CHAPTER - II

REVIEW OF RELATED LITERATURE
Familiarity with the literature related to any problem helps the scholar to discover what is already known, what others have attempted to find out, what methods of approach have been promising or disappointing and what problems remain to be solved. The review would enable the investigator to have a deep insight, clear perspective and a better understanding of a chosen problem and the various factors connected with the study. “The Literature in any field forms the foundation upon which all future work will be built.”

2.1. THEORIES OF TEAM COHESION

Cohesion has been defined in various ways. Festinger, Schachter, and Back (1950) described cohesion as “the total field of forces causing members to remain in the group”. Festinger et al., (1950) proposed that there were two types of forces: “Attractiveness to the Group”, the degree to which the group felt a likeness to each other; and “Means Control”, the extent to which the group thought goals or objectives were important. Festinger et al., (1950) proposed a bi-dimensional theory of group dynamics by focusing on forces to keep the group together, and a way to reward that experience.

Carron (1982) indicated that there were various limitations to simply viewing cohesion in terms of attractiveness to the group. Carron (1982) stated that “every member of the group is of equal importance “and” no attempt is made to determine the structure of relationships and interactions in the collective whole”. Carron (1982) considered the group as a sum of all the parts and suggested methods to measure the “total group value for cohesiveness”.

Carron (1981) defined cohesion in a group as “a well arranged and harmonious whole”, which is “a product of considerable time and effort over the course of a season”. Carron (1981) also suggested cohesiveness as “a dynamic
process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its [sic] goals and objectives.

Carron (1982) suggested a "general conceptual system for cohesiveness in sport teams" and highlighted contributing factors to team cohesion such as "personal, environmental, leadership, and team" as important components. Carron (1982) stated that there were two types of environmental factors: "Contractual responsibility", and "Organisational orientation", as defined by Carron (1982), refers to "the eligibility and/or transfer of rules, geographical restrictions for amateur participants, and the contractual obligations which exist in professional as well as amateur sport". Carron (1982) also stated that "this environmental factor represents the difference between the social club and the sport team". Carron (1982) defined organizational orientation as representing the different attainment targets of sporting organizations and their different strategies for obtaining those targets. Carron (1982) identified four moderating factors which could contribute to cohesiveness in a sport team: 'Environmental'; 'Personal'; 'Leadership'; and 'Team Factors'.

Carron and Chelladurai (1981) also suggested that cohesion was "a multidimensional construct" consisting of "individual-to-group cohesiveness and group-to-unit-cohesiveness" with "a sense of belonging, value of membership and enjoyment". Carron and Chelladurai (1981) supported this suggestion and stated that "a factor analysis of the five individual measures from the Sport Cohesiveness Questionnaire" (Martens & Peterson, 1971), "revealed the presence of two specific factors: individual-to-group cohesiveness; and group-to-a-unit cohesiveness". Carron and Chelladurai (1981) stated that the first factor consisted of a sense of value and belonging to the team, whereas the second factor related to a feeling of closeness and sense of teamwork. Carron and Chelladurai (1981) also suggested that "the variable which contribute to cohesion are different in an individual sport and in a team sport".

One conclusion made by Carron and Chelladurai (1981) was that "factors which influence the perception of cohesiveness on sport teams are moderated by
the nature of the task", and thus cohesion in sport was, in fact, multidimensional. Yukelson, Weinberg, and Jackson (1984) developed the Multidimensional Sport Cohesiveness Questionnaire to establish whether or not cohesion was indeed multidimensional, and conclude that it was.

McGowan and Henschen (1987) discussed the difference between 'Task Cohesion' and 'Social Cohesion', stating that both were necessary to attain the best team results in performance. McGowan and Henschen (1987) suggested that preliminary goals were important in developing 'Task Cohesion' as was "understanding and accepting individual roles in reaching team goals". McGowan and Henschen (1987) also suggested factors that were detrimental to 'Task Cohesion' and which contributed to poor performance outcomes; factors such as "fear of failure" and "constant struggles for positions".

'Social Cohesion' was emphasized by McGowan and Henschen (1987) as almost essential to the productivity of the group. McGowan and Henschen (1987) stressed the importance of "communication, conflict resolution, and cooperation", and implied that a good balance between both 'Task Cohesion' and 'Social Cohesion' was important for overall team cohesiveness. Brawley (1990) indicated that personal characteristics "can influence the type of cohesion developed in a team" and that "social background, gender, and personality differentially contribute to cohesion". Brawley (1990) suggested that experiences shared by team members may also have an influence over cohesiveness within the team.

Murrell and Gaertner (1992) suggested that, within the concept of team cohesion, individuals shared an important common identity as a team. Murrell and Gaertner (1992) reported that "common group identity has a positive effect on sport team effectiveness", and incorporates aspects of performance-relevant behaviours. According to Murrell and Gaertner (1992), socializing is an important aspect and a possible influence when distinguishing between winning and losing team members. Murrell and Gaertner (1992) further suggested a difference within subgroup identity within a team.
More recently Carron, Brawley, and Widmeyer (1998) defined cohesion as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs. Carron and Dennis (1998) suggested that "cohesiveness" manifests itself in a group both positively and negatively, either as harmony or conflict. Carron and Dennis (1998) also suggested that group cohesion is dynamic and that it can change at any given time depending upon the circumstances of the group. According to Carron and Dennis (1998), "social cohesion generally develops as a result of member's instrumental and social interactions and communications".

Current definitions of cohesion within sport are multidimensional in nature; thus, cohesion possesses many factors that can cause a group to stick together. Team cohesion is important to productivity and effectiveness of the group, as suggested by McGowan and Hanschen (1987). Carron and Dennis (1998) concluded that "given the influence that groups have on their members, a knowledge of group structure, group dynamics, and group cohesiveness is essential for coaches". Cohesion should therefore not be solely viewed in terms of only one aspect of any group, but as a balance between individual and group attitudes to cohesion, as well as task and social aspects of cohesion.

2.2. MEASUREMENT OF TEAM COHESION

In developing an instrument to measure team cohesion, researchers were able to define various factors which can have an influence on cohesive properties of a group (Carron et al., 1985; Gruber & Gray, 1981; Yukelson et al., 1984). Carron et al. (1985) identified three major problems with the previous research on cohesion: (a) under representation of interpersonal attraction measures; (b) assessing cohesion using a wide range of variables, making comparisons difficult; and (c) inability to identify psychometrics used. A variety of scales have been used to measure team cohesion: The Sports Cohesiveness Questionnaire (Martens & Peterson, 1971); The Team Climate Questionnaire (Grand & Carron, 1982); The Multidimensional Sport Cohesion Instrument (Yukelson et al., 1984); and The GEQ (Carron et al., 1985).
The GEQ (Carron et al., 1985) has been utilized to measure team cohesion as a multidimensional concept. The scale, according to Carron et al., (1985), was devised from a conceptual model of the group cohesion and was developed as a "psychometrically sound" group cohesion instrument. Carron et al., (1985) also suggested that one problem with measuring cohesion was the "lack of a clear conceptualization of cohesion".

Carron et al., (1985) distinguished between task-oriented and socially-oriented concerns of groups, and also between the attraction of the individual to stay in the group and the interaction of the group. Both these distinctions were important in the development of the conceptual model. Carron et al., (1985) divided the model into two major categories: 'Group Integration'; and 'Individual Attractions to the Group'. Carron et al., (1985) stated that "team members' perceptions of the group as a unit and their perceptions of the attraction to the group can be focused on task or social aspects". Carron et al., (1985) identified four constructs to be measured on the GEQ scale: (a) 'Group Integration Task' (GIT); (b) 'Group Integration - Social' (GIS); (c) 'Individual Attractions to Group - Task' (ATGT); and (d) 'Individual Attractions to Group - Social' (ATGS). Carron et al., (1985) assumed that the four constructs were correlated and they used these four constructs to form the basis for the model of the scale. Carron et al., (1985) stated that "group member's perceptions of cohesion formed part of the basis for identifying cohesion concepts".

In developing the GEQ scale, Carron et al., (1985) stated that three members from each of two sport teams were interviewed in the content validity phase of test development. Carron et al., (1985) utilized questions concerning the personal interpretation of cohesion to group individuals, behavioural traits that reflected cohesion, incidents that would denote any absence of cohesion, and factors that contributed to cohesion on a sports team. The participants (N = 78) were male and female student-athletes from a variety of sport teams including university, municipal and industrial teams of hockey, soccer, baseball, lacrosse, football, track, and swimming. Carron et al., (1985) emphasized the importance of using the exact words of the participants in listing the comments; the comments
from the student-athletes were then tallied and coded against one of the four constructs.

The second project, according to Carron et al. (1985), involved undergraduate kinesiology participants (N = 63) who had a history of competing in team sports. Each individual participant answered open-ended questions on why people join, leave, or stay with sport groups. The participants were divided into three groups: one group answered for self-focused reasons, another group for their teammates; and the third for student-athletes in general. Carron et al. (1985) stated that participants again used their own words in their responses which were tallied and coded as in project one.

In project three, Carron et al. (1985) studied members of university teams in competitive swimming, cross country, and cheer leading (N = 60). Carron et al. (1985) indicated that these groups differentiated in the amount of interaction required to perform their sport. The same questions and processes were used as in project two.

Carron et al. (1985) stated that the fourth project involved a literature search of 29 different articles on cohesion and provided an extensive set of questions to examine cohesion. According to Carron et al. (1985), the search covered articles published between 1948 and 1982, in areas of social psychology, sociology, industrial psychology, and sport psychology. The four subject areas were studied for similarity, relevance to sports teams, and their frequency of appearance. The coding procedures were the same as in the previous projects. Carron et al. (1985) stated that responses from all four projects were collated to form an item pool. The resultant pool of questions and responses was used for the item development in phase 2.

The purpose of phase 2, according to Carron et al. (1985) was to develop items from the comments listed in phase 1 to form the basis of the scale and to establish content validity. An initial item pool of 354 statements was generated by four investigators and senior research assistant using the information from phase
1. The statement were grouped according to content and the following criteria: frequency; clarity; ambiguity; group terminology; and depletion of items. An agreement of 80% was necessary among the investigators to retain items. Content validity, according to Carron et.al., (1985), was conducted by initial selection of items by the item writers and the sending of the reduced pool to five experts who concluded that further modifications were required.

Carron et.al., (1985) stated that the original 354 item pool was reduced by 85% by the five researchers. The remaining 53 items were put into questionnaire format and a Likert type 9-point scale of “strongly disagree” to “strongly agree” was adopted. The four construct scales of the GEQ (Carron et.al., 1985) finally consisted of the following number of items: GIT, 16 items; GIS, 11 items; ATGT, 13 items; ATGS, 13 items.

The next stage of the development of the GEQ, according to Carron et.al., (1985), was to test the internal consistency of the subscales. Carron et.al., (1985) thus utilized two different studies on items analysis. To provide a statistical basis for deletion of items, Carron et.al., (1985) utilized both intra and interscale correlations, examining the correlations of each item within subscales and then the correlations of the items with other subscales. In the first study, Carron et.al., (1985) tested heterogeneous sample of athletes (N = 212) from intercollegiate, interactive teams. All participants according to Carron et.al., (1985), were Canadian adults representing male (n = 13) and female (n = 7) teams.

The first version of the GEQ (Carron et.al., 1985) was administered to participants by individual research assistants. The 53-items GEQ contained demographic questions on group and individual characteristics to check heterogeneity of sample traits. Carron et.al., (1985) also stated that teams were always assessed at a time that avoided competition. Items were eliminated from the questionnaire using the intra and interscale correlations, for example, as stated by Carron et.al., (1985) “if an item written to measure GIT correlated poorly with the total score for that scale, its internal consistency was questionable”. Items that did not correlate well with the factor it represented, or correlated with another factor,
were not considered to be internally consistent and were deleted. Carron et al., (1985) used alpha (Cronbach, 1951) reliability coefficients for each of the four subscales, and an item analysis procedure on each item within the subscales. The scale was again reduced from 53 to 24 items, and internal consistency was established for each subscale (Carron et al., 1985).

In the second study, Carron et al., (1985) provided evidence for the reliability of Version 2 of the 24-item GEQ and to determine whether or not the internal consistency values in study 1 could be reproduced with a different sample of student-athletes. The student-athletes for the second investigation (N = 247) were intercollegiate players in Ontario including female (n = 14) and male (n = 12) teams. The teams were grouped as interactive (n = 10) and individual (n = 16) sport teams. The scale was administered as in study 1. In comparing the two studies, Carron et al., (1985) stated that the Cronbach (1951) alpha reliability values were .74 for ATGT, .58 for ATGS, .78 for GIT, and .61 for GIS in study 1; and .61, .64, .71, .72, in study 2.

A further stage in the development of the GEQ, according to Carron et al., (1985), was to determine construct validity. To validate and reduce data further, Carron et al., (1985) used factor analysis to “examine intercorrelations among items with the notion of collapsing them into a smaller set of variables or construct”. The factor analysis was conducted by examining the team sport student-athletes (N = 212) in study 1 and analyzing their responses to the 24 items. According to Carron et al., (1985), the factors were related, therefore an oblique rotation method was used to estimate the correlations among the factors. Carron et al., (1985) reported that “some of the items in two of the scales (ATG scales) either did not meet the minimum loading criteria or overlapped too much with other factors”. The total scale was then reduced from 24 to 19 items. Carron et al., (1985) indicated that a “third version of the GEQ might be more internally consistent than the previous version as some of the 24 items did not meet the minimum factor loading criterion”.
Carron et al., (1985) further analyzed items in a third version of the GEQ in an attempt to improve internal consistency. The final result was an 18-item questionnaire containing the following items: ATGT, 4 items; ATGS, 5 items; GIT, 5 items; GIS, 4 items. For ATGT, ATGS, GIT, and GIS, respectively, the Cronbach (1951) alpha coefficients were .75, .64, .70, and .76, which indicated acceptable internal consistency of the subscales. Carron et al., (1985) concluded that the final version of the scale had good internal consistency, validity, and the ability to measure group member perceptions of cohesion in a large cross-section of sports. Carron et al., (1985) also suggested the future validity and worth of the GEQ required further analysis by other investigations. The GEQ (Carron et al., 1985) has been effectively utilized to assess cohesion in numerous studies of coacting and interacting teams.

Shutz, Eom, Smoll, and Smith (1994) conducted a confirmatory factor analysis (CFA) to test the hypothesized factorial structure of the GEQ (Carron et al., 1985), and to examine the validity of alternative factor structures. The participants, according to Shutz et al., (1994), consisted of 433 male and 316 female high school varsity athletes, between the ages of 13 and 19, from a variety of team and individual sports.

Shutz et al., (1994) reported that some of the GEQ (Carron et al., 1985) items were not good indicators of the factors they were purported to measure. Shutz et al., (1994) stated that question 1 on the scale had a factor loading of only .28 on the ATGS subscale and stated that this was a particularly weak item. Shutz et al., (1994) also reported that when all items were free to load on all other factors, both 'Group Integration' subscale factors were very weak, "with every item question 11 through question 18 having a potential loading on a secondary factor that was close in magnitude (+/-.10) to the existing loading on the theoretical factor". Shutz et al., (1994) concluded that the four-factor structure of the GEQ (Carron et al., 1985) was not appropriate for the data of respondents collected in the study of high school students.
Shutz et al., (1994) also employed an exploratory factor analysis on the scale and reported some items loaded equally well on other factors as well as their own, providing further evidence that the high school data did not conform to the theoretical four-factor structure model. Shutz et al., (1994) questioned why the theoretical four-factor model did not fit the GEQ (Carron et al., 1985) data collected from the high school sample. One implication, as suggested by Shutz et al., (1994), was that the scale does not possess factorial validity. Another was that the high school data collected were from athletes who may not have "acquired the level of cognitive complexity that would dispose them to view their team climate along the dimensions implied in the model".

Li and Harmer (1996) suggested that it was possible that the findings of Shutz et al., (1994) were sample specific. Li and Harmer (1996) also conducted a confirmatory factor analysis of the factorial validity of the GEQ (Carron et al., 1985) utilizing adults as respondents to the scale, the age from which the scale was originally derived. Li and Harmer (1996) stated that the validity of the GEQ (Carron et al., 1985) "has been repeatedly demonstrated in numerous studies".

According to Li and Harmer (1996), participants consisted of 173 male and 148 female collegiate athletes, aged between 18 to 24. The participants completed the scale and, using confirmatory factor analysis methods, Li and Harmer (1996) reported results that supported predictions about the ability of the items of the scale to measure various aspects of sport team cohesion. Li and Harmer (1996) stated that the "hypothesized four first-order factor model based on theoretical considerations was found to provide the best fit for the sample", indicating that, "at item level, measures of various dimensions of the group cohesion construct were internally consistent and reliable and converged on their respective constructs". According to Li and Harmer, (1996), all constructs of group cohesion as proposed by the theory were shown to be significantly related. Li and Harmer (1996) concluded that the GEQ (Carron et al., 1985) was constructed appropriately and that it possesses "adequate factorial validity and reliability as a measure of the sport group cohesion construct for an intercollegiate athlete sample".
Li and Harmer (1996) also stated that as the scale was originally developed for adults and college athletes "it seems reasonable to expect the model to fit better with individuals from these populations rather than younger individuals". According to Li and Harmer (1996), the present findings provide "a comprehensive basis for construct validity of the GEQ and reinforce the theoretical model of the multi-dimensional group cohesion construct proposed by Carron et al., (1985)".

2.3. RESEARCH ON TEAM COHESION

Many coaches, athletes, and sport psychologists, according to Granite and Rainey (1988), have for a long time acknowledged cohesion as an important characteristic of sport teams. George and Feltz (1995) suggested that most coaches were very much interested in how to build and then maintain group cohesion. Spink (1990) associated cohesiveness with team performance and hypothesized that "teams who are most homogeneous in their cohesiveness will also be teams who are most efficacious and ultimately the most successful".

In contrast, Lenk (1977) suggested that a high performance team who were experiencing internal social conflict may not have their performance capabilities weakened. Lenk (1977) highlighted the victorious German Olympic Rowing Eight of 1960, who displayed subgroup conflict, as they had been formed from two different clubs. Lenk (1977) stated that despite the existing internal conflict the rowing team won the Olympic gold in 1960, remained unbeaten, and the "the conflicts did not noticeably cause any decrease in performance". Lenk (1977) rejected the hypothesis that only low-conflict groups could achieve at high levels of performance.

Murrell and Gaertner (1992), however, supported the proposition that the prominence of a common group identity would have a positive influence on performance within a coacting team. The participants studied were high school males (N = 64), with a median age of 16 years, who played football. Murrell and Gaertner (1992) indicated that 49% of participants were offensive players, 37% were on the defensive line, and 14% performed both. According to Murrell and
Gaertner (1992), participants were asked to complete a demographic survey and also asked to rate, from 1 to 5, the extent to which they agreed with the 30 statements given. Murrell and Gaertner (1992) stated that the 30 statements consisted of measures of "strength of identification with the team as a whole, as offensive versus defensive units, or as individual players".

According to Murrell and Gaertner (1992), teams with winning records agreed more strongly with items that emphasized a superior team identity. Murrell and Gaertner (1992) concluded that "a strong common identity as a team is not only an important aspect of team-level cohesion but also significantly distinguishes between members of winning versus losing teams". Murrell and Gaertner (1992) also suggested that there is no theoretical reason to expect level of competition or individual differences, such as sex, to affect the ability of the individual to form a strong identification with the team.

The influences of team cohesion and the identifiability of social loafing in relay swimming performance were investigated by Everett, Smith, and Williams (1992). Everett et.al., (1992) hypothesized that "identifiability would reduce social loafing effects, resulting in enhanced group performance, and group cohesion would be negatively related to social loafing". Everett et.al., (1992) studied male (n = 16) and female (n = 14) National Collegiate Athletic Association (NCAA), Division I swimmers. Everett et.al., (1992) stated that each participant was separately matched on individual ability, based on their best performance time in the 100-m freestyle. The swimmers were then placed in relay teams of four. According to Everett et.al., (1992), the swimmers were informed that they would compete individually and in a team situation. The participants were given incentives to win and also informed of who their teammates were before the races. Everette et.al., (1992) stated that the swimmers were asked to complete the GEQ; (Carron, Widmeyer, & Brawley, 1985) with the assumption that they were to be in these teams for the rest of the season.

Everette et.al., (1992) concluded that "task cohesion was negatively and sufficiently related to social loafing in females but not in males". Everette et.al.,
(1992) also implied a difference in behaviour related to sex by stating that: although males generally engaged in more helping behaviours than females, the likelihood of engaging in helping behaviours did not appear to be affected by the closeness of their relationship with the person needing help. Females on the other hand, seemed more likely to help individuals with whom they had close, long term relationships.

Group cohesion of female athletes in coacting and interacting teams across a competitive season was investigated by Matheson, Mathes, and Murray (1996). Matheson et. al., (1996) hypothesized that coacting female teams may relate "to social and task affiliation within competition differently than male athletes". Matheson et. al., (1996) studied 69 female Division III athletes. The participants were nonscholarship varsity athletes from four teams consisting of interacting teams of lacrosse players (n = 16), basketball players (n = 13), coacting teams of gymnasts (n = 18), and swimmers (n = 22).

Group cohesion was measured using the GEQ; (Carron et. al., 1985) to measure four components of cohesion of members of a group: 'Attraction to the Group - Task' (ATG-T); 'Attraction to the Group-Social' (ATG-S); 'Integration into the Group - Task' (GI-T); and 'Integration into the Group-Social' (GI-S). The 18 items on the GEQ were scored on a continuous scale from "strongly agree" to "strongly disagree". Matheson et. al., (1996) administered the scales at training sessions during preseason, midseason, and postseason. Matheson et. al., (1996) indicated little change in cohesion scores over the course of a season and the results did not differ significantly between coacting and interacting teams.

The concept of cohesion has been researched utilizing many different scales with a variety of conclusions having been made. However, one consistent assumption is that cohesion usually has a positive influence on performance, as suggested by Murrell and Gaertner (1992). Matheson et. al., (1996) suggested that differences in the way that males and females relate to cohesion may be attributed to the team setting. A fundamental question proposed by Carron and Dennis (1998) was how individuals can influence members of a group. Carron
and Dennis (1998) suggested that insight into this issue could help in producing an effective and cohesive team.

Eichas (1992), studied the relationships among perceived leadership styles, members satisfaction, and team cohesion in high school basketball teams. The primary purpose of this study was to test the revised conceptual framework of cohesion (Widmeyer & Williams, 1991). The present study examined the multidimensional aspects of members satisfaction (task and social satisfaction) in order to create a more specific understanding of its role as a potential predictor of cohesion. Additional analyses examined individual differences in perceived leadership styles, members satisfaction and team cohesion and individual differences in preferred leadership styles. High school male and female basketball players (N = 156) completed (a) the perception and preference versions of the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980), (b) Widmeyer and Williams’ (1991) satisfaction questionnaire, (c) the Group Environment Questionnaire (GEQ; Brawley, Carron, & Widmeyer, 1987; Carron, Widmeyer, & Brawley, 1985; Widmeyer, Carron, & Brawley 1985) and (d) a demographic questionnaire. Stepwise multiple regression analyses supported the basic concepts of Widmeyer and Williams’ (1991) revised conceptual framework of cohesion which suggested member satisfaction was a significant predictor of cohesion, followed by team, member and leadership factors. However, unlike the revised framework, the present study found league success to best predict task and social satisfaction and GI-Task cohesion. League success was the second leading predictor of ATG-Task, GI-Social and ATG-Social cohesion as well. Elements of social satisfaction best predicted ATG-Task, GI-Social and ATG-Social cohesion, but not in a consistent manner. Also, elements of task satisfaction inconsistently predicted task and social cohesion. Therefore, it was concluded that when satisfaction was examined as a multidimensional predictor of cohesion, it failed to support Widmeyer and Williams’ (1991) findings. Task and social satisfaction did not work together to best predict all aspects of cohesion. Additionally, MANOVA computations revealed significant differences in perceived team success associated with differences in leadership style, task satisfaction and task cohesion. Also, starters perceived higher task satisfaction and task...
cohesion than non-starters, and females perceived higher ATG-Task, GI-Social and ATG-Social cohesion than males. No other significant differences in perceived leadership style, member satisfaction and team cohesion were discovered. MANOVA computations which examined individual differences in preferred leadership style showed athletes who significantly differed in perceived team success preferred high rewarding leadership style. No other significant differences in preferred leadership styles were discovered.

Apple (1993) investigated the antecedents and consequences of multi-dimensional cohesion throughout an intercollegiate baseball season. The purpose of this study was four fold: (1) to examine the stability of multi-dimensional cohesion across an intercollegiate baseball season, (2) to examine the relationship of objective and subjective individual and team success to multi-dimensional cohesion, (3) to examine the relationship of multi-dimensional cohesion to subsequent objective and subjective individual and team success, and (4) to examine extraneous variables that might influence cohesion throughout a baseball season. Multi-dimensional cohesion was measured by the Group Environment Questionnaire (GEQ) which assess cohesion on four sub-scales: Attraction to the Group-Task (ATG-T), Attraction to the Group-Social (ATG-S), Group Integration Task (GI-T), and Group Integration-Social (GI-S). An assessment of subjective individual and team performance was also taken. Objective individual and team performance was measured by individual statistics and the teams' win/loss record, respectively. Variables were administered five times during the season: one week prior to the announcement of those who would travel on the spring training trip, immediately after their return, twice during regular playing season, and at the end of regular playing season. Subjects in this study included 131 members of four Division I baseball teams in the Midwest. Significant Team by Time of assessment differences in GEQ subscale scores emerged indicating that cohesion may be viewed as a dynamic, ever-changing process. Multiple regression analyses indicated that success predicts cohesion and levels of cohesiveness predict subsequent success. Perceived individual and particularly perceived team performance emerged as more important predictors and consequences of multi-dimensional cohesion than objective indices of success. Extraneous factors (such
McDonald (1993), studied the relationship between precompetitive anxiety and team cohesion. Subjects included in this study were 113 male and female high school varsity athletes. Each subject completed the Competitive State Anxiety Inventory - 2 and the Group Environment Questionnaire. During analysis of the CSAI-2 subscales a negative relationship \((p < .05)\) was found to exist between cognitive anxiety and state self-confidence. The relationship among anxiety and cohesion scores were also analyzed. Cognitive anxiety was negatively \((p < .05)\) related to both group integration social and group integration task, while self-confidence and group integration social were positively \((p < .05)\) related. Differences between highly cohesive and low cohesive teams in regard to the member's levels of cognitive anxiety, somatic anxiety, and self-confidence were analysed utilizing an independent groups t-ratio. The mean cognitive anxiety and mean self-confidence scores for individuals on the highly cohesive team were significantly \((p < .05)\) lower than and greater than, respectively, the low cohesive team. The researcher concluded that the environment with little perceived threat and greater social support might facilitate optimal levels of arousal.

Ramsay (1994) investigated group cohesion and perceptions of pressure to conform in a university residence. The purposes of the present study were to examine the nature of conformity behaviour perceived by university students and to study the relationship between group cohesion and pressure to conform. The subjects \((N = 368)\) were male \((N = 145)\) and female \((N = 223)\) university students living is on-campus residences. The nature of conformity behaviour was obtained using an open-ended format. The subjects supplied information regarding the types of situations where students felt pressure to conform. They then rated the pressure they felt to conform in these same situations. Cohesion was assessed using The Group Environment Questionnaire (GEQ). The GEQ is an 18-item questionnaire, originally constructed for use in sport teams, that identifies four manifestations of cohesion: Individual Attractions to Group Task (ATG-T), Individual Attractions to Group Social (ATG-S), Group Integration Task (GI-T), and Group...
Integration Social (GI-S). The GEQ was revised for a residence setting. Analyses indicated that the internal consistency of the revised version was comparable to the original (Cronbach Alphas ranging from .73 to .83). A content analysis was performed on the conformity situations and two main categories emerged, Academic Related and Lifestyle Related. The Academic Category was further subdivided into Academic Positive and Academic Negative. Lifestyle category was further subdivided into Lifestyle Positive, Lifestyle Negative and Lifestyle Other. The results of the content analysis supported the conclusion that university students perceived the greatest pressure to conform in situations categorized as Lifestyle Negative. In particular, alcohol-related activities were listed by the largest majority of students. As a result, the first hypothesis, that university students would perceive greater pressure to conform in alcohol related situations than in other situations, was supported. A Multivariate Analysis of Variance (MANOVA) revealed that the subjects differed significantly by gender in (a) their perceptions of pressure associated with conformity behaviours and (b) their perceptions of cohesion. Specifically, females expressed greater pressure in conformity behaviours classified as Academic Negative and males expressed greater pressure in conformity behaviour classified as Lifestyle Negative and Lifestyle Other. Females scored significantly higher than males on the cohesion scale ATGS. The nature of the relationship of cohesion to conformity was generally negative. Three of the five manifestations of conformity behaviour were related to cohesion. No relationship was found between cohesion and Academic Positive or Lifestyle Positive. Only Academic Negative had a positive relationship to cohesion and that was limited to female subjects. Lifestyle Negative was related to cohesion, in a negative manner, for both male and female subjects. Lifestyle Other was negatively related to cohesion but only for male subjects. Therefore, the second hypothesis, that a positive relationship would exist between a subject's perception of cohesion on their floor and the amount of pressure they experienced to conform, was not supported. The results were discussed in terms of both impact of friendship and of ideosyncracy credit on conformity behaviour.

Clark (1995) investigated team perceptions of cohesion among deaf/nondeaf culture and starter/nonstarter varsity athletes. The purpose of this study
was to investigate team cohesion among starter and nonstarter deaf collegiate athletes from Deaf and nondeaf cultures. Seventy-eight collegiate varsity athletes at Gallaudet University provided informed consent and volunteered for the study. There were eight teams: football, women's volleyball, men's soccer, men's and women's cheerleading, men's and women's basketball, women's swimming, and men's wrestling. Twenty of these subjects were randomly chosen for an interview session to collect further information on their perceptions of team cohesion. There were 49 (63%) males and 29 (37%) females. The average age was 20.7 years. Racial minorities accounted for 26% of the subjects in this study. Subjects were identified as Deaf or nondeaf culture from residential and/or mainstream secondary schools for comparison on the Group Environment Questionnaire (GEQ) for team cohesion. An increase in the percentage of deaf students from both educational settings (residential and mainstream) are identifying themselves as bicultural without compromising their identity as deaf individuals. Starter and nonstarter status was also determined and compared with cultural and educational variables for its effect on team cohesion. Descriptive statistical tests were conducted for the Demographic and Interview Questionnaires data. An analysis of variance (ANOVA) was conducted for the experimental statistics with the GEQ data to test team cohesion hypotheses. Only two significant differences were indicated on the group integrated - social cohesion scale for nondeaf culture when compared to starter/nonstarter status for the football team. The football team starters showed more group integrated - social cohesion nonstarters. Statistical results for the nondeaf culture teams as a whole indicated significantly greater group integrated - social scores compared to Deaf culture teams.

Smith (1997) studied the effect of an intervention program on cohesion with ninth grade female basketball teams. The purpose of this study was to determine if team cohesion could be enhanced for 9th grade female basketball teams with the implementation of a 14-week intervention program. The intervention program was designed from cohesion building strategies proposed in the literature with the help of three coaches and a leading sport psychologist in the field of cohesion. 41 ninth grade female basketball players belonging to four teams participated in the study. The Group Environment Questionnaire was used to
measure cohesion. It was administered on the third week of the season and again at the end. The data were analysed using both the individual and the team as the unit of analysis. The findings varied according to which unit of analysis was used. When the team was used, no posttest differences were found, however, the effect sizes suggested that the intervention was effective for the task subscales of the GEQ. A lack of statistical power for the team analysis greatly reduced the probability of finding that the meaningful differences were statistically significant. When the individual was used, the intervention was found to be statistically detrimental for the task subscales. The effect sizes supported this finding. The qualitative data that was collected suggested that the coaches believed the intervention had practical utility, and was effective. While this study did not empirically show that the intervention was effective, it did demonstrate that the intervention is practical enough to implement. Furthermore, the qualitative data and the effect sizes for the team analysis provide some evidence that the intervention may have been effective for the task dimension of team cohesion. Therefore this study produced an intervention that can be used as a starting point for future cohesion building investigations.

Martin (1997) studied the relationship between perceived level of coaching staff cohesion and win/loss percentage was tested for the head and assistant field hockey coaches of intercollegiate field hockey teams. At the conclusion of the regular season, coaches completed a revised version of the Multidimensional Sport Cohesion Instrument (MSCI) (Yukelson, Weinberg, and Jackson, 1984) and reported win/loss record through a Coaching Questionnaire. Four subscales of cohesion were assessed: ‘attraction to the group’, ‘quality of teamwork’, ‘unity of purpose’, and ‘valued roles’. The differences in the four subscales of the revised version of the MSCI (Yukelson et.al., 1984) were analysed using a repeated measures MANOVA. No significant (p > .05) differences were found between the mean vectors for the head and assistant field hockey coaches on the four subscales of the MSCI. Head and assistant field hockey coaches have similar perceptions of coaching staff cohesion. Pearson product-moment correlation coefficients were used to determine the relationship between the perceived levels of coaching staff cohesion and win/loss percentage. Win/loss percentage was not significantly
(p > .05) correlated with the perceived level of cohesion of the coaching staff. Teams of coaches who were more cohesive were not more successful when win/loss percentage was examined.

Amanda Croston (2000) investigated the differences in team cohesion of male and female high school basketball players, according to sex and gender-role orientation. Student-athletes (N = 164) completed the Bem Sex-Role Inventory (BSRI; Bem, 1977) and the Group Environment Questionnaire (Carron, Widmeyer, & Brawley, 1985) at the end of the basketball season. Individual gender-role orientations were determined by the median scores obtained on the BSRI (Bem, 1977) which were: 5.37 for the feminine scale, and 4.65 for the masculine scale. The participants were not evenly distributed into the gender-role orientations. The smallest cell contained 10, and subsequently 10 student-athletes were randomly selected within each gender-role category for both males and females (N = 80) in order to make statistical comparisons. A 2 X 4 analysis of variance was computed for each subscale on the team cohesion questionnaire. The interaction of sex and gender-role orientation were not significant (p > .05) for all four of the cohesion subscales. No significant (p > .05) main effects were found for the cohesion subscales. To conclude, high school athletes do not differ in their perceived levels of cohesion in relation to their sex or gender-role orientation.

Bray (1998) studied the relationship between team cohesion and objective individual performance of high school basketball players. This study investigated the cohesion - individual performance relationship and its possible mediation by expended effort. It was hypothesized that: (a) cohesion would predict performance, (b) the cohesion - performance relationship would be mediated by expended effort, and (c) rebounds/game and steals/game would be more correlated with expended effort than the other statistics. At the middle and end of the season, 41 males and 49 female high school basketball players completed the Group Environment Questionnaire (Widmeyer, Brawley, & Carron, 1985) and the Expended Effort scale of the Intrinsic Motivation Inventory (Ryan, 1982), the players' game statistics were gathered, and coaches completed the expended effort questions about each player. Results supported the predictive ability of cohesion on performance and
expended effort as a mediator at the end of the season. Results did not support the third hypothesis. Cohesion significantly affected performance at the end of the season through the players’ level of effort.

Ringgenberg (1998) studied the effects of cooperative games on classroom cohesion. Fifty-four men and women, average age 21.3 years, volunteered to participate in 6 cooperative games during a semester bowling class. Forty-seven subjects of similar age served as control. A t-test for significance on the means of 3 pretest bowling scores indicated no significant difference (p > .05). Subjects received instruction and practiced the 4-step approach, hook ball delivery, and spot aim bowling techniques. Based on bowling averages subjects were divided into equal teams for a round robin tournament. A one-way ANCOVA of 3 posttest bowling scores showed a significant (p < .05) improvement of experimental bowling scores. A one-way MANOVA of the subjects responses to the Group Environment Questionnaire used to measure cohesion between the subjects, indicated no significance (p < .05) in the individual attraction to group-social, individual attraction to group-task, group integration-task, and group integration-social subscales. A t-test between experimental males (n = 38) and females (n = 16) GEQ responses revealed no significance (p < .05). It was concluded that cooperative games might effect subjects working together to learn the skills to improve bowling scores, yet, did not affect the amount of cohesion felt among subjects. It was speculated the competitive tournament and possibly some teacher differences might have affected the cohesion felt among subjects.

Parrow (1999) studied cohesion and perceived parental purposes of sport. The relationship between high school athletes’ cohesion and their perceptions of their parents’ purpose of sport was assessed in this study. At approximately mid-point of the competitive season, fall team sport athletes completed the Group Environment Questionnaire (GEQ) (Carron, Widmeyer, & Brawley, 1985) and Purpose of Sport Questionnaire (Duda, 1989). The relationships between the subscale scores of the two questionnaires were evaluated using Pearson product moment correlation coefficients. Significant, but low, positive (p < .01) relationships were identified between the Mastery/Cooperation, Active Lifestyle, and Good
Citizen subscales scores of the PSQ and the Group Integration-Task (GI-T), Attraction to Group-Social (ATG-S), and Attraction to Group-Task (ATG-T) subscales of the GEQ. Methodological and substantive explanations were explored.

Bromley (2000) studied the relationship of the congruence of perceived and preferred cohesion to sport performance and satisfaction. The development of Carron’s (1982) multidimensional model of cohesion and the Group Environment Questionnaire (GEQ) (Widmeyer et al., 1985) have been the mainstay for understanding and assessing team cohesion in sport. The GEQ measures individual perceptions of the four components of cohesion, but not an individual’s preferred level of cohesion. Leadership research has shown the importance of athlete preferences. For example, if preferred leader behaviour is congruent with actual leader behaviour, then satisfaction levels increase (Chelladurai & Carron, 1978). Therefore, the general goal of this study was to examine if preferred and perceived team cohesion are separate and distinct constructs, and to see if their congruence relates to better performance and higher satisfaction in sport. There were five specific purposes of this study: (1) To examine the validity and reliability of a preferred cohesion version of the Group Environment Questionnaire, (2) To examine whether gender differences in levels of overall cohesion, and the congruence of perceived and preferred cohesion, exist, (3) To determine if any gender differences exist in the relationship of perceived / preferred task and social cohesion to performance and satisfaction, (4) To determine if congruence between perceived and preferred task and social cohesion leads to greater performance and satisfaction, and (5) To examine the relationship of cohesion congruence to performance and satisfaction over the course of a season. Subjects in this study were 94 basketball players from men’s and women’s intercollegiate teams. The athletes were asked to complete questionnaires assessing demographics, overall cohesion, perceived cohesion, preferred cohesion, and team satisfaction. The measurement tool developed to assess preferred cohesion was valid. Females had higher perceived social cohesion, and a greater congruence between perceived and preferred cohesion than males. Females were also found to have stronger correlations between perceived / preferred social cohesion congruence
to both satisfaction and performance than males. Significant relationships were found between task cohesion congruence and win/loss record, social cohesion congruence and boredom, and social cohesion congruence and win/loss record. Finally, longitudinal analyses showed that congruence became greater across time, that satisfaction variables were significantly related to social cohesion congruence across time, and that task cohesion congruence was also related to offensive performance across time.

John Murphy and Danielle Lucifero (1977) examined the perception of the players leadership style, leaders and motivators and how their effects on the cohesion of a collegiate sports club. The participants were 9 male members, ages 18-23, who were undergraduates at West Chester University. The study also included 3 male coaches. They were administered a test packet before a team practice which contained the Leadership Scale for Sports, Group Environment Questionnaire and three Sociometric questions identifying choice leaders and motivators. The test packet was designed to measure two levels of cohesion, task and social, and how it was effected by the players and coaches perception of leadership and motivation. Leadership style preference and perception was almost identical. Cohesion levels of the team were found to be average for the level of task but below average for the social aspect of cohesion. The nature of this team as a club dictates the low levels of social cohesion.

Olivia, Leigh, Trevor, Sam & Joel conducted a research on the relationship between perceived coaching behaviours and team cohesion. Twenty subjects ranging in age from 14 to 15 years participated in the study (A side, n = 12; C side, n = 8). The instruments utilized in this study were the Group Environment Questionnaire (GEQ) which is made up of four categories: Attraction to the Group-Task (ATG-T), Attraction to the Group-Social (ATG-S), Group Integration-Task (GI-T), Group Integration-Social (GI-S) was used to measure the level of cohesion between the teams. The other instrument utilised was the Leadership Scale for Sports (LSS) comprising of 5 categories: Training and Instruction (TI), Democratic Behaviour (DB), Autocratic Behaviour (AB), Social Support (SS) and Positive Feedback (PF). Significance was found within the sub-scales of social and positive reinforcement.
The relationship between perceived leadership behaviours and team cohesion in high school and junior college baseball and softball teams was researched by Gardner, Shields, Bredemeier & Bostrom (1996).

Athletes (N = 307) representing 23 teams, responded to the Leadership Scale for Sports (LSS) and the Group Environment Questionnaire (GEQ). Correlation and multivariate analyses indicated significant relationships between perceived leader behaviours and team cohesion.

Coaches who were perceived as high in training and instruction, democratic behaviour, social support, and positive feedback, and low in autocratic behaviour, had teams that were more cohesive. There were significant differences between genders and athletes at the two school levels in their perceptions of coaching behaviours and team cohesion, though these demographic variables did not significantly moderate the leadership-cohesion relationship.

Colman and Carron (2000) studied team social norms and social cohesiveness. Previous research on norms in sport teams has generally focused on members task-related expectations including productivity norms (Kim, 1992a, 1992b, 1992c), norms for violence and aggression (Shields et al., 1995; Silva, 1983), and norms for officiating latitude (e.g., Rainey & Larson, 1988; Rains, 1984). However, recently Munroe et al. (1999) reported that sport teams also develop a variety of other normative expectations for their members including norms of a more social nature. The general purpose of the present study was to examine the nature of social norms in sport including their strength and relationship to team cohesion. Based on the model developed by Munroe et al., social norms were examined in three contexts: practice situations, competitions, and social functions. Participants (n = 97) of university-level individual sport teams completed a questionnaire which assessed cohesion (Individual attractions to the group-social [ATG-S], 5 items, alpha = .67; and Group integration-social [GI-S], 4 items, alpha unacceptable so the scale was not used in subsequent analyses), Supportive behaviours in competition (4 items, alpha = .94), Inclusion behaviours at social functions (4 items, alpha = .85), and Social interaction behaviours at social
functions (4 items, alpha = .91). The results showed the percentage of team members who endorsed the presence of the various social norms was not high; i.e., Supportive behaviours in practice, M = 54.3% ± 32.7; Supportive behaviours in competition, M = 54.8% ± 35.0; Inclusion behaviours at social functions, M = 43.5% ± 26.2; and Social interaction behaviours at social functions, M = 51.1% ± 29.7). The only significant relationship between team cohesion and a social norm was for ATG-S and Inclusion behaviours at social functions (r = .234, p < .05). The results were discussed in terms of their implications for group dynamics theory.

Estabrooks and Carron (2000) studied the relative influence of 2 forms of task cohesion on older adult exercisers' (N = 82) self-efficacy to schedule exercise into their weekly routine. Participants had been involved with the exercise program for at least 4 months before the study began. A sequencing protocol was used to allow for task cohesion's influence on scheduling self-efficacy. Task cohesion, as measured by the Group Environment Questionnaire, was assessed during the 1st week of exercise classes after a holiday. Scheduling self-efficacy was assessed at midprogram. Attractions to the group-task and group-integration-task cohesion were sequentially entered into a hierarchical regression analysis while recent attendance was controlled for. Results showed individual attractions to the group task accounted for most of the variance in scheduling self-efficacy, R2 = .10, F(2, 80) = 4.22, p = .02; the addition of group-integration task also significantly (p < .05) added variance, R2 = .13, F(3, 79) = 3.79, p = .01.

Estabrooks and Gyurcsik (2000) ventured to investigate the relationship between cohesion, acute thoughts, intention and behaviour in the exercise domain. Group cohesion has a positive relationship with exercise cognitions (Estabrooks & Carron, 1999) and participation (Estabrooks & Carron, 2001). Further, positive and negative acute exercise-related thoughts play a role in determining the exercise intention and behaviour of individuals enrolled in structured settings (Gyurcsik & Brawley, 1999). It could be hypothesized that higher perceptions of cohesion are related to more positive acute thoughts when deciding about exercise. The purpose of the investigation was to determine the impact of perceptions of high versus low
cohesion (i.e., individual Attractions to the Group-Task & Social, ATG-T & ATG-S; Group Integration-Task & Social, GI-T & GI-S) on exercise relevant acute thoughts, intention, and behaviour. Participants (N = 479, M = 49 years, 51.6% female) completed the Physical Activity Environment Questionnaire, Godin's Leisure Time Activity Questionnaire, and measures of acute thoughts and exercise intention. Participants were divided into extreme groups based upon the 4 cohesion dimensions. A MANOVA was completed for each cohesion dimension with acute thoughts, intention, and behaviour as dependent variables. Due to the exploratory nature of the study the significance level was set at .10 for each MANOVA. Results showed significant main effects for ATG-T (F(3, 131) = 11.11, p < .01), ATG-S (F(3, 145) = 2.11, p .10), GI-T (F(3, 136) = 2.50, p < .10) and GI-S (F(3, 157) = 2.28, p < .10). Follow-up tests revealed that participants with high ATG-T had more positive acute thoughts and exercise frequency than those with low ATG-T (p's < .01). Further, participants with high ATG-S had more positive acute thoughts than those with low ATG-S (p .05). Finally, participants with high GI-T or GI-S had higher exercise intentions than those with low GI-T or GI-S (p's < .01). These findings extend previous research by demonstrating that cohesion may impact acute cognitive and behavioural exercise outcomes.

Williams and Widmeyer (1991) studied cohesion performance outcome relationship in a coacting sport. Cohesion (i.e., togetherness, team spirit, closeness, teamwork, team unity) is supposed to be positive in interacting teams (e.g., football, basketball) but negative in coacting teams (e.g., golf, bowling). In interacting sports, success depends upon appropriately combining each player's diverse skills in an interdependent pattern of teamwork. In coacting sports, players independently perform the same skills, and team success is determined by the sum of individual performances.

Female NCAA golfers (N = 83) were tested using the Group Environment Questionnaire at a 54-hole tournament. COHESION significantly predicted performance outcome, communication, and motivation as assessed by commitment to the team goal. Communication and motivation accounted for only 5% of performance variance with motivation being the only significant predictor. These relationships are minor.
Widmeyer et.al., (1990) dwelt into the effects of group size in sports. Although group size has been one of the most frequently examined small group variables, it has rarely been studied in sport. In study 1 the effects of number of team members on cohesion and performance were examined. Teams of 3, 6, and 9 members participated in a 3-on-3 basketball league. Discriminant function analyses indicated that team size was related to pre and post season task cohesion and postseason social cohesion. Study 2 determined effects of action-unit size (number from one team on the field of action) on enjoyment and cohesion. Relationships between these outcomes and five more immediate outcomes were also investigated. As predicted, enjoyment and cohesion decreased as size increased. This decrease was also observed for the more immediate outcomes of exercise / fatigue, influence / responsibility, and organisation / strategy whereas feelings of crowing increased with size. The best predictor of enjoyment was exercise / fatigue in smaller units and reduced influence / responsibility in large units. Organisation / strategy was the best predictor of cohesion for all action-unit sizes.

Carron et.al., (1988) ventured into group cohesion and individual adherence to physical activity. The general purpose of this investigation was to examine the relationship of group cohesion to individual adherence to physical activity. Two independent studies were conducted using present and former participants from organized sport programs, physical recreation programs, and physical exercise programs. The purpose of study 1 was to determine if cohesiveness was related to adherence behaviour in organized sport and exercise class settings. Study 2 explored the relationship of individual perceptions of group cohesion to absenteeism and lateness by summer recreation sport participants. The results from the two studies supported the conclusion that group cohesiveness is related to individual adherence behaviour. This conclusion was supported across different group types including fitness classes, recreational team sports, and elite team sports. However, both the form and number of aspects of cohesion that were related to adherence were moderated by type of group. This underscores the necessity of conducting more comparative group research in future investigations.
Spink and Carron (1992) examined the relationship of group cohesion to adherence in women participating in exercise classes. Two measures of adherence were examined: absenteeism and lateness. Results from a stepwise discriminant analysis conducted on the absenteeism data revealed that the two absenteeism groups could be differentiated on the basis of their endorsement of individual attractions to the group-task (ATG-T) and social (ATG-S), with individuals who were absent less reporting greater ATG-T and ATG-S than those who were absent more. The results of a stepwise discriminant analysis conducted on the lateness variable revealed that ATG-T significantly differentiated between the two groups. Individuals who were late less scored higher on ATG-T than did those who were late more often. These findings provide support for the suggestion that selected aspects of group cohesion play a role in the adherence behaviour of female exercise participants.

Gross and Martin (1952), and Escovar and Sim (1974), proposed group resistance to disruption (GRD) as an alternative conception of cohesion, but the GRD / cohesion relationship has not been empirically examined. Brawley et al., (1988) investigated into this area. In study 1, this relationship was examined using an extreme-groups design. It was a priori predicted that elite athletes perceiving high team cohesion would also perceive high GRD. The prediction was supported for three of four aspects of cohesion assessed by the Group Environment Questionnaire. Study 2 methodologically extended study 1 and examined the GRD / cohesion relationship comparatively across physical activity groups. Elite sport, recreational sport, and fitness class groups were assessed. Participants extreme in GRD were predicted on the basis of their cohesion scores. Results indicated that the form and extent of the GRD / cohesion relationship was moderated by group type. In both studies, group task cohesion was positively related to GRD for all samples. The studies represent the first demonstration of this important but neglected relationship.

Spink (1990) undertook a study on group cohesion and collective efficacy of volleyball teams. The main purpose of this study was to examine the relationship between group cohesion and collective efficacy in volleyball teams. A secondary
purpose was to determine whether the cohesion / collective efficacy relationship would be moderated by the type of group selected. The results supported the conclusion that specific measures of group cohesiveness were positively related to collective efficacy for elite volleyball teams, but not for recreational teams. In the elite teams, Individual Attractions to Group-Task and Group Integration-Social were found to differentiate significantly between low and high collective efficacy teams, with the high collective efficacy teams rating cohesiveness higher. No significant results emerged, however, when the relationship between group cohesion and collective efficacy was examined for recreational teams. This suggests the need for future research to address the cohesion / collective efficacy question from a comparative perspective.

Carron et al. (1990) ventured to find the effect of group size in an exercise setting. Two independent studies were conducted to examine the impact of group size in an exercise setting. In the first, archival data from 47 exercise classes varying in size from 5 to 46 members were used to examine the relationship between group size and behaviour. Attention and retention were high in small and large exercise classes, but reduced in medium and moderately large classes. The second study examined the relationship between the size of exercise classes and specific social psychological correlates of group size including the participants' perceptions of conspicuousness, quality and quantity of interactions with their leader, their opportunities for social interaction with other members, the level of crowding and density, and satisfaction. Trend analyses showed a curvilinear relationship between exercise class size and participants' perceptions of the opportunities available for social interaction and feelings of crowding and density. Both the small and large classes were perceived more favourably than the medium classes. The relationships between class size and perceptions of the instructor as well as the level of satisfaction experienced were linear - positive perceptions decreased systematically as class size increased.

Shaterian's (1987) study was concerned with how supervisors in organizations should behave in order to build cohesiveness among their subordinates. The purpose was to determine the extent to which subordinates'
Need for Independence moderates the effect of supervisory behaviour on cohesiveness.

Supervisory behaviour, the independent variable, was expressed in terms of leader behaviour of consideration and Initiation of Structure. A group was said to have a high degree of cohesiveness, the dependent variable, if the members who perceived themselves to be members of the group, preferred to remain in group, and perceived their group to be better than other groups. Need for Independence was selected as a personality variable which moderates the supervisor - subordinate relationship.

Method. Stogdoill's 20 - item Leadership Behaviour Description Questionnaire (LBDQ), the Group Cohesiveness Questionnaire, and the Vroom version of the Need for Independence Questionnaire, were administered to a sample of 75 employees: 45 engineers in a manufacturing firm, (Company A) and 30 retail sales persons (Company B). Pearson's Product Moment correlations were used to determine the extent to which Need for Independence moderates the relationship between leader behaviour and cohesiveness.

The results generally were not in accordance with the principal situational theories of leadership. Subordinates' Need for Independence was not an important situational variable in moderating the relationship between supervisory behaviour and subordinates' cohesiveness.

The findings relating to Company A and the Total Group, showed that maximization of both Consideration and Initiating Structure was, in fact, the best style. The results for Company A and the Total Group, not surprisingly, differed from those of Company B. The results of Company B did not follow theories of leadership, neither situational nor normative, possibly because Company B (retail department store) was not an appropriate work environment in which to test cohesiveness, and should not have been included in the study.
Haughey and Albert (1987) investigated the effects of the use of structured exercises on selected variables. Theories of group development describe stages through which groups pass. The different theories agree that groups pass through a number of preliminary stages before reaching the stage at which therapeutic potential is maximized. This implies that the important variables associated with group development vary from session to session. This also implies that therapeutic benefit can be enhanced by limiting the recycling process. This would allow the groups to more consistently function at a higher therapeutic level.

In this study, structured exercises were used as a means of controlling the recycling process within groups. Four groups were randomly assigned to both the control and experimental conditions. The groups in the experimental condition began the first five sessions with a 15 to 20 minute exercise. A two-factor repeated measure split-plot factorial design was used to investigate four variables: cohesion, engagement, avoidance, and conflict. It was predicted that the polynomials describing the trends for these variables in the control condition would be of a higher order than the trends in the experimental group. It was assumed that lower order trends would imply less recycling and, therefore, an outcome measure would be significantly higher for the experimental condition. Satisfaction with the group was chosen as the outcome variable.

The hypotheses were confirmed with some qualifications. Results of the ANOVA found a significant interaction for the variables cohesion, engagement, avoidance, while time and structure were both significant for the variable conflict at p < .05. These findings support the use of tests of the simple main effects for interpretation of the results. The analysis indicated that the use of structured exercises may reduce the recycling process during the initial sessions. The exercises seemed to have added a degree of consistency to the groups which allowed members to view their experience more favourably.