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Abstract

The purpose of this study was to extend group attachment theory research by Smith, Murphy, and Coats (1999) and apply it within a sport team context. The relationship between attachment and important sport team variables, namely leadership, cohesion, and collective efficacy, was explored.

Data were collated by on-site administration of a questionnaire consisting of the Social Group Attachment Scale (SGAS), the Leadership Scale for Sport (LSS), the Group Environment Questionnaire (GEQ), and the Collective Efficacy Scale. The sample included 173 elite female netball players from 16 teams competing in the U17 and U19 New Zealand National Championships.

Results demonstrate that both attachment anxiety and attachment avoidance had significant negative correlations with almost all subscales from the GEQ and collective efficacy measure. However, attachment avoidance revealed enlarged significance and strength in the relationships. Similarly, attachment avoidance demonstrated a significant positive relationship with three leadership subscales, whereas attachment anxiety did not. Attachment avoidance demonstrates a stronger relationship with the variables under investigation, suggesting this style of attachment may have a more detrimental impact in an elite sport team setting. Implications for theory, measurement, coaches, and sport psychology are discussed. Future recommendations for researchers, sport psychologists, and coaches are also discussed.

Chapter One: General Introduction

This study examines the associations between attachment style and three important sport psychology variables, namely preferred leadership style, collective-efficacy, and cohesion. An understanding of athlete's attachment styles could enable coaches to efficiently adjust their leadership style according to the athletes' preferred behaviours. This in turn could encourage healthier connections between coach-athlete dyads and within the team as a whole. Paying attention to individual variables, namely attachment style and preferred leadership style, could positively influence important group phenomena, namely collective efficacy and cohesion, thus increase team performance and success (Jowett and Chaundy 2004, Tiryaki and Cepikkurt 2007, Vincer and Loughhead 2010, Lavy, Bareli et al. 2014, Kim and Cruz 2016).

Group phenomena have been extensively researched in recent decades within a sporting context. A predominant relationship has been found between collective efficacy, cohesion, and sport team performance (Spink 1990, Heuze, Raimbault et al. 2006, Ramzaninezhard, Keshtan et al. 2009). Due to the interdependence of athletes within a sport team, that is an individual has an effect on the group and the group has an effect on the individual, these constructs are of particular interest to sport psychologists. A high level of performance is crucial for a professional or elite athlete and many receive significant monetary rewards. Therefore, understanding what factors enhance or hinder high quality performance has become an interest to all involved including sporting associations, coaches, managers, and the athletes themselves.

Bandura (1977) advanced the term self-efficacy to describe an individual's perception of their own skill level or ability. As an extension of this, Bandura (1986, 1997) devised collective efficacy, incorporating individual's perceptions of their teams' ability, as a whole, to attain a desired level of achievement. Collective efficacy is best defined as a "groups' shared belief in its conjoint capabilities to organise and execute the courses of action required to produce given levels of attainment" (Bandura, 1997, p. 477). It is the understanding that for teams' to overcome obstacles, they must have confidence in solving these obstacles through concerted effort (Feltz and Lirgg 1998). Not surprisingly, when definitions are compared, collective efficacy is closely associated with cohesion. Group cohesion is best defined as "a dynamic

process, which is reflected in the tendency for a group to stick together and remain united in the pursuit of goals and objectives” (Carron 1982).

Evidence supports a significant association between these two group level variables. Teams with high levels of collective efficacy also rated cohesion higher (Spink 1990). For example, elite volleyball players with high levels of collective efficacy paralleled a higher focus on task cohesion compared to recreational volleyball players and less successful elite teams (Paskevich, Brawley et al. 1999). Similarly, groups high in collective efficacy demonstrate maintenance of heart rate maximum and performance time, whereas groups low in collective efficacy demonstrate significant reductions in heart rate and performance time. This evidence confirms the influence of collective efficacy beliefs on determination toward the group task (Greenlees, Graydon et al. 1999). For example, a rowing crew with a united confidence in their ability to win a race will influence their willpower to do so. In comparison, dimensions of cohesion have accounted for a significant proportion of the variance (32%) in collective efficacy scores. More specifically, an athlete’s perception of their team’s task integration was the strongest predictor of collective efficacy, that is, the more athletes perceive their team to be working together to achieve a common task or goal, the more confident athletes are in their team’s ability to efficaciously perform tasks that require a high level of teamwork (Kozub and McDonnell 2000). Likewise, measures of task cohesion were positively associated to coaches and athletes’ perception of efficacy (Marcos, Miguel et al. 2010). It appears task cohesion consistently has a significant, positive relationship with collective efficacy, whereas the social dimensions of cohesion do not significantly associate with collective efficacy (Ramzaninezhad, Keshtan et al. 2009). However, Spink (1990) found different dimensions of cohesion, including social integration, significantly differentiated between high and low collective efficacy. Despite some dissimilar findings, overall the evidence supports a significant, positive, and bidirectional relationship between group cohesion and collective efficacy ($r=0.57$), placing emphasis on the importance of task dimensions within elite sports (Ramzaninezhad, Keshtan et al. 2009).

Underlying the functioning of these group phenomena are individual factors, such as attachment and leadership style. For example, athlete’s perception of coaches leadership behaviours and the quality of the relationship were predictors of individuals’ collective efficacy beliefs (Hampson and Jowett 2014). Well established theories of leadership continue to propose that an astounding leader has the capability to encourage team members’ perception of collective efficacy (Shamir, House et al. 1993, Chemers, Watson et al. 2000). A

sports coach as a leader, displaying confidence and success, has the potential to significantly influence and improve collective efficacy (Watson, Chemers et al. 2001). In fact, effective coaches utilising techniques, such as motivation and feedback, to create a positive sporting environment can empower team members to successfully control their arousal (Kozub and McDonnell 2000). Thus, coaches as leaders continue to demonstrate the ability to influence efficacy as outlined by Bandura's (1977, 1986) model. Likewise, leadership behaviours have consistently been associated with group cohesion (Shields, Gardner et al. 1997). Specifically, coaches engaging in higher levels of training and instruction, democratic behaviour, positive feedback, and social support, and low in autocratic behaviour, had teams with higher levels of cohesion (Westre and Weiss 1991, Gardner, Shields et al. 1996, Vincer and Loughhead 2010, Vahdani, Sheikhyousefi et al. 2012, Kim and Cruz 2016). This relationship transcends beyond coach-athlete relationships. For example, effective peer leadership has been associated with athletes who reported greater cohesion (Vincer and Loughhead 2010). Peer leaders were characterised by higher acceptance, competence, intrinsic motivation, and behavioural conduct (Price and Weiss 2011). However, maturity levels and gender were found to be moderators of this relationship, contributing to significant differences in perception of team cohesion and coaching behaviour (Gardner, Shields et al. 1996, Kim and Cruz 2016). It is noteworthy that many of these scholars have focused on perceived leadership style, whereas the present study attends to preferred leadership. This encompasses the behaviours that athletes want their coaches to demonstrate.

Attachment and Sport

Attachment can broadly be defined as an affective bond with significant others. Attachment involves internal working models that guide our thoughts, feelings and behaviours within relationships. Considering team sports involve interdependent relationships, it is a plausible argument that attachment styles will have a significant underlying influence on sport psychology variables. For example, the behaviours a coach displays and the behaviours an athlete wants their coaches to demonstrate will likely be determined, in part, by their underlying individual attachment styles. In fact, Jowett and Chaundy (2004) found that athletes' perception of coach leadership and relationship variables together, rather than leadership alone, were better predictors of cohesion (Jowett and Chaundy 2004). Thus, the inclusion of attachment variables would improve prediction of team cohesion. Although it is widely recognised that a theoretically integrative approach is invaluable to unite fields and

extend knowledge, attachment theory has rarely appeared in the sport and exercise psychology domain.

The few studies that have emerged, integrating attachment theory within a sporting context, are discovering interesting relationships. For example, Rom and Mikulincer (2003) revealed individuals with anxious attachment orientations had low appraisal of group-related self-efficacy. Similarly, Tiriyaki and Cepikkurt (2007) revealed an anxious attachment style was negatively associated with the group integration-task (GI-T) and attraction to the group social (ATG-S) subscales of the GEQ. However, attachment avoidance has been proposed the most disadvantageous style within an interdependent setting. For example, increases in group leaders' attachment avoidance parallels decreases in followers' rated group cohesion (Davidovitz, Mikulincer et al. 2007). These initial findings suggest attachment plays an important role in the mechanisms underlying sport psychology variables.

Chapter Two: Literature Review

2.1 Attachment - Theory Overview and Research

Attachment theory (Bowlby 1969) is a well-established theoretical framework within developmental, social, and personality psychology. It describes a human evolutionary need for and biological predisposition to form close relationships and promotes an understanding of how different types of attachment styles emerge through affective bonds developed with significant others, particularly those offering security. An attachment is conceptualised as a system, including patterns of affect, cognition, and behaviour, that have been found to depend upon variations in caregiver's availability, responsiveness, and sensitivity to an infant's inherent need for proximity, particularly when distressed. Ainsworth and colleagues utilized experimental protocol, namely "the strange situation procedure", to conduct observational studies (Ainsworth, Blehar et al. 1978). This resulted in the emergence of three main attachment styles, including, secure, anxious-ambivalent, and avoidant.

A *secure* attachment style is characterised by appropriate social boundaries involving a comfortable balance of independence and intimacy, positive views of self and others, empathy, availability, emotional regulation, and adaptive functioning with a willingness to explore. Secure individual's parents were likely sensitive, available, and responsive.

An *anxious-ambivalent (preoccupied)* attachment style is characterised by diffuse social boundaries such as high need for approval and intimacy, a preoccupation with the fear of rejection, a tendency to become dependent, self-absorbed emotional dysregulation, and a positive view of others but a negative self-view. Anxious-ambivalent individual's parents were likely inconsistent, for example, unavailable/ mistuned and available/ rewarding, also looking to their children to meet their emotional needs encouraging clingy, desperate, anxious children.

An *avoidant-dismissive* attachment style is characterised by rigid social boundaries such as compulsive self-reliance and strong independence, perceiving close relationships as unnecessary and denying any need for them, feeling uncomfortable with self-disclosure or intimacy, distancing themselves from rejection, demonstrating emotional distancing such as hiding feelings and suppression, and viewing others negatively (i.e. untrustworthy) while having a positive self-view. Avoidant-dismissive individual's parents likely met basic needs

but failed to respond at an emotional level, therefore the child adapts by becoming emotionally removed.

An underlying construct, fundamental to attachment, are 'internal working models', also known as 'mental representations' or 'schemas', developed through an internalization of early interpersonal experiences with attachment figures (Bowlby 1973). It is suggested that we internalise complex patterns of emotional regulation, establish a particular style of interaction, and develop what we expect or believe relationships to be like through early interpersonal experiences, which structures the basis of our 'internal working models' (Carr 2009). Two complementary internal working models guide our relational interactions. The model of *self* evaluates worthiness, including levels of adequacy, support, and love one feels. The model of *others* evaluates the availability and responsiveness of others, particularly attachment figures during times of distress (Bowlby 1988). Individuals with interpersonal experiences involving consistent sensitivity, availability, and responsiveness develop positive internal working models of themselves as worthy of attention, support, and love, and attachment figures (others) as available, responsive, and supportive, thus developing a secure attachment style. However, individuals with interpersonal experiences involving inconsistent or rejecting sensitivity, availability, and responsiveness develop negative internal working models of themselves as unworthy and attachment figures (others) as unreliable, thus developing an insecure attachment style in the form of avoidance or anxiety. Across the lifespan, internal working models guide patterns of behaviour, cognition, and affect in following relationships.

Bowlby (1973) suggested the applicability of attachment theory throughout the lifespan, proposing individual's internal working models remain stable across time (Cassidy 2000, Fraley and Shaver 2000). This stability occurs because internal working model's direct attention to interactions consistent with current representations and the quality of relational interactions likely remains stable (Ainsworth 1989). However, since internal working models are affected by relationship environments, they can be subject to change. If an individual's relationships reinforce their internal working models, stability of attachment can be expected. However, if an individual develops a new relationship that is consistently contradicting their current perceptions, they may re-evaluate their internal working models which may result in substantial changes to attachment (Bowlby 1979, Bowlby 1988). For example, an individual with predominantly avoidant attachment style perceives others as unavailable, although if they encounter a new attachment figure that is consistently responsive and supportive of their

needs, this may modify their internal working model perception of relationships, thus alterations of their attachment style can occur.

Initially, research focused on the mother as an infant's primary attachment figure (Ainsworth, Blehar et al. 1978). However, across the lifespan significant others can begin to include the child's father, grandparents, siblings, or day care worker (Ainsworth and Bowlby 1991). As the individual matures, therapists (Parish and Eagle 2003), romantic partners (Hazan and Shaver 1987), and leaders (Davidovitz, Mikulincer et al. 2007), for example a sports coach, may become significant attachment figures. This lead attachment theorists (Ainsworth and Bowlby 1991, Hazan and Zeifman 1994) to propose that when three key functions are fulfilled by significant others an attachment relationship can occur: (a) *proximity maintenance* is satisfied when there is a need to be in close proximity with the attachment figure, (b) *safe haven* is satisfied when there is a source of security and comfort provided by the attachment figure, (c) *secure base* is satisfied when there is a safe platform provided by the attachment figure so unimpeded exploration of autonomous activities outside the relationship can occur. Hazan & Shaver (1987) applied the three attachment styles identified by Ainsworth and colleagues to adult attachment relationships. They discovered the identical three attachment styles that specify childhood ties with parents also signaled romantic relationships (Hazan and Shaver 1987).

Several findings support the construct validity of relationship attachment style within a group context (i.e. sport team). Smith et al., (1999) found the attachment orientation an individual developed toward a group was significantly associated to their attachment style in a close relationship. For example, group avoidant attachment was negatively associated with positive affect, group identification, and perceived number of social supports. Likewise, Rom & Mikulincer (2003) found avoidant attachment associated with weaker positive emotions, lower appraisal of task-orientated groups as a challenge, and strong negative emotions that task-orientated groups elicit. In contrast, Smith et al., (1999) found an anxious attachment style was positively associated with negative affect and affective extremity, and negatively associated with social support satisfaction. Likewise, Rom & Mikulincer (2003) found an anxious attachment associated with strong negative emotions and threat perception connected with task-orientated groups. This reveals attachment underlies attitude towards groups and suggests attachment theory is appropriate for application to group relationships, such as sport teams. Thus, taking into account the influence of attachment within a sports team will likely enhance understanding of important sport psychology variables.

2.1.1 Measurement of Attachment

Bartholomew and Horowitz (1991) developed a widely recognised four category model of adult attachment, describing the individual's self-esteem (perception of self) and sociability (thoughts about others) in a relationship. A secure individual has a positive view of the self and others, whereas a fearful-disorganised individual has a negative view of the self and others. A dismissing-avoidant individual has a positive self-view but negative view of others, whereas a preoccupied-anxious individual has a negative self-view and positive view of others (Bartholomew and Horowitz 1991, Griffin and Bartholomew 1994). This model underlies the construction of several widely used measures including the Relationship Questionnaire (Bartholomew and Horowitz 1991), Relationship Scale Questionnaire (Griffin and Bartholomew 1994), and Attachment Style Questionnaire (Feeney, Noller et al. 1994). However, research on attachment in adult relationships has significantly advanced in conceptualisation and measurement over recent decades (Mikulincer and Shaver 2007). Attachment measurement has progressed from categorical assessment to being continuously measured on multi-item scales. Consensus has been reached that adult attachment styles are best conceptualised and measured along two continuous dimensions, anxiety and avoidance (Brennan, Clark et al. 1998, Fraley, Waller et al. 2000, Mikulincer and Shaver 2007).

Closely related to attachment theory, Jowett and Poczwardowski (2007) recognised the importance of understanding the content and quality of the dyadic coach-athlete relationship. Jowett (2001) conducted a relationship-specific literature review, realising previous scholars were conceptualising thoughts, feelings, and behaviours independently, despite the definition of dyadic relationships and attachment internal working models emphasizing interdependence between these components of relationships. She proceeded with an integrative and encompassing perspective of dyadic relationships developing the 3 + 1 Cs conceptual model. This recognises the relevance of interdependence and includes the constructs of closeness (feelings), commitment (thoughts), complementarity (behaviours), and co-orientation (perceptual consensus) (Jowett 2001). This model underlies the construction of the Coach-Athlete Relationship-Questionnaire (CART-Q). This model closely aligns Collins and Read's (1990) 18-item measure of adult attachment that was developed based on Hazan and Shaver's (1987) adult attachment descriptions of secure, avoidant, and anxious. The scale comprised three factors including close (feelings - 'I am somewhat uncomfortable being close to

others'), anxiety (thoughts - 'I often worry that my partner does not really love me'), and depend (behaviours - 'I find it difficult to allow myself to depend on others').

Smith (1999) developed an attachment measure to assess individuals' psychological ties to groups. The Social Group Attachment Scale (SGAS) contained re-worded items from both Collins and Read's attachment scale (1990) and Bartholomew and Horowitz's (1991) attachment style self-report prototypes. The present study will utilise an adapted version of the SGAS for applicability to a sport team context.

2.2 Leadership - Theory Overview and Research

Leadership has been recognised as a fundamental element of sport team performance (Chelladurai and Saleh 1978, Chelladurai 1980, Chelladurai and Saleh 1980, Chelladurai 1993). Understanding the significant relationship between leadership and sport was advanced through the development of the Multidimensional Model of Leadership, specifically for a sporting context (Chelladurai 1980). The model suggested three components, preferred, required, and actual leadership behaviour, are implicated within the development of successful sporting performances and athlete's satisfaction. Preferred leadership behaviour encompasses the leadership style that athletes want their coaches to demonstrate. Required leadership behaviour comprises those necessary for a given sporting context. Actual leadership behaviour consists of what the coach is currently exhibiting. In addition, it was proposed that three different antecedents directly influence these three leadership behaviours. Athlete's personal attributes (e.g. maturity, gender, abilities, personality) directly influence preferred leadership behaviours, whereas leader's personal attributes directly influence their actual leadership behaviours. Meanwhile, the specific situational features (e.g. type of sport, goals, rules, organisation, structure, culture) directly influence the required leadership behaviours most desirable for that given context. Furthermore, it was believed that coaches adopting leadership behaviours in concordance with their athletes preferred style and those required by the specific sporting context would elicit the desired consequences of successful performance and athlete/ team satisfaction (see figure 1).

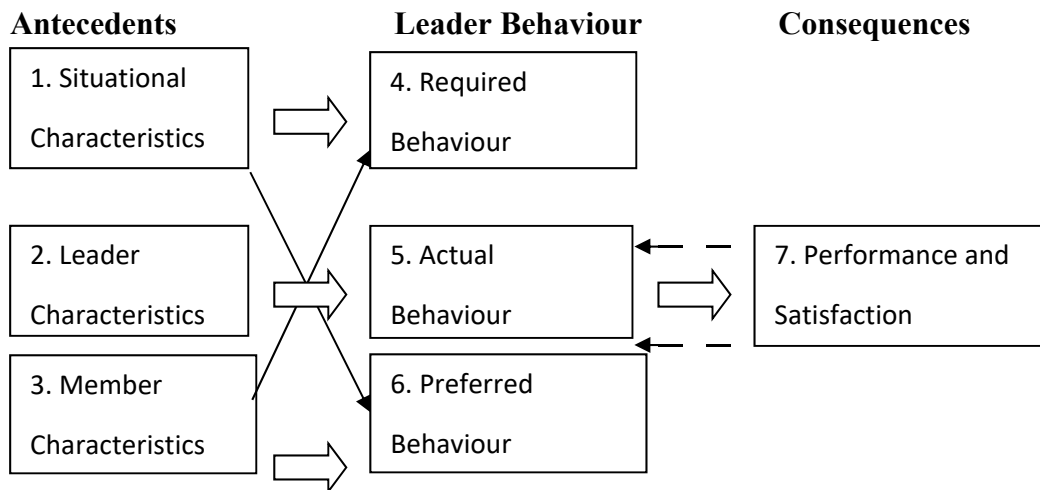


Figure 1. The Multidimensional model of leadership for sports (Chelladurai 1980)

2.2.2 Measurement of Leadership

The multidimensional model served as a theoretical base for the development of the Leadership Scale for Sports (LSS) (Chelladurai and Saleh 1978, Chelladurai and Saleh 1980). This measure accurately assesses the applicability of the Multidimensional Model of Leadership (MML) within a sport context. Chelladurai (1990) defined the five dimensions of leadership behaviour. Training and Instruction concerns the coach's behaviour that is directed toward enhancing athlete performance. Democratic Behaviour refers to how much involvement the coach permits for athletes to participate in essential decisions associated with team goals, practice methods, and game strategies. Autocratic Behaviour relates to coach's authority and independent decision-making. Social Support refers to the coach's consideration of the athlete's welfare through the development of a positive environment and interpersonal relationships. Positive Feedback relates to the coach's reinforcing behaviours such as recognition of and rewards for successful performances. The five-factor structure of the LSS has been repeatedly supported demonstrating coefficients above 0.72 for all five leadership dimensions, with the exception of autocratic behaviour (Chelladurai and Saleh 1980, Hastie 1993, Hastie 1995).

Several researchers have adopted the LSS when investigating the effects of Leadership on important sporting variables, such as the cohesion, collective-efficacy, and satisfaction or performance of athletes and teams (Shields, Gardner et al. 1997, Sullivan and Kent 2003, Jowett and Chaundy 2004, Vincer and Loughhead 2010, Price and Weiss 2011, Alemu and Babu 2012, Hampson and Jowett 2014). This study will utilise the preferred version of the LSS to understand what leadership behaviours the netball athletes want their coach to demonstrate. Chelladurai and Carron (1981) factor analysed the responses of 54 high school

wrestlers and 193 high school basketball players to the LSS preferred items. This previous research supports the applicability of the leadership instrument in representing youth athletes coach leadership preference (Chelladurai and Carron 1981). Despite this, the multidimensional model underlying the construction of the LSS suggests situational and member characteristics will be antecedents to preferred leadership behaviour, thus warrant consideration. Chelladurai et al. (1988) discovered a significant cultural influence on preferred leadership. Canadian athletes were found to prefer more training and instruction, while Japanese athletes preferred more social support and autocratic behaviour (Chelladurai, Imamura et al. 1988). Similarly, Chelladurai and Carron (1983) discovered that a preference for social support leadership behaviour progressively increased with level of maturity. These findings suggest many factors warrant consideration during measurement of preferred leadership style.

2.3 Collective Efficacy - Theory Overview and Research

Social cognitive theory (Bandura 1986) laid the foundations for the development of self-efficacy theory (Bandura 1989). Social cognitive theory demonstrates individuals have the ability to be self-regulatory and reflective as well as contributing to their surrounding environment, rather than the environment alone dictating their life (Maddux 1995). Self-efficacy has been defined as individual's "beliefs about their capabilities to exercise control over events that affect their lives" (Bandura 1989) and "beliefs in their capabilities to mobilise the motivation, cognitive resources, and courses of action needed to exercise control over task demands" (Bandura 1990). Thus, self-efficacy judgments are concerned "not with the skills one has but with the judgments of what one can do with whatever skills one possesses" (Bandura 1986). It was proposed that people have the ability to examine and evaluate the available information regarding their skill level, thus empowering a moderation of behaviour and exerted effort (Bandura 1977). Therefore, individual's perception of their abilities, self-efficacy beliefs, are hypothesized to affect goal choice, level of exerted effort, and persistence in the face of barriers or failures (Bandura 1986). In line with this, self-efficacy derives from the Triadic Reciprocity Model of the Social Cognitive Theory. This involves a bidirectional relationship between cognitions, affect, behaviour, and environmental events. In other words, thoughts influence feelings and behaviour, and in return behaviour, feelings, and environmental events influence thoughts (Maddux 1995). Bandura's self-efficacy theory proposes that any behavioural and psychological progress will operate

through modifications of the individuals' sense of personal mastery or self-efficacy (Maddux 1995).

Bandura (1977) coined the construct self-efficacy to describe an individual's perception of their own level of ability or skill. However, individuals in sports teams make judgments about their own ability and their team as a whole, thus Bandura (1986, 1997) devised the construct collective-efficacy, an extension of self-efficacy to the team level. They are parallel constructs; the only difference is collective-efficacy integrates individual perceptions of their whole teams' level of ability or skill to achieve certain accomplishments. Collective efficacy has been defined as a "groups' shared belief in its conjoint capabilities to organise and execute the courses of action required to produce given levels of attainment" (Bandura 1997). It considers a team's ability to resolve problems dependent on a belief that they are best overcome with concerted effort (Feltz and Lirgg 1998).

Understanding group constructs is a complex dynamic process with several influencing mechanisms. Properties of a team have the potential to contribute to the team's sense of efficacy (Zaccaro, Blair et al. 1995). Several scholars have investigated the factors associated to collective efficacy identifying a strong association with cohesion, and previous performance as a major predictor (Spink 1990, Spink 1990, George and Feltz 1995, Greenlees, Graydon et al. 1999, Kozub and McDonnell 2000).

2.3.1 Measurement of collective efficacy

Several areas were outlined that warranted consideration before choosing an appropriate tool for the statistical analyses of collective efficacy (Zaccaro, Blair et al. 1995). First, interdependence between team members should be established to confirm parallel views about group processes. Secondly, there should be heterogeneity in individual responses between teams and homogeneity in individual responses within the same team, especially when high levels of collective efficacy are present. Thirdly, selecting a suitable tool for collective efficacy measurement is complicated by the complex nature of group processes and team factors. Teams will have differing beliefs in their collective competence, co-ordination, skills and abilities, with differing resources to draw on. Therefore, when investigating collective efficacy there are a number of team factors that need to be considered, including but not limited to, task characteristics, member resources, timing or pace of activities, offensive and defensive tactics, and approaches for enhancing team motivation. Further contributing to the complexity of collective efficacy is the likelihood that the ideal

combination of team skills and strategies will differ depending on the specific competition setting and the nature of the task. Therefore, it is essential to consider all factors contributing to the multidimensionality of collective efficacy in order to attain the best representation of the construct (Paskevich, Brawley et al. 1999)

This study utilised a netball specific measure of collective efficacy (Fletcher, Wilkinson et al. 2017). It was constructed following guidelines from Paskevich et al. (1999), proposing six scales pertaining to collective efficacy, including (a) attack, (b) defence, (c) motivation, (d) obstacles, (e) communication, and (f) general functioning. Paskevich et al. (1999) adopted Lindsley, Brass, and Thomas' (1995) method for assessing collective efficacy when developing their measure. That is, an individual athlete's views alone about what the group can do will be an estimate of the group belief in their ability to perform specific tasks (Paskevich et al. 1999). This was believed to be the best approach for sports teams, suggesting individual athletes had the ability to comment on the collective thoughts of the team (Lindsley, Brass et al. 1995). A study on volley ball athletes (N = 70) provided statistical support for these ideas (Paskevich et al. 1999). The results provided initial psychometric properties for the theory-based measure of collective efficacy. There was excellent internal consistency for all subscales, coefficient alpha values ranged from 0.86 to 0.93. Moderate to high inter-scale correlations, ranging from 0.41 to 0.82, suggests each subscale of the collective efficacy measure was significantly related. Further support has been provided for the netball specific collective efficacy measure with excellent internal consistency present for all subscales, as well as correlations with the GEQ providing evidence of validity (Fletcher, Wilkinson et al. 2017).

2.4 Cohesion - Theory Overview and Research

Scholars from various psychology domains, including social, developmental, educational, and organizational, are interested in distinguishable attributes of successful groups, thus group cohesion has become a widely researched construct. Cohesion plays such a significant role in group dynamics that it has been referred to as “the most important small group variable” (Golembiewski 1962, Lott and Lott 1965). Despite the substantial research, cohesion has proven a difficult construct to define across domains. Group cohesion has been defined as “the total field of forces which act on members to remain in the group” (Festinger, Schachter et al. 1950), “group spirit” (Straw 1975), “bonds of interpersonal attraction” (Hogg

and Turner 1985), “commitment of members to a group task” (Goodman, Ravlin et al. 1987), “attraction to the group” (Mudrack 1989), “level of existing co-ordination, co-operation, support, and consensus among group members” (Levine and Moreland 1990), among others. Over the years, the definition of cohesion progressed to integrate both the group’s objectives and the factors attracting members to a group. The most widely accepted definition of group cohesion is a “dynamic process, which is reflected in the tendency for a group to stick together and remain united in the pursuit of goals and objectives” (Carron 1982). This definition highlights four core features of cohesion: (1) multidimensionality, numerous factors contribute to groups remaining united and these vary across groups; (2) dynamic, it is constantly changing across time; (3) instrumental, it echoes the details of group formation and reasons for remaining together; and (4) affective, there is an association with emotions (Carron, Shapcott et al. 2007).

Carron (1982) discusses four major antecedents influencing the development of cohesion, these include environmental/situational factors, leadership factors, team factors, and personal factors.

(1) *environmental/situational factors* include, but are not limited to, level of competition, group size, distinctiveness, physical proximity, organisation, and motivational climate. Level of competition has been found to have a negative relationship with cohesion, specifically, as level of competition increases cohesion decreases (Gruber and Gray 1982, Granito and Rainey 1988). It is probable that lower level teams achieve consensus regarding task and social unity more easily than experienced athletes (Carron, Hausenblas et al. 2005). A similar relationship can be found with group size, as a general rule, when group size increases cohesion decreases (Carron, Hausenblas et al. 2005). For example, small basketball teams perceive the most task cohesion (Widmeyer, Brawley et al. 1990). It is suggested that as group size increases it becomes difficult to coordinate team activities and communicate effectively (Steiner 1972). In contrast, a positive relationship was found between cohesion and stability of group structure and organisation (Grand and Carron 1982). Athletes’ perceived motivational climate was found to be a source of their team cohesion perceptions. For example, a task-involving motivational climate positively predicted changes in athletes perceptions of GI-T and an ego-involving motivational climate negatively predicted changes in athletes perceptions of both task and social cohesion (Heuze, Sarrazin et al. 2006).

(2) *leadership factors* include, but are not limited, leader behaviours, decision-making style, and relationship compatibility. Regarding leader’s behaviour, it was discovered that

coaches could encourage task cohesion for their athletes by utilising training and instruction, democratic coaching strategies, social support, and positive feedback, whilst decreasing autocratic coaching behaviours (Westre and Weiss 1991, Gardner, Shields et al. 1996). Likewise, coaching techniques such as ridicule, inequality, and embarrassment have been found to prevent team cohesion, whereas dedication, motivational speeches, and athlete-directed techniques can promote team cohesion (Turman 2003). Regarding decision-making style, a participative and democratic approach from leaders when arriving at a decision was found to promote stronger perceptions of cohesion (Carron and Chelladurai 1981, Westre and Weiss 1991, Brawley, Carron et al. 1993, Kozub 1993). Regarding coach-athlete compatibility, an athlete was found more likely to perceive relationship compatibility if autocratic behaviour did not greatly exceed the amount desired and the anticipated amount of 'rewards' or positive feedback was provided by the coach (Carron and Bennett 1977). Similarly, perceptions of compatibility within coach-athlete dyads were underpinned by both partners personality traits and how concordant they were. For example, dissimilarity between the pair on extraversion and openness was associated with decreased commitment and relatedness, whereas highly conscientious and/or agreeable partners revealed favourable outcomes for relationship compatibility (Jackson, Dimmock et al. 2011) However, leadership and relationship variables are found to be stronger predictors of task cohesion rather than social cohesion (Jowett and Chaundy 2004).

(3) *Team factors* include, but are not limited to, roles, norms, and success/ failure. Role involvement has been found to have a strong association with cohesion (Brawley, Carron et al. 1987, Eys and Carron 2001). Brawley et al. (1987) reported correlations between task cohesion (GI-T) and role clarity (0.38), role acceptance (0.49), and role performance (0.43) for sport team athletes. In support of this, Eys and Carron (2001) reported a negative relationship between cohesion and role ambiguity, that is, as role ambiguity increased task cohesion decreased. Similarly, athletes approaching and exceeding their role expectations had positive role experiences, thus reporting higher perceptions of cohesion (Benson, Eys et al. 2016). A positive relationship has been found between cohesion and conformity to group norms, more specifically, highly cohesive teams influence individual members conformity to performance norms (Schacter, Ellertson et al. 1951, Kim 1995, Prapavessis and Carron 1997, Gammage, Carron et al. 2001). Shared team experiences including a series of successes or failures promotes group member closeness (Carron and Ball 1977). Although, perceptions of cohesion were found to be influenced by the immediate

effects of win/loss (Ruder and Gill 1982) and members of losing teams exhibited significant decreases in ATG-T, GI-T, and GI-S (Boone, Beitel et al. 1997).

(4) *Personal factors* include, but are not limited to, individual differences in satisfaction, commitment, motivation, abilities, personality, maturity, and gender. Individual athlete satisfaction has been found to have a significant positive relationship with cohesion (Carron and Chelladurai 1981). For example, individuals among highly cohesive teams report more satisfaction (Martens and Peterson 1971). Consequently, scholars discovered that cohesion, satisfaction, and performance are associated in a circular fashion. Specifically, cohesion contributes to satisfaction and, eventually, to team success, in turn, team success promotes more individual satisfaction which then contributes to a greater sense of cohesion (Williams and Hacker 1982). Similarly, cohesion has a positive relationship to adherence behaviours in sport teams. For example, individuals holding the perception that their team is highly cohesive are more likely to demonstrate commitment through greater attendance, fewer drop outs, punctuality, and withstanding the negative impact of disruptive events (Brawley, Carron et al. 1988, Carron, Widmeyer et al. 1988, Prapavessis and Carron 1997). Individual's characteristics such as personality, maturity, and gender will influence team functioning and subsequent perceptions of cohesion. For example, athletes coming from similar backgrounds facilitated team cohesion (Eitzen 1975) and gender differences were found in athletes perception of sports teams social cohesion (Widmeyer, Brawley et al. 1985). Carron (1982) discusses two consequences of cohesion including group outcomes and individual outcomes: (1) *Group Outcomes*, for example, high levels of group cohesion generally enhanced performance and success (Carron 1982), increased effort toward achieving group goals (Ball and Carron 1976), as well as increasing punctuality and reducing drop-out rate (Carron, Widmeyer et al. 1988); and (2) *Individual Outcomes* include personal development and psychological state, for example, high levels of group cohesion improved stability of group structure and organisation (Grand and Carron 1982) and enhanced satisfaction with competitive experiences (Williams and Hacker 1982).

2.4.1 Measurement of Cohesion

Widmeyer, Brawley, and Carron (1985) endeavoured to understand and measure group cohesion in sport teams, proposing a conceptual framework. Individual members are said to develop perceptions about their team that are related to satisfaction of personal needs and to the totality of the group objectives, thus the strength of these perceptions account for why the

team remains united (Carron, Widmeyer et al. 1985). Therefore, two comprehensive categories emerge (1) *Group integration* concerns the individual perceptions about bonding, similarity, and closeness within the whole group, including the degree of unification, whereas (2) *Individual attraction to the group* concerns the individual perceptions in personal motivations that act in attracting and retaining individual members in the group, influence personal feelings about the group, and keep the group united together (Carron, Widmeyer et al. 1985). Two important foci represent individual team member's perceptions, thus each comprehensive category takes two directions: (1) *Task orientation* represents the degree to which team member's work together with a motivation to achieve the group's common instrumental objectives and goals, whereas (2) *Social orientation* represents the degree to which team member's work together with the motivation toward developing and maintaining social relationships and activities within the team, thus reflecting the interpersonal attractions among team members. The result of this definition and conceptualisation is the emergence of four indexes of cohesion: (1) *Group Integration-Task (GI-T)*, (2) *Group Integration-Social (GI-S)*, (3) *Individual Attraction to the Group-Task (ATG-T)*, and (4) *Individual Attraction to the Group-Social (ATG-S)*, which make up the Group Environment Questionnaire developed to measure cohesion in sport teams (Widmeyer, Brawley et al. 1985).

2.5 Previous findings between variables

Although attachment theory has rarely appeared in the sport and exercise psychology domain, there are a few studies that have revealed interesting associations. The following will outline previous research that has discovered important relationships between attachment and significant sport psychology variables, namely preferred leadership style, collective efficacy, and cohesion.

2.5.1 Attachment and leadership

Three different antecedents directly influence leadership behaviours, of particular interest, athlete's and leader's personal attributes (e.g. personality) directly influence preferred leadership behaviours and actual leadership behaviours, respectively. Personality, a leadership antecedent variable, has been represented by attachment styles, proposing they are responsible for consistent interaction patterns within the coach-athlete relationship, influencing relationship quality (Jowett and Poczwardowski 2007). Attachment styles within the team (i.e. personalities) have numerous consequences, such as leadership style and

relationship satisfaction, subsequently internal working models of attachment within the sport team can be evaluated.

Coaches may represent a wise and strong attachment figure (Mikulincer and Shaver 2007). Athletes have experienced their coach satisfying all three functions of an attachment figure, including proximity maintenance, safe haven, and secure base (Davis and Jowett 2010). However, athletes and leaders demonstrating insecure attachment styles can have a negative influence on relationship quality, satisfaction, and well-being within the team. For example, leaders attachment avoidance was associated with a failure to act as a security provider and with followers having subordinate long term mental health and socioemotional functioning (Davidovitz, Mikulincer et al. 2007). Athletes having insecure attachment styles with their coach were found to have a negative association with relationship satisfaction and sport satisfaction (Davis and Jowett 2010). This appears to be a bidirectional relationship, for example, athletes with an avoidant attachment style negatively impact coach's perceptions of relationship quality. In turn, coach's perceptions of relationship quality negatively impacts athlete's perceptions of relationship satisfaction (Davis, Jowett et al. 2013). Lower levels of satisfaction and poor-quality relationships will likely reduce teams' resources and have a negative effect on group processes and performance.

Related to attachment and leadership, a topic of interest has been coach-athlete compatibility. Athletes attachment styles have been associated with characteristics of the coach-athlete relationship quality such as relationship depth, social support, and interpersonal conflict. Interpersonal conflict demonstrated an important role in athletes positive and negative emotions (Davis and Jowett 2014). In addition, Horne and Carron (1985) discovered two variables that significantly differentiated between compatible and incompatible coach-athlete relationships. The discrepancy between athlete preference and perception on the leadership dimensions of social support, training, and reward predicted athlete satisfaction. Whereas, the discrepancy between athlete preference and perceptions on the reward leadership dimension predicted athlete performance. Therefore, reducing discrepancies between preferred and perceived dimensions of leadership, particularly reward, can increase satisfaction and performance (Horne and Carron 1985).

The relationship between attachment and leadership continues to demonstrate the interdependence within the coach-athlete relationship with significant implications for performance. This interdependence has statistical ramifications; it is important to take into account characteristics of both the coach and athlete functioning together. In other words, this

involves multiple levels of analysis including the individual, the coach-athlete dyad, the team, and the wider sporting environment. For example, it was revealed that athletes satisfaction with performance was significantly associated with coaches perceptions of performance (Lorimer 2011). Similarly, leaders with an anxious attachment style predicted followers poorer instrumental functioning attributable to more self-serving leadership motives and poorer leadership qualities in task-oriented situations (Davidovitz, Mikulincer et al. 2007).

The majority of research investigating the relationship between attachment and leadership has focused on the coach-athlete dyad. However, it also includes the athlete's broader relational environment, at home and within their team as a whole. For example, athletes sporting friendship experiences were significantly associated to the adolescent-parent attachment style. Secure adolescent-parent attachment characteristics paralleled positive sporting friendships (Carr 2009). Similarly, adolescent's perceptions of dyadic sporting friendship quality were constructed as a result of actor and partner attachment characteristics together. That is, not only as a function of their own attachment characteristics but also of the attachment characteristics of their friend (Carr and Fitzpatrick 2011).

2.5.2 Attachment and collective efficacy

Despite a lack of evidence directly investigating the relationship between attachment and collective efficacy, the relationship between attachment and leadership appears to transcends to group level variables. Member characteristics, such as attachment, are antecedents of leadership, therefore the relationship between leadership and efficacy is of relevance. Sullivan and Kent (2003) investigated the relationship between intercollegiate coach leadership style and their self-efficacy. The sample comprised 224 international coaches who completed the LSS and Coaching Efficacy Scale (Feltz and Chase 1998). Multiple Regression Models predicted the relationship between coach efficacy and leadership styles, including training and instruction and positive feedback accounting for 28.6% and 42.0% of the model's variance, respectively. Thus, training and instruction and positive feedback were two leadership styles predicted by components of self-efficacy, particularly technique and motivation. In other words, coaches demonstrating confidence in their capability to teach and motivate, closely aligned their ideal image of a leader regarding training and instruction and the use of positive feedback, believing they frequently display these behaviours (Sullivan and Kent 2003). Similarly, Harris (1997) investigated the influence of perceived coaching leadership style on college athlete's self-confidence. The sample comprised 223 athletes who

completed the LSS as a measure of perceived coach leadership behaviour and the Trait Sport-Confidence Inventory (Vealey 1986) as a measure of athlete confidence. Multiple regression analyses revealed all leadership behaviours, except autocratic behaviour, were significant. Together positive feedback and social support accounted for 13% of the total variance, thus signalling contributions to athlete self-confidence. It suggests that coaches providing positive reinforcement and genuine interest in well-being will enhance athlete's beliefs in their own capabilities (Harris 1997). The leadership style coaches display and the preferred leadership behaviours athletes desire will depend, in part, on their underlying attachment style. Although previous research does not investigate the relationship between attachment and collective efficacy directly, theory does suggest attachment underlies preferred leadership style, which influences self- and collective-efficacy. Understanding the role of attachment within a sport team could empower alternative approaches to enhancing leadership and other important sport psychology variables essential for team performance.

Research more closely aligned to the relationship between attachment and collective efficacy has revealed interesting findings. Rom and Mikulincer (2003) discovered individuals with anxious attachment orientations had low appraisal of group-related self-efficacy. In addition, the coach-athlete relationship was found to significantly influence an athlete's perception of collective efficacy. For example, medallists scored higher in all dimensions of collective efficacy and perceived themselves closer and more committed to the coach than non-medallists (Vieira, Ferreira et al. 2015). Moreover, the association between athlete satisfaction and coach-athlete relationship quality can be explained by collective efficacy dimensions, including ability, preparation, and unity (Jowett, Shanmugam et al. 2012). Current studies demonstrate interdependence in coach-athlete relationships, particularly actor effects for both dyad partners on measures of self-efficacy (Jackson, Grove et al. 2010). These related findings suggest a relationship between attachment and collective efficacy. The present study goes beyond a focus on the coach-athlete dyad, investigating the relationship between athlete's attachment to their team and the collective efficacy subscales within an elite netball context.

2.5.3 Attachment and cohesion

Attachment style not only falls under the cohesion antecedent, personal factors category (Backstrom and Holmes 2001, Guerrero and Jones 2003), but also within the cohesion Individual Outcome consequences, therefore it is expected that individual attachment styles

has a bidirectional relationship with group cohesion. For example, individual attachment style will influence the development of group cohesion and group cohesion will influence the development of a particular attachment style between members and toward the group as a whole.

Several researchers have investigated the relationship between attachment and group cohesion, uncovering interesting findings. For example, an anxious attachment style was found to be associated with negative memories of group interactions (Rom and Mikulincer 2003) and had a negative association with individual attractions to the group social (ATG-S) subscale of the GEQ (Tiryaki and Cepikkurt 2007). Considering anxious individuals have a negative view of themselves and mixed feelings about relationships, they were likely to have a pessimistic view of social attractions to groups, thus the findings were expected. In addition, secure and anxious attachment styles were positively associated with the group integration-social subscale (Tiryaki and Cepikkurt 2007). Considering secure individuals have a positive view of themselves and others and have a comfortable balance of intimacy and autonomy in their relations, they therefore were likely to have positive feelings surrounding social integration. However, the anxious attachment style seeks support and approval from others because they have a negative self-view, therefore their behaviour is dependent on others reactions to them. An anxious attachment style was associated with higher endorsement of security-love goals (Rom and Mikulincer 2003). It may be the achievement of these goals that contributes to their positive perception of social group integration. In line with this, an anxious attachment style was negatively associated with the group integration-task subscale of the GEQ (Tiryaki and Cepikkurt 2007). An anxious individual has a negative self-view which likely contributes to self-doubt regarding their ability to productively contribute to group tasks. They also have a high need for support and approval, thus narrowing their concentration to meeting attachment needs and reducing rejection. This diverts focus from the primary group task, contributing to negative feelings about group integration surrounding the task. In contrast, attachment avoidance was associated with a lack of commitment (Smith, Murphy et al. 1999), higher endorsement of distance-self-reliance goals, negative memories of task-oriented groups, and negative appraisal of group members (Rom and Mikulincer 2003). Attachment avoidance has been proposed the most disadvantageous style within an interdependent setting, for example, increases in group leaders avoidance attachment parallels decreases in followers rated group cohesion (Davidovitz, Mikulincer et al. 2007).

Previous research suggests the relationship between attachment and cohesion has significant implications for performance. For example, an anxious attachment style was associated with worse instrumental functioning (Rom and Mikulincer 2003). This was explained by underlying hyperactivating strategies, including heightened vigilance to attachment-related threat, distress exacerbation, and reduced distress thresholds. These hinder cognitive function and instrumental contribution to group tasks (Shaver and Mikulincer 2002). However, group cohesion had the ability to inhibit hyperactivating strategies through simulating a sense of security. Therefore, cohesion provides a 'psychological safeguard' against the disadvantageous effects of anxious attachment on instrumental functioning (Rom and Mikulincer 2003). However, an avoidant attachment style was associated with deficits in instrumental and socioeconomic functioning, which high levels of group cohesion exacerbated (Rom and Mikulincer 2003). Avoidant individuals utilised deactivating strategies, including dismissing need for close relations, emotional distancing, and thought suppression. High cohesion implies interdependence which threatens sense of self-reliance and increases distress, subsequently reducing functioning.

In contrast, Lavy, Bareli, and Ein-Dor (2014) found teams with a mixture of attachment anxiety and avoidance, that is, high attachment heterogeneity, was associated with superior performance when group cohesion was high. It was proposed that they have unique adaptive advantages, for example, anxiety provokes lookout behaviours and avoidance provokes rapid responder behaviours (Lavy, Bareli et al. 2014). Therefore, it would be a plausible explanation that this combination of adaptive advantages increases team performance. Although, whether these results translate to a sporting context is unknown.

The previous findings introduce the important role attachment has within group settings. The initial evidence suggests a relationship between attachment and important sport psychology variables, which in turn will influence team performance. The current research seeks to provide further support for previous findings through direct investigation of attachment with three important sport psychology variables, namely leadership, collective-efficacy, and cohesion. This will be conducted within the context of elite netball teams, highlighting to sports enthusiasts that an understanding of attachment is essential when attempting to develop and enhance a high-performance sport team.

2.6 Research Questions

What is the relationship between attachment style and important sport psychology variables.

More specifically,

- 1) what is the relationship between attachment style and preferred leadership style?
- 2) what is the relationship between attachment style and collective efficacy?
- 3) what is the relationship between attachment style and cohesion?

Chapter Three: Method

3.1 Participants

A total of 16 New Zealand Netball teams participated. This includes 173 female athletes ranging from 15 – 18 years, with an average of 16 years ($SD= 0.99$). The participants competed in the U17 and U19 competition at a National level. Athletes reported they have been playing netball for an average duration of 9 years ($SD= 1.83$) and as an elite athlete for three and a half years ($SD= 1.58$). On average, teams had been together for seven and a half weeks ($SD=1.78$) with an approximate game time of three quarters ($SD=0.20$). Ethnicity was predominantly NZ/ European (57.5%), Maori (10.3%), and Pacifica (8%). However, many athletes identified as a mixture of the above nationalities (19%) and few identified as other minority groups including Australian, Indian, Dutch, French, English, Scottish, and Columbian (3.4%). Participation was voluntary and confidentiality of responses was ensured. In line with the purpose of the study, observation of natural teams was essential, therefore controlled selection and random assignment was not possible.

3.2 Questionnaire

The constructs under investigation were athlete's perceptions, therefore the most appropriate design was questionnaire-based (Furlong, Lovelace et al. 2000). The questionnaire contained five sections, including demographics, and four separate measures (see appendix). The four measures consisted of the Social Group Attachment Scale (Smith, Murphy et al. 1999), the Group Environment Questionnaire (Carron, Widmeyer et al. 1985), the Leadership Scale for Sports (Chelladurai and Saleh 1980), and a collective efficacy measure. These are described in detail below. The demographic questions were designed to gather participants age, ethnicity, duration of sporting career, level of competition, and duration of relationships within the team. Any order effects that may have occurred were counterbalanced by placing the five sections of the questionnaires in random order. This also ensured that each participant was responding individually, as their team member's questionnaires were ordered differently.

3.2.1 Social Group Attachment Scale

Smith, Murphy, and Coats (1999) created a measure of attachment to a group, namely, the Social Group Attachment Scale (SGAS). This consisted of 25 items, with 2

underlying subscales measuring different styles of attachment: anxious and avoidant, whilst individuals scoring low on both subscales were classified as secure (Smith, Murphy et al. 1999). Items from the SGAS are modifications of the Romantic Partner Attachment scale (Collins and Read 1990, Bartholomew and Horowitz 1991); items 1-18 were adapted from Collins and Read (1990) and items 19-25 adapted from Bartholomew and Horowitz (1991).

Collins and Read's (1990) developed an 18-item scale based on Hazan and Shaver's (1987) three adult attachment descriptions. The study demonstrated acceptable internal reliabilities for each subscale (N = 406; dependence, anxiety, closeness) with Cronbach alpha values of 0.75, 0.72, and 0.96 respectively. A subset of the sample (N=101) completed the scale again 2 months later. Test-retest correlations for the subscales, including dependence (0.71), anxiety (0.52), and closeness (0.68) demonstrated fairly stable scores (with the exception of the anxiety factor which was likely relationship specific).

Bartholomew and Horowitz (1991) generated a prototypic description of each attachment style based on their well-known model involving views of self and others as positive or negative. They assessed (N=77) subjects through family and peer reports, self-reports, and a semi-structured interview evaluating their degree of correspondence with the four prototypes through 15 rating scales. Areas of interest included reliance on others, warmth, self-confidence, emotional expressiveness, intimacy, control, self-disclosure, involvement, among others. They found convergence between reports and circumplex analyses revealed that a distinct profile of interpersonal problems emerged across each attachment style. This provides support for the four-category model of attachment underlying the construction of the Romantic Partner Attachment Scale.

The measure used in this study was a reduced version of the SGAS including 11 items. Instructions were modified and items reworded to refer to participants experience with their team, rather than experiences in a group. Participants rated the extent to which each item was descriptive of their thoughts, feelings, and experiences within the team as a whole on a 5-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. A score for each subscale was calculated. The subscale with the highest score represented the participants general attachment characteristics within the team as a whole. Sample items include "I often worry my team will not always want me as a member" (anxious; N = 12) and "I prefer not to depend on my team or have my team depend on me" (avoidant; N = 9). This study demonstrated both subscales had acceptable internal consistency with a Cronbach alpha of .75 for anxiety and .68 for avoidance.

3.2.2 Group Environment Questionnaire (GEQ)

Team cohesion was assessed using The Group Environment Questionnaire (Widmeyer, Brawley et al. 1985). This consists of 18 items, with 4 subscales measuring aspects of cohesion: Individual Attraction to the Group-Task (4 items), Individual Attraction to the Group-Social (5 items), Group Integration-Task (5 items), and Group Integration-Social (4 items). Participants responded on a 9-point Likert scale ranging from (1) *disagree* to (5) *agree*, therefore lower scores represented weaker perceived cohesiveness and higher scores represented stronger perceived cohesiveness. Positive and negative statements about the team were included in the questionnaire and twelve items were reversed scored. Individual's total scale scores were calculated by summing the relevant items from each subscale, then a mean was calculated to gain a representative score for each team.

The Group Environment Questionnaire has well-established reliability and validity (Brawley, Carron et al. 1987). In the past, exploratory factor analyses have provided support for the hypothesised four-factor structure of the GEQ (Widmeyer, Brawley et al. 1985). Confirmatory factor analyses have provided further support for the four-factor structure of the GEQ (Carron, Widmeyer et al. 1985, Li and Harmer 1996). Considering the measure has well-established factor structure this study used confirmatory factor analysis. This study found questionable to acceptable internal reliabilities for each subscale (N = 173; ATG-Social, ATG-Task, GI-Social, GI-Task) with Cronbach alpha values of 0.46, 0.73, 0.54, and 0.64 respectively. Other studies have demonstrated slightly higher internal reliabilities for each subscale (N = 247; ATG-Task, ATG-Social, GI-Task, and GI-Social) 0.75, 0.64, 0.70, and 0.76 respectively, representing acceptable internal consistency and providing supportive evidence for the reliability of the GEQ (Carron et al., 1985). The GEQ has demonstrated associations with the Sport Cohesion Questionnaire, Team Climate Questionnaire, and Bass Inventory, providing supportive evidence for the concurrent validity of the GEQ (Carron, Brawley et al. 1998). The GEQ has also demonstrated predictive validity in several studies regarding adherence behaviour in exercise groups, attributions, social loafing, group size, leadership, team building, role involvement, communication, and collective efficacy.

3.2.3 Collective Efficacy

Paskevich, Brawley, Dorsch, and Widmeyer's (1999) collective efficacy measure was employed as a model for the development of a version suitable for an elite netball sample (Fletcher, Wilkinson et al. 2017). The original collective efficacy measure consisted of six

subscales, a) tasks in offence, defence, and transition b) communication with team members/coaches c) motivation and willingness to contribute knowledge/skills to collective effort d) confidence in the face of obstacles e) obstacles in general practice/ competition situations and f) general everyday functions within a context of a season (Paskevich, Brawley et al. 1999). The present study employs the adapted collective efficacy measure for an elite netball sample, also consisting of the six subscales recommended by Paskevich et. al. (1999). The six subscales include a) Attack (e.g. “clear the centre pass successfully”; N = 1); b) Defence (e.g. “work as an effective defence unit”; N = 11); c) Motivation (e.g. “remain motivated when behind in a game”; N = 2); d) Obstacles in general practice and competition situations (e.g. “play at the same level even when mistakes have been made”; N = 10); e) Communication with team mates and coaches (e.g. “productively discuss the team’s performance after a game”; N = 4); and f) General everyday functions (e.g. “have regular and productive practices”; N = 2).

Participants responded on a scale from 0 – 100 percent how much they agreed with each statement, therefore lower scores represented weaker perceived collective efficacy and higher scores represented stronger perceived collective efficacy. The scale contains only positive statements about the team and no items were to be reversed scored. Individual’s total scale scores were calculated by summing the relevant items from each subscale, then a mean was calculated to gain a representative score for each team.

The netball specific collective efficacy measure has well-established factor structure (Paskevich, Brawley et al. 1999, Fletcher, Wilkinson et al. 2017) which lead to the use of confirmatory factor analysis. This study found acceptable to excellent internal reliabilities for each subscale (N = 173; Attack, Defence, Motivation, Obstacles, Communication, General) with Cronbach alpha values of 0.88, 0.84, 0.89, 0.89, 0.85, and 0.81 respectively. Fletcher, Wilkinson et al. (2017) provide support for the excellent internal reliabilities ranging from 0.95 to 0.85 with a larger sample consisting of 56 netball teams (N=537). Significant correlations between the subscales of the collective efficacy measure and the GEQ provide validity evidence (Fletcher, Wilkinson et al. 2017).

3.2.4 Leadership Scale for Sports Questionnaire (LSS)

Chelladurai (1990) identified that the Leadership Scale for Sports (LSS) (Chelladurai and Saleh 1980) has been valuable for investigation into three core areas: (1) the athletes preference for certain leadership behaviours from their coach, (2) the athletes perception of

their coach's leadership behaviours, and (3) the coach's perception of his/her own leadership behaviour. For the purposes of the present study, only the athlete's preference for leadership behaviours from their coach will be considered. This is due to the focus being on how athlete's characteristics (i.e. attachment) affects preferred leadership style, and thus what types of coaching behaviour will be more beneficial to enhance cohesion and collective efficacy of their team.

The LSS is a 40-item measure containing five subscales: Training and Instruction (13 items); Democratic Behaviour (9 items); Autocratic Behaviour (5 items); Social Support (8 items); and Positive Feedback or Rewarding Behaviour (5 items). Participants responded on a five-point Likert scale ranging from (1) *always* to (5) *never*, regarding their preference for the frequency of the coach's leadership behaviours. The scale contains only positive statements about athlete's preference for coach's leadership behaviours and no items were to be reversed scored. Individual's total scale scores were calculated by summing the relevant items from each subscale, then a mean was calculated to gain a representative score for each team.

The LSS has established factor structure which lead to the use of confirmatory factor analysis. This study found acceptable internal reliabilities for each subscale (N = 173; training/instruction, autocratic, democratic, social support, positive feedback) with Cronbach alpha values of 0.79, 0.65, 0.75, 0.69, and 0.77 respectively. Other studies have demonstrated similar internal consistency for athletes' preference version of the LSS. Many report acceptable internal consistency for all five dimensions, although Autocratic behaviour having the lowest coefficient (.45) (Chelladurai and Saleh 1980). Chelladurai and Carron (1981) recognised a similar trend when investigating the applicability of the LSS to youth sports. There were 54 high school wrestlers and 193 high school basketball players responding to the LSS preferred items. These were factor analysed to assess how well the leadership instrument represented youth athletes preferred coach leadership behaviour. They provided support for the applicability of the LSS to high school sports, autocratic behaviour having the lowest coefficient (.48) (Chelladurai and Carron 1981). This trend in the coefficient values for the five dimensions of leadership behaviour has been repeatedly demonstrated (Chelladurai, Imamura et al. 1988, Sherman, Fuller et al. 2000). This study recognised a similar, but less dramatic, trend with Autocratic behaviour having the lowest coefficient at 0.65. However, other scholars have not observed low values for autocratic behaviour, demonstrating coefficients above 0.72 for all five leadership dimensions (Hastie 1993, Hastie 1995).

3.3 Procedure

It was important to obtain a satisfactory amount of data, thus all coaches of teams from two different competitions, namely the U17 and U19 Nationals, were invited to participate in the research. The sample size enabled a comparison among teams, and the study results were likely representative of attachment, leadership, collective efficacy, and cohesion within elite netball teams. The researcher collected data at the competitions using the same conditions and procedure for each team. This was optimal to reduce data collection biases and enable greater generalisability of the results. The adopted procedure was proposed superior to sending questionnaires to individuals (Spink, 1990).

Data collection onsite meant that recruitment of potential participants occurred by means of teams' coaches or managers. Netball New Zealand Association sent an email, with a letter attached titled 'participation request form', to centres registered in the National competitions, inviting their team to participate in the research. The letter introduced who I am, the purpose of the study, previous findings in the area, and the utility of findings for future netball players. The letter encompassed information about their role in the study, including individual answers, welcoming questions, assurance of confidentiality, and the amount of time it would take to complete the questionnaire. The letter highlighted the voluntary nature and lack of harm to those participating in the research. It encouraged coaches to discuss the research with their team, and the researchers contact details were included for the coaches if their team agreed to participate in the research.

The researcher had a phone call with every coach that agreed their team was willing to participate in the research. The phone call involved answering any questions that may have arisen and organising an approved appointment time for the team to complete the questionnaire to avoid interfering with pre-competition training. To avoid effecting team performance during the competitions, all questionnaires were completed 24 hours before the commencement of tournaments.

Participants were administered the questionnaire, containing demographic questions and the four measures (attachment, leadership, collective efficacy, cohesion), in their team's place of residence for the competition (i.e. motel). The researcher administered the questionnaires. The researcher read a questionnaire instruction sheet to all participants before commencement of the questionnaire, including verbal reassurance of the confidentiality of their responses. Other aspects of the procedure beforehand included technicalities such as

handing out pens, collecting informed consent, and reminding participants the questionnaire is double-sided. With the intention of reducing order effects and avoiding comparison of responses, the four measures were randomly placed within the questionnaire and individually completed by each teams' participants at the same time and location. The researcher supervised the questionnaire administration at all times so as to ensure individual completion of the questionnaire and presence to answer any arising questions. The data collector gathered the questionnaires immediately upon conclusion and placed them in a sealed envelope. Only the researchers had access to the information. All participants completed the questionnaire within 30 minutes.

3.4 Data Analysis

In the present study, four systematic steps were used to investigate the data.

Initially, descriptive statistics were calculated for the demographic questions. This included means, standard deviations, ranges, intra-class correlations, and their total scale score. Subsequently, the data set was described and heterogeneity between teams examined.

Second, confirmatory factor analysis was conducted on three of the measures (LSS, GEQ, and Collective Efficacy) and exploratory factor analysis was conducted on the SGAS to achieve the most interpretable factor structure. Items that did not factor into proposed subscales or cross-loaded with other factors were deleted from the measure. Fit statistics including chi square, TLI, CFI, and RMSEA were analysed. One of the most important steps involves assessing whether a specified model 'fits' the data (Yuan 2005). Reporting a variety of indices is essential in representing different features of model fit (Crowley and Fan 1997). Absolute fit indices identify how well a priori model fits the data from the current sample (McDonald and Ho 2002) and measures model fit in comparison to no model at all (Joreskog and Long 1993). This group includes the Chi-Squared test and Root Mean Square Error of Approximation (RMSEA). The Chi-Square value 'assesses the magnitude of discrepancy between the sample and fitted covariance matrices' (Hu and Bentler 1999). An insignificant result at a 0.05 threshold would signify a good model fit (Barrett 2007), therefore chi-squared is also known as a 'lack of fit' (Mulaik, James et al. 1989) or 'badness of fit' (Kline 2005) measure. The RMSEA has been recognised as one of the most informative fit indices, identifying how well the model would fit the populations covariance matrix having unknown but optimally chosen parameter estimates (Byrne 1998). That is, the model chooses the least number of parameters, favouring parsimony. Previously, an RMSEA value between 0.08 and

0.10 was recommended as indication of a mediocre fit and below 0.08 signalling a good fit (MacCallum, Browne et al. 1996). Although presently, an upper limit of 0.07 (Steiger 2007) or a cut-off value near 0.06 (Hu and Bentler 1999) is the general recommendation.

Incremental fit indices compare the Chi-square value to a baseline model with the null hypothesis that all variables are not correlated (McDonald and Ho 2002). This group includes Normed Fit Index (NFI), also known as Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI). Values for these statistics range between 0 and 1, with values closer to 1 indicating good fit. A disadvantage of the TLI is sensitivity to sample size, particularly in situations when sample size is small such as the current study, values can be indicative of poor fit despite other statistics indicating good fit (Bentler 1990, Kline 2005). However, CFI is popularly reported because it is least effected by sample size (Fan, Thompson et al. 1999), performing well even with small sample sizes (Tabachnick and Fidell 2007). Previously, values greater than 0.90 was recommended as indication of good fit (Bentler and Bonnet 1980). Although presently, a value near 0.95 is the general recommendation (Hu and Bentler 1999). Once deleting items attained the utmost interpretable measures, reliability analyses were conducted for the four measures and their respective subscales.

Third, one-way Analysis of Variance (ANOVA) were conducted for the team level variables (e.g. collective efficacy and cohesion). This calculation determines whether there was heterogeneity of responses between teams, that is, larger variance between groups rather than within groups, and therefore providing validation for aggregation of individual responses to represent group characteristics (Moritz and Watson 1998). A significant F value demonstrates that there was homogeneity of responses within teams, that is, larger variance between teams and agreement within teams (Moritz and Watson 1998). This suggests aggregation of athlete's responses to represent a team level variable is suitable and reduces aggregation bias (Moritz and Watson 1998). Intraclass correlations (ICC) were also calculated to investigate the magnitude of agreement between two athlete's responses within the same team, that is, within team variance (Watson, Chemers et al. 2001). A significant ICC indicates that there is homogeneity of responses within teams, and also approves analysis of that variable at the team level (Kenny, Kashy et al. 1998, Kashy and Kenny 2000).

Intraclass correlation:

$$P = \frac{Msbetweengroups - Mswithingroups}{Msbetweengroups + [n-1] Mswithingroups}$$

Where:

N = the number of persons per group

MS = mean squares

Source: Kenny, D.A., Kashy, D.A., & Bolger, N. (1998). Data analysis in social psychology. In D.T. Gilbert, S.T. Fiske, and G. Lindzey (Eds.), the Handbook of Social Psychology (4th ed., Vol. 1, pp.233-265). Boston, MA: McGraw-Hill.

Finally, the data was analysed using correlations that investigated the relationship between attachment and three important sport psychology variables, namely leadership, collective efficacy, and cohesion.

It is important to acknowledge that the current study questions involve both individual and team level data, thus multi-level modelling would have been ideal. However, due to a small sample size (N=173), there would have been an insufficient higher-level sample size. That is, sixteen teams were not enough for a second level of analysis. A small sample size at level two would lead to biases; the recommendation being anything above fifty (Maas and Hox 2005). Instead, the current study demonstrates majority significant *F* test values and some moderate ICC's which provides confirmation of team level variables. For this reason, the present study ruled out the use of multi-level modelling, instead employing correlational analysis.

Chapter Four: Results

4.1 Means and Standard Deviations

Table one represents the means and standard deviations found for each of the demographic questions in relation to the 16 teams in the present study.

The average age of the sample (N=173) was 16.33 years with a standard deviation of 0.99, and had been playing netball for just over nine years, and elite level netball for little over three and a half years. On average, teams had been together for seven and a half weeks, with an approximate game time of three quarters. The average time athletes reportedly spent together was a total of four and a half hours per week. This time athletes spent together was divided into training ($M= 2.13$ $SD= 0.36$), team meetings ($M= 0.56$, $SD= 0.78$), and socialising ($M= 1.92$, $SD= 1.44$). Athletes reported that, on average, during practice hours, 63% was spent on team skills, 32% on individual skills, and 44% on team building.

Participants ethnicity was predominantly NZ/ European (57.5%), Maori (10.3%), and Pacifica (8%). However, many athletes identified as a mixture of the above nationalities (19%) and few identified as other minority groups including Australian, Indian, Dutch, French, English, Scottish, and Columbian (3.4%).

Table 1.
Teams 1-16 means for demographic questions (N = 173).

Team Number	Total Number of Players	Age		Netball Playing Years		Elite Level (years)		Time together (weeks)		Playing Time (quarters)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	12	16.08	0.67	8.58	1.97	3.58	1.44	6.00	0.00	0.68	0.21
2	9	15.44	1.01	6.22	1.56	2.77	1.71	8.50	3.12	0.78	0.20
3	12	15.75	0.62	8.41	2.06	2.58	1.62	10.83	2.88	0.77	0.20
4	10	15.60	0.84	8.20	2.29	3.40	1.77	5.33	1.00	0.85	0.24
5	10	16.00	0.47	9.10	2.07	4.60	2.06	6.90	2.42	0.70	0.34
6	11	16.18	0.87	8.95	1.55	4.36	0.92	8.36	1.20	0.72	0.17
7	10	15.80	0.79	8.60	1.95	4.00	1.88	9.10	3.28	0.81	0.17
8	12	16.09	0.54	9.16	2.28	3.40	1.77	5.33	1.00	0.65	0.23
9	12	16.42	0.67	10.08	2.57	3.54	1.36	6.54	1.80	0.58	0.16
10	9	17.78	0.44	10.77	1.39	4.05	1.46	8.66	1.63	0.75	0.35

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11	12	17.45	0.52	9.95	1.83	3.00	1.65	7.60	5.17	0.72	0.16
12	10	18.00	0.67	10.95	0.89	3.60	0.84	7.42	1.51	0.55	0.11
13	10	16.40	0.84	9.10	1.72	3.70	1.82	8.00	0.00	0.75	0.18
14	12	16.17	0.78	9.33	1.07	4.50	2.02	10.85	1.95	0.75	0.23
15	11	16.36	0.81	10.36	2.41	3.63	1.36	5.77	0.66	0.61	0.17
16	11	15.73	0.65	9.81	1.72	2.36	1.62	5.72	0.90	0.91	0.12
Total	173	16.33	0.70	9.22	1.83	3.57	1.58	7.56	1.78	0.72	0.20

Team Number	Practice Time (hours)		Team Socialising (hours)		Team Meetings (hours)		Individual Skills (%)		Team Skills (%)		Team Building (%)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	3.16	0.49	2.25	1.12	1.91	1.37	57.50	16.58	63.33	8.87	49.17	15.64
2	3.00	0.00	0.78	0.33	0.33	0.50	34.44	20.68	70.00	10.00	47.78	17.15
3	3.57	0.89	2.42	1.50	0.91	0.90	43.33	16.14	75.00	14.46	57.50	26.32
4	1.45	0.15	3.80	2.15	0.70	0.48	19.00	11.00	58.00	16.86	53.00	27.10
5	1.50	0.00	2.30	2.16	0.33	1.00	32.22	20.48	65.56	14.24	41.11	23.15
6	1.54	0.15	1.45	1.12	0.54	0.52	18.18	8.73	52.73	22.84	40.91	22.56
7	1.56	0.32	1.30	0.82	0.10	0.31	33.00	18.28	64.00	21.70	59.00	27.26
8	1.54	0.14	1.83	1.03	0.33	0.49	30.00	12.79	62.50	14.22	50.83	30.88
9	1.54	0.33	1.92	2.02	0.50	0.63	31.67	11.14	60.83	18.32	49.17	21.93
10	2.88	1.11	1.22	1.78	0.77	0.97	31.11	15.36	53.33	21.21	31.11	31.79
11	1.66	0.24	1.00	0.95	0.41	0.90	28.33	13.37	56.67	15.57	53.33	25.34
12	2.80	0.63	2.20	1.22	0.20	0.63	33.00	13.37	67.00	15.67	31.00	19.12
13	2.12	0.35	1.80	1.47	0.60	0.84	34.44	22.97	67.00	13.37	37.78	24.88
14	1.90	0.70	3.92	2.27	0.66	1.72	30.00	11.28	64.17	16.76	43.33	24.61
15	2.00	0.00	1.18	1.16	0.45	0.68	35.45	16.94	64.55	13.68	34.55	18.09
16	1.88	0.20	1.27	1.79	0.27	0.46	22.73	12.72	63.64	15.66	39.09	27.37
Total	2.13	0.36	1.92	1.44	0.56	0.78	32.15	15.11	63.02	15.84	44.92	23.95

Tables two – five represent the descriptive statistics for the variables under investigation. It includes the item Means, Standard Deviations, Kurtosis, and ICC's.

Table 2.
Descriptive Statistics for 25 CE items

		Mean	Std. Deviation	Kurtosis	ICC's
Attack					
1	Clear the center pass successfully is	72.60	15.341	-.034	0.19
2	Work the ball into our goal third is	73.67	14.576	-.047	
3	Feed the goal circle effectively is	72.98	14.516	.480	
4	Convert a turnover of possession into successful goal is	62.57	15.275	.027	
5	Execute attacking play under pressure is	62.80	16.006	-.182	
Defense					
1	Play to our stated game plan is	69.36	17.685	.206	0.17
2	Control the pace of the opposition game is	61.85	18.514	.038	
3	Control the style of the opposition game is	59.71	18.514	-.296	
4	Execute our defensive play under pressure is	69.86	17.999	.721	
Motivation					
1	Remain motivated after losing a game is	71.62	19.364	-.249	0.22
2	Remain motivated when behind in a game is	70.92	19.161	-.605	
3	Outwork other teams in a game is	67.46	19.474	-.199	
Obstacles					
1	Play at the same level even when our best shooter is injured is	73.71	19.421	.445	0.16
2	Overcome dissatisfaction with a poor defense/offence during a game is	69.51	17.493	-.044	
3	Play at the same level even when our team is behind in a game is	69.80	18.428	-.473	

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4	Play at the same level even when mistakes have been made is	67.14	19.268	-.279	
5	Play at the same level even when players are changed/replaced is	74.68	17.068	-.500	
Communication					
1	Effectively discuss game strategies during practice is	80.87	20.126	2.040	0.04
2	Encourage each other during a game is	84.16	15.289	1.110	
3	Use feedback from the coach productively to increase our performance is	80.98	16.884	2.843	
4	Use information from others to our advantage is	79.45	16.657	2.079	
General					
1	Win is	76.33	19.839	.825	0.22
2	Have regular and productive practices is	74.94	21.811	.199	
3	Plan game strategies together is	78.50	18.647	.940	
4	Discuss game strategies with the coach effectively is	80.52	20.679	1.838	

Table 3.
Descriptive Statistics for 18 GEQ items

		Mean	Std. Deviation	Kurtosis	ICC's
Individual Attractions to the Group Social (ATG-S)					0.013
1	I do not enjoy being part of the social activities of this team	4.69	.813	8.860	
3	I am not going to miss the members of this team when the season ends	4.36	1.022	2.221	

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5	Some of my best friends are on this team	4.40	.981	3.027	
7	I enjoy other parties more than team parties	4.11	1.108	.480	
9	For me this team is one of the most important social groups to which I belong	3.02	1.463	-1.322	
	Individual Attractions to the Group Task (ATG-T)				0.15
2	I am not happy with the amount of playing time I get	4.13	1.070	.886	
4	I am unhappy with my teams level of desire to win	3.45	1.128	-.664	
6	This team does not give me enough opportunities to improve my personal performance	4.31	.873	.691	
8	I do not like the style of play on this team	3.13	1.246	-.847	
	Group Integration Social (GI-S)				0.20
11	Members of our team would rather go out on their own than get together as a team	3.92	1.119	.389	
13	Our team members rarely party together	3.40	1.171	-.674	
15	Our team would like to spend time together in the off season	3.98	1.111	-.030	
17	Members of our team do not stick together outside of practice and games	2.04	1.136	.091	
	Group Integration Task (GI-T)				0.05
10	Our team is united in trying to reach its goals for performance	3.87	1.043	-.382	
12	We all take responsibility for any loss or poor performance by our team	3.08	1.017	-.478	
14	Our team members have conflicting aspirations for the teams performance	3.96	1.062	-.069	
16	If members off our team have problems in practice, everyone wants to help them so we can get back	3.40	1.103	-.713	

	together again			
18	Our team members do not communicate freely about each athletes responsibilities during competition or practice	3.60	1.147	-.520

Table 4.
Descriptive Statistics for 40 LSS items

		Mean	Std. Deviation	Kurtosis
	Training/ instruction behaviour			
1	See to it that athletes work to capacity	1.90	.821	-.190
5	Explain to each athlete the techniques and tactics of the sport	1.87	.888	.338
8	Pay special attention to correcting athletes mistakes	2.21	.950	.063
11	Make sure the coach's function is understood by all athletes	1.54	.888	3.385
14	Instruct every athlete individually in the skills of the sport	2.35	.946	-.420
17	Figure ahead on what should be done	1.91	.827	-.228
20	Explain to every athlete what should be done and what should not be done	2.22	1.000	-.854
23	Expect every athlete to carry out one's assignment to the last detail	2.58	.945	.260
26	Point out each athletes' strengths and weaknesses	2.34	1.022	-.245
29	Give specific instructions to each athlete on what should be done in every situation	2.36	.938	-.863
32	See to it that the athlete's efforts are coordinated	2.35	.816	-.460

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35	Explain how each athlete's contribution fits into the total picture	2.31	1.009	-.496
38	Specify in detail what is expected of athletes	1.81	.938	.724
Autocratic behaviour				
6	Plan relatively independent of athletes	2.79	.823	.301
12	Does not explain his/her actions	3.69	1.046	-.668
27	Refuses to compromise on a point	3.73	.980	-.802
34	Keep aloof from the athletes	3.39	.916	-.332
40	Speak in a manner which discourages questions	4.27	1.093	1.604
Democratic behaviour				
2	Ask for the opinion of the athletes on strategies	2.00	.856	.649
9	Get group approval on important matters before moving ahead	2.19	1.075	-.463
15	Let the athletes share in decision making	1.87	.816	-.210
18	Encourage athletes to make suggestions for ways to conduct practices	2.11	1.043	-.442
21	Let the athletes set their own goals	1.63	.832	1.581
24	Let the athletes try their own way even if they make mistakes	2.60	1.012	-.460
30	Ask for the opinion of the athletes on important coaching matters	2.42	1.073	-.495
33	Let the athletes work at their own speed	2.78	.936	-.227
39	Let the athletes decide on plays to be used in a game	2.53	.932	-.108
Social support				
3	Help athletes with their personal problems	2.78	1.175	-.917
7	Help members of the group settle their conflicts	2.57	1.229	-.909
13	Looks out for the personal welfare of the athletes	1.76	.842	.079
19	Do personal favours for the athletes	3.73	.994	.322

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22	Express any affection felt for the athletes	3.34	1.187	-.682
25	Encourage the athlete to confide in the coach	2.22	.908	.207
31	Encourage close and informal relations with athletes	3.11	1.187	-.765
36	Invite the athlete's home	4.22	.927	1.279
Positive feedback (rewarding behavior)				
4	Compliment an athlete for good performance in front of others	2.05	.975	-.079
10	Tell an athlete when the athlete does a particularly good job	1.67	.857	2.368
16	See that an athlete is rewarded for good performance	2.16	.951	.162
28	Express appreciation when an athlete performs well	1.92	.891	-.241
37	Give credit when it is due	1.95	.939	.023

Table 5.
Descriptive Statistics for 25 SGAS items

		Mean	Std. Deviation	Kurtosis
Avoidance				
1	I find it difficult to rely on my team	1.91	.960	-.301
2	I sometimes worry that I will be hurt if I allow myself to become too close to my team	1.30	.719	9.637
9	I prefer not to depend on my team or have my team depend on me	2.18	1.071	-.342
11	I am comfortable not being close to my team	2.11	1.006	-.528

14	My team is never there when I need them	1.50	.776	3.637
15	I find it difficult to completely trust my team	1.78	.972	.639
19	Often my team wants me to be more open about my thoughts and feelings than I feel comfortable being	1.91	1.043	.473
Anxiety				
8	My desire to feel completely at one sometimes scares my team away	1.54	.828	3.194
10	I often worry that my team does not really accept me	2.01	1.160	-.788
12	I often worry my team will not always want me as a member	2.13	1.197	-.773
21	I sometimes worry that my team doesn't value me as much as I value them	2.21	1.113	-.526

Table 5 demonstrates both subscales from the SGAS had item means under three. This suggests that, on average, participants disagreed with all items regarding anxiety and avoidance within their team. However, means were slightly higher across the anxiety items. In general, teams perceived themselves somewhat securely attached. Table 4 demonstrates scores for the training/ instruction, democratic, and positive feedback subscales of the LSS were consistently the lowest. This suggests that, on average, participants always preferred their coaches to demonstrate such behaviours. In contrast, scores for the autocratic subscale were consistently higher. The social support subscale of the LSS demonstrates the most variability across item means. In other words, some coaches' supportive behaviours are preferred by athletes whereas others may be considered to over step a coach's boundaries.

For example, majority agreed with Q13 “look out for welfare of athletes”, whereas majority disagreed with Q36 “invite athletes’ home”, despite falling under the same social support subscale. Table 3 demonstrates all subscales from the GEQ had item means higher than three (with the exception of Q17). This suggests that, on average, participants agree with all items regarding cohesion in their team. In general, the teams perceived themselves as moderately to highly cohesive. Likewise, table 2 demonstrates all subscales from the collective efficacy measure had item means above 50%, with majority between 70% - 80%, thus indicating teams perceiving themselves favourably. Finally, little variability in the kurtosis values indicates nothing significant to report regarding data skewness. See section 4.4 for ICC discussion.

4.2 Factor Analysis

Prior research repeatedly demonstrates that the 40 LSS items, 25 collective efficacy items, and 18 GEQ items factor into their proposed subscales. Therefore, confirmatory factor analyses were conducted for these three measures to determine their underlying factor structure within the present study.

Table 6.

Confirmatory Factor Analysis and correlations for LSS items.

	Factor 1 (Train/instruct)	Factor 2 (Autocratic)	Factor 3 (Democratic)	Factor 4 (Social support)	Factor 5 (Positive feedback)
	λ	λ	λ	λ	λ
LLS 1	0.46				
LSS 5	0.46				
LSS 8	0.51				
LSS 11	0.57				
LSS 14	0.41				
LSS 17	0.53				
LSS 20	0.39				
LSS 23	0.22				
LSS 26	0.52				
LSS 29	0.41				
LSS 32	0.60				

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LSS 35	0.63				
LSS 38	0.66				
LSS 6		0.17			
LSS 12		0.51			
LSS 27		0.71			
LSS 34		0.53			
LSS 40		0.65			
LSS 2			0.55		
LSS 9			0.49		
LSS 15			0.61		
LSS 18			0.67		
LSS 21			0.39		
LSS 24			0.55		
LSS 30			0.56		
LSS 33			0.30		
LSS 39			0.44		
LSS 3				0.49	
LSS 7				0.49	
LSS 13				0.16	
LSS 19				0.47	
LSS 22				0.67	
LSS 25				0.35	
LSS 31				0.63	
LSS 36				0.41	
LSS 4					0.54
LSS 10					0.66
LSS 16					0.61
LSS 28					0.82
LSS 37					0.56

Factor correlation matrix for LSS factors

Factor	1	2	3	4	5
1	1.00				
2	-0.13	1.00			
3	0.58	-0.11	1.00		
4	0.25	0.37	0.49	1.00	
5	0.65	-0.20	0.51	0.22	1.00

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Results from this research supported previous findings for the LSS (see Table 6 and figure 2). Factor loadings ranged from 0.22 to 0.66 for training and instruction, 0.17 to 0.71 for autocratic behaviour, 0.30 to 0.67 for democratic behaviour, 0.16 to 0.67 for social support, and 0.54 to 0.82 for positive feedback (rewarding behaviour).

The factor correlation matrix for the Leadership scale displays small to moderate relationships between the five factors. Relationships ranged from -0.20 (between Autocratic Behaviour and Positive Feedback) and 0.65 (between Training and Instruction and Positive Feedback). This provides support that the subscales assess five different aspects of leadership.

Figure 2. Model of the LSS

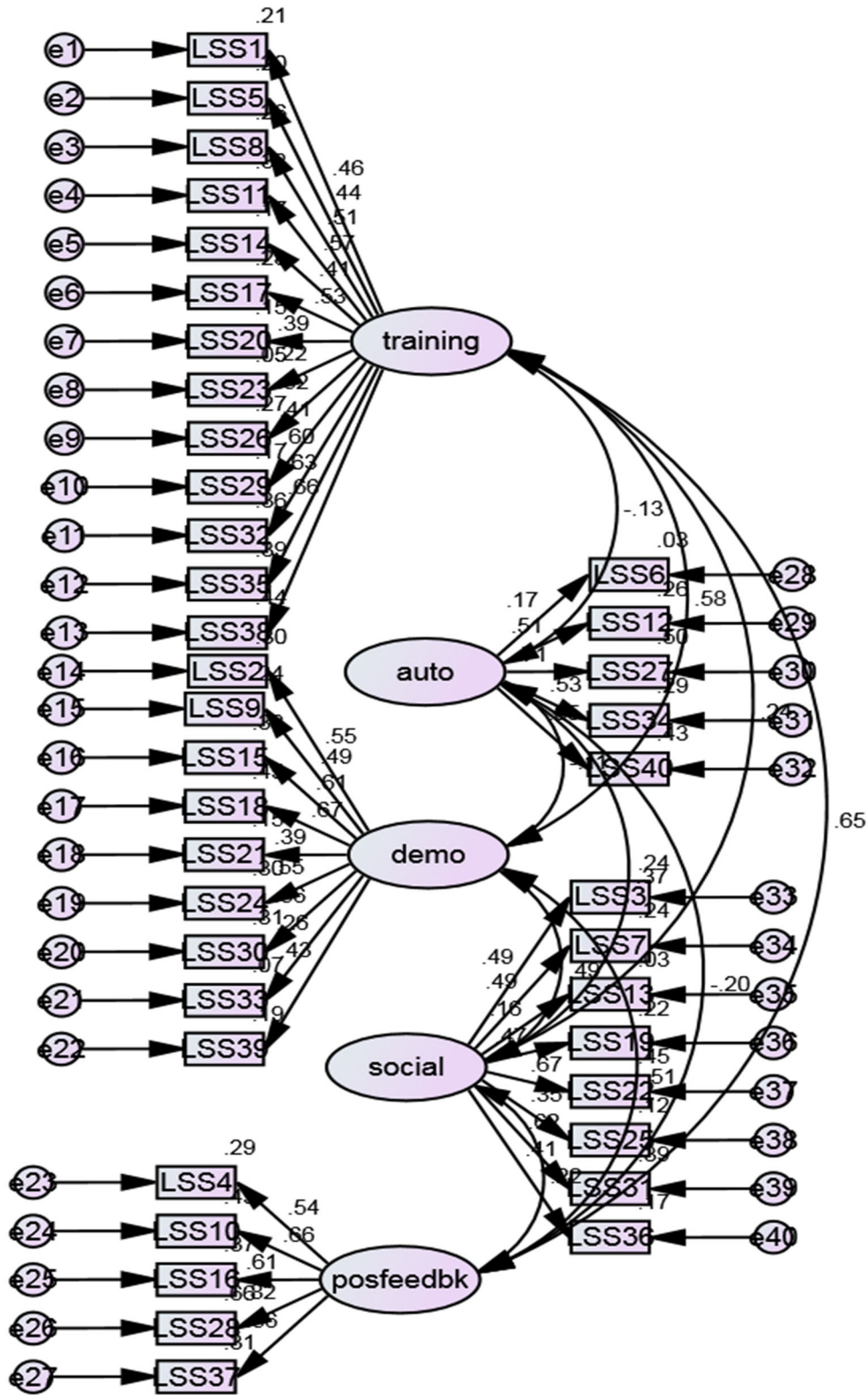


Table 7.

Confirmatory Factor Analysis and correlations for GEQ items.

	Factor 1 (ATG-S) λ	Factor 2 (ATG-T) λ	Factor 3 (GI-S) λ	Factor 4 (GI-T) λ
GEQ 1	0.27			
GEQ 3	0.49			
GEQ 5	0.29			
GEQ 7	0.49			
GEQ 9	0.43			
GEQ 2		0.40		
GEQ 4		0.68		
GEQ 6		0.78		
GEQ 8		0.81		
GEQ 11			0.42	
GEQ 13			0.29	
GEQ 15			0.59	
GEQ 17			0.64	
GEQ 10				0.48
GEQ 12				0.49
GEQ 14				0.45
GEQ 16				0.64
GEQ 18				0.54

Factor correlation matrix for GEQ factors

Factor	1	2	3	4
1	1.00			
2	0.83	1.00		
3	0.80	0.42	1.00	
4	0.86	0.80	0.72	1.00

Data from the present study supports the four-factor structure of the GEQ (see table 7 & Figure 3). Factor loadings ranged from 0.27 to 0.49 for ATG-S, 0.40 to 0.81 for ATG-T, 0.29 to 0.64 for GI-S, and 0.45 to 0.64 for GI-T. The factor correlation matrix for the GEQ displays moderate to strong relationships between the four factors. Relationships ranged from 0.42 (between ATG-T and GI-S) and the highest being 0.86 (between ATG-S and GI-T).

Previous research suggests the social aspects of the GEQ to have lower factor loadings, therefore the strongest correlations between ATG-S and other subscales was to be expected.

Figure 3. Model of the GEQ

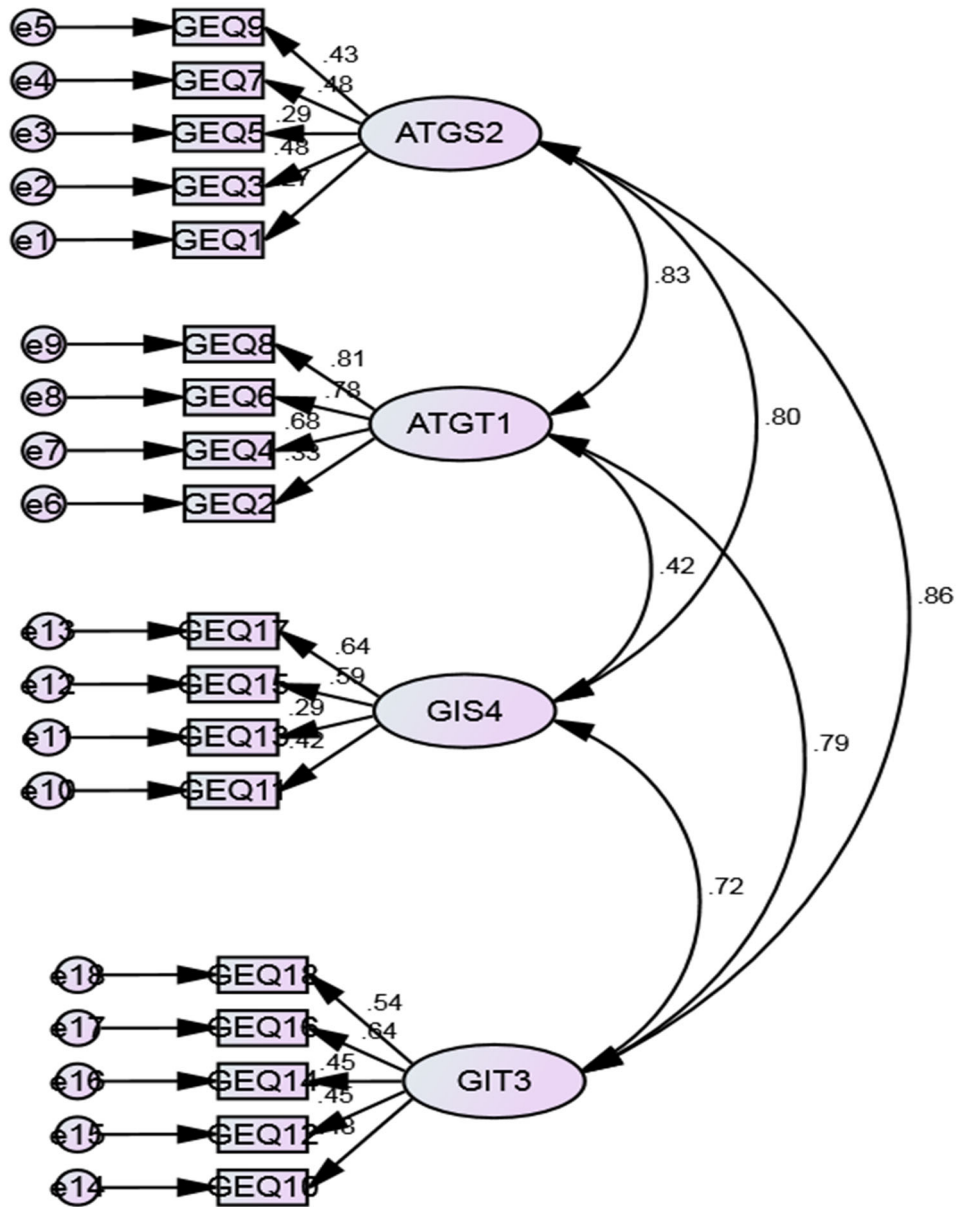


Table 8.

Confirmatory Factor Analysis and correlations for collective efficacy items.

	Factor 1 (attack) λ	Factor 2 (defence) λ	Factor 3 (motivation) λ	Factor 4 (obstacles) λ	Factor 5 (communication) λ	Factor 6 (general) λ
CEATT 1	0.72					
CEATT 2	0.81					
CEATT 3	0.75					
CEATT 4	0.76					
CEATT 5	0.81					
CEDEF 1		0.76				
CEDEF 2		0.84				
CEDEF 3		0.73				
CEDEF 4		0.75				
CEMOT 1			0.82			
CEMOT 2			0.89			
CEMOT 3			0.86			
CEOBS 1				0.73		
CEOBS 2				0.77		
CEOBS 3				0.84		
CEOBS 4				0.81		
CEOBS 5				0.77		
CECOM 1					0.77	
CECOM 2					0.72	
CECOM 3					0.84	
CECOM 4					0.75	
CEGEN 1						0.64
CEGEN 2						0.71
CEGEN 3						0.87
CEGEN 4						0.77

Factor correlation matrix for collective efficacy factors

Factor	1	2	3	4	5	6
1	1.00					
2	0.79	1.00				
3	0.75	0.71	1.00			
4	0.86	0.82	0.84	1.00		
5	0.61	0.60	0.61	0.73	1.00	
6	0.68	0.69	0.60	0.73	0.79	1.00

Data from the present study supports the six-factor structure of the collective efficacy measure (see table 8 and figure 4). Factor loadings were consistently high ranging from 0.72 to 0.81 for attack, 0.73 to 0.84 for defence, 0.82 to 0.89 for motivation, 0.73 to 0.84 for obstacles, 0.72 to 0.84 for communication, and 0.64 to 0.87 for general. The factor correlation matrix for the collective efficacy measure displays moderate to strong relationships between the six factors. Relationships ranged from 0.60 (between defence and communication as well as motivation and general) and the highest being 0.86 (between attack and obstacles). However, a high degree of correlation is expected due to the nature of the measure.

Figure 4. Model of collective efficacy measure

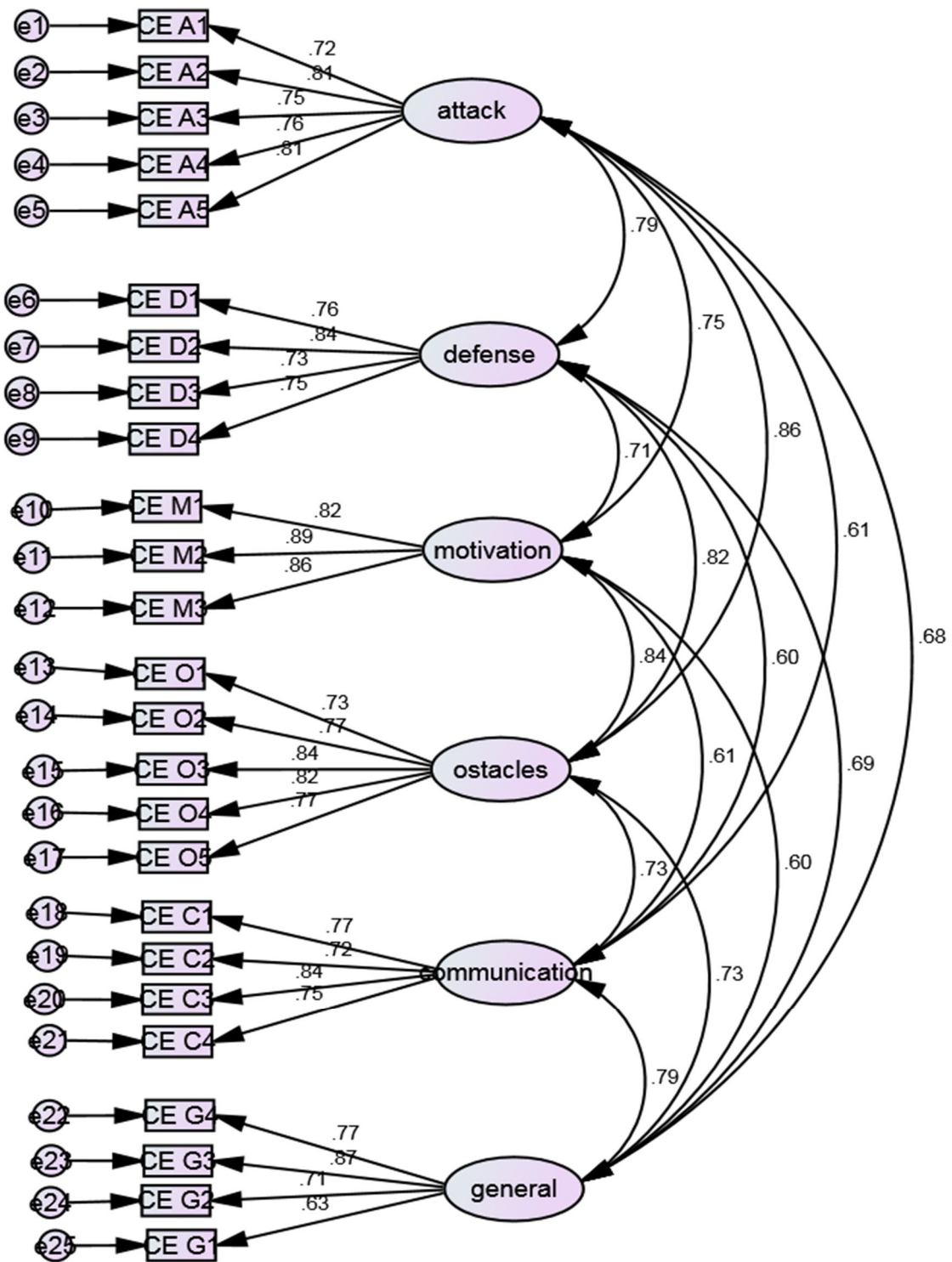


Table 9.

Exploratory Factor Analysis and correlations for SGAS items (reduced version).

	Factor 1 (avoidance) λ	Factor 2 (anxiety) λ
SGAS 1	0.39	
SGAS 2	0.50	
SGAS 9	0.28	
SGAS 11	0.37	
SGAS 14	0.71	
SGAS 15	0.88	
SGAS 19	0.28	
SGAS 8		0.44
SGAS 10		0.88
SGAS 12		0.77
SGAS 21		0.56

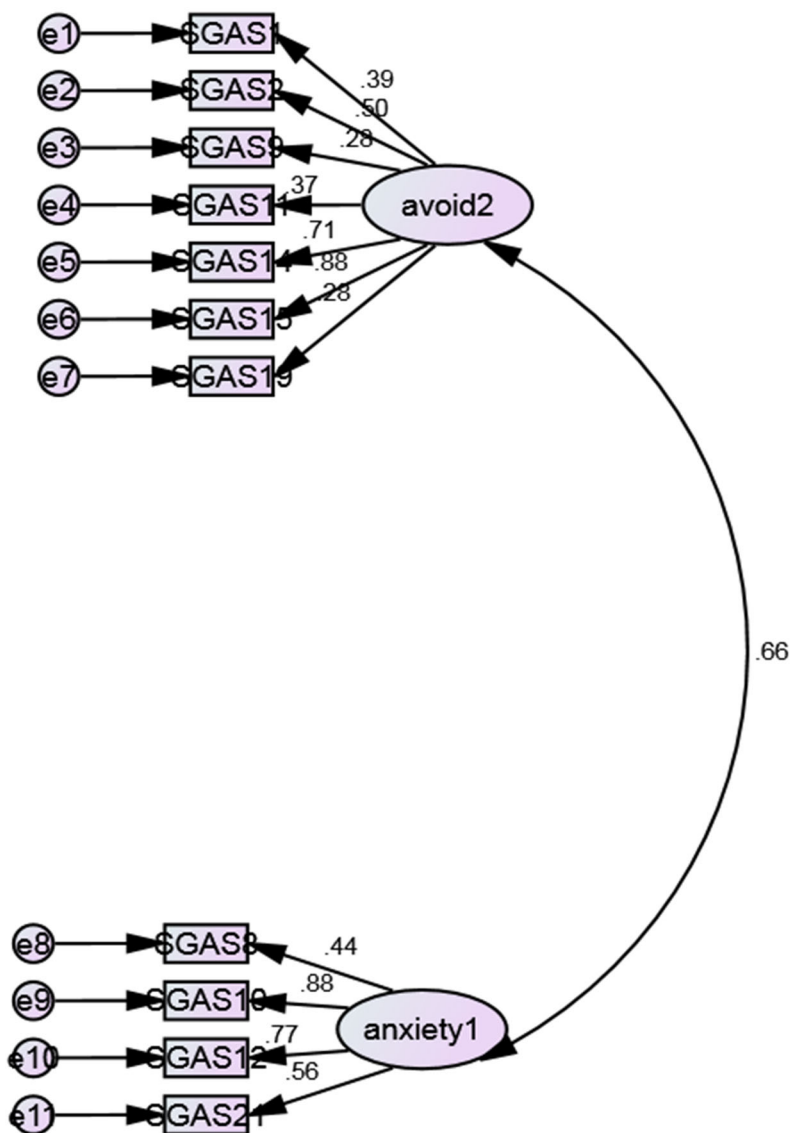
Factor correlation matrix for SGAS factors

Factor	1	2
1	1.00	
2	0.66	1.00

Exploratory factor analysis was conducted to achieve the most interpretable factor structure for the SGAS (see table 9 & figure 5). Data from the present study supports the two-factor structure of the SGAS, although only once deleting items attained an interpretable measure. Items that comprise the anxiety subscale include 8,10,12,21. Items that comprise the avoidance subscale include 1,2,9,11,14,15,19. Thus, a total of 11 items made up the reduced version. Some items were excluded on the basis of ambiguous wording including item 13 “I am somewhat comfortable being close to my team”. Other items were excluded because the athletes were confused by negative wording and asked questions about this including item 5 “I do not often worry about my team getting close to me”. Other questions appeared to include both anxiety and avoidance factors including item 24 “I want to be emotionally close with my team, but I find it difficult to trust my team completely or depend on my team”. An anxious individual would prefer closeness with the team whereas an avoidant individual would have the troubles with trust and dependence on the team. Other items were likely unsuitable to transfer from an intimate relationship context to a sport team context. For example, item 3 “I want to feel completely at one with my team” (anxiety) and item 6 “it is very important for me to feel independent and self-sufficient in my team” (avoidance). Other

items that did not factor into the proposed subscales or cross-loaded with each other were deleted from the measure. Factor loadings ranged from 0.28 to 0.88 for avoidance and 0.44 to 0.88 for anxiety. The factor correlation matrix for the SGAS displayed a moderately strong relationship of 0.66 between attachment avoidance and attachment anxiety. Despite being conceptualised as distinct attachment styles within an intimate relationship (Hazan and Shaver 1987), this correlation could be somewhat expected within a team setting (see discussion).

Figure 5. Model of the SGAS



Taking into account the cut-off recommendations and all of the reported indices, the measures from the current study are indicative of mediocre to good model fit (see table 10). The SGAS meets criteria for all reported indices. Although the TLI and CFI values for the LSS measure are in the 0.6 range, lower than the recommended 0.95 criteria, the RMSEA value falls under 0.07 indicative of good fit. Similarly, the GEQ and collective efficacy measure do not meet the recommended cut-off value of 0.95 for TLI and CFI, however they are extremely close with high 0.8 values. The RMSEA value for the GEQ falls under the recommended 0.07 cut-off value indicative of good fit, however the collective efficacy measure is slightly higher falling between 0.08 and 0.1 which was previously the recommendation for mediocre fit.

Table 10. *Four measures fit statistics*

	Chi Square	Degrees of Freedom	Probability	TLI	CFI	RMSEA
SGAS	59.28	43	.050	.942	.962	.047
LSS	1225.52	692	.000	.637	.678	.067
GEQ	192.31	129	.000	.851	.888	.053
Collective Efficacy	601.42	260	.000	.857	.886	.087

4.3 Reliability Analysis

Table 11 shows the internal reliabilities for the four measures and their respective subscales. Cronbach alpha scores ranged from 0.68 to 0.75 for the SGAS, 0.46 to 0.73 for the GEQ, 0.65 to 0.79 for the LSS, and 0.81 to 0.89 for the collective efficacy measure. All alphas for the collective efficacy measure were excellent in the 0.8 range, exceeding the advocated 0.7 criterion (Nunnally 1978). In contrast, only one of the GEQ subscales (ATG-Task) exceeded this criterion, with the social aspects of the GEQ displaying low to moderate reliabilities. Likewise, two of the leadership subscales (autocratic behaviour and social support), as well

as the avoidance subscale of the SGAS, fell within the 0.6 range, slightly short of the criterion. Despite this, the total scale Cronbach alpha scores for all four measures exceeded the 0.7 criterion ranging from 0.78 to 0.96. Overall, the measures demonstrate reliability.

Table 11.

Internal consistency reliabilities for four measures (N = 173).

Scale	Number of items	Total/Subscale	Cronbach's alpha
SGAS (reduced)	7	Avoidance	0.68
	4	Anxiety	0.75
	11	Total scale	0.78
GEQ	5	ATG–social	0.46
	4	ATG–task	0.73
	4	GI–social	0.54
	5	GI–task	0.64
	18	Total scale	0.82
Leadership	13	Training / Instruction	0.79
	5	Autocratic Behaviour	0.65
	9	Democratic Behaviour	0.75
	8	Social Support	0.69
	5	Positive Feedback (rewarding behaviour)	0.77
	40	Total scale	0.84
Collective Efficacy	5	Attack	0.88
	4	Defence	0.84
	3	Motivation	0.89
	5	Obstacles	0.89
	4	Communication	0.85
	4	General	0.81
	25	Total scale	0.96

4.4 Analysis of Variance

Table 12 displays the one-way analysis of variance (ANOVA) information for the team level variables, cohesion and collective efficacy. This will determine whether there is a significant

difference between teams, and if so, allowing for the aggregation of individual responses to represent the teams shared beliefs. A significant F value demonstrates greater between group variability than within groups, thus indicating homogeneity of responses (i.e. agreement within teams). As table 12 shows, the team level variables F values were significant, with the exception of ATG-S and GI-T subscales from the GEQ and the communication subscale from the collective efficacy measure. Therefore, the majority of F values were significant permitting it appropriate to utilise aggregation of athlete's responses to represent the teams shared beliefs.

In addition, Intra Class Correlations (ICCs) were calculated. The ICC is a simple index of the strength or magnitude of the relationship between two athletes' responses within the same team. A large ICC value parallels small within group variance, therefore a significant ICC is indicative of a group level phenomenon. The ICCs ranged from 0.04 to 0.22 for the collective efficacy measure and 0.013 to 0.20 for the GEQ measure. Again, the ICC values were lowest for ATG-S (0.013) and GI-T (0.05) subscales from the GEQ and communication (0.04) subscale from the collective efficacy measure. Although ICCs are ranging from small to moderate magnitude, the majority of F test values were statistically significant, thus representing shared beliefs (i.e. agreement within teams). As a whole, these results support the ANOVA findings and team means were used in subsequent analyses (Moritz & Watson, 1998). As mentioned earlier, due to the confirmation of team level variables and a small sample size ($N=173$), the present study ruled out the use of multi-level modelling, instead employing correlational analysis.

Table 12. Analysis of Variance and Intraclass Correlations for team level variables

Team level Variables		Df	SS	MS	F	Intraclass Correlation
Collective Efficacy Scale	Attack					
	<i>Between Groups</i>	15	166791.32	11119.422	3.499	0.19
	<i>Within Groups</i>	157	498959.25	3178.084		
	Defense				3.323	0.17
	<i>Between Groups</i>	15	156852.19	10456.813		
	<i>Within Groups</i>	157	494048.38	3146.805		
	Motivation				4.178	0.22
	<i>Between Groups</i>	15	135949.10	9063.274		
	<i>Within Groups</i>	157	340550.89	2169.114		
	Obstacles				3.092	0.16
	<i>Between Groups</i>	15	240825.35	16055.024		
	<i>Within Groups</i>	157	815252.67	5192.692		
	Communication				1.439	0.04
	<i>Between Groups</i>	15	69293.536	4619.569		
	<i>Within Groups</i>	157	504169.47	3211.271		
	General				4.165	0.22
	<i>Between Groups</i>	15	215516.22	14367.748		
	<i>Within Groups</i>	157	541605.16	3449.714		

Group Environment Questionnaire

ATGS

Between Groups 15 362.487 24.166 2.542 0.013

Within Groups 157 1492.784 9.508

ATGT

2.981 0.15

Between Groups 15 366.810 24.454

Within Groups 157 1287.976 8.204

GIS

3.764 0.20

Between Groups 15 409.321 27.288

Within Groups 157 1138.228 7.250

GIT

1.546 0.05

Between Groups 15 295.599 19.707

Within Groups 157 2001.846 12.751

Note: P = 0.05

4.5 Correlational Analysis

Table 13 displays the correlation coefficient for the relationship between the two attachment subscales. The two subscales of the social group attachment scale (reduced version), anxiety and avoidance, had a positive correlation of $r = .47$ significant at the 0.01 level. The finding suggests that those high in attachment anxiety will also be high in attachment avoidance, and vice versa. Similarly, those low in attachment anxiety will be low in attachment avoidance, and vice versa. Those individuals scoring low on both subscales would be indicative of a secure attachment style.

Table 13.

Correlation between attachment subscales.

Attachment	Avoidance
Anxiety	.470**

Table 14 displays the correlation coefficients for the relationship between attachment subscales and leadership subscales. Attachment avoidance had significant relationships with three leadership subscales, namely training and instruction ($r=0.21$), democratic behaviour ($r=0.23$), and positive feedback ($r=0.16$). In contrast, attachment anxiety did not have a significant relationship with any subscales.

Table 14.

Correlations between attachment and leadership subscales.

	Leadership				
	Training/ Instruction	Democratic Behaviour	Autocratic Behaviour	Social Support	Positive Feedback
Anxiety	.020	.142	-.027	.023	-.037
Avoidance	.214**	.233**	-.116	.079	.162*

Table 15 displays the correlation coefficients for the relationship between attachment subscales and cohesion subscales. Both attachment anxiety and attachment avoidance had significant negative correlations with all subscales from the GEQ, although attachment avoidance demonstrated slightly larger relationships. That is, those with insecure attachment styles have a negative perception of their team's cohesion.

Table 15.

Correlations between attachment and cohesion subscales.

	Cohesion (GEQ)			
	ATG-S	ATG-T	GI-S	GI-T
Anxiety	-.260**	-.228**	-.250**	-.183*
Avoidance	-.376**	-.352**	-.326**	-.395**

Table 16 displays the correlation coefficients for the relationship between attachment subscales and collective efficacy subscales. Both attachment anxiety and attachment avoidance had negative correlations with all subscales from the collective efficacy measure. However, attachment anxiety was only significant to the 0.05 level for two subscales, namely communication ($r=-0.17$) and general ($r=-0.16$). Interestingly, attachment avoidance demonstrated larger negative relationships with significance at the 0.01 level for all subscales of collective efficacy. In other words, those with attachment avoidance perceive collective efficacy worse than those with attachment anxiety.

Table 16.

Correlations between attachment and collective efficacy subscales.

	Collective Efficacy					
	Attack	Defence	Motivation	Obstacles	Communication	General
Anxiety	-.109	-.117	-.111	-.029	-.171*	-.163*
Avoidance	-.325**	-.311**	-.309**	-.344**	-.395**	-.392**

Chapter Five: Discussion

5.1 Support for the Research

5.1.1 Individual Level Findings

The relationship between the two subscales of the SGAS, anxiety and avoidance, had a significant positive correlation. The result suggests that the two insecure attachment styles parallel each other; when one is high the other will be too. Whereas, a low score on both subscales would signify a secure attachment. This finding supports the current literature that attachment runs along two continuous variables, rather than having distinct categories as suggested in the past (Brennan, Clark et al. 1998, Fraley, Waller et al. 2000, Mikulincer and Shaver 2007). Similarly, the findings are logical from a theoretical perspective because anxiety and avoidance are said to be circular, in other words, a self-sabotaging cycle (Westbrook, Kennerley et al. 2011). For example, an athlete anxious about close connections will likely demonstrate avoidance of social interactions within their team. Although avoidance may provide some short-term relief from an immediate fear of rejection, the anxiety provoking social situation will likely arise again. The prospect of its occurrence in the future, and never having handled it before, will increase anxiety long-term.

The main individual level findings include the relationship between attachment subscales and leadership subscales. Attachment avoidance had significant positive relationships with three leadership subscales. Training and instruction and democratic behaviour had the strongest relationship with avoidance, significant at the 0.01 level. This is in line with theory stating that an avoidant attachment style prefers autonomy and independence (Ainsworth, Blehar et al. 1978). Training and instruction will allow these individuals to further develop their skills for self-reliance, while a democratic style gives freedom in how they shall function without imposing on their rigid social boundaries. Attachment avoidance also had a positive correlation, significant at the 0.05 level, with positive feedback (rewarding behaviour). This was an interesting finding because avoidant individuals perceive others as untrustworthy and relationships as unnecessary (Ainsworth, Blehar et al. 1978). However, this rewarding behaviour may be preferred as a refreshing difference to the emotionally rejecting attachment style familiar to them. In contrast, attachment anxiety did not have a significant relationship with any subscales. This may suggest that an anxious individual is ambivalent about their

preferred style of leadership. They may be putting their energy into meeting their attachment needs, such as being a follower or people-pleaser to gain reassurance and acceptance, thus unknowingly dismiss their desired leadership behaviours.

5.1.2 Team Level Findings

The team level findings include the relationship between attachment subscales with collective efficacy and cohesion subscales. Attachment anxiety and attachment avoidance both had a negative correlation with all subscales from the collective efficacy measure. Interestingly, attachment avoidance demonstrated larger and more significant negative relationships. That is, those with attachment avoidance perceive collective efficacy worse than those with attachment anxiety. Therefore, those teams with high levels of insecure attachment, particularly avoidance, perceive weak conjoint confidence in their team's ability to be successful. This is in line with current literature suggesting attachment avoidance is detrimental within an interdependent setting (Rom and Mikulincer 2003). In other words, the characteristics of an avoidant individual is disadvantageous to a sport team. Research suggests avoidant individuals view others as untrustworthy, demonstrating emotional distancing and compulsive self-reliance (Ainsworth, Blehar et al. 1978). In the context of elite netball, a setting that requires high levels of team work, interdependence is essential to strengthen collective efficacy beliefs. However, this level of interaction would be difficult for those with avoidant characteristics. Attachment anxiety had negative correlations with all six subscales also, but only two were significant at the 0.05 level, including communication and general. This suggests attachment anxiety has less severe implications on perceived collective efficacy. This could be because the other athletes are meeting the anxious individuals need for acceptance and reassurance, thus they believe in their teams' abilities to perform. However, teams with high levels of attachment anxiety are displaying a poor perception of their capability to communicate effectively and their collective efficacy in general. A probable explanation may be that an anxious individual needs more communication (information, encouragement, feedback) than their team could possibly provide. In turn, this will affect their general collective efficacy beliefs regarding ability to win with effective planning and discussion of game strategies.

Both attachment anxiety and attachment avoidance had significant negative correlations with all subscales from the GEQ, although attachment avoidance demonstrated slightly larger relationships. That is, those with insecure attachment styles have a negative perception of

their team's cohesion. Attachment avoidance had the strongest negative relationship with group integration. This highlights that an avoidant individual prefers self-reliance and independence (Ainsworth, Blehar et al. 1978). They do not perceive the team to be integrated surrounding a task, rather they would complete tasks individually as much as possible. The next strongest relationship was between attachment avoidance and attraction to the group social. This demonstrates an avoidant individuals' tendencies to perceive others as untrustworthy, relationships as unnecessary, and use emotional distance to evade rejection (Ainsworth, Blehar et al. 1978). Therefore, an avoidant individual is not attracted to the group for social reasons. Attachment anxiety had the strongest negative relationships with social aspects of cohesion, including ATG-S and GI-S, whereas a weaker negative relationship with GI-T was evident. That is, high levels of attachment anxiety involve a poorer perception of social cohesion than task cohesion. Previous evidence support these findings, suggesting that hyperactivating strategies underlying an anxious attachment style was associated with worse instrumental functioning (Rom and Mikulincer 2003). An anxious individual's reduced distress thresholds, distress exacerbation, and heightened vigilance to attachment-related threat work to maintain a focus on social aspects of cohesion.

5.2 Limitations of the Study

This study was conducted with a small sample of elite female netball players which calls into question generalisability of the results. Firstly, the sample comprised one third (N=173) of the U17/ U19 National netball competitors, thus sample size was small. Secondly, all participants were female, thus gender differences are unknown. Thirdly, there are numerous distinctions to be made when comparing sport environments to other settings. Commitment is typically high because sports are usually an extra-curricular activity. A significant difference between social or organisational settings and a sport setting is that sports involve carefully defined rules and regulations, as well as an ability to clearly measure performance. It is obvious which team won and what individuals were making positive and negative contributions to the team. This demonstrates that a sporting context does not involve the ambiguity of daily life. In sum, the current findings may not directly correspond to other group environments.

A second limitation includes the small length of time teams had been together. On average, teams had been formed for seven and a half weeks. This was likely a barrier to strength of team attachment and other variables under investigation. It would be difficult to form an

affective bond within a limited time frame. Similarly, through informal conversations with athletes and their coaches, researchers discovered that most teams had not yet played a competitive game together. Without an experience from which to compare their teams' level of skill before an elite competition, athletes' perception of their team's cohesion and collective efficacy would be fairly uncertain.

5.3 Implications

5.3.1 Implications for Theory and Psychometric Measures

The present study highlighted the need to further investigate the relationship between attachment and important sport team variables. There is a lack of research in the sporting arena regarding attachment. Past research, as well as the current study, has acknowledged attachment has a relationship with important sport team variables (Smith, Murphy et al. 1999, Rom and Mikulincer 2003, Tiryaki and Cepikkurt 2007, Lavy, Bareli et al. 2014). In light of this, future research needs to further investigate the relationship between attachment and leadership in order for coaches to align with athletes' preferences. Likewise, further investigation into the relationship between attachment and group variables, such as collective efficacy and cohesion, is necessary. Understanding attachment within a sporting context will have significant implications for performance, therefore attachment is an area that should hold considerable importance for the development of sport psychology.

Bowlby's attachment theory has been well-established as a contributing factor to an individual's functioning and well-being. Despite this, attachment theory has rarely been investigated in relation to phenomena within the sport and exercise domain. Previous research and the present study have focused on whether attachment has a relationship with important sporting variables, with results suggesting it does. In order to better understand how attachment enhances or hinders team performance it is necessary to confirm what factors predict a team's attachment style. The current study suggests attachment style presents differently between romantic partners and a group context, therefore adaptation of previous measures to a sporting context is inappropriate. Future research could delve into what predictors enhance athlete's attachment to their team and begin constructing an attachment measure suitable for sport teams. This could include greater effort exploring the influence of leadership style, cohesion, and collective efficacy on elite sport team's attachment style.

An area of study that would be useful in this task is multi-level modelling. There have been no studies adopting a multi-level model as a key psychometric measure to determine the effects of attachment in sporting performance. This would allow the accurate representation of individual and team level variables simultaneously within a sporting context.

5.3.2 Implications for Sport Psychologists and Sports Coaches

The current findings support previous evidence that attachment has a relationship with important sporting variables, and thus play a role in elite sport teams' performance. The present study highlights implications for sport coaches and psychologists, identifying significant relationships between attachment and three important sporting variables, namely leadership, cohesion, and collective efficacy. These factors have significant influence on sport team performance. Understanding an athlete's attachment style will enable coaches to efficiently adjust their leadership style according to the athletes preferred behaviours. This will encourage healthier connections between coach-athlete dyads and within the team as a whole. Paying attention to individual variables, namely attachment style and preferred leadership style, can positively influence important group phenomena, namely collective efficacy and cohesion, thus increasing team performance and success.

Sport coaches and psychologists should open their minds to different theoretical standpoints. Those taking an interest in athletes attachment styles, responding consistently and sensitively to their needs (e.g. reassurance, acceptance, positive feedback), are likely to reduce insecure attachment styles and increase perception of cohesion and collective efficacy amongst their teams, largely implicating performance and success. For example, the present study suggests an avoidant individual prefers a coach to display training/ instruction, positive feedback, and democratic leadership behaviours. Attending to these leadership preferences may decrease the level of attachment avoidance detrimental to team functioning.

These implications and future research suggestions are very important in light of recent independent reviews into New Zealand High Performance Sport (Heron 2018, Muir and Grierson 2018). An aspect of the reports addresses workplace incompatibility and power-imbalance. This is relevant to the present study because, for example, if a coach takes advantage of their power the athletes demonstrated responding with passive and

avoidance behaviour which significantly impacted competitive performance. The report also considers the wider context of sport, such as a lack of trust, collaboration, and communication between organisational levels and the sporting culture. For example, the reward systems influence the culture and is potentially driving security need, rather than supporting athlete performance by foster the intrinsic motivation behind satisfaction needs. There is a recommendation to redefine ‘what success looks like’, that it can no longer be all about winning but a much more balanced view including foremost the well-being of athletes. This may involve taking into consideration their attachment style in the future.

5.4 Future Research

The present study raised a number of areas where future research would benefit the understanding of attachment and its relationship with sport team variables.

The present study is a starting point, providing initial support for the relationship between attachment and leadership, collective efficacy, and cohesion. Attachment has shown an important role to play in the perception of cohesion and collective efficacy, as well as preferred leadership behaviours. Therefore, attachment needs further development and investigation in the sporting context. Future research should look to examine what aspects of attachment are most important to enhance cohesion and collective efficacy. Previous research has adapted measures developed for attachment in romantic relationships. Future researchers could consider establishing a well-tested and validated attachment measure, specifically designed for elite sport teams.

Future research should consider how coaches can utilise an understanding of attachment theory to adjust their leadership style. It could involve a similar investigation with a focus on coaches’ attachment style and their actual leadership behaviours, thus enabling increased self-awareness. Similarly, attachment styles within and between sporting organisational levels are relevant. The present study identifies a relationship between athlete attachment avoidance and three preferred leadership behaviours. Investigating why these factors are associated to attachment may lead to better understanding of what behaviours should be encouraged. This could help to reduce the discrepancies between perceived and preferred leadership behaviours, resulting in healthier team connections.

Future research regarding attachment and important sport team variables should aim to support multi-level modelling as a primary form of statistical analysis. Several studies have

demonstrated that multi-level modelling provides crucial information when analysing both individuals and teams (Watson, Chemers et al. 2001). This will allow the data to be analysed at more than one level simultaneously, thus increasing the strength of data validity.

Appendices

Appendix A: Questionnaire

Appendix B: Participation request letter

Appendix C: Letter to NZ Netball

Appendix D: Consent form

Appendix E: Information sheet

APPENDIX A

Questionnaire Instructions.

The following questionnaires assess your perceptions of sport and your team.

There are no right or wrong answers so please give your immediate response. Some of the questions may seem repetitive but please answer **ALL** questions. Your candid responses are very important to us.

Demographic Questions

What is the name of your team?

Playing Status:

Age:

Ethnicity:

1.How many years have you been playing netball?

2.How many years have you been playing at this level?

3.How long have you been part of this team?

4.How much competitive playing time do you get?

5.How much time does your team spend in practice/training?

6.What percentage of time is spent during practice on team skills (e.g. strategies, ball skills)?

(Please circle)

0%	10%	20%	30%	40%	50%	60%	70%
80%	90%	100%					

7.What percentage of time is spent during practice on individual skills? (Please circle)

0%	10%	20%	30%	40%	50%	60%	70%
	80%	90%	100%				

8. What percentage of time is spent during practice on team building skills (e.g. working together)?

0%	10%	20%	30%	40%	50%	60%	70%
	80%	90%	100%				

9. How much time do you spend socialising with your teammates?

0hrs	1hrs	2hrs	3hrs	4hrs	5hrs	6hrs +
------	------	------	------	------	------	--------

10. How much time does your team spend in team meetings (other than practices) each week? (Please circle)

0hrs	1hrs	2hrs	3hrs	4hrs	5hrs	6hrs +
------	------	------	------	------	------	--------

A. GROUP ENVIRONMENT QUESTIONNAIRE

This is a questionnaire which asks you to express your perception of your team cohesiveness.

	DISAGREE					AGREE				
1. I do not enjoy being part of the social activities of this team	1	2	3	4	5					
2. I am not happy with the amount of playing time I get	1	2	3	4	5					
3. I am not going to miss the members of this team when the season ends	1	2	3	4	5					
4. I am unhappy with my team's level of desire to win	1	2	3	4	5					
5. Some of my best friends are on this team	1	2	3	4	5					
6. This team does not give me enough opportunities to improve my personal performance	1	2	3	4	5					
7. I enjoy other parties more than team Parties	1	2	3	4	5					
8. I do not like the style of play on this Team	1	2	3	4	5					
9. For me this team is one of the most important social groups to which I belong	1	2	3	4	5					
10. Our team is united in trying to reach its goals for performance	1	2	3	4	5					
11. Members of our team would rather go out on their own than get together as a team	1	2	3	4	5					
12. We all take responsibility for any loss or poor performance by our team	1	2	3	4	5					
13. Our team members rarely party together	1	2	3	4	5					
14. Our team members have conflicting aspirations for the team's performance	1	2	3	4	5					
15. Our team would like to spend time together in the off season	1	2	3	4	5					
16. If members of our team have problems in practice, everyone wants to help them so we can get back together again	1	2	3	4	5					
17. Members of our team do not stick together outside of practices and games	1	2	3	4	5					
18. Our team members do not communicate freely about each athlete's responsibilities during competition or practice	1	2	3	4	5					

B. COLLECTIVE EFFICACY

The following questions are designed to assess your feelings about YOUR TEAM'S CONFIDENCE in the team's skills and abilities with respect to the following questions. Use the scale below to rate your team's confidence in its ability to complete each skill. Please answer in **intervals of 10%** (e.g. 30% or 40%, not 35%). Remember, we want you to rate how you think the team feels as a whole.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
No Confidence										Completely Confident

ATTACK

Our team's confidence that we can ...

1. clear the centre pass successfully
is..... _____
2. work the ball into our goal third
is..... _____
3. feed the goal circle effectively
is..... _____
4. convert turnover possession into a successful goal
is..... _____
5. execute attacking play under pressure
is..... _____

DEFENSIVE

Our team's confidence that we can ...

1. play to our stated game plan is..... _____
2. control the pace of the oppositions game
is..... _____
3. control the style of the oppositions game
is..... _____
4. execute our defensive plays under pressure
is..... _____

MOTIVATION

Our team's confidence that we can...

1. remain motivated after losing a game
is..... _____
2. remain motivated when behind in a game
is..... _____
3. outwork other teams in a game
is..... _____

OBSTACLES

Our team's confidence that we can...

1. play at the same level even when our best shooter is injured
is..... _____
2. overcome dissatisfaction with a poor defence/offence during a game
is..... _____
3. play at the same level even when our team is behind

- in a game is.....
4. play at the same level even when mistakes have been made (e.g. inaccurate passing) is..... _____
 5. play at the same level even when players are changed/replaced is..... _____

COMMUNICATION

Our team's confidence that we can...

1. effectively discuss game strategies during practice is..... _____
2. encourage each other during a game is..... _____
3. use feedback from the coach productively to increase our performance is..... _____
4. use information from others (e.g. coach, other players) to our advantage is..... _____

GENERAL

Our team's confidence that we can...

1. win is..... _____
2. have regular and productive practices is..... _____
3. plan game strategies (offensive/defensive strategies) together is..... _____
4. discuss game strategies with the coach effectively is..... _____

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
No									Completely	
Confidence									Confident	

C. LEADERSHIP SCALE FOR SPORTS

Each of the following statements describe a specific behaviour that a coach may exhibit. For each statement there are five alternatives:

- 1. ALWAYS; 2. OFTEN** (about 75% of the time); **3. OCCASIONALLY** (50% of the time); **4. SELDOM** (about 25% of the time); **5. NEVER**

Please indicate your preference by circling the appropriate number. Answer all items even if you are unsure of any. Please note that this is not an evaluation of your present coach or any other coach. It is your own personal preference that is required. There are no right or wrong answers. Your spontaneous and honest response is important for the success of the study.

<i>I prefer my coach to...</i>	ALWAYS					NEVER
1. See to it that athletes work to capacity	1	2	3	4	5	
2. Ask for the opinion of the athletes on strategies for specific competitions	1	2	3	4	5	
3. Help athletes with their personal problems	1	2	3	4	5	
4. Compliment an athlete for good performance in front of others	1	2	3	4	5	
5. Explain to each athlete the techniques and tactics of the sport	1	2	3	4	5	
6. Plan relatively independent of athletes	1	2	3	4	5	
7. Help members of the group settle their conflicts	1	2	3	4	5	
8. Pay special attention to correcting athlete's mistakes	1	2	3	4	5	
9. Get group approval on important matters before going ahead	1	2	3	4	5	
10. Tell an athlete when the athlete does a particularly good job	1	2	3	4	5	
11. Make sure that the coach's function in the team is understood by all athletes	1	2	3	4	5	
12. Does not explain his/her actions	1	2	3	4	5	
13. Looks out for the personal welfare of the athletes	1	2	3	4	5	
14. Instruct every athlete individually in the skills of the sport	1	2	3	4	5	
15. Let the athletes share in decision making	1	2	3	4	5	
16. See that an athlete is rewarded for a good performance	1	2	3	4	5	
17. Figure ahead on what should be done	1	2	3	4	5	
18. Encourage athletes to make suggestions for ways to conduct practices	1	2	3	4	5	
19. Do personal favours for the athletes	1	2	3	4	5	
20. Explain to every athlete what should be done and what should not be done	1	2	3	4	5	
21. Let the athletes set their own goals	1	2	3	4	5	
22. Express any affection felt for the athletes	1	2	3	4	5	
23. Expect every athlete to carry out one's assignment to the last detail	1	2	3	4	5	
24. Let the athletes try their own way even if they make mistakes	1	2	3	4	5	
25. Encourage the athlete to confide in the coach	1	2	3	4	5	
26. Point out each athlete's strengths and weaknesses	1	2	3	4	5	
27. Refuse to compromise on a point	1	2	3	4	5	
28. Express appreciation when an athlete performs well	1	2	3	4	5	
29. Give specific instructions to each athlete on what should be done in every situation	1	2	3	4	5	

30. Ask for the opinion of the athletes on important coaching matters	1	2	3	4	5
31. Encourage close and informal relations with athletes	1	2	3	4	5
32. See to it that the athlete's efforts are coordinated	1	2	3	4	5
33. Let the athletes work at their own speed	1	2	3	4	5
34. Keep aloof from the athletes	1	2	3	4	5
35. Explain how each athlete's contribution fits into the total Picture	1	2	3	4	5
36. Invite the athletes home	1	2	3	4	5
37. Give credit when it is due	1	2	3	4	5
38. Specify in detail what is expected of athletes	1	2	3	4	5
39. Let the athletes decide on plays to be used in a game	1	2	3	4	5
40. Speak in a manner which discourages questions	1	2	3	4	5

D. SOCIAL GROUP ATTACHMENT SCALE (Smith et al. 1999)

Items adapted from Collins & Read (1990) and Bartholomew & Horowitz (1991) re-worded for sport teams.

In answering these questions, all the relationships you have within your team warrant consideration (e.g. team members, coaches, managers). It is important to report general thoughts, feelings, and experiences within team membership as a whole. Your spontaneous and honest response is important for the success of the study. **1. Strongly disagree; 2. Disagree; 3. Neutral; 4. Agree; 5. Strongly agree**

This questionnaire asks you to express your experiences of team relationships and membership.

	Strongly disagree			Strongly agree	
1. I find it difficult to rely on my team	1	2	3	4	5
2. I sometimes worry that I will be hurt if I allow myself to become too close to my team	1	2	3	4	5
3. I want to feel completely at one with my team	1	2	3	4	5
4. I find it relatively easy to get close to my team	1	2	3	4	5
5. I do not often worry about my team getting too close to me	1	2	3	4	5
6. It is very important for me to feel independent and self-sufficient in my team	1	2	3	4	5
7. I am nervous when my team gets too close	1	2	3	4	5
8. My desire to feel completely at one sometimes scares	1	2	3	4	5

The relationship between attachment style and important elite sport team variables

my team away					
9. I prefer not to depend on my team or have my team depend on me	1	2	3	4	5
10. I often worry that my team does not really accept me	1	2	3	4	5
11. I am comfortable not being close to my team	1	2	3	4	5
12. I often worry my team will not always want me as a member	1	2	3	4	5
13. I am somewhat uncomfortable being close to my team	1	2	3	4	5
14. My team is never there when I need them	1	2	3	4	5
15. I find it difficult to completely trust my team	1	2	3	4	5
16. I don't worry about being alone or not being accepted by my team	1	2	3	4	5
17. I find my team is reluctant to get as close as I would like	1	2	3	4	5
18. I am not sure that I can always depend on my team to be there when I need them	1	2	3	4	5
19. Often my team wants me to be more open about my thoughts and feelings than I feel comfortable being	1	2	3	4	5
20. I am comfortable having my team depend on me	1	2	3	4	5
21. I sometimes worry that my team doesn't value me as much as I value my team	1	2	3	4	5
22. I am comfortable depending on my team	1	2	3	4	5
23. I know that my team will be there when I need them		1	2	3	4
5					
24. I want to be emotionally close with my team, but I find it difficult to trust my team completely or to depend on my team		1	2	3	4
5					
25. I do not often worry about being abandoned by my team	1	2	3	4	5

APPENDIX B



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

Hi, my name is Jade Campbell. I am a post-graduate student from Massey University, Albany. I am currently conducting my Master's research under the supervision of Dr Richard Fletcher, a lecturer in the School of Psychology. The focus of this study is the relationship between attachment (the emotional bonds within the teams) and important sport team variables within an elite female netball context, including leadership styles, collective-efficacy, and cohesion.

The information gained from this study can be used in applied Sport Psychology. The few studies reporting on attachment within a sporting domain are uncovering interesting relationships. For example, attachment to a group has been associated with perception of social support, group identification, self/ collective-efficacy, level of satisfaction and commitment, aspects of well-being e.g. competence & confidence, motivational and leadership styles, self-regulatory patterns, and performance outcome. Of particular interest, the relationship between attachment and group cohesion. For example, individuals with group attachment anxiety have self-doubt regarding their ability to productively contribute to group tasks as well as a high need for support and approval, which narrows their focus into avoiding rejection and directing goals toward unmet attachment needs, thus hindering functioning. However, group attachment avoidance has been proposed the most disadvantageous attachment style within a sporting context. Although interestingly, teams with a mixture of anxious and avoidant group attachment styles have shown unique adaptive advantages which enhanced performance when team cohesion was high. Understanding the relationships between attachment, leadership styles, and group dynamics (i.e. cohesion and collective-efficacy) within elite netball sport teams has the potential to significantly increase insight into optimal environments and practices for enhancing team performance and success.

For the purpose of this research it is important that the data is collected at the netball competitions. The researchers will read an instruction script to each participant before distributing the questionnaire. This will explain details of the study purpose and the rules for completing the questionnaire. Questionnaires will be distributed, completed, and collected within 24 hours before the commencement of the tournament. The questionnaires will take approximately 30 minutes to complete. Participants will be asked to fill out their questionnaires individually. Should any questions arise throughout the completion of the questionnaire, these are welcomed and will be answered by the researchers. The questionnaires will be confidential and collected immediately after completion, only the researchers will have access to the information obtained.

Participation in this research is completely voluntary. Participants have the right to withdraw from the study without reason or penalty at any time before data analysis (i.e. 1 month after completion of the questionnaire). Participants also have the right not to answer any particular questions. There is no risk of harm to participants at any time during the research. If any question provoke psychological discomfort appropriate support services are detailed on the information sheet.

I encourage you to converse with your players about the details of the research purpose and the opportunity to participate. The more participants involved will result in the generation of superior reliability and significance of the results.

Thank-you for your time and efforts, I really appreciate your consideration. I look forward to hearing back from you.

Kind regards,
Jade Campbell

APPENDIX C

13 March 2018

Jade Campbell

[REDACTED]
[REDACTED]
[REDACTED]

Hi Netball NZ,

My name is Jade Campbell. I am undertaking my Master's thesis at Massey University under the supervision of Dr Richard Fletcher. He has been involved with Netball NZ conducting research on collective efficacy in the past. I have a Bachelor of Arts with a major in psychology and a minor in rehabilitation with Massey (2012) and subsequently I completed a Post Graduate Diploma in Arts. I have participated within competitive sports myself, including a North Harbour water polo team winning the Nationals 2007. My sports teams have significantly contributed to my identity. I have also worked for several organisations including Kidz K'Necton, Northlink Health, PHAB, Youthline and the Anxiety Trust. My position has involved providing support for several underprivileged populations, thus involving supervision groups. I also have an interest in developmental and social psychology, particularly attachment theory. I am well read in the area and have attended several seminars lead by international guest speakers. I also have a two-year-old son, who keeps this passion a prominent part of daily life as I watch him grow. I believe my life journey, including a history of competitive sports, organisational involvement, and interest in developmental psychology, has led to my chosen Master's thesis topic.

For my masters I aim to explore the relationship between attachment and team cohesion. Research suggests individuals can develop attachment avoidance and attachment anxiety among a group, just as they can within significant interpersonal relationships (e.g. parents, coaches, teachers, friends). Group attachment anxiety is characterised by feelings of worthlessness and concerns of group acceptance, whereas group attachment avoidance is characterised by valuing independence and perceiving group closeness as unnecessary. The few studies that have researched attachment within a sport and exercise domain are discovering interesting relationships. For example, attachment theory has been associated with perception of social support, group identification, self/ collective-efficacy, level of satisfaction and commitment, aspects of well-being e.g. competence & confidence, motivational and leadership styles, self-regulatory patterns, and performance outcome. Of particular interest, a handful of studies have reported on the relationship between attachment and group cohesion. For example, group

The relationship between attachment style and important elite sport team variables

attachment anxiety has a positive association with social dimensions of cohesion but a negative association with task dimensions of cohesion. Explained further, individuals with group attachment anxiety have self-doubt regarding their ability to productively contribute to group tasks as well as a high need for support and approval, which narrows their focus into avoiding rejection and directing goals toward unmet attachment needs, thus hindering functioning. However, group attachment avoidance has been proposed the most disadvantageous attachment style within a sporting context. Although interestingly, teams with a mixture of anxious and avoidant group attachment have shown unique adaptive advantages which enhanced performance when team cohesion was high.

Understanding this relationship presents considerable practical implications for team development. For example, team coaches could be capable of improving the considered arrangement of team members attachment orientations, anticipate relational interactions, inform coaching practices that are suitable for attachment style in order to respond sensitively, and be equipped to efficiently enhance team cohesion to optimal levels which can increase the probability of team success.

In order to conduct this research, I need your help! I am seeking access to at least 30 Netball teams to complete a questionnaire for the purpose of this research. I am interested in events such as the Netball NZ U19 Champs played in Tauranga during July. Can you please advise the dates and locations of other large national competitions taking place that I could attend? And where I can obtain a contact list of team's coaches numbers so I can begin recruiting participants?

Really appreciate your time. Please do not hesitate to ask if there are any questions.

Kind regards,

Jade Campbell



APPENDIX D



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

The relationship between attachment and important team sport variables (i.e. leadership, cohesion, & collective-efficacy) in elite netball teams.

CONSENT FORM

I have read the Information Sheet and comprehend the details of the study. I am satisfied that my current questions have been answered and I understand that I may ask questions at any time during my participation in the study.

I understand I may decline to answer any particular questions and have the right to withdraw from the study without reason or penalty any time before data analysis begins (i.e. 1 month after completion of the questionnaire).

I agree to provide information on the understanding that the data collected will only be available to the researchers and that my privacy and confidentiality will be respected. The information will be used only for this research and arising publications.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signed: _____

Name: _____

Date: _____

APPENDIX E



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

The relationship between attachment and important team sport variables (i.e. leadership, cohesion, & collective-efficacy) in elite netball teams.

INFORMATION SHEET

My name is Jade Campbell. I am a post-graduate student from Massey University, Albany. My supervisor is Dr Richard Fletcher, a lecturer in the School of Psychology. This research is exploring the relationship between attachment and important sporting variables (i.e. leadership, cohesion, collective-efficacy) within elite netball players in New Zealand. Attachment is the emotional bond we have with significant others. Leadership involves the behaviours displayed to guide the team. Cohesion is an active process reflected in the tendency for a group to stick together and remain united in the pursuit of goals. Collective-efficacy is the teams shared belief in its conjoint capabilities to organise and accomplish actions required to achieve.

In co-operation with Netball New Zealand, I am inviting you, as an elite netball player, to participate in this study. If you agree to participate you will need to complete informed consent and the following questionnaires. Any participants 15 years or younger will be required to provide parental consent. The questionnaires assess your self-reported attachment to the team and your perspective of important sport team variables, as well as a few demographic questions. The aim of the questionnaires is to obtain an understanding of how players in elite netball view their relationships within the team and the associations this has with their perception of different important sport team variables, namely leadership, cohesion, and collective-efficacy. There are no right or wrong answers to any of the questions. The questions are simply a gauge of your personal viewpoint. It should take you approximately 30 minutes to complete the questionnaire.

Your participation in the research is completely voluntary. All of your responses will be confidential. Only the researchers will have access to the data obtained. It will not be possible to identify you or your team in any reports that are written up from this research.

- You have the right not to participate in the study.
- You have the right to withdraw from the study without reason or penalty any time before data analysis begins (i.e. 1 month after completion of the questionnaire).
- You have the right to decline to answer any particular questions.
- You have the right to ask any questions about the study at any time during participation.
- You have the right to be given access to the completed thesis.
- You have the right to support services should the research result in any discomfort.

Should the research questions result in unanticipated discomfort please feel free to debrief with the researchers and/or contact the appropriate 24/7 counselling support services listed below.

Youth line: 0800 376 633

Life line: 0800 543 354

Should you have any questions about the research please do not hesitate to contact us:

Jade Campbell

Ph. [REDACTED]

The relationship between attachment style and important elite sport team variables

Email: Jade.Campbell.1@uni.massey.ac.nz

Richard Fletcher

Ph. (09) 414-0800 Ext. 43096

Email: R.B.Fletcher@massey.ac.nz

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 18/13. If you have any concerns about the conduct of this research, please contact Associate Professor David Tappin (Chair), Massey University Human Ethics Committee: Northern, email humanethicsnorth@massey.ac.nz

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