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## Team cohesion, performance outcome and player satisfaction in state league netball

Angelique Jane Wilson  
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**Team Cohesion, Performance Outcome, and Player Satisfaction  
in State League Netball**

**By**

**Angelique Jane Wilson**

**A Thesis Submitted in Partial Fulfilment of the  
Requirements for the Award of**

**Bachelor of Science (Sports Science) Honours**

**In the Faculty of Science, Technology and Engineering,  
Edith Cowan University**

**Date of Submission: 13th November 1998**

## **Abstract**

Team cohesion repeatedly has been emphasised as important in the development of performance success. This research examined the importance of team cohesion as a multidimensional construct through three inter-related studies with elite netball players. The first study examined differences between successful and unsuccessful teams on (a) overall team cohesion, (b) overall task cohesion including attraction to group-task (ATG-T) and group integration-task (GI-T) components, and (c) social cohesion including attraction to group-social (ATG-S), and group integration-social (GI-S) components. The second study examined the multidimensional nature of cohesion in relation to player satisfaction. Finally, study three investigated the relationship between performance outcome and player satisfaction.

Seventy-two elite netball players from divisions one and two of the Western Australian 'Quit' State Netball League were selected from six teams. Three of these teams were categorised "successful" and three were categorised as "unsuccessful". Both groups provided mid-season data on overall, task, and social cohesion by responding to the Group Environment Questionnaire (GEQ) (Widmeyer, Brawley, & Carron, 1986) and a single-item questionnaire on player satisfaction.

In the first study, independent samples t-test reveals no significant difference between successful and unsuccessful teams on overall team cohesion. Furthermore, 2 x 4 (Performance x Cohesion) MANOVAs and ANOVAs find that successful teams do not differ

from unsuccessful teams in overall social cohesion or ATG-S and GI-S components. However, this study reveals that successful teams significantly differ from unsuccessful teams in overall task cohesion and ATG-T and GI-T components. In the second study, Pearson product moment correlation finds no significant relationship between player satisfaction and overall team cohesion. Furthermore, no significant relationship is found between player satisfaction and overall social cohesion. However, a significant relationship between overall task cohesion and player satisfaction is found. Further examination of the task dimensions reveals a significant relationship between the ATG-T component and player satisfaction. However, this is not found for the GI-T component. Study three, reveals a significant relationship between player satisfaction and performance outcome.

The findings of this research demonstrate the importance of examining team cohesion as a multidimensional, rather than as a unitary construct. Whilst successful teams did not differ from unsuccessful teams on overall team cohesion and social cohesion, it was clear that successful teams were higher on task cohesion. In addition, this study demonstrated that player satisfaction was clearly related to task rather than social, or overall cohesion. Finally, the findings support previous research in demonstrating that player satisfaction is strongly linked to performance outcome. These findings have practical implications for sports scientists and netball coaches alike. Elite netball coaches need to address these findings so appropriate programs may be developed to enhance player satisfaction and effective levels of cohesion for the future success of their teams.

## Declaration

*I certify that this thesis does not, to the best of my knowledge and belief:*

- (i) incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;*
- (ii) contain any material previously published or written by another person except where due reference is made in the text; or*
- (iii) contain any defamatory material.*

Signature .

Date **5-2-99** .....

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## CHAPTER 1

### INTRODUCTION

*"I think our strength is team cohesion. Every team member has confidence in one another. They all work tirelessly together to achieve the team goals."*

Jill Burns, Coach West Coast Warriors State League Netball Premiers 1998

(1998, August 28). The West Australian.

Team cohesion requires individuals to sacrifice personal glory. It requires a chemistry of dedication, desire, and belief by members of the group that they can pull together to achieve their goals. Intuitively, most coaches assume that cohesive teams win more games, and their players are more satisfied. Whilst many studies have linked team cohesion with performance outcome and player satisfaction, most of the research has focused on teams in elite male sport. Little is understood of the complexity of team cohesion in an exclusively female sport. Whilst netball holds a prestigious international profile and the highest participation rate for females in Australia, researchers in sport psychology largely have ignored this sport. This study addresses important questions relating to team cohesion, performance outcome, and player satisfaction in Australia's premier female sport. Also, it provides in-depth understanding of the multidimensional nature of team cohesion.

#### Background to the Study

The construct of group cohesiveness has stimulated active research in group dynamics, educational psychology, military psychology, sport psychology, and many other areas of social psychology that have focused their attention on the behaviour of people in

groups. Perhaps the most visible and active use of group cohesiveness has been in terms of its possible prediction of group performance (Mullen & Copper, 1994). This expectation is echoed throughout history. For example, the importance of group cohesion was expressed as early as 550 B.C. when Aesop formulated his well-known phrase, "United we stand, divided we fall". The importance of team cohesion remains evident today in military and political organisations in an attempt to build morale and team spirit amongst followers (Widmeyer, Brawley, & Carron, 1985). In the context of sport, team cohesion has received considerable and extensive attention over the past four decades.

Team cohesion reflects how well a group sticks together and how strongly its members are attracted to the group. Furthermore, cohesion is important for retaining members within that group. The relative credibility of cohesion research in the sport domain is due mainly to the development of a conceptual definition. Due to the various definitions of group cohesion, researchers have further examined the nature of cohesion. Whilst early researchers examined this construct in global terms (Cartwright, 1968; Martens, Landers, & Loy, 1972) workers in the field more recently have examined cohesion as a multidimensional construct (Widmeyer et al., 1985; Gill, 1980). Such investigations have led to a more appropriate measure of cohesion. Researchers (Chelladurai, 1984; Widmeyer et al., 1985) view the Group Environment Questionnaire (GEQ) as the most reliable and valid multidimensional measure of team cohesion. In the present study, the GEQ will provide in-depth information about team cohesion in elite netball.

The GEQ is a multidimensional scale tapping both the task and social dimensions of group cohesion in terms of individual attraction to the group and group integration. The

GEQ measures four dimensions of team cohesion: (a) attraction to group-task (ATG-T), (b) attraction to group-social (ATG-S), (c) group integration-task (GI-T), and (d) group integration-social (GI-S). Together these make up a composite score of task cohesion and social cohesion within a group. Researchers (Carron & Chelladurai, 1981; Gill, 1978; McGovern & Henschen, 1987; Nixon, 1977) have recognized the importance of both task and social cohesion. In recent studies, discriminating between both task and social dimensions was found to be crucial in determining how each member might influence the overall level of cohesion and in turn, affect the performance outcome and player satisfaction within a team.

Determining the factors that contribute to team success has been a longstanding quest by both researchers and practitioners. Team cohesion has been identified important in developing team success (Bird, 1977; Carron & Ball, 1977; Klein & Christiansen, 1969; Williams & Hacker, 1982). In the literature, much of the research has examined the relationship between cohesion and performance success. This relationship has generated a considerable amount of theoretical controversy and proliferation of empirical research. Previous research on cohesion in sporting teams has focused largely on male athletes ranging in age from 18 to 33 years and at the elite or professional level. In addition, teams have been classified as either "interactive" or "coactive". Interactive teams are those that require team members to work together to achieve the task. Examples of interactive teams include basketball, football, and volleyball. Coactive team are those that require members to perform on an individual basis to achieve a group success. Swimming, gymnastics, and rifle shooting are type examples of coactive teams.

Furthermore, much of the research (Carron & Ball, 1977; Landers, Wilkinson, Hatfield, & Barber, 1982; Martens & Peterson, 1971) investigates the causal relationship between team cohesion, performance outcome, and player satisfaction. Other empirical studies in team cohesion included investigation upon the antecedents and consequences of team cohesion.

### Significance of the Study

This study is important because it examines the multidimensional nature of team cohesion in relation to performance outcome and player satisfaction in Australia's premier female sport of netball. The research is particularly significant for several reasons.

Firstly, research in sport psychology has focused on North American sports: (a) basketball, (b) softball, (c) baseball, and (d) volleyball. Dominant sporting codes in Australia such as netball, Australian Rules football, and cricket have been largely ignored. Hence, there is no evidence of research of team cohesion in netball.

A second reason for carrying out research in this area is to focus on team cohesion in an exclusive female sport. No extensive research on cohesion has been applied to women's team sports. Netball is the most popular sport for Australian women, with over 350,000 registered participants. Not only is netball the second largest participant sport in Australia, it is estimated that over 2 million players are active in the game all over the world. Australia, internationally renowned for its success in this sport, previously has won seven out of nine world championships. More recently, Australia's gold medal success at

the XVI Commonwealth Games further elevates the importance of this sport at the international level.

Thirdly, this study employs a measurement technique that differentiates between task and social cohesion, and between attraction of members to the group and group integration. It recognises that a team can be low in one dimension of cohesion and high in another. No previous study has investigated the dynamic multidimensional nature of cohesion in netball.

Lastly, this study will enable coaches of elite netball teams to target particular areas for the future development of players. If it is clear that successful teams differ from unsuccessful teams on task and social cohesion, then specific programs relative to task or social cohesion can be adapted to enhance performance. It also is important that young women continue to participate in sport and exercise. By examining player satisfaction in relation to team cohesion and performance outcome, findings from this study will assist coaches and parents in catering to the needs and requirements of athletes in relation to success and satisfaction.

### **Purpose of the Study**

This research has three interrelated purposes. Firstly, the main purpose of this study was to examine differences between successful and unsuccessful teams on (a) overall teams cohesion, (b) task cohesion, and (c) social cohesion. Additionally, the study served to (a) examine the relationship between individual player satisfaction and team cohesion, and (b) examine the relationship between individual player satisfaction and

performance outcome. Findings from this research will identify whether cohesive teams are more successful, whether they contain satisfied players and if satisfaction is related to team performance.

### Study One

Study one examines differences between successful teams and unsuccessful teams in the following:

- (a) Overall team cohesion;
- (b) Overall task cohesion, including attraction to group-task (ATG-T) and group integration-task (GI-T) components,
- (c) Overall social cohesion, including attraction to group-social (ATG-S) and group integration-social (GI-S) components.

### Study Two

Study two investigates the multidimensional nature of cohesion to further understand its complex components in relation to player satisfaction. It acknowledges that a team can be low in one dimension of cohesion and high in another. Therefore, this second study examines the relationship between player satisfaction and the following dimensions of team cohesion:

- (a) Overall team cohesion;
- (b) Overall task cohesion, including ATG-T and GI-T components;
- (c) Overall social cohesion, including ATG-T and GI-T components.



### Study Three

Study Three investigates the relationship between performance outcome and player satisfaction. Previous benchmark studies examining the relationship between performance outcome and player satisfaction (Carron, 1988; Martens & Peterson, 1971) report positive findings. Study three examined the degree of player satisfaction by use of a single item questionnaire and a follow up open-ended question that sought to provide richer information about the various sources of satisfaction perceived by young netballers.

#### Research Questions

Considering that no known research has investigated the multidimensional nature of cohesion in netball teams, in relation to performance outcome and player satisfaction, this research investigates one primary question and two additional questions. In view of evidence that suggests successful teams are more cohesive than unsuccessful teams, and that player satisfaction is positively related to both team cohesion and performance outcome, the research developed three questions:

- (1) Do successful teams differ from unsuccessful teams on (a) overall team cohesion, (b) task cohesion and components (ATG-T, GI-T), and (c) social cohesion and components (ATG-S, GI-S)?
- (2) What is the relationship between player satisfaction and (a) overall team cohesion, (b) task cohesion and components (ATG-T, GI-T), and (c) social cohesion and components (ATG-S, GI-S)?
- (3) What is the relationship between player satisfaction and performance outcome?

Considering that cohesion was examined as multidimensional rather than as a unitary construct, extensive analysis and interpretation was required. For that, three interrelated studies were developed in response to the first, second, and third research questions respectively.

## Definition of Major Terms

### Team/Group Cohesion

Team cohesion is defined as “the tendency for a group to stick together and remain united in the pursuit of its goals and objectives” (Carron, 1988, p. 8). Cohesion is derived from the latin term ‘cohaesus’ meaning to cleave or stick together. Another common definition expressed by Gross and Martin (1952, p. 34) is “the resistance of the group to disruptive forces”. That is, cohesion is the total field of forces acting on members to remain in a group. These definitions will apply to the terms team cohesion, team cohesiveness, and group cohesion. The terms cohesion and cohesiveness will be used interchangeably throughout this study.

### Overall Team Cohesion

Overall team cohesion is the composite scores of both task and social cohesion dimensions and respective components (ATG-T, GI-T, ATG-S, GI-S). It represents an overall team cohesion score.

### Task Cohesion

Task cohesion is defined as the degree of unity, consensus, or agreement towards achieving group goals and objectives (Widmeyer et al., 1985). For example, a common goal would be to win a championship. This in part depends on the team’s co-ordinated

teamwork. Task cohesion is a general orientation or motivation towards achieving the group's goals and objectives.

#### Attraction To Group - Task (ATG-T)

The attraction to group-task construct is a measure of the individual team member's feelings about the attractiveness of the group task, productivity, goals and objectives.

#### Group Integration – Task (GI-T)

Group integration-task reflects the individual team member's perceptions of the task-oriented similarity, closeness, and bonding within the team as a whole.

#### Social Cohesion

Social cohesion is defined as the degree of unity, consensus, or agreement towards developing and maintaining social relationship within the group (Widmeyer et al., 1985).

#### Attraction To Group – Social (ATG-S)

This reflects the individual team member's feelings about the attractiveness of the group as a social unit and the social interactions within the group.

#### Group Integration – Social (GI-S)

Group integration-social is a measure of the individual team member's perceptions of socially oriented similarity, closeness, and bonding within the team as a whole.

### Cohesion Dimensions

A dimension of cohesion is simply a proportion. In this study, task and social cohesion are referred to as the two dimensions of team cohesion.

### Cohesion Components

Cohesion components are fundamental parts of either task or social cohesion. Attraction to group and group integration of both task and social cohesion are defined as components throughout this study.

### Performance Outcome

Performance outcome is measured by a win/loss ratio to obtain the three most successful teams and the three most unsuccessful teams. Performance outcome is the degree to which the team is successful or unsuccessful. Therefore, performance outcome is calculated as an absolute measure that establishes a win/loss ratio for each team. The top three teams with the highest win/loss ratio are categorised as "successful" and the bottom three teams with the lowest win/loss ratio are categorised as "unsuccessful".

### Successful teams

Successful teams are those that have won the most number of games and consequently, have lost the least number of games. A team that has won ten games and lost only two games is an example. Their win/loss ratio would be 10:2.

### Unsuccessful teams

Unsuccessful teams are those that have lost the most number of games and consequently won the least number of games. A team that has won only two games and lost ten games is an example. Their win/loss ratio would be 2:10.

### Player Satisfaction

Player satisfaction is viewed as how content or gratified a player is within a team. In this study, player satisfaction was examined as a global construct to gain an overall perception of satisfaction.

### Limitations

1. All subjects were asked to complete the questionnaire honestly and independently where they were free to respond without interference or distraction. However, the use of questionnaires in some instances may not evoke totally honest responses.
2. This study concentrates upon two variables in relation to team cohesion: performance outcome and player satisfaction. Whilst the research acknowledges that many variables such as; group size, group goals, leadership, and team stability contribute to team cohesion, this study has been limited to investigating only player satisfaction and performance outcome.
3. The subjects were drawn from an elite netball competition. Results from this study may not be applicable or transferable to recreational or social levels of netball.

4. Player satisfaction was measured as a global construct. While it is recognised that satisfaction has been examined as a multidimensional construct (Eichas, 1994; Hom, Duda, & Miller, 1993; Melnick, 1981; Petlichkoff, 1993; Riemer & Chelladurai, 1998) this study was only concerned with player satisfaction as a global construct. Whilst an open ended question was employed, the single-item questionnaire measuring satisfaction may be considered as a limiting factor of the study.
  
5. While investigating correlation and differences, results of this study cannot imply causality, nor can it conclude a circular relationship. This study is concerned only with examining the links between team cohesion, performance outcome, and player satisfaction.
  
6. The administration of the GEQ at a training session is essential for accurate, reliable, and non-bias response. Whilst every effort was made to administer the GEQ at a training session, one of the six teams completed the GEQ before a state league netball game. This was unavoidable as the training venue was located outside the metropolitan area and not easily accessible. However, upon discussion and liaison with the coach, the administration of the GEQ took place before rather than after the game to reduce levels of interference and distraction.

### Summary

Players and coaches often attribute team success or failure to how well the team works together as a cohesive unit. The cohesiveness of a group has been found to perpetuate success, and as a result increases levels of satisfaction. Much of the cohesion

research examines the relationship to team performance. Over the past two decades credit has been awarded to researchers that have utilised a multidimensional measure of cohesion. As a result, their studies have sought to establish a common conceptual framework. The present research serves to provide unique findings on team cohesion, performance outcome, and player satisfaction in elite netball. In addition, this research elucidates the need to examine cohesion as a multidimensional construct to gain richer information on the task and social dimensions. This will help establish practical and theoretical implications for sports scientists, coaches, and parents when developing purposeful programs to the hundreds of thousands of female participants in Australian netball.

CHAPTER 2  
REVIEW OF LITERATURE

*Players Play...but Teams Win*

Introduction

Membership and involvement in a group is a fundamental characteristic of our society. Individuals come together to form a group to effectively carry out a task, resulting in a reciprocal exchange of influence. Groups are dynamic, not static; they exhibit vitality, interaction, and activity. An integral component of a group is its cohesiveness. Team cohesion is a multidimensional construct that comprises of (a) interpersonal attractiveness of the group as a whole, (b) the sense of belonging to the group, and (c) the desire of members to remain in the group. These factors are important since no single index of cohesiveness is adequate to represent the total construct. Whilst team cohesion has been researched extensively in elite male sport, little is understood of this construct in elite female sport, particularly in terms of team performance and player satisfaction.

The remainder of this chapter critically reviews research reported in the literature on team cohesion, performance outcome, and player satisfaction. In the main, team cohesion appears to be positively related to team success. Sports such as basketball (Carron & Chelladurai, 1982; Fowler, 1982), field hockey (Williams & Hacker, 1982), and baseball (Landers & Crum, 1971) have produced data supporting a positive relationship between cohesion and performance. Silva and Weinberg (1984) however, point out that these studies employed a global measure of cohesion, namely the Sports Cohesiveness Questionnaire (SCQ). This measure fails to distinguish between task and social cohesion



dimensions and cohesion components. Furthermore, no reliability or validity measures were established for the SCQ in early research. Later studies (Carron, 1988; Westre & Weiss, 1991; Widmeyer et al., 1985) have addressed these issues. They examined the multidimensional nature of cohesion and recognised the need to investigate both task and social cohesion within the overall team cohesion measure. They also provided evidence of validity and reliability for the measures used in their research.

For this study, the review of literature will be presented under the following headings:

Group Cohesion

Performance Outcome

Player Satisfaction

Netball as an Interactive Sport

The review will conclude with a summary that draws together the nature of team cohesion, performance outcome, and player satisfaction in Australia's premier sport of netball.

Group Cohesion

#### Nature of Cohesion in Groups

Cohesion is one of the most frequently examined group constructs in sports science. Cratty (1989, p. 305) states that "perhaps the most researched group phenomenon is group cohesion; how closely the team seems to be working and 'feeling' together". Definitions of cohesion formulated in the 1960's usually implied that the construct has

something to do with how strongly individuals are attracted to a group, as well as their tendency to remain part of a group.

Festinger, Schachter, and Back (1952, p. 164) were first to define cohesion as “the total field of forces which act on members to remain in a group”. Similarly, LeUnes & Nation (1989, p. 167) defined cohesion as “a dynamic process that is reflected in the group’s tendency to stick together while pursuing its goals and objectives”. Furthermore, Gross and Martin (1952) perceived cohesion as the resistance of the group to disruptive forces. In sum, a cohesive group is one that sticks together and resists external forces to separate members in order to pursue team goals and objectives.

Several definitions of group cohesion have been proposed. Their common thread was that cohesion consisted of two basic dimensions: task cohesion and social cohesion. Widmeyer, Brawley, and Carron (1985) define task cohesion as the degree of unity, consensus, or agreement towards achieving group goals and objectives. For example, a common goal would be winning a championship, which in part depends upon the team’s coordinated effort or teamwork. Social cohesion reflects the degree to which the members of a team like each other and enjoy each other’s company. Members of a team that affiliate regularly with each other outside training sessions and games are likely to experience greater social cohesion. “The distinction between task and social cohesion is conceptually important and helps explain how teams can overcome conflict to succeed” (Weinberg & Gould, 1995, p. 182).

Acknowledging the difference between social and task cohesion is imperative in determining how each might influence performance outcome and player satisfaction.

Research that examines both task and social cohesion report varied findings. That is, a positive relationship between cohesion and performance has been found for task measures of cohesion but not for social measures (Widmeyer & Martens, 1978). Much of the research before 1985 used some form of social cohesion but often had no measure of the task component, which may account for the inconsistent findings. Although McGovern & Henschen (1987) demonstrated that both task and social components were important in fostering success in a team, it was the task dimension that emerged as more significant in this process. Cox (1998) reported similar findings whereby task cohesion was shown to be associated with team success; social cohesion was shown to be somewhat less critical to team success. Similarly, many studies have found a positive relationship between task cohesion and performance (Bird, 1977; Carron & Ball, 1977; Gruber & Gray, 1982; Hacker, 1982; Martens & Peterson, 1971). Other researchers have reported negative relationships between social cohesion and performance (Fielder, 1954; Landers & Leuschen, 1974; Lenk, 1969).

### Conceptual Framework

A conceptual model is an “organised, systematic representation of a phenomenon or construct which cannot be observed” (Widmeyer et al., 1985, p. 13). This model of cohesion is based on the premise that cohesion is dynamic. Carron (1982) developed a conceptual system as a framework for systematically studying cohesion in sport and exercise. His approach to the study of cohesion is illustrated in Figure 1. The model outlines four major antecedents affecting the development of cohesion in sport and exercise settings.

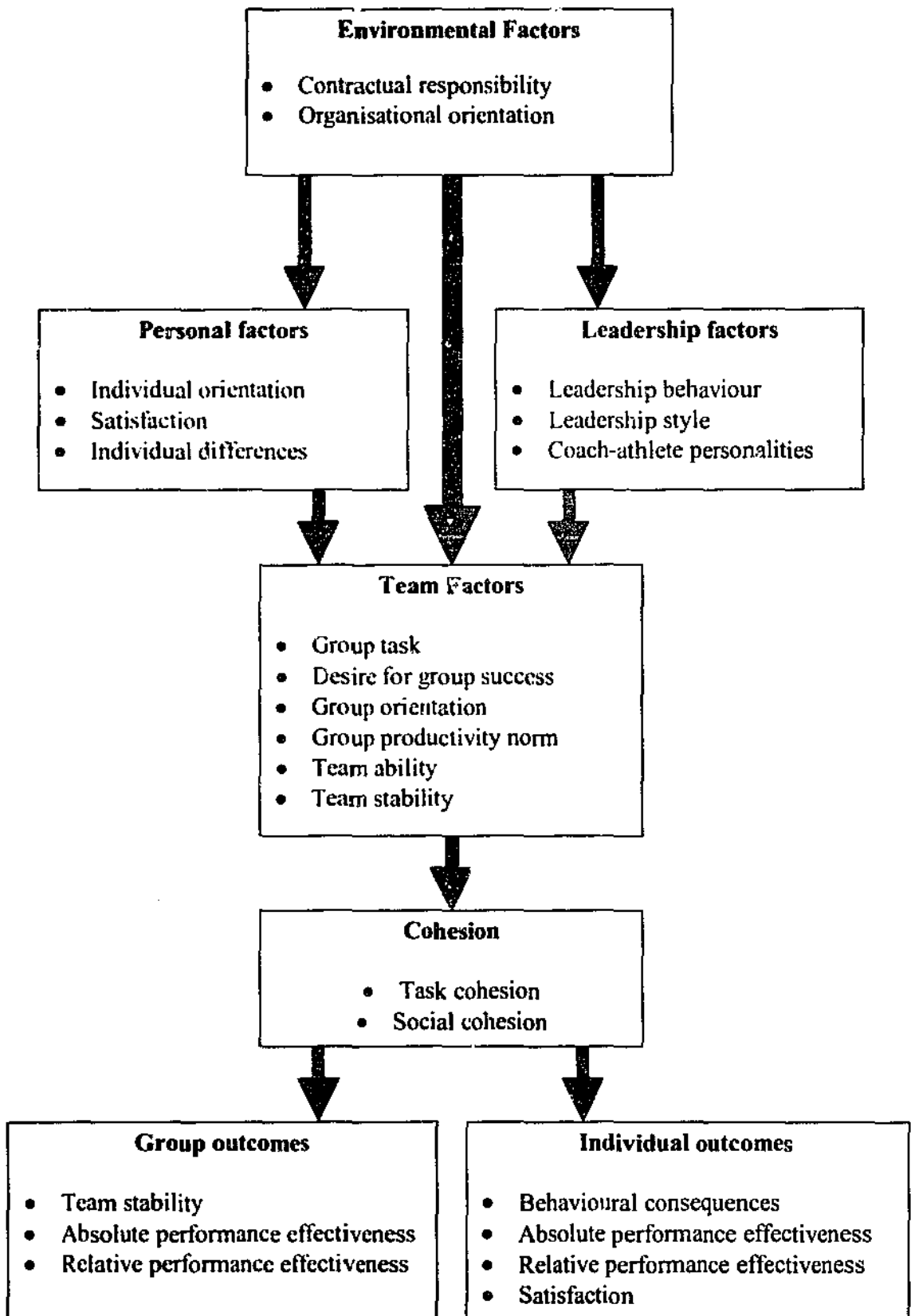


Figure 1. Carron's (1982) conceptual model for cohesiveness in sport teams.

Development of the conceptual model was primarily influenced by two cohesion issues: (a) the need to distinguish between the individual and the group, and (b) the need to distinguish between the task and the social concerns of the group and its members. These issues continually resurface in the literature. Carron's conceptual model helps to clarify the role of cohesiveness in sport teams and provides a framework for research.

### Antecedents of Group Cohesion

Due to the multidimensional nature of team cohesion many factors impact upon its development. A frame of reference proposed by Carron (1982) is used to organise these factors. A number of researchers have been sensitive to a need to examine the impact of various antecedent conditions upon cohesiveness within the sport group. Their approach is an acknowledgement that the effect of cohesiveness upon performance is mediated by four main factors: (a) environmental, (b) personal, (c) leadership, and (d) team factors. In turn, these categories represent a hierarchy of moderators, which proceed from the more general, more remote, less important; to the more specific, more direct, and more important. A brief discussion on each category will follow with an illustration depicting their interrelationship to each other and to cohesiveness shown in Figure 1.

The most general category of factors contributing to cohesiveness tends to be environmental in nature (Carron & Chelladurai, 1982). Environmental or situational factors refer to the social setting, the physical environment, and various structural aspects of the group that contribute to cohesion. Socialization, family expectations, and peer pressure are examples of social environmental factors. According to Morris and Summers (1995, p. 197) environmental factors include the "availability of team sports, eligibility, geographic restrictions, and sporting body organisational structures". Carron (1988) views

the proximity of team members as an important environmental factor in that there is a greater tendency to bond together. He goes on to suggest that scheduling games, which require the team to travel together, is beneficial to cohesion.

Another environmental factor important to team cohesion is group size (Carron, 1988). Later, Carron (1990) found that team size affected levels of cohesion in small to moderate sized groups; that is, in teams with less than nine members. Widmeyer et al. (1985) supports this view indicating that smaller groups have higher interaction and subsequently greater cohesion. They reported that in larger teams there was a tendency for members to form smaller coalitions. In a subsequent study, Carron and Spink (1996) investigated the relationship between cohesion and group size in exercise groups and found that members of small groups reported higher levels of task and social cohesion than members of large groups. Therefore, literature supports that cohesion develops more readily in smaller groups than in larger groups because there is greater opportunity for member interaction

Team member's personal characteristics can influence the amount of cohesion developed in a group. One personal factor often cited as a contributor to cohesiveness is similarity, in terms of (a) attitudes, (b) aspirations, (c) commitment, and (d) ability. Eitzen (1975) suggested that cohesion is facilitated when team members are from similar social backgrounds. Moreover, Hall (1985) views the similarity of social background and personal aspiration as significant personal factors. Viewed as the most important personal factor associated with the development of both task and social cohesion is individual satisfaction. Sources of satisfaction are broad ranging from the quality of competition to social interactions with teammates. Brawley (1990) reports that social background,

gender, attitudes, ability, and commitment are all factors that have differential influences on cohesion. Significant similarity on any or all of these factors creates the opportunity for consensus on the goals and objectives of the teams. "Cohesion rests on agreement on these issues among team members" (Morris & Summer, 1995, p. 198).

Thirdly, the interrelationship between the coach, athlete, cohesion, and performance are complex. The relationship between leadership behaviours and group cohesion has received scant empirical attention. However, the literature supports the role of leaders as imperative in developing team cohesion. Brawley (1990), Carron and Chelladurai (1981), and Westre and Weiss (1991) found the role of leaders vital in developing team cohesion. In particular, the study by Westre and Weiss (1991) on high school football teams, found leaders who involved team members in team decisions helped to develop team cohesion by increasing each player's feeling of ownership and investment. Robinson and Carron (1982) who studied team sports report that coaching style and behaviour hold particular importance for understanding team cohesion. They found perceptions of autocratic style in coaches contributed to athletes feeling negative about involvement, sense of belonging, and feelings of team closeness. More recently the study by Gardner, Shields, Bredmeier, and Bostro (1996) found that in college baseball and softball teams, coaching behaviours positively related to task cohesion.

Clearly, the literature highlights the importance of examining cohesion as a multidimensional construct and provides reason for coaches of elite sport teams to focus particularly on task-related issues. In general, the literature reports that clear and consistent communication between the coach and captain plays an influential role in

cohesiveness. It also has been demonstrated that leaders who involve team members in team decisions (e.g., goal setting, selection of tactics) help to develop cohesion.

Lastly, another important antecedent of team cohesion is team factors; in particular that of shared experiences. Brawley (1990) outlines the role that shared team experiences play in developing or maintaining cohesion. For example, a series of successes or failures creates a shared experience, serving to unify a team, which in turn, can create a climate for increased cohesion (Carron & Ball, 1977; Morris & Summers, 1995). Other team factors such as structure, identity, status, roles, norms, stability, and communication all have been found significantly effect group cohesion (Widmeyer et al., 1985).

#### Consequences of Group Cohesion

While considerable research has investigated the antecedents of cohesion, the focus of most research has addressed the consequences of cohesion and in particular, the consequence of performance outcome. Considerably more sport-related research has been conducted on the consequences of team cohesion than on the antecedents of this variable (Carron, 1988; Widmeyer et al., 1985). Literature to date has acknowledged the apparent link between team cohesion and performance outcome but also has regarded the relationship to be moderated by other factors. The inconsistency in this research has led investigators to consider the possible mediating variables in the cohesion-performance relationship. According to Carron (1982) these variables are consequences of group outcomes or individual outcomes.

Group outcomes are not necessarily based upon performance success. For instance, with higher cohesion, there is greater effort toward the achievement of group



goals (Ball & Carron, 1976). Likewise, lower absenteeism and greater punctuality have been found for both team athletes and exercise group members who perceive high level of group cohesion (Widmeyer, Brawley, & Carron, 1988). Furthermore, with increased cohesion a more stable group organisation and structure appears evident (Grand & Carron, 1982). Other variables that are thought to have effect on the processes of the group include; role clarity (Grand & Carron, 1982), status (Jacob & Carron, 1998), and work output (Oaks, Prapavessis, & Carron, 1997).

It is clear from the literature that many more variables need to be examined in relation to team cohesion to gain greater understanding of this multidimensional construct. For instance, a study by Spink (1990) examined cohesion and collective efficacy in elite male volleyball players. Spink found that individual perception of team cohesiveness (both task and social) was positively related to collective efficacy. Other mediating variables such as exercise adherence (Spink & Carron, 1992), leadership (Eichas, 1994; Shields, Gardner, Bredemeier, & Bostro, 1997), team building (Carron, Spink, Prapavessis, 1997; Smith & Smoll, 1997), participation (Fowler, 1982; Spink, 1995), and competitive state anxiety (Prapavessis & Carron, 1996) are gradually gaining more recognition by researchers. However, the majority of these studies have used samples of elite male athletes. There clearly is a need to examine cohesion in female elite sports so that a greater understanding of cohesion and gender can be established and further developed.

## Multidimensional Nature of Cohesion

The definition proposed by Festinger, Schachter, and Back (1952) views cohesion as the total field of forces causing members to remain in the group. Festinger, Schachter, and Back first recognised the dimensional nature of cohesion. In short, cohesiveness was considered to be bidimensional in nature. This emphasis on bidimensionality was consistent with the longstanding tradition of group dynamic research which views the group as both a source of rewards and a means to rewards. The bidimensional perspective has been acknowledged by various authors (Carron & Chelladurai, 1982; Gill, 1978; Nixon, 1977) in the initial stages of research.

As early as 1971, researchers in group dynamics realised the problems of measuring cohesion in sport from a unidimensional perspective. Their response to this problem was to combine ideas about attraction between individuals in a group, between a group member and his or her group, and concepts about the entire group. An instrument called the Sports Cohesiveness Questionnaire (SCQ) was developed and became the basis for numerous cohesion studies of sport teams between 1971 and 1985.

A study by Martens and Peterson (1971) examined cohesion in college basketball teams by use of the SCQ. Gruber and Gray (1981) also examined cohesion by use of the Team Cohesion Questionnaire (TCQ). Other empirical studies (Carron, 1986; Landers & Crum, 1971; Martens, Landers, & Loy, 1972) employed these measures to examine cohesion as a global construct. By employing only global measures of cohesion, the complex nature of this construct was not clearly understood. For example, a team may be high in task cohesion and low in social cohesion and yet findings would reveal an

overall moderate score. The need to examine underlying dimensions which make up this complex construct have led to proposals for measuring cohesion in its multidimensional form.

### Measurement of Group Cohesion

The extensive literature on team cohesion has utilised an array of instruments. Earlier measurements of cohesion were more focused on the bidimensional nature of cohesion, such as the SCQ and the TCQ. More recently, the measurement of cohesion has progressed to further develop a multidimensional<sup>1</sup> construct. Hence, the necessity for accurate measurement is essential to deliver purposeful information upon the causes and effects of group cohesion in team sports.

The most widely adopted method of measuring cohesion in elite team sports has been the use of various questionnaires. There are four main cohesion questionnaires that have been employed to measure team cohesion. These are:

- (a) Sports Cohesiveness Questionnaire (SCQ) which is based on seven questions, with five questions on social cohesion and two on task related cohesion;
- (b) Task Cohesiveness Questionnaire (TCQ) which contains seventeen questions based on six different variations of team cohesion;
- (c) Sports Cohesion Instrument (SCI) which contains twenty-one questions, based on four different dimensions of team cohesion; and

(d) Group Environment Questionnaire (GEQ) which consists of eighteen questions that examine both task and social cohesion in terms of individual's perception of the group as a totality, and the individual' attraction to the group as they relate to the development and maintenance of group cohesion.

Until the early 1980's, the most common assessment inventory was the SCQ, which remained psychometrically untested, and of its seven aspects only 'teamwork' was not attraction-oriented (Carron, 1982). Fortunately, the SCQ had better face validity than any of the preceding measures and was generally upheld as being a satisfactory direct measure of team cohesion. However, Slater and Sewell (1994, p. 424) state that "only with a sound conceptual and definitive basis can a good operational measure be developed for a construct". Carron's (1982, p. 124) view of team cohesion as a multidimensional construct marked the turning point towards a more valid and rigorous approach to team cohesion. Carron and his co-workers developed a scale that addressed the multidimensional nature of team cohesion and named it the Group Environment Questionnaire.

In this scale, multidimensional perceptions for the group were organised and integrated by individual members into two general categories. The first category, group integration, represents each individual's perceptions of the group as a total unit. The second, individual's attraction to the group, represents each individuals' personal attraction to the group. Both categories relate to perceptions about the degree of unity within the group and are assumed to be manifested in two principle ways: (a) in relation to the group's task, and (b) in terms of the social aspects of the group. Cohesion within sport groups comprises of four components: individual attraction to group-task (ATG-T), group

integration-task (GI-T), individual attraction to group-social (ATG-S), and group integration-social (GI-S).

The GEQ is considered to be the most valid and reliable measure of team cohesion (Anshel, 1997; Henderson, Bourgeois, & LeUnes, 1998; LeUnes & Nation, 1989). In the view of Slater and Sewell (1984) employment of the GEQ provides excellent opportunity for advancing knowledge on the complex nature of team cohesion in sport. More recently this scale has been employed by Matheson, Mathes, and Murray (1997) with female coactive and interactive teams and by Boone, Beitel, and Kuhlman (1997) who employed the GEQ with baseball teams. These studies have examined both task and social cohesion components, as well as overall cohesion. Unlike previous cohesion questionnaires, the GEQ is not a unitary construct. By measuring two dimensions of cohesion the use of this scale enables researchers to demonstrate that a team can be high in task cohesion and low in social cohesion, but still be successful.

In summary, the GEQ is presently recognised as the most valid and reliable form of measuring team cohesion. By examining both task and social cohesion researchers may identify the underlying sources of cohesion. The GEQ not only distinguishes between the task and social cohesion dimensions, but also between individual attraction and group integration perceived by members of the team. While this scale has been employed in elite male sports, researchers largely have ignored its application to elite female sports. Hence, little is known about the complex nature of team cohesion in Australia's most popular female sport.

## Cohesion in the Sport Context

In a national survey by Silva (1982) coaches indicated that cohesion in sports teams was the most frequently cited factor believed to contribute to team success. The prospect that group cohesion improves performance has continued to invite mixed debate with equivocal findings on the cohesion-performance relationship (Gully, Devine, & Whitney, 1995). Literature to date has acknowledged the link between perceptions of group cohesion and indices of performance. Literature has viewed this relationship to be moderated by other factors, such as: (a) group goals, (b) conformity, (c) group size, (d) team stability, and (e) group cliques. Each of these factors, plus many more, contribute to cohesiveness in teams.

Individual commitment to group goals is an important correlate of cohesion. Brawley, Carron, and Widmeyer (1987) and Zander (1971) report that increased cohesiveness leads to heightened commitment by individuals to team goals. This in turn enhances performance. These researchers all found that teams who engaged in goal setting had higher levels of cohesion. As with group goals, conformity within a group appears to be influenced and controlled by each member. Research also has found that the more cohesive the group, the more influence the group has upon its individual members. Weinberg & Gould (1995) reported that group members might feel pressure about clothing style, hairstyle, practice habits or game behavior. Cratty (1984) and Widmeyer et al. (1985) view group size as important, whereby smaller groups are more cohesive than larger groups due to greater opportunity for member interaction.

Stability is another factor that may affect group cohesion. It refers to the turnover rate for group membership as well as the length of time that members have been together in the group. Teams that have been together for an extensive period of time are more likely to be cohesive. However, there is a greater chance for cliques to form. Coalitions and cliques form in sporting teams just as they do in other social and work groups. Cratty (1984, p. 311) states that "collections of people with similar behaviours and opinions often form around a strong team leader, and may reflect temporary norms for action and for social behaviours". However, group cohesion can be enhanced by the degree to which the goals of these coalitions conform to the goals of the team.

All of the factors outlined above have the potential to influence cohesion within a group. It is important that these factors and their influence on team cohesion are recognised when examining the relationship to performance success and player satisfaction.

The following section will review studies that have examined cohesion and performance. However, most of these studies have focused on elite male participants in North American sports. While these have provided useful background to current research, little is known about team cohesion in Australian sports.

### Team Cohesion and Performance Outcome

The effectiveness of sport teams in competition is dependent upon many factors, including the ability of individual members to work together and form a cohesive unit. Supporters, coaches, athletes, and psychologists of sports teams over many years have

been concerned with the relationship between team cohesion and performance success. Reports in the literature have been contradictory. Cohesion and performance have been positively related in some types of sports, but in others researchers have reported negative or no relationship between these two variables. It appears however, that cohesion has emerged as the most important factor in team success in team in interactive teams rather than coactive teams.

### Cohesion-Performance Findings

There is a generally held view that team cohesion and quality of performance are closely linked; cohesive teams appear to win more games whereas teams lacking in cohesion fail to experience success. Research findings however, have been equivocal. Some studies (Bird, 1977; Carron & Ball, 1977; Fowler, 1982; Williams & Hacker, 1982) have found a positive relationship between cohesion and team success. Others however, (Boone, Beitel, & Kuhlman, 1997; Lenk, 1969; Weisen, 1989) have found success not related to team cohesion. Certain studies (Gruber & Gray, 1982; Martens & Peterson, 1971; McGovern & Henschen, 1987) have concentrated solely on task or social constructs of cohesion in relation to performance. One of the reasons for differences in the findings is the nature of the samples and the measurement employed. For example, Martens and Peterson (1971) and Lenk (1969) both employed the SCQ on elite male athletes but found contradicting results. In fact, the nature of the sample for each study was different. Martens and Peterson (1971) examined an interactive team (basketball), while Lenk (1969) examined a coactive team (rowing). By recognising the use of different samples and measurement techniques amongst studies, further accounts for the inconsistent findings can be made.



The importance of examining cohesion as a multidimensional construct allows investigation of both the task and social dimensions and components. According to McGowan & Henschen (1987) and Widmeyer et al. (1985) both task and social cohesion are necessary before optimal performances are achieved. Martens & Peterson (1971) and Carron & Ball, (1977) found a positive relationship between performance and task cohesion. On the other hand, a study by Lenk (1969) on Olympic rowers found a negative relationship between performance and social cohesion.

Cox (1998) is contradictory in summing up the relationship between interpersonal attraction and performance. He states (p. 292) "in terms of performance, interpersonal attraction among team members is not an important goal to strive for". In another sense, he views friendship and attraction among team members as having little bearing on success, but also recognises it as a worth while goal because it leads to feelings of satisfaction. The cohesion-performance relationship remains elusive and considering that most of the studies used male samples, findings may be biased.

It is known that females seek out social relations more than males (Coakley, 1998) and it may follow that in a female sport the social aspects are more important. Beauchesne (1998) supports this statement and found in a study on female lacrosse players, that the team strongly oriented toward interpersonal relationships. Similar findings were reported by Beauchesne, Turner, Brennan, and Hoopengardner (1997) on collegiate women's field hockey teams. Beauchesne (1998) concluded from this study that women are often involved in sport for reasons such as friendship and personal enjoyment. There is clearly a need to examine the cohesion-performance relationship in women's sporting teams as well men's sporting teams.

Different measures of cohesion have also led to inconsistent findings in previous research. Much of the research before 1985 used some measure of social cohesion but often had no measure of task cohesion. For example, both the SCQ employed by Martens and Peterson (1971) and the TCQ employed by Gruber and Gray (1981) failed to tap into the task dimension of cohesion. Rather, these findings were only in terms of cohesion as a global construct. When comparing studies on cohesion-performance relationship, it is important to identify the type of measurement used in order to make accurate comparisons and conclusions.

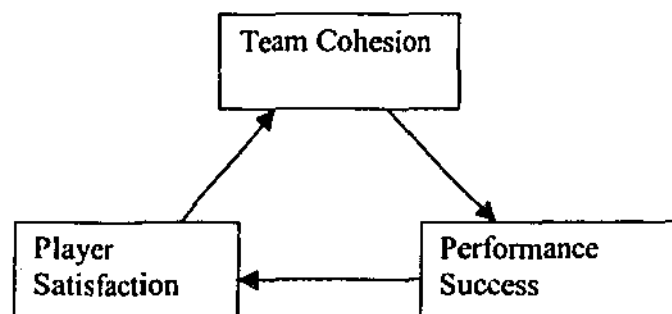
It is clear from the literature that the sport cohesiveness research contains many methodological flaws. Nevertheless, it can be tentatively suggested that cohesiveness; defined and measured as attraction to group, is positively related to success in interactive sport teams. There is much to be learned about cohesiveness and group dynamics in sport teams, in particular the cohesion-performance relationship. Findings from the present study will help clarify the cohesion-performance relationship in the interactive sport of netball.

### Team Cohesion and Player Satisfaction

Player satisfaction is concerned with how content and/or pleased a member is within a team (Martens & Peterson, 1971). Carron (1993) regards individual satisfaction as the most important personal factor associated with the development of both task and social cohesiveness in sport teams.

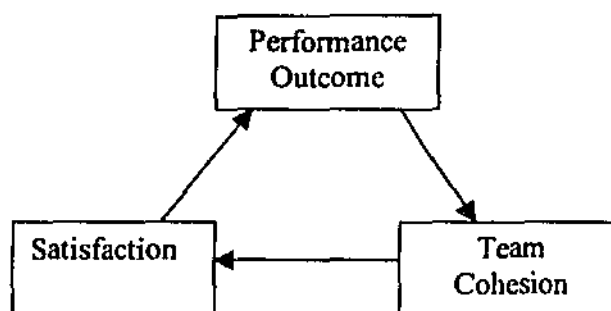
Satisfaction is derived from many sources in sport. Williams & Widmeyer (1991) view the quality of competition as one element; having opportunity for social interaction with teammates and a perception that one is improving in skill is another. In a study by Hacker (1982) on female hockey players, their satisfaction emerged from a variety of factors: (a) affiliation, (b) task completion, (c) coach-athlete relationship, and (d) group cohesion. It was also reported that athletes needed to feel they were improving in skill and developing as an athlete in order to be satisfied. Satisfaction is not just personal justification, but recognition from others, such as (a) parents, (b) coaches, (c) teammates and, (d) the public. When these elements are satisfying, cohesiveness is enhanced.

Two different models are used to explain the relationship between cohesion, performance, and satisfaction (LeUnes & Nation, 1989). The first model hypothesizes a circular relation in that team cohesion brings about team success, which satisfies the members and hence increases the cohesiveness of the teams (see Figure 2).



**Figure 2.** Proposed Circular Relationship between Cohesion, Performance, and Satisfaction.

The second model hypothesizes that performance success leads to higher cohesion, which in turn creates satisfaction for members (see Figure 3).



**Figure 3.** Proposed Circular Relationship between Performance, Cohesion, and Satisfaction.

Whilst the present study was not examining causality, this notion illustrates the dynamic nature of cohesion in relation to team performance and player satisfaction.

The satisfaction experienced by team members depends upon the compatibility of individual's goals with those of the team. In addition to this, individual satisfaction is dependent on how close the team's efforts have been to achieving their goals and objectives. The literature supports the view that the degree of cohesion in a sports team is often related to member satisfaction.

For example, Carron and Chelladurai (1981) found a positive relationship between team cohesion and player satisfaction among interactive teams. Member satisfaction as the result of winning or meeting performance expectations has been shown to enhance cohesion. In a study on intercollegiate male basketballers, Cratty (1984) found player satisfaction low after a series of losses. In contrast, they found that success over a season brought team members together. The literature indicates a positive relationship between cohesion and satisfaction. Research by Fowler (1982) on female basketball players found that winning team members were more cohesive than losing team members and in turn,

were more satisfied. Similarly, Widmeyer et al. (1985) found that team performance influenced player satisfaction, however this study examined male subjects. Martens and Peterson (1971) reported similar findings on college basketball teams. They proposed a circular relationship between cohesion, performance, and satisfaction. It appeared from their study that the degree of satisfaction an individual derives from participation in a sport with a particular group is of equal importance to the number of games won or lost.

There are studies that fail to support a positive relationship between team cohesion and player satisfaction. For example, a study by Williams and Hacker (1982) on female intercollegiate field hockey players found no evidence to suggest that satisfaction led to an increase in performance success. On the other hand, performance success was found to improve player satisfaction.

In the view of Cratty (1989) the level of satisfaction experienced by an athlete when working on a team is dependent on how closely the team's efforts have come in achieving the goals the athlete originally projected for the group. Williams and Hacker (1982) suggest that satisfaction may be a mediating variable between team cohesion and performance outcome. Both cohesion and satisfaction can be either a cause or effect of performance. It can be concluded from reports in the literature that successful teams express greater satisfaction and as a consequence, there is an increase in cohesiveness. It is likely therefore, that playing on a cohesive team is more satisfying than playing on a non-cohesive team.

## Netball as an Interactive Sport

The game of netball originated as an offshoot of the interactive game, basketball. Basketball began in the United States of America in the 1890's. Basketball was taken up as a sport in England as well, and by 1897 women were playing the game on grass courts. In 1898 some changes were made to basketball and this resulted in the first appearance of the game of netball. Netball has progressed dramatically over the century and is classified as an interactive sport requiring team members to work together and fulfil positional roles to achieve the goals and objective of the game.

The nature of sporting teams and the interaction among team members can be characterised along a continuum, from interactive to coactive. Research in team cohesion has focused on distinguishing differences between coactive teams and interactive teams in terms of cohesion and performance. Morris and Summers (1995, p. 201) define interactive dependent tasks as "those in which members are mutually dependant on each other" (Morris & Summers, 1995, p. 210). Football, netball, basketball and hockey are examples of interactive team sports. Coactive dependent tasks as "those in which members perform similar tasks simultaneously and a collective performance contributes directly to team effectiveness". Swimming, gymnastics, and rowing are examples of coactive team sports. The distinction between interactive and coactive tasks further enhances understanding the complex cohesion-performance relationship.

Much of the research reports a positive relationship between cohesion and performance in interactive teams (Carron, 1982; Gruber & Gray, 1982) and a negative

relationship between cohesion and performance in coacting teams (Carron, 1988; Cox, 1998; Matheson, Mathes & Murray, 1997).

Interactive sports require team members to work together and co-ordinate their actions. Positive cohesion-performance relationships have been reported more often for team sports that require extensive interaction and co-ordination between team members than those that are coactive. For example Gruber & Gray (1981) in a study on male basketball teams reported a positive relationship between cohesion and performance. Similarly, Ball and Carron, (1976) reported positive findings in their study on hockey players and Bird (1977) with volleyball players. Martens and Peterson (1971) completed a study with male basketball players and found that highly cohesive teams won significantly more games than did low cohesive teams. In sum, there is strong support for male team sports that require extensive interaction, co-ordination, and co-operation among team members. There are however, few recent studies that have adopted a multidimensional approach to understanding the complexity of cohesion. Furthermore, it is clear that female sports have been ignored in the quest for increased knowledge of team cohesion.

Coactive sports require little, if any team interaction and co-ordination to achieve their goals. While much of the research has concluded no relationship between cohesion and performance in coactive sports, some researchers disagree. For example, Williams and Widmeyer (1991) in their study on track and field found that cohesion was positively related to performance in a coactive sport. An early benchmark study on West German Olympic rowers, completed by Hans Lenk in 1969, found that despite minimal cohesiveness in the group, performance success was experienced at elite level. Although there are some reports supporting this finding, it appears from the literature that team

cohesion is more likely to be positively related to performance success in interactive teams rather than coactive teams.

It appears that in elite male sports cohesiveness defined and measured as attraction to group is positively related to success in interactive sport teams. However, no empirical research has been carried out with netball teams. Considering the prestigious international profile of netball both at elite and recreational levels, there is a clear need to investigate team cohesion in this sport. Examining team cohesion in netball will not only provide new insight but will also help develop the present knowledge of team cohesion in an exclusive female interactive sport.

#### Summary

Group cohesion is an integral factor in forming a group of individuals into a team. Research suggests that a cohesive team is more likely to contain satisfied players and more likely to succeed. A team with minimal cohesion is more likely to be unsuccessful and as a result, have unsatisfied players.

The review of literature clearly elucidates the importance of investigating the links between team cohesion, performance outcome, and player satisfaction. While there is evidence supporting the positive relationships among cohesion, performance, and player satisfaction, little is known about these relationships in netball. Furthermore, by examining satisfaction in relation to cohesion in a female sport, the relative importance of task and social cohesion can be identified. Previous research in team cohesion has focused mainly on North American male sport. By examining team cohesion, performance



outcome, and player satisfaction in Australia's premier female sport, findings from this study will establish practical guidelines which will assist coaches in developing appropriate training programs for elite netball players.

## CHAPTER 3

### METHODOLOGY

This research consists of three interrelated studies. The first study examines differences between successful and unsuccessful teams on overall team cohesion, task cohesion, and social cohesion. The second study investigates the relationship between team cohesion and player satisfaction. The relationship between player satisfaction and performance outcome is addressed in the third study. Methodology used was approved by the Human Rights Committee of Edith Cowan University.

#### Subjects

Seventy-two female subjects ranging from 15 to 33 years of age ( $M = 20.9$ ) were selected from the first and second divisions of the Western Australian 'Quit' State Netball League. Subjects were selected from six teams according to their win/loss ratio. They were elite players, representing the top 8% of netballers in Western Australia. Three teams with the highest win/loss ratio were selected and categorised as "successful". Three teams with the lowest win/loss ratio were selected and categorised as "unsuccessful" (see Appendix C). Each team comprised of twelve elite players each of whom agreed to participate in the study. Prior to data collection, each participant completed a consent form. Participants under the age of 18 years also were required to obtain parental permission. The mean return rate granting permission to participate in the research was 100%.

## Measures

### Team Cohesion

The Group Environment Questionnaire (GEQ), devised by Widmeyer et al. (1985) was employed to measure team cohesion in terms of overall cohesion, task cohesion, and social cohesion. Additionally, task and social cohesion are assessed by four components: (a) attraction to group-task (ATG-T), (b) attraction to group-social (ATG-S), (c) group integration-task (GI-T), and (d) group integration-social (GI-S).

The GEQ is an 18-item questionnaire scored on a 9-point continuum, anchored at the ends by “strongly agree” and “strongly disagree” (see Appendix B). According to Brawley, Carron, and Widmeyer (1987), the GEQ reflects good content validity, concurrent validity, predictive ability, internal consistency, preliminary factorial validity, and task focus validity for team sports. Li and Harmer (1996) re-evaluated the GEQ and found consistent factorial construct validity and composite reliabilities as adequate. In sum, the characteristics of the GEQ are that it is (a) generalizable to a large cross-section of sport, (b) reliable across samples, and (c) possesses more than one form of validity.

The GEQ was derived from a conceptual model that considers cohesion to be a multidimensional construct. Whilst recognising the instrument does not assess all facets of cohesion nor a specific level of cohesion, it is multifactorial in that it examines four different aspects of cohesion. Studies in this area have reported valid and reliable findings to support the administration of the GEQ to sporting teams.

### Performance Outcome

An absolute measure of team success was calculated in terms of a win/loss ratio. Teams with the highest win/loss ratio were those that had won the most amount of games and lost the least amount of games. These teams represented the “successful” group. Teams with the lowest win/loss ratio were those who won the least amount of games and lost the most amount of games. These teams were categorised as “unsuccessful” (see Appendix C).

### Player Satisfaction

Player satisfaction was measured by a single-item questionnaire. Participants were asked to rate how satisfied they were within their team on a scale of 1 (very unsatisfied) to 9 (very satisfied). In addition, an open-ended question was employed to provide reason for their perceived rating of satisfaction (see Appendix B). Participants were required to respond to the single-item questionnaire for statistical purposes.

### Procedure

The data collection period was four weeks. The pilot study was carried out two months prior to data collection. This preliminary study revealed some problems relating to administering the questionnaire, data analysis process, and response bias. Indecision by some subjects in completing all items on the questionnaire also caused problems.

As a result of the pilot study, several adjustments to procedures were made. A written summary of the procedure of administering the questionnaire was completed. Prior to administration of the questionnaire the investigator emphasised that she was

collecting the data for research purposes, and that objectivity and confidentiality would be strictly maintained. Provisions were made for checking procedures to ensure all subjects completed each item.

### Stage One: Contact with Netball Clubs and Coaches

Head coaches of the selected teams granted initial permission to carry out the research with their respective teams. The proposed research was discussed with the head coach of each team, who sought co-operation from the assistant coach or manager. Head coaches then received a formal letter providing information on the purpose, methods, and procedures of the proposed research (see Appendix A). They also were informed that the process of collecting the data needed to be completed at a training session and not before or after a game.

Within the letter, the coaches were asked to liaise with the researcher in order to establish a suitable training time for data collection. Provision also was made for contact with the researcher throughout this period to answer any questions or queries or to meet in person.

### Stage Two: Distribution of Permission Forms

At each training session the researcher clearly explained the meaning of the word “survey” and described, in a non-threatening manner, the purpose of the project as a means of gaining information about group environment and group processes in netball teams. Both personal permission and parental permission sheets were distributed and collected by coaches, allowing three weeks for their return. Verbal reminders aided in an optimal return rate of seventy-two permission forms.

### Stage Three: Administration of the Questionnaire

The questionnaires were administered at training sessions. Prior to handing the questionnaire to the participants, a roll check was made to ensure that each participant had completed a permission form and were present. Given the roll check, each subject was supplied with a pencil or pen and a questionnaire. The researcher instructed the participants to complete the questionnaire independently and encouraged them to respond freely without interference or distraction. The procedure again was described as a survey, not a test, with no right or wrong answers. No mention was made of cohesion in (a) the title of the questionnaire, (b) in the individual scales, (c) in the individual items, or (d) in the instructions to respondents. Withholding the nature of the instrument served to reduce the likelihood of response bias. Furthermore, the specific purpose of the questionnaire was not outlined prior to its administration. On completion of the questionnaire the subjects were thanked for their cooperation in the study.

### Design and Analysis

#### Study One

The impact of team cohesion as an overall construct on performance outcome was examined by an independent samples  $t$ -test. A one-way MANOVA was performed on the overall task cohesion dimension and performance outcome. Similarly, a one-way MANOVA was performed on the overall social cohesion dimension and performance outcome. The attraction to group and group integration components of task and social cohesion were examined by a 2 (Performance) x 4 (Cohesion) ANOVA.

### Study Two

Overall team cohesion and player satisfaction was examined by Pearson product moment correlation. Further correlations were performed to test for a relationship between both task and social components of cohesion, and player satisfaction. As for study one, task and social cohesion was assessed in terms of (a) attraction to group, and (b) group integration components. Additionally, a single-item questionnaire and a follow up open-ended question were used to identify major sources of satisfaction perceived by players. This question required participants to explain and elaborate upon their perceived rating of satisfaction.

### Study Three

Similar to study two, a Pearson product moment correlation was performed to test for a relationship between performance outcome and player satisfaction. In addition, a qualitative research approach was taken to obtain in-depth information regarding player satisfaction. Use of the follow up open-ended question proved beneficial in obtaining reasons and sources of satisfaction from players in both successful and unsuccessful teams.

## CHAPTER 4

### RESULTS AND DISCUSSION FOR STUDY ONE: PERCEIVED COHESION IN SUCCESSFUL AND UNSUCCESSFUL NETBALL TEAMS

This chapter is divided into two parts: the first part presenting the results for study one, followed by a discussion of the results in the second part. The research question for study one sought to examine whether successful teams differed from unsuccessful teams on overall team cohesion, task cohesion, and social cohesion. Furthermore, the attraction to group and group integration components of both task and social cohesion were examined. By investigating cohesion as a multidimensional construct, this research provides a complex analysis of the dimensions that are important in contributing to the overall cohesion of the team.

#### Results for Study One

Several analyses were performed to examine differences between successful and unsuccessful teams on team cohesion. First, an independent samples *t*-test was carried out to test for a difference between successful and unsuccessful teams on overall cohesion scores. Second, a one-way MANOVA comparing successful and unsuccessful teams was performed on the combined task cohesion scores. This was followed by separate ANOVAs on the two task components of cohesion. Third, a one-way MANOVA comparing successful and unsuccessful teams was performed on the combined social cohesion scores.



The independent samples  $t$ -test yielded no significance difference between successful and unsuccessful teams on overall team cohesion,  $t(70) = 1.323, p = .190$ . Means and standard deviations for overall cohesion scores for successful and unsuccessful teams are provided in Table 1.

**Table 1**  
**Means and Standard Deviations of Overall Cohesion for Successful and Unsuccessful Teams**

Cohesion	Successful		Unsuccessful	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Overall Team Cohesion	6.47	0.92	6.16	1.07
Overall Task Cohesion	7.42	1.08	6.37	1.24
Overall Social Cohesion	5.52	1.19	5.94	1.16

With the use of Wilk's criterion, the MANOVA performed on the combined task cohesion scores revealed a significant difference between successful and unsuccessful teams,  $F(2, 69) = 7.330, p = .001$ . To determine whether successful and unsuccessful teams differed on components of task cohesion, separate ANOVAs were performed on the components of task cohesion. There was a significant difference between successful and unsuccessful teams on the ATG-T component,  $F(1, 70) = 7.907, p = .006$ , and a significant difference between successful and unsuccessful teams on the GI-T component,  $F(1, 70) = 13.299, p = .001$ . The means and standard deviations of the cohesion component scores for successful and unsuccessful teams are reported in Table 2.

With the use of Wilk's criterion the MANOVA performed on the combined social cohesion scores revealed no significant difference between successful and unsuccessful teams,  $F(2, 69) = 1.424, p = .248$ . Separate ANOVAs were not performed on the components of social cohesion due to the nonsignificant MANOVA results. The means and standard deviations for overall cohesion scores in successful and unsuccessful teams are reported in Table 1. Table 2 provides the means and standard deviations for the cohesion component scores for successful and unsuccessful teams.

Table 2  
Means and Standard Deviations of the Cohesion Components for Successful and Unsuccessful Teams

Group		Cohesion Components			
		ATG-T	GI-T	ATG-S	GI-S
Successful	<u>M</u>	7.74	7.09	6.25	4.80
	<u>SD</u>	0.98	1.49	1.16	1.50
Unsuccessful	<u>M</u>	6.87	5.88	6.71	5.17
	<u>SD</u>	1.58	1.31	1.18	1.65
Total	<u>M</u>	7.30	6.49	6.48	4.98
	<u>SD</u>	1.37	1.52	1.19	1.57

Note. ATG-T = attraction to group-task; GI-T = group integration-task; ATG-S = attraction to group-social; GI-S = group integration-social.

## Discussion for Study One

Study one addresses the question “Do successful and unsuccessful teams differ in (a) overall team cohesion, (b) overall task cohesion including ATG-T, GI-T components, and (c) overall social cohesion and ATG-S, GI-S components?” It reveals that successful and unsuccessful teams do not significantly differ in overall team cohesion. Importantly, this study went further by examining the multidimensional nature of cohesion by use of the GEQ. Successful and unsuccessful teams differ in overall task cohesion and also on each task component (ATG-T, GI-T). However, there is no significant difference between successful and unsuccessful teams in overall social cohesion and components (AGT-S, GI-S).

In the past, researchers have examined team cohesion as a global construct. More recently, a multidimensional approach is employed to examine the complex nature of team cohesion. Study one shows no significant difference between successful and unsuccessful teams on overall team cohesion. While descriptive statistics in this study indicate that successful teams are higher in cohesion than unsuccessful teams, these differences are not significant.

Findings from this study support previous research (Boone, Beitel, & Kuhlman, 1997; Davids, & Nutter, 1988; Lenk, 1969; Weisen, 1989) in that no significant difference is reported between successful and unsuccessful teams on cohesion. By contrast, the majority of studies examining the cohesion-performance relationship do report positive findings (Carron & Ball, 1977; Klein & Christensen, 1969; Williams & Hacker, 1982). This contrast in findings may be due to differences in (a) sample size, (b) type of group

(interactive or coactive), (c) type of sport, and (d) use of male or female subjects. The only similarity among reported studies is the use of elite team sports in the samples.

The findings of no significant difference between successful and unsuccessful teams in overall team cohesion in this study is important because no previous research on overall cohesion and performance outcome has been carried out in elite netball teams. While comparisons can be made between this study and more recent ones that have adopted the GEQ, the results provide new and original findings upon the cohesion-performance relationship.

While successful and unsuccessful teams did not differ on overall team cohesion, this study clearly demonstrates that successful and unsuccessful teams differ in task cohesion. By utilising the GEQ, further examination of the task and social dimensions of cohesion can be performed. This method of analysis elucidates the important links between performance outcome and dimensions of team cohesion.

The findings of study one support previous research linking task cohesion and performance outcome. For example, Carron (1986) reported that groups high in task cohesion identify closely with formal group goals and experience success in obtaining these goals. Similarly, Mullen and Copper (1994) report that cohesion-performance effect is due primarily to commitment to task rather than to interpersonal attraction to group pride. Researchers (Jacob & Carron, 1998; McGovern & Henschen, 1987; Widmeyer & Martens, 1978; Williams & Widmeyer, 1991) report task cohesion to be of greater importance to performance outcome than social cohesion. However in their studies larger samples are used. Additional research by Martens and Peterson (1971); Carron and Ball

(1977); and Klein and Christensen (1969) all report significant findings between task cohesion and performance outcome, again in elite male sports. The present study not only contributes to the literature linking task cohesion to performance success, but also provides empirical evidence of the importance of task cohesion with elite female athletes.

The findings that task cohesion is linked with performance success is of particular importance to coaches of netball. From an intuitive perspective these findings make sense, especially as they support current findings between task cohesion and performance. In netball, a team's success depends on all members working closely together on task demands. For example, effective defensive skills such as switching players, calling out screens, and blocking out for rebounds require members to work together. An efficient attack line requires precision passing, movement in confined spaces, and preliminary movements. These manoeuvres require close teamwork, with members understanding their roles and having common goals all of which are task orientated. Clearly, the present study supports the findings reported in the literature that task cohesion is more closely related to performance than social cohesion.

Results of study one report no significant difference between successful teams and unsuccessful teams on either overall social cohesion or attraction to group and group integration social components. Interpretation of the results suggest that social cohesion is not important nor is it influential to team success. Studies that have utilised the GEQ find that social cohesion is less important in the development of performance success than task cohesion. Only recently, since the development of the multidimensional nature of the GEQ, have studies investigated the cohesion-performance relationship in terms of both task and social components. The findings of this research are consistent with similar

studies examining interactive teams that find social cohesion to be of no importance (Fielder, 1954; Landers & Leuschen, 1974). Other researchers (Cox, 1998; & Lenk, 1969) also report no significant difference between social cohesion in successful teams and unsuccessful teams in social cohesion. Cox (1998, p. 298) states "in terms of performance, interpersonal attraction among team members is not an important goal to strive for". Cox (1998) further indicates that friendship and attraction among team members has little bearing on success. Other researchers express a different view. Widmeyer et al. (1985) indicate that the benefits of high social cohesion may not be so significant to performance, but is important for increasing self-esteem, decreasing anxiety, and increasing degree of satisfaction.

The findings of study one contrast with those of Slater and Sewell (1994) who found social cohesion more highly associated with performance than task cohesion measures in university hockey teams. In particular, Slater and Sewell found the social cohesion components to be of significant influence, and impact upon the overall social cohesion.

This study clearly demonstrates the need to examine cohesion as a multidimensional construct. It is imperative to measure the multidimensional nature of cohesion in order to discover the effect of task and social cohesion. Only in the last decade have researchers recognised the importance of investigating both task and social dimensions with equal emphasis. This study contributes to current research findings which indicate that coaches should emphasise and develop task rather than social cohesion in developing team success.

Considering that findings from this study report task cohesion as important to team success, several strategies can help make it happen. Coaches must acquaint players with responsibilities of their teammates, preferably task in nature. For example, roles and responsibilities that involve organising team activities, half court games, identifying areas of improvement in their game. Coaches and players should set goals, both task and social in nature, that are likely to help develop team success. Coaching staff should continually re-assess training sessions, for task cohesion is developed at this time. They should also provide variety in task orientated activities, such as warm-ups and ball work. Providing training sessions are kept interesting and constructive, task cohesion will be enhanced.

### Summary

Examining task and social cohesion in relation to performance outcome serves to provide many practical and theoretical implications for sport scientists and netball coaches. This study clearly demonstrates the need for coaches of elite netball teams to adopt a variety of strategies to enhance task cohesion. Training sessions should not only be task oriented in nature but they must stimulate interest among players. By varying the nature and organisation of the training session, a sense of challenge and determination will resurface, if lacking in previous sessions. Coaches must keep athletes interested, attending, extending effort, and contributing for the future development of team cohesion. Not only does this study contribute unique findings, it further emphasises the need for future researchers to adopt a multidimensional measure which examines both task and social cohesion, and identifies between individual attraction and group integration components.

## CHAPTER 5

### RESULTS AND DISCUSSION FOR STUDY TWO: THE RELATIONSHIP BETWEEN TEAM COHESION AND PLAYER SATISFACTION

The purpose of study two was to examine the relationship between overall team cohesion and player satisfaction. Player satisfaction was examined in relation to (a) overall team cohesion, (b) task cohesion, and (c) social cohesion. Player satisfaction was also examined in relation to the attraction to group and group integration component of task and social cohesion. Importantly, a player's satisfaction was measured in two ways. A single-item questionnaire established how satisfied a player was within their team on a scale of 1 (very unsatisfied) to 9 (very satisfied). In addition, a follow up open-ended question was employed. This required the participants to elaborate upon their perceived level of satisfaction.

#### Results for Study Two

The Pearson product moment correlation between player satisfaction and overall cohesion was not statistically significant,  $r(70) = .152$ ,  $p = .202$ . A significant relationship was found between player satisfaction and overall task cohesion,  $r(70) = .251$ ,  $p = .034$ . The relationship between player satisfaction and each task component was also examined by Pearson product moment correlation. There was a significant relationship between player satisfaction and Attraction To Group-Task component,  $r(70) = .327$ ,  $p = .005$ . However, the relationship between player satisfaction and Group Iintegration-Task component was not statistically significant,  $r(70) = .122$ ,  $p = .307$ .



For the Attraction To Group-Social component, there was no significant relationship with player satisfaction,  $r(70) = .063$ ,  $p = .599$ ; nor was there a significant relationship between the Group Integration-Social component and player satisfaction,  $r(70) = .064$ ,  $p = .595$ . Therefore, overall social cohesion was not significantly related to player satisfaction,  $r(70) = .011$ ,  $p = .930$ .

### Discussion for Study Two

Study two investigated the relationship between team cohesion and player satisfaction. More importantly, this study went further by examining the relationship in terms of both task and social dimensions of team cohesion and the group components. The findings reveal that player satisfaction is related to task cohesion only. As with study one, task cohesion emerges as more important than social cohesion. Task cohesion is significantly related to player satisfaction, in particular the ATG-T component. Furthermore, player satisfaction is not related to overall social cohesion or the social cohesion components. Therefore, the findings of study two reveal no significant relationship between player satisfaction and overall team cohesion.

The results of this study are on the one hand consistent with the views of Shaw (1976) & Klein and Christensen (1969) but contrast with many other findings reported in the literature. Shaw (1976) suggests that low cohesive groups engage in more positive interactions, exert greater influence over their members, and are more satisfied than high cohesive groups. Klein and Christensen (1969) report the degree of satisfaction between players determines the level of cohesion. In contrast, significant positive relationships are reported between cohesion and satisfaction by other researchers (Carron & Chelladurai,

1982; Williams & Hacker, 1982; Martens & Peterson, 1971). In the view of Martens and Peterson (1971) greater satisfaction leads to higher levels of cohesiveness. Similarly, other researchers (Cratty, 1984; Ruder & Gill, 1982) report positive links between cohesion and satisfaction for male basketball and female volleyball teams respectively.

When examining the cohesion-satisfaction relationship some researchers also examine performance outcome. Morris and Summers (1995, p. 199) identified performance outcome as a mediating factor within the cohesion-satisfaction relationship. They discovered “team performance dictated the level and type of cohesion within the team and also had a major influence on the team motivation and team members satisfaction”. They further stated that “successful teams expressed greater satisfaction and consequently increased cohesiveness”. Upon examination of the literature, task and social components are largely neglected. Most of literature examines overall cohesion in relation to player satisfaction. Not only is it important to examine both task and social components of cohesion, but researchers may learn more about the complex nature of this construct by use of causal modelling techniques. According to Williams and Hacker (1982) satisfaction may be the mediating variable between team cohesion and performance success.

The present study further emphasises the importance of task cohesion in relation to player satisfaction. This finding will assist sports scientists and coaches in identifying areas of need in training regimes and group activities. For example, coaches should focus on creating task cohesion in the pre-season. Moreover, coaches should organise pre-season competition with teams of less ability and skill, so that success is experienced.

Consequently, satisfaction results early on and is likely to permeate through to the commencement of the season.

### Summary of Study Two

In sum, the literature supports that both cohesion and satisfaction can be either a cause or effect of performance. While causality was not a consideration in this study, the findings demonstrate the importance of task cohesion in player satisfaction in netball. Considering the general theoretical expectation, greater satisfaction with increase cohesiveness, findings from this study are very significant in establishing a foundation of the cohesion-satisfaction relationship in elite netball teams. As with study one the results of this second study provide further evidence that task cohesion is important. Coaches need to be cognizant of planning for task cohesion to enhance levels of player satisfaction.

## CHAPTER 6

### RESULTS AND DISCUSSION FOR STUDY THREE: THE RELATIONSHIP BETWEEN PERFORMANCE OUTCOME AND PLAYER SATISFACTION

Study three investigated the relationship between performance outcome (i.e., successful teams vs unsuccessful teams) and player satisfaction. This study also evaluated the sources of satisfaction perceived by players. Pearson product moment correlation was performed on performance outcome and player satisfaction. This study measured player satisfaction as a unitary rather than as a multidimensional construct by use of an open-ended question. This provided useful information regarding the sources of satisfaction perceived by elite netballers.

#### Results for Study Three

The Pearson product moment correlation between player satisfaction and performance outcome was statistically significant,  $r(70) = .24, p = .038$ . Players from successful teams had higher satisfaction scores than players from unsuccessful teams and vice versa. The open-ended question recognised sources of satisfaction perceived by players. Overall, players who were satisfied contributed this to team success, personal performance, and team organisation. In particular, successful teams derived their satisfaction from (a) winning, (b) team communication and care, (c) team commitment, and (d) the opportunity to improve as a player. In contrast, players from unsuccessful teams were satisfied from the opportunity to (a) play in an elite competition, (b) socially interact, and (c) improve as a player. This lends support to the importance of employing deeper insight into reasons for players perceived level of satisfaction.

### Discussion for Study Three

The main purpose of study three was to examine the relationship between performance outcome and player satisfaction. Findings from this study report a positive relationship between these two variables. A secondary aim was to establish the major sources of satisfaction held by players in successful and unsuccessful teams. In the main, findings from this study support the research investigating the relationship between performance outcome and player satisfaction in female sport.

In the view of many coaches, performance outcome and player satisfaction are closely related. While findings from the present study support this view, they also provide in depth reasons for players' satisfaction. Study three employs a single-item satisfaction questionnaire with a follow up open-ended question. The open-ended question is important in gaining insight into the factors that influence the degree of satisfaction. In the main, players from successful teams are more satisfied than players from unsuccessful teams, supporting research findings in the literature (Fowler, 1982; Hacker, 1982; Martens & Peterson, 1971; Riemer & Chelladurai, 1998).

Players from successful teams perceived team success as their major source of satisfaction. In contrast, players from unsuccessful teams derived satisfaction from the opportunity to participate at an elite level and improve as a player. The results of this study support the findings of Martens and Peterson (1971) in their study on intercollegiate basketball players. These findings are also consistent with the work of Chelladurai (1984) who reports player satisfaction positively related to performance outcome. Findings from both the literature and this study suggest that players are more likely to be satisfied if

experiencing team success. Ultimately, players experiencing team success and individual success are likely to experience even greater levels of satisfaction.

Interpretation of the results is elucidated by the use of an open-ended question. Findings from this question reveal major sources and possible causes of satisfaction. Successful teams contained satisfied players due to (a) team success, (b) intra-team communication and care, (c) team commitment, and (d) opportunity to improve as a player. These findings are consistent with the work of Hacker (1982) who studied sources of satisfaction with intercollegiate female hockey teams. Subsequently, findings from the present study report players from unsuccessful teams tend to derive their satisfaction from the (a) opportunity to develop as a player, (b) opportunity to participate at an elite level, and (c) social interaction. In contrast to the present study, Williams and Hacker (1982) found there to be no relationship between performance outcome and player satisfaction in female hockey players.

Study three also demonstrates that not all players in successful teams are entirely satisfied. Similarly, not all players in unsuccessful teams were unsatisfied. Players in successful teams attribute their dissatisfaction to (a) athlete-coach relationship, (b) player absenteeism, (c) lack of determination, and (d) team instability. These factors in turn affect levels of team cohesion. However, players in unsuccessful teams attributed their satisfaction to (a) the opportunity to play, (b) make new friends, and (c) further develop as a player. In this study, the combined use of qualitative and quantitative techniques is important in determining the major sources of satisfaction. Questionnaires, while useful with larger samples, may not always enable researchers to tap responses on an individual level. By using additional individualised and open-ended techniques, coaches may further

their knowledge and understanding of the individual needs of every player. It also points to the need that elite netball players are not satisfied by participation alone; winning does play a main role in their satisfaction. However, there are many other factors that provide ongoing sources of satisfaction to players.

The findings from study three further emphasise the importance of examining satisfaction on an individual basis. By use of an open-ended question it clearly identifies to coaches the sources of satisfaction perceived by each individual team member. The coach must confront and meet with players on an individual basis to develop personalised and specific programs tailored to the satisfaction requirements of the player. This study further demonstrates to coaches that players are not only to be most satisfied from winning, but when the team is stable, communicating, and relations between the players and coaching staff are high.

### Summary

Results from study three supports current research that indicates a positive relationship between player satisfaction and performance success. Moreover, findings from this study demonstrate the importance of utilising both quantitative and qualitative research methods to gain more meaningful information. This present study not only establishes major sources of global satisfaction amongst elite female netball players, but it provides in-sight on the reasons of satisfaction. It provides coaches with a means by which they effectively measure satisfaction in their players. In turn, they may implement strategies for enhancing player satisfaction with successful performances.

## CHAPTER 7

### SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This research provides empirical support for the findings reported in the literature which relate to team cohesion, performance outcome, and player satisfaction in sporting teams. This research was comprised of three interrelated studies which addressed (a) differences between successful and unsuccessful teams on cohesion, (b) the relationship between player satisfaction and team cohesion, and (c) the relationship between player satisfaction and performance outcome. Findings from this study demonstrate the importance of developing task cohesion in elite netball teams. In addition, there are clear implications for enhancing team performance, personal satisfaction, and ongoing participation by females in netball.

#### Summary

The first study examined differences between successful teams and unsuccessful teams on (a) overall team cohesion, (b) overall task cohesion and components (ATG-T, GI-T), and (c) overall social cohesion and components (ATG-S, GI-S).

The second study investigated the relationship between player satisfaction and team cohesion. As in the first study, team cohesion was examined as a multidimensional construct. The relationship between player satisfaction and team cohesion was examined on the following dimensions (a) overall team cohesion, (b) overall task cohesion and components (ATG-T, GI-T), and (c) overall social cohesion and components (ATG-S, GI-S).



The relationship between performance outcome and player satisfaction was examined in study three. Whereas team cohesion was examined as a multidimensional construct, player satisfaction was examined in global terms to provide a general rather than a specific measure of satisfaction.

A total of seventy-two netballer's from two elite divisions, whose ages ranged from 15 to 33 years, were selected according to their team's performance ratio. Performance in the nine games prior to data collection was the basis of categorising teams as successful or unsuccessful. At that point in time, three teams with the highest win/loss ratio were selected and categorised as "successful". Similarly, three teams with the lowest win/loss ratio were selected and categorised as "unsuccessful" (see Appendix C). The multidimensional nature of cohesion and the global nature of player satisfaction were examined among six teams. The participants completed the Group Environment Questionnaire (GEQ) (Widmeyer et al., 1985) which is designed to determine (a) attraction to group-task (ATG-T), (b) group integration-task (GI-T), (c) attraction to group-social (ATG-S), and (d) group integration-social (GI-S) dimensions of team cohesion. A player's satisfaction was assessed by means of a single-item questionnaire, with a follow up open-ended question.

#### Summary of Results for Study One

Results of the MANOVAs and 4 x 2 (Cohesion x Performance) ANOVAs revealed that successful and unsuccessful teams differed significantly on (a) overall task cohesion, (b) ATG-T, and (c) GI-T. Moreover, task cohesion was the only dimension found to be significant to performance outcome.

### Summary of Results for Study Two

Study two examined the multidimensional nature of team cohesion in relation to player satisfaction. The Pearson product moment correlation revealed a significant relationship between overall task cohesion and player satisfaction. Further examination found a significant relationship between the ATG-T component and player satisfaction. Whereas overall team cohesion was not significantly related to player satisfaction this study clearly demonstrates the need to examine cohesion as a multidimensional construct to gain richer information on the complex nature of cohesion.

### Summary of Results for Study Three

Study three employed Pearson product moment correlation technique which revealed a significant relationship between performance outcome and player satisfaction. The open-ended question provided further information relating to player satisfaction. Generally, players of successful teams were more satisfied in comparison to players of unsuccessful teams. In the main, players of successful teams were satisfied from (a) team success, (b) commitment to group, (c) communication, and (d) the opportunity to improve. Sources of satisfaction for unsuccessful team members emerged from (a) the opportunity to play in an elite competition, (c) to socially interact, and (d) to develop as a player. Responses from the open-ended question also found some players of successful teams were unsatisfied and some players of unsuccessful teams to be satisfied. Players of successful teams were unsatisfied because of (a) coach-athlete relationship, (b) team instability, (c) lack of team commitment, and (d) limited playing opportunity. On the other hand, some players of unsuccessful teams were satisfied. The opportunity to

improve as a player and to make new friends were clear examples. The findings from the open-ended question demonstrated the importance combining qualitative and quantitative research methods to gain an extensive perspective of a player's satisfaction.

### Conclusions

On the basis of this research it can be concluded that the task cohesion components (ATG-T, GI-T) are significantly linked to performance outcome. It appears that a player's satisfaction is related more to performance outcome than team cohesion. Players of successful teams are more likely to be satisfied and perceive their team to be more task cohesive than players of unsuccessful teams. Successful teams were more cohesive than unsuccessful teams in terms of overall task cohesion and components (ATG-T, GI-T). Furthermore, satisfaction was derived from overall task cohesion and the ATG-T component.

On the basis of these findings it can also be concluded that a player's satisfaction is largely influenced by team performance. By examining cohesion as a multidimensional construct this research was able to identify specific areas, particularly that of task cohesion, which are important to performance outcome and player satisfaction.

## Implications

### Practical Implications

The importance of task cohesion in performance success and player satisfaction will assist sports scientists and coaches in identifying areas of need in training regimes. Findings from this study have several practical implications. These originate from (a) antecedents and consequences of cohesion, (b) varying levels of cohesion during the season, (c) measuring cohesion at more than one point in time, (d) emphasising task and social cohesion at appropriate times during the season, and (e) measuring individual player satisfaction.

Firstly, coaches need to be aware of the antecedents and consequences of team cohesion. An understanding of the causes and effects of cohesion allows the coach to implicate change in and outside of training and game acquaintances for optimal development of the team. Furthermore, coaches must be able to identify factors that influence or are influenced by the cohesiveness of the team. For example, a team that experiences instability due to player absenteeism is likely to contain low levels of both task and social cohesion. Coaches should therefore make appropriate adjustments. For example, when new members; or old members return, specific steps should be taken by established players to integrate the newcomer socially and to outline the overall task expectations. This requires effective communication between coach and the athlete. The greater the intra-group communication, the greater the cohesiveness.

Secondly, coaches and sports scientists must understand that overall team cohesion will fluctuate during the season. Most often, team cohesion will vary according to team performance and other aspects such as leadership, team stability, and player absenteeism. Coaches in particular must address these in the planning of training sessions and overall season progress. To add, findings from this study demonstrate the need to examine not just overall team cohesion but both task and social cohesion. They also reveal that a team can be low in one dimension of cohesion and be high in another, but still be successful. For example, teams high in task cohesion and low in social cohesion experienced greater success in comparison to teams low in task and high in social cohesion. It is recommended that coaches focus primarily on task rather than social cohesion in developing performance success. This reinforces the need to measure cohesion at more than one point in a season, both in research and the context of coaching.

In the present study a 'snap-shot' research approach to team cohesion was performed. This form of investigation, while offering a concise picture of a specific aspect of group life, fails to adequately capture the dynamic nature of groups as they change over time (Carron, 1982). Future studies should further examine cohesion in its multidimensional form, however at three points in time: (a) pre-season, (b) in-season, and (c) post-season. To understand the changing and reciprocal relationship among input and output variables, it is necessary to conduct prospective, longitudinal studies. This will provide valuable findings in establishing periods of high and low, task and social cohesion within the team.

Fourthly, when developing task cohesion, coaches should consider setting preliminary goals during the pre-season; but then as the team matures, goals need to be

reviewed, revised, and adopted by consensus of all the team members. Coaches should establish a high norm for productivity by setting up specific, quantitative, and challenging team goals. A critical element in task cohesion is understanding and accepting individual roles in reaching team goals. Cohesion is the tendency for a group to stick together and remain united in the pursuit of its goals and objectives. For this reason, goals and objectives must be clearly defined.

Fear of failure and constant struggles for positions are detrimental to task cohesion and ultimately result in less than optimal performance during practices and games. It is proposed that coaches should focus on creating task cohesion in the early stages of team development, with little attention given to social cohesion. However, as the team matures, coaches should begin to pay more attention to developing social cohesion.

Although study one found no significant relationship between social cohesion and performance outcome, coaches should not disregard the need to develop social cohesion, especially late to midseason. Ultimately, coaches should be able to delegate the responsibility for maintaining both task and social to the team captain. Coaches must keep athletes interested, attending, extending effort, and contributing while focusing on the goals of the team. Cohesion may not generate success, but it facilitates optimal performances. Furthermore, for the vast majority of sporting teams, both social and task cohesion are critical elements in optimal team performances.

Lastly, while acknowledging that player satisfaction can be examined as a multidimensional construct (Hom, Duda, & Miller, 1993; Petlichkoff, 1993; Riemer & Chelladurai, 1998) this research employed a unitary construct to gain a global measure of

satisfaction. In recognising this as a limiting factor, the use of a follow up open-ended question in addition to the single-item question, provided further interpretation of player satisfaction. It went further by examining the sources of satisfaction of elite netball players. Player satisfaction was significantly related to performance outcome suggesting that a player's satisfaction is derived from the degree of team success. The findings from study three suggest that coaches need to examine player satisfaction both on an individual basis and in a group context. Each player requires specialised consultation from the coach. Such a procedure not only enables the coach to implement change but to develop a team of satisfied individuals. To achieve this aim, coaches and players need to work together to develop heightened levels of satisfaction for the future success of the team.

The literature repeatedly points out that the ideal team may not be composed of people who possess the best individual skills, but rather consist of a group of athletes whose combined skills are best. The coach, according to this premise, must constitute the team of those who are ascendant and whose achievement needs for their own success are high, together with others who are willing to subordinate themselves for the good of the team. Thus, putting together an "ideal" team is not a simple problem of evaluating each player on an individual basis, but of ascertaining the people that will work best together.

### Research Implications

This research contributes to the knowledge of team cohesion in two ways. Firstly, it demonstrates that task rather than social cohesion is more important in performance outcome and in player satisfaction. It supports the view that teams can be high in task cohesion and low in social cohesion and still be successful. Secondly, it

demonstrates that player satisfaction is more closely related to team performance than team cohesion.

There are some limitations restricting the interpretation of findings from research in general, and more specifically from this research. The first three limitations are with regard to the measurement of cohesion, performance outcome, and player satisfaction. The following four implications recognise the global pitfalls in cohesion research which are also relevant to the present research. These should, however, provide impetus for future study in this area.

Firstly, team cohesion in this study has been examined as a multidimensional construct to gain a true understanding of the cohesion and the links to performance outcome and player satisfaction relationship. Unitary measures would not identify the various dimensions of cohesion found to be important in performance outcome and player satisfaction. While this study has demonstrated the appropriateness of the GEQ in measuring cohesion, the human limitations in the forced choice format of items is a limiting factor. The study implicitly assumed that every member of the group is of equal importance. Thus, the sense of belonging perceived by an athlete who competes infrequently is given the same weighting as that experienced by regular participants. Whilst acknowledging this as a limiting factor, use of the follow-up open-ended question served to identify differences between individuals. Nevertheless, future studies should establish appropriate measures, qualitative and/or quantitative, that clearly distinguish individual differences within the group.



A second limitation regards measurement of performance as an absolute value. By using absolute performance, it also is implied that success can be readily defined from the observable outcome. There is increasing evidence from research in attribution theory that success and failure may not necessarily be defined in terms of win or loss. By developing a multidimensional scale for performance outcome further research would serve to reduce measurement error.

Thirdly, sports scientists have often used single-item questionnaires to measure and assess individual satisfaction in relation to team cohesion and performance outcome. By contrast, the concept of satisfaction has been given major attention in psychology of organisational behaviour which link it to job performance. Considering player satisfaction was not the major variable under investigation in this study, a global measure of satisfaction was utilised. However, it is recommended that future research examine player satisfaction by use of a multidimensional scale to establish more in-depth findings.

For the future, research in team cohesion should begin to consider a wider cross section of outcomes. Although this study examined important links between team cohesion, performance outcome, and player satisfaction, there is a need to examine other group variables such as goal setting, self-esteem, motivation, and leadership, to gain a complete understanding of its effect on team cohesion. In relation to the sport of netball, there is a need to examine other group processes, which impact upon cohesion, such as leadership, team stability, group size, absenteeism and coach-athlete relationship. It not only is necessary to examine the nature of these variables, but to determine their relationship to task and social cohesion.

The three interrelated studies in this research provide a basis for which further investigation on team cohesion in netball can be carried out. By examining team cohesion at both pre and post-season, future research would be able to contribute to current knowledge on the development of cohesion. The employment of cross-lagged designs as reported by Slater and Sewell (1994) would provide means of observing changes in team cohesion during the season. Other forms of measuring cohesion such as (a) causal modelling technique, (b) circular relationships, and (c) various qualitative methods including interviews and participant observation should be considered in future research. Whereas important relationships between team cohesion, performance outcome, and player satisfaction were identified in this study, the question of causal influences could not be inferred. The scope of this research did not permit examination of circular relationships among cohesion, performance, and satisfaction. However, the important links between these three variables were clearly established.

Sport and physical activity are carried out in the context of groups and cohesiveness is fundamental to this process. This research has examined team cohesion in elite female athletes and in a sport that attracts over 2 million participants world wide. Findings from this study have made a significant contribution to current research in team cohesion. It not only draws clear links between team cohesion, performance outcome, and player satisfaction but also provides practical and theoretical implications for netball coaches at the elite level. Furthermore, this study identifies major sources of satisfaction which serve to establish why young women participate in sport and physical activity. This study supports the notion that one group of young women can experience heightened levels of satisfaction and success in comparison to another, simply by coming together, remaining together, and working with each other in pursuit of the team dream.

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## **Appendix A**

### **Sample Letters and Consent Forms**

## SAMPLE LETTER

### Team Cohesion, Performance Outcome, and Player Satisfaction in State League Netball

Date

Dear Netballer,

I am seeking your assistance in a research project entitled, 'Team Cohesion, Performance Outcome, and Player Satisfaction in State League Netball' that I am conducting for my Honours degree in a Bachelor of Applied Science (Sports Science) at Edith Cowan University. I am a coach of a state league division two team and this area is of great interest to me.

The purpose of the research is to examine successful and unsuccessful netball teams on team cohesion and perceived satisfaction from players. To gather the information, it is necessary for me to administer a short questionnaire to players of these selected teams. You have been selected as a suitable subject and I would be pleased if you would agree to participate in the study.

Your participation in this study would involve you completing a questionnaire at a training session. The questionnaire is expected to take 10 minutes and it requires you to respond to questions on group environment in your team.

Parental consent must be obtained if you are under the age of 18 years, before you can participate in the study. If you or your parents have any questions please contact me on [REDACTED] or phone my supervisor, Dr. Elizabeth Rose, on 9370 6803.

Yours Faithfully,

Angie Wilson

## SAMPLE LETTER

Angie Wilson  
[REDACTED]  
[REDACTED]

Date 1998

Dear Netball Coach,

I am currently enrolled in the Bachelor of Science (Sports Science) Honours program at Edith Cowan University. A major requirement of an honours degree is the completion of a thesis project. The project I have chosen investigates team cohesion, performance outcome, and player satisfaction in State League Netball.

Having played at this level and now currently coaching in the WA State League competition (Perth Bullets Division Two), I regard team cohesion as one of the most important group components for performance success. I believe my research in this area of sport psychology will further develop the current knowledge held by state league coaches.

Throughout the study I am under the supervision and guidance of Dr. Elizabeth Rose, a senior lecturer at Edith Cowan University. The study requires participants to complete a short questionnaire. This would take place before a training session. I would be in attendance to administer and explain the questionnaire. I would require the players for only 15 minutes.

I am sure you would agree that results from this study would develop and educate coaches throughout Western Australia.

A written reply granting your permission would be greatly appreciated. If you require further clarification regarding this study please do not hesitate to contact me on [REDACTED]

Yours Sincerely,

Angie Wilson  
(Researcher)

Dr. Elizabeth Rose  
(Supervisor)

CONSENT FORM

Team Cohesion, Performance Outcome, and Player Satisfaction in State League Netballers

By

Angie Wilson

Bachelor of Applied Science (Sports Science) Honours

Edith Cowan University

Form of Disclosure and Informed Consent

I \_\_\_\_\_ (Participant's Parent) have read the information provided and any questions I have asked have been answered to my satisfaction.

I agree to allow \_\_\_\_\_ (Participant's Name) to participate, realising that she may withdraw at any time.

I agree that the research data gathered for this study may be published provided my child is not identifiable.

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

(Participant's Parent)

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

(Researcher)

CONSENT FORM

Team Cohesion, Performance Outcome, and Player Satisfaction in State League Netballers

By

Angie Wilson

Bachelor of Applied Science (Sports Science) Honours

Edith Cowan University

Form of Disclosure and Informed Consent

I \_\_\_\_\_ (Participant) have read the information provided and any questions I have asked have been answered to my satisfaction.

I agree to participate in this study and agree that the research data gathered may be published provided I am not identifiable.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(Participant)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(Researcher)

## **Appendix B**

### **Sample GEQ and Player Satisfaction Questionnaire**

## SAMPLE GROUP ENVIRONMENT QUESTIONNAIRE

(Widmeyer, Brawley, & Carron, 1985)

The following four questions are from a series of 18 questions.

### *Attraction To Group-Task (ATG-T) component*

3. I do not like the style of play on this team.

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

### *Attraction To Group-Social (ATG-S) component*

4. Some of my best friends are on this team.

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

### *Group Integration-Task (GI-T) component*

8. We all take responsibility for any loss or poor performance by our team.

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

### *Group Integration-Social (GI-S) component*

11. Members of our team would rather go out on their own than get together as a team.

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

Note. A score for the GEQ requires adding up all questions for each component. The higher the score, the higher the individual feels about that particular aspect of group cohesion. For example, an attraction to the group-task scores can range from 4 to 36. Comparisons can be made among individuals or among groups.

## PLAYER SATISFACTION QUESTIONNAIRE

Q1. How satisfied are you with playing in this team?

1	2	3	4	5	6	7	8	9
Very								Very
Unsatisfied								Satisfied

Q2. Please give a brief explanation regarding your level of satisfaction within the team.

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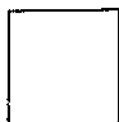
**Appendix C**  
**Premiership Ladder**

WESTERN AUSTRALIAN QUIT STATE LEAGUE NETBALL

PREMIERSHIP TABLE

22<sup>nd</sup> July 1998

Rank	Team	Percentage	Points
1	Sparks 2	135.83	22
2	Warriors 1	128.43	22
3	Bullets 1	118.32	22
4	Jets 2	122.80	17
5	Rangers 2	102.45	16
6	Warriors 2	109.60	15
7	Bullets 2	104.04	15
8	Sparks 1	102.61	12
9	Rangers 1	93.45	12
10	WAIS	98.44	9
11	Jets 1	87.64	7
12	State Schoolgirls	86.35	7
13	Coastals 2	85.49	7
14	Flames 1	86.15	6
15	Coastals 1	91.62	2
16	Flames 2	87.69	2



Successful Teams



Unsuccessful Teams