of the roles and responsibilities I have in my life	.....

### Section E.

Using the 1 to 7 scale below, write a number in the box beside the statements to indicate how much you agree with them.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

In most ways my life is close to ideal	.....
The conditions in my life are excellent	.....
I am satisfied with my life	.....
So far I have got the important things I want in life	.....
If I could live my life over, I would change almost nothing	.....

### Section F.

Using the 1 to 4 scale below, write a number in the box beside the statements to indicate how much you agree with them.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

On the whole, I am satisfied with myself	.....
At times, I think I am no good at all	.....
I feel that I have a number of good qualities	.....
I am able to do things as well as most other people	.....
I feel I do not have much to be proud of	.....
I certainly feel useless at times	.....
I feel that I'm a person of worth, at least on an equal plane with others	.....
I wish I could have more respect for myself	.....
All in all, I am inclined to feel that I am a failure	.....
I take a positive attitude toward myself	.....

### Section G.

---

Please indicate, by circling one number, the extent to which you are experiencing the following feelings and emotions right now using the 1 to 5 scale below.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

1.	<b>Interested</b>	1	2	3	4	5
2.	<b>Distressed</b>	1	2	3	4	5
3.	<b>Excited</b>	1	2	3	4	5
4.	<b>Upset</b>	1	2	3	4	5
5.	<b>Strong</b>	1	2	3	4	5
6.	<b>Guilty</b>	1	2	3	4	5
7.	<b>Scared</b>	1	2	3	4	5
8.	<b>Hostile</b>	1	2	3	4	5
9.	<b>Enthusiastic</b>	1	2	3	4	5
10.	<b>Proud</b>	1	2	3	4	5
11.	<b>Irritable</b>	1	2	3	4	5
12.	<b>Alert</b>	1	2	3	4	5
13.	<b>Ashamed</b>	1	2	3	4	5
14.	<b>Inspired</b>	1	2	3	4	5
15.	<b>Nervous</b>	1	2	3	4	5
16.	<b>Determined</b>	1	2	3	4	5
17.	<b>Attentive</b>	1	2	3	4	5
18.	<b>Jittery</b>	1	2	3	4	5
19.	<b>Active</b>	1	2	3	4	5
20.	<b>Afraid</b>	1	2	3	4	5

**\*\* Please answer the following questions in relation to the upcoming task \*\***

**Section H.**

---

Using the 1 to 7 scale below, write a number in the box beside the statements to indicate how much you agree with them about the *upcoming task*.

1	2	3	4	5	6	7
Not At All			Somewhat			Extremely

It is important for me to do well on this task	.....
I intend to put a lot of effort into this task	.....

**Section I.**

---

Using the 1 to 7 scale below, write a number in the box beside the statements to indicate how much you agree with them about the *upcoming task*.

1	2	3	4
Not At All	Somewhat	Moderately	Very Much So

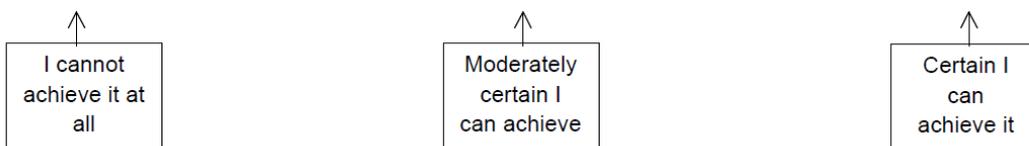
I'm self-confident	.....
I'm confident I can meet the challenge	.....
I'm confident about performing well	.....
I'm confident about coming through under pressure	.....

**Section J.**

Please think about today's task. In the column CAN YOU ACHIEVE IT, please state **Yes** or **No** for each position band with reference to whether you believe you can achieve those respective scores with a total of 6 putts within *each performance task*.

For those scores that you stated 'Yes' to, in the adjacent column labelled CONFIDENCE, rate how confident you are that you can score in those respective scoring bands. Rate your degree of confidence by recording a number from 0 to 100 using the scale given below.

0	10	20	30	40	50	60	70	80	90	100
---	----	----	----	----	----	----	----	----	----	-----



FINISHING SCORE FOR EACH TRIAL	CAN YOU ACHIEVE IT? (YES/NO)	CONFIDENCE (0-100)
55-60	_____	_____
49-54	_____	_____
43-48	_____	_____
37-42	_____	_____
31-36	_____	_____
25-30	_____	_____
19-24	_____	_____
13-18	_____	_____
7-12	_____	_____
0-6	_____	_____

**\*End of Questionnaire\***

**Appendix 4.5.**

**Name:** \_\_\_\_\_

In this section, we are interested in a group that you belong to in your life. A group is anything you belong to with other people. For example, you could belong to a group through work (e.g., a waiter), university (e.g., degree course or society), hobbies and interests (e.g., playing an instrument), social life (e.g., a friendship/family group or supporting your favourite team), or sports (e.g., belonging to a netball or football club).

Please complete the information below about **ONE** group that you belong to:

**Group:** \_\_\_\_\_

Now take a moment to think about your group. In a few words, please describe why your group is important or unimportant to you.

---

---

---

---

---

**Appendix 4.6.**

1b

Name: \_\_\_\_\_

**\*\* Please answer the following questions in relation to the NEXT TASK \*\***

Read each question carefully and use the scales to answer the items.

**Section A.**

Thinking about the *next task*, please indicate by circling one number, the extent to which you are experiencing the following feelings and emotions right now using the 1 to 5 scale below.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

Content	1	2	3	4	5
Excited	1	2	3	4	5
Anxious	1	2	3	4	5
Depressed	1	2	3	4	5

**Section B.**

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

It is important for me to do well on the task	.....
I intend to put a lot of effort into the task	.....

**Section C.**

1	2	3	4
Not At All	Somewhat	Moderately	Very Much So

I'm confident about performing well	.....
I'm confident about coming through under pressure	.....

1b

**Section D.**

Please think about the next performance task. In the column CAN YOU ACHIEVE IT, please state Yes or No for each position band with reference to whether you believe you can achieve those respective scores in *the next performance task*. For those scores that you stated 'Yes' to, in the column CONFIDENCE, rate how confident you are that you can score in those respective scoring bands. Rate your degree of confidence by recording a number from 0 to 100 using the scale given below.

0	10	20	30	40	50	60	70	80	90	100
---	----	----	----	----	----	----	----	----	----	-----



FINISHING SCORE FOR EACH TRIAL	CAN YOU ACHIEVE IT? (YES/NO)	CONFIDENCE (0-100)
55-60	_____	_____
49-54	_____	_____
43-48	_____	_____
37-42	_____	_____
31-36	_____	_____
25-30	_____	_____
19-24	_____	_____
13-18	_____	_____
7-12	_____	_____
0-6	_____	_____

**\*End of Questionnaire\***

## Appendix 4.7.

**\*\* Please answer the following questions in relation to the TASKS OVERALL \*\***

**Section E.**

---

Using the 1 to 7 scale below, rate how you found the tasks overall.

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

Easy	.....
Enjoyable	.....
Challenging	.....
Stressful	.....

It was important for me to do well on the tasks	.....
The tasks did not hold my attention at all	.....
I put a lot of effort into the tasks	.....
I am satisfied with my performance on the tasks	.....
I was anxious while doing the tasks	.....

**Section F.**

---

1	2	3	4
Not At All	Somewhat	Moderately	Very Much So

I was confident about performing well	.....
I was confident about coming through under pressure	.....

**Section G.**

---

Please circle the number of groups you were asked to reflect on after performance task 1:

No groups

1 group

5 groups

**\*\* Thank you for your time \*\***

## Appendix 4.8.

1a

Name: \_\_\_\_\_

**\*\* Please answer the following questions in relation to the PREVIOUS TASK \*\***

Read each question carefully and use the scales to answer the items.

**Section A.**

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

It was important for me to do well on the task	.....
I put a lot of effort into the task	.....
I am satisfied with my performance on the task	.....

My performance on the task was due to my ability	.....
My performance on the task was due to luck	.....
My performance on the task was due to my decisions	.....
My performance on the task was due to equipment	.....

**Section B.**

In relation to the following items, please rate by circling one number how you felt while you were performing the task.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

Content	1	2	3	4	5
Excited	1	2	3	4	5
Anxious	1	2	3	4	5
Depressed	1	2	3	4	5

1a

**Section C.**

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

My performance in the last task left me satisfied with myself on the whole	.....
My performance in the last task left me feeling that I do not have much to be proud of	.....

**Section D.**

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

My behaviour in the last task made me doubt my ideas about myself	.....
My behaviour in the last take left me more confident about the kind of person I am	.....

During the task, I had thoughts about other personal worries (e.g., work)	.....
During the task, I had thoughts that I am not going to perform very well	.....
During the task, I had thoughts that I want to quit	.....

**\*End of Questionnaire\***