Chapter II

REVIEW OF RELATED LITERATURE

A review of related literature to the present study that the research scholar could gather in order to provide the background materials to evaluate the significance of this study as well as to interpret its findings is presented in this chapter.

Ommundsen and Vaglum\(^1\) had a study based on Harter's competence motivation theory, examined the role of soccer related self-esteem, perceived soccer competence and the emotional involvement of significant others on soccer enjoyment and competition anxiety. A representative sample consisting of 223 twelve to sixteen year old soccer playing boys were personally interviewed at the beginning of their spring soccer season. Multiple regression analyses revealed that low soccer related self-esteem was related to soccer competition anxiety among the younger players, whereas high perceived soccer competence and parents' and coaches' positive emotional involvement were

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individually predictive of enjoyment in soccer. Several of the results obtained from this study are in accordance with Harter's hypothesis, and thus represent an important cross cultural validation of her theory.

Rademaker\(^2\) compared the achievement motivation profiles between successful and less successful, black and white, and male and female track and field athletes. ANOVA revealed that males scored significantly higher on competitiveness then females, while females scored significantly higher on work, findings consistent with previous investigations. No significant interaction among the three independent variables were found. Two-way x\(^2\) analysis between the various comparisons groups revealed that less successful while males were more strongly characterized by the PI profile then successful white males who were more strongly characterized by a profile high on competitiveness, but low on work mastery. Conversely successful black males, were characterized significant more by the PI profile than successful white males. This findings won extended when these same

black and white subjects of the middle social class were examined, but was then suppressed when the analysis controlled for foreign athletes. Correlation revealed a significant and positive relationship between scale scores from one situations to another, but dependent positive tests revealed a significant difference in competitiveness. Finally, comparison group showed changes in achievement profiles in the 40 percent range. It was concluded that the efficiency of the PI profiles could not be extended to this group of athletes, that no support was found for Edward's theory and that the technique of profiling athletes based upon scores in relation to medians for each scales subject to situational influence.

Terry, Walrond and Carron conducted a study to investigate the relationship between game location and pre competition psychological states. Male rugby players (N=100) completed the competitive state anxiety inventory - 2 and the profile of mood states approximately one hour before a home and away game. Repeated

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measures multivariate analysis of variance of mood and anxiety scores indicated significant differences between home and away locations. Participants scored higher on vigor and self-confidence and lower on tension, depression, anger, fatigue, confusion, cognitive anxiety and somatic anxiety when competing at home. The findings support the proposal (Courneya and Carron, 1992) that psychological states are influenced by game location.

Hassmen, Koivula and Hansson⁴ had a study on the relationship between performance mood, measured by the profile of mood states inventory, and subsequent athletic performance has been the focus of considerable research. Presumably, athletes with less positive mood profiles should be outperformed by those with more favourable profiles. The results presented so far in the literature are equivocal. One possible explanation is that more stable trait characteristics might mediate mood states prior to competitive situations. In the present study, 8 male golf players, all members of the Swedish National Team,

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completed a number of trait inventories (Eysenck's Personality Inventory, Locus of Control, Sports Competition Anxiety Test, Self-consciousness Scale) poror to the competitive season. Subsequently, they completed the profile of mood states before each game played. Analysis showed that the players' performance mood states differed significantly and that these difference were associated with their scores on the trait inventories. Furthermore, preperformance mood states were significantly related to athletic performance for some individuals but not for others. Further research should also include trast measurements to understand better relationship between mood states and the athletic performance of individual athletes.

Teipel, Gerisch and Busse⁵ suggest that the interpretation of an action as an aggressions will depend or the roles and perspective of the observer. Extending this assumption to the sport situation, these researchers hypothesised that coaches, athletes and referees, due to their contrasting notes, would judge aggressive sport actions differently. To test this hypothesis, the investigators asked 20 highly skilled male soccer players, 20 male coaches and a control group of 10

rules experts to observe a series of 40 foul science selected from championship soccer matches and presented on a colour video monitor. Immediately after viewing each soccer scene, the observer was asked to evaluate the soccer action according to type of foul exhibited, personal sanction to be imposed and resulting game continuation chi-square analysis indicated distinct difference between the groups in their evaluation of these sport actions.

Consistent with the study hypothesis referees showed a greater tendency that did the other two groups to judge an action as foul and to impose the most stringent sanctions. In contrast, the group of skilled players showed the least inclination to identify an action as a foul and tended to impose less stringent sanctions. Teipel et al. comment that these results emphasize the "different ways of perception evaluation and interpretation of players, coaches and referees" to the same situation. The authors additionally provide recommendations for using these results to improve the educational programmes available for players, coaches and referees.
Miller\textsuperscript{6} conducted a study to find out the effect of emotional stress on high school track and field performance. Performance records were kept through March and April on 50 randomly selected students in grades x\textsuperscript{th} through xii\textsuperscript{th} participating interscholastic track and field. Pre-meet tests were completed a half hour before the start of competition and the some data were collected on two non-meet days. Subjects were classified as outstanding, average and poor competitors on the combined rating of three coaches. A significant relationship was found between emotional stress and consistency of competitive performance. Other conclusions were a high level of confidence was desirable physical, emotional stimulation was beneficial upto some threshold beyond which performance suffered. Poor competitors showed less emotional stress: stress was employed by peer of self expectations as well as far of opponents or competitors and the desiccating capsule provoked valid, reliable and highly desirable for collecting data in the field.

Chantal et al. conducted the present investigation was to proceed to a multi dimensional analysis of sport motivation in relation with elite performance and gender. The sample was made up of 98 Bulgarian top athletes (35 females and 63 males). Participation athletic performances in national and international events over the last two years was documented. Participants also completed the Bulgarian version of the sport motivation scale. The SMS, which is based on the tenets of self-determination theory (Deci and Ryan, 1985 1991) assesses; intrinsic motivation, self-determined extrinsic motivation, non self-determined extrinsic motivation, and a motivation. Results indicated that, in comparison with less success athletes, title and medal holders displayed higher levels of non self-determined extensic motivation and higher levels of a motivation with respect to gender, the motivation of female athletes was more strongly characterized by intrinsic motivation. Results are discussed in light of self-determination theory and the cultural context which prevailed in Bulgaria at the time of the investigations. It is concluded that these highlight the role of motivation in elite sport performance.

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Sharma\(^8\) conducted the study to determine the influence of causal attribution success and failure among competitive male gymnasts. The subjects for the study were 216 male gymnasts from different states of various age levels. The causal attribution was measured by the paper-pencil test of attribution (win and loss) questionnaire prepared by Roberts. The results of this study revealed differences in attribution to success and failure among successful and unsuccessful gymnasts. The successful gymnasts attributed their outcomes to the internal attributions, whereas the unsuccessful gymnasts attributed their outcomes to be external attribution. Variations were also observed among the gymnasts on the basis of age levels.

Bhusan et.al.\(^9\) conducted a study to evaluate personality characteristics of high and low achievement Indian sports persons. They administered the Cattell's 16 personality factors questionnaires

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to ten high achievement players who had never achieved any distinction in their respective games. The results of this study indicated that the high achiever scored significantly higher than lower active on dominances and surgency.

Jokela and Hanin\textsuperscript{10} conducted a study on successful and unsuccessful athletes on optimal functioning model. According to the individual zones of optimal functioning model, an athletes' performance is successful when his or her pre-competition anxiety is within or near the individually optimal zone when anxiety falls outside the optimal zone, performance deteriorates. The model also suggests that skilled athletes are aware of, and are able to accurately recall and anticipate, their pre-competition anxiety. A meta-analysis of 19 studies from 1978 to 1997 was conducted to examine the validity of the assumptions regarding the in-out of the zone notion and the accuracy of recalls and anticipatory measures of anxiety. The findings provide fairly good empirical support for the IZOF anxiety model, with an

overall effect size (d) for the in-out of the zone notion of $d = + 0.44$ (41 effect sizes, $n = 3175$). In other words, the performance of athletes who were within their individually optimal zones were almost one-half a standard deviation until better than that of athletes who were outside their zones. Furthermore, both effect sizes ($r (w)$) for accuracy of precompetition anxiety measures, recall ($r (w) = + 0.71$, 24 effect sizes, $n = 369$) and anticipatory ($r (w) = + 0.69$, effect sizes, $n = 2843$), exceeded the "large effect" suggested for correlations by Cohen. The implications for future research extending the IZOF model to a wider range of positive and negative emotions are discussed.

Johnson\textsuperscript{11} conducted a study to explore the relationship of emotion and competitive physical activities. 15 experienced football players and later time experienced wrestlers were selected repeated objective testing. The result of the study were anticipation of football games, football players appeared to experience comparatively little emotional build-up preceding game. The wrestlers were aware of very considerable pre-contest emotion.

Wallace\textsuperscript{12} conducted a study to find out the relationship of personality and motivational factors to free throw performance (FT) of senior high school and collegiate women varsity basketball players (N = 65) were determined using the 16 PF and AMI indexes. Multiple regression was used to select the most important psycho-social predictors to estimate F.T. using all subjects and all variables, more self-confidence and less mental toughness were the best predictors of F.T. The best of 16 P.F. variables in all subjects were Q\textsubscript{1} (conservative rather than experimenting) and C (emotionally stable rather than affected by feelings). For senior high school students only, leadership and emotional control were the best predictors for non-starters. Practice FT under pressure situation were of no more benefit to game performance that practice FT without pressure.

Reeds\textsuperscript{13} conducted a study to determine their relationship between selected personality traits, state (pre competitive) anxiety and


performance in male and female competitive gymnasts. A second purpose of this study, given meaningful relationships concerning the basic purpose, was to develop a personality anxiety based model to predict performance among competitive gymnasts. Based upon the findings and within the limitations of this study, the following conclusions can be drawn: (1) The personality - anxiety model was supported by explaining over 51% of the variability in the criterion. (2) Pre-competitive anxiety was not a statistically significant predictor of gymnastics performance. (3) The hypothesis related to the personality performance relationship were not supported since the model explained only 38.1% of the total variability in gymnastics performance.

Shankar\textsuperscript{14} conducted a study on 78 male subjects out of which 13 were position winner gymnasts (means age 19.96) at 35 non-position winner gymnasts (mean age 19.6 years) who participated in All India Inter-university Gymnastic Championship and the rest 30 were non-athlete (mean age 20.7). The purpose of the study was to find out the personality type differences between position winner gymnasts and no

position winner and gymnasts and non-athletes. It was found that position winner gymnasts and non-position winner gymnasts did not differ significantly on any of the two dimensions of personality in neuroticism and extroversion. But, when the gymnasts were compared with non-athletes, it was seen that the two groups differed significantly at 0.01 level. The non-athletes were relatively more neurotic and extrovert in comparison to all the gymnasts.

Kavussanu and Roberts\(^{15}\) had a study to examine the relationship between perceived motivational climate and intrinsic motivation and self-efficacy and determined the role of goal orientation and perceived motivational climate in predicting intrinsic motivation and self-efficacy. College students (N=285) enrolled in beginning tennis classes completed a battery of questionnaires assessing perceived motivational climate, goal orientation, intrinsic motivation, self-efficacy, and perceived ability. Perceptions of mastery climate were positively associated with enjoyment, effort, perceived

competence, and self-efficacy and were inversely related to tension. In males, dispositional goal orientation and perceived motivational climate emerged as equally important predictors of intrinsic motivation, while mastery motivational climate was the only significant predictor of self-efficacy. In females, performance motivational climate was the strongest predictor or intrinsic motivation and self-efficacy. Perceived normative ability accounted for a substantial amount of unique variance in intrinsic motivation and self-efficacy in both males and females. The motivational implications of the findings are discussed, and directions for future research are provided.

Stephens and Bredemeier\textsuperscript{16} conducted the study on recent sport psychology research addressing athletic aggression has tended to focus either on the normal or the motivational dimensions of aggressive behaviour. The current study utilized both moral and motivational constructs to investigate aggression in young soccer participation \((n = 212)\) from two different age-group leagues; under 12 and under 14.

Stepwise multiple regression analyses revealed that players who described themselves as more likely to aggress against an opponent also were more likely to (a) identify a larger number of teammates who would aggress in a similar situation, (b) perceive their coach as placing greater importance on ego-oriented goals, and (c) choose situations featuring pre conventional rather than conventional moral motives as more tempting for aggressive action. These results suggests that young athlete's aggressive behaviour is related to their team's "moral atmosphere," including team aggressive norms, players' perceptions of these team norms and coach characteristics, and players' moral motives for behaviour.

Krane\textsuperscript{17} conducted a study to examine two innovative approaches concerning the relationship between anxiety and athletic performance by comparing predictions based on the multidimensional anxiety theory and catastrophe theory. A collegiate women's soccer team participated as subjects in this study (N=19). These athletes

completed the cognitive state anxiety inventory -2 (CSA 1-2). Results provided support for the multidimensional anxiety theory prediction that cognitive anxiety would be related to performance in a negative linear manner. Contrary to expectations, somatic anxiety, also displayed a negative linear relationship to performance, not the curvilinear relationship found in previous studies. The hypothesis that the combined effect of cognitive and somatic anxiety would account for significantly more of the performance variance that cognitive and somatic anxiety independently was not supported. However data trends were in desired direction.

Kane\textsuperscript{18} conducted studies on the personality profile and personality and physical ability of physical education students. Results indicated that the male athletes are high in extroversion with a tendency towards low level of anxiety then the normative population. Besides there he found that his male athlete subjects were happy go luck touch minded, out going, warm hearted, hold and having greater capacity for self control.

Hayashi and Weiss\textsuperscript{19} conducted a study is an absence of cross-cultural research on achievement motivation in sport has been identified by Duda and Allison (1990) as a void in the field of sport psychology. The purpose of this study was to conduct a comparative analysis of achievement motivation characteristics in Anglo-American and Japanese marathon runners. Subjects ($N = 358$) completed measures assessing achievement goal orientation and need for uniqueness prior to competing in a marathon race. Multivariate analyses indicated that the Anglo-American runners reported higher levels of competitiveness than the Japanese runners. Conversely, Japanese runners reported higher levels of win orientation. However, no gender or interaction effects were found. These results suggest that cultural differences exist on achievement motivation indicators among competitive sport participants, leading support for the nation that cultural factors should be considered more frequently in sports motivation research.

Caruso and Gill\textsuperscript{20} conducted a study to examine the relationship among components of the competitive state anxiety inventory - 2 to each other, to physiological measures, and to performance prior to, during and after a bicycle competition. Undergraduate male students (N = 24) participated in three counter balanced conditions; (a) non competition (b) success and (c) failure. Participants completed the CSAI-2 at pre-mid and post competition in each condition, and frontals muscle activity was recorded at those times. Results revealed that the cognitive and somatic components of state anxiety are moderately related to one another and change differently over time. Intra individual regression analysis conducted to test relationship between anxiety and performance revealed no linear or curvilinear relationship between any of the CSAI-2 components and performance. The frontal is EMG/performance relationship was best explained by a linear trend. The findings support the prediction that competitive state anxiety is a multidimensional construct with related components that are influenced by competitive conditions and task demands.

Layman\textsuperscript{21} makes it clear that the very success champion athlete, with his strong need to continue that success, could keep him under the kind of pressure that would result in the maintenance of a state of chronic anxiety.

Bujarke et. al.\textsuperscript{22} conducted a study on 50 athletes participated in All India Intervarsity Athletic Meet in 1988, to investigate the relationship between achievement motivation, causal attribution and performance in track and field events. The findings were:

1. Achievement motivation is generally a contributing factor to athletic performance.

2. Athletes may attribute their success in some events to ability, task difficulty, effort and luck but not others.


Larson's study of galvanic skin responses were recorded on 12 college varsity basketball players at various times. GSR's before and after each practice and game were significantly higher than those before the practice season started. Regular players tended to show the largest and substructures the least increase over the preseason norm. GSR's after conference games were significantly higher than those after other games. The largest GSR's occurred after conference games, the next largest after games that were lost, and the third largest before games that were won. A correlation between ranks in the normal GSR test and scoring in games was insignificant.

Mc Clanny selected 'high fitness' and 'low fitness' groups of college men and compared their personality characteristic as measured by Cattel's 16 personality factors questionnaire, self-concept and academic aptitudes. He concluded that high fitness groups appeared to be more groups dependent while the low fitness group was more self-sufficient.

In an archival study, Widmeyer and Birch\(^{25}\) examined the relationship between aggression and performance of 32 professional ice hockey teams of various times during 1,176 games over a period of four seasons. Aggressive penalties were operationally defined as non-sanctioned aggressive acts in which a player will make the intent to do harm (i.e., slashing, spearing, high sticking, cross checking etc.) were separated out from accidental penalties such as tripping or interference which are usually committed in order to prevent the opponent from scoring. The average number of points a team accumulated per game was correlated with a number of dependent measures, average penalty minutes per game in the first segment of the season. Result indicted no significant relationship between aggression and team performance. For all games combined, however, a significant positive relationship was obtained for aggression exhibited by teams in the first period of games and the average number of points they accumulated per game. The authors concluded that aggression is as effective strategy to achieve success in an ice hockey game, provided it takes place early in the contest.

Lane et. al. had a study was to evaluate the factor structure of the competitive state anxiety inventory - 2 (CSAI-2) using confirmatory factor analysis. Volunteer participants \( n = 1213 \) completed the CSAI-2 approximately one hour before competition and the data were analysed in two samples. The hypothesized model showed poor fit indices in both samples independently (Robust comparative fit index: sample A = 0.82, sample B = 0.84) and simultaneously (comparative fit index = 0.83), suggesting that the factor structure proposed by Martens et.al. is flawed. Out findings suggest that a limitation of the cognitive anxiety scale derives from phrasing items around the word 'concerned' rather than 'worried.' We suggest that being concerned about an impending performance does not necessarily mean that an athlete is experiencing negative thoughts, but that the athlete is acknowledging the importance and difficulty of the challenge and is attempting to mobilize recourse to cope. The present results question the use of the CSAI-2 as a valid measure of competitive state anxiety.

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Williams and Gill\textsuperscript{27} conducted the study to understanding the role of perceived competence in the motivation of sport and physical activity is an important endeavour. This study attempted to examine the role of perceived competence by (a) investigating its relationship with goal orientations as hypothesized by Nicholl's theory of achievement motivation, and (b) testing a proposed model linking goal orientations and motivated behavior. Students (N=174) completed questionnaires assessing goal orientations, perceived competence, intrinsic interest, and effort. Regression analyses revealed the task orientation was a good predictor of effort; however, the interaction of ego orientation and perceived competence failed to adequately predict effort. Path analysis results revealed the task goal orientation, but not ego orientation, directly influenced perceived competence, intrinsic interest, and effort. In addition, intense interest played a mediating role between perceived competence and effort and between task goal orientation and effort.

Sewell and Edmondson\textsuperscript{28} conducted this study examined relationships between pre-competitive state anxiety and field position in a sample of 121 soccer and field hockey players. Pre-game state anxiety was measured by use of the competitive state anxiety inventory-2 (Martens, Vealey and Burton, 1990) 30 minutes before the start of a university level game. Analysis of the data revealed that goalkeepers had significantly higher levels of cognitive anxiety than players in other positions, and were also more somatically anxious and less self-confident than defenders of out field players, midfield and forward players were more somatically anxious than defenders and midfield players were less self-confident than defenders. There were no significant differences on any other measures between midfield and forward players, nor were there any main sport effects. There were no significant gender differences on cognitive or somatic anxiety, but males were, overall, more self-confident than females.

Widmeyer and McGuire\textsuperscript{29} conducted this study to find the relationship between frequency of competition and aggression won examined in professional ice hockey. Data on the 9,318 aggressive incidents which occurred in 840 NHL games were collected from official game reports. Aggression is 345 interdivisional games, where teams played each other seven or eight times, was compared to that is 495 interdivisional games, where teams completed with each other only three times. The 13 measures of aggression were the subject defined aggressive penalties (Widmeyer and Brich, 1978). Results of the MANOVA supported the hypothesis that when teams competed more frequently (interdivisional) there was more aggression ($p < 0.001$) than when they competed less frequently. Univariate analyses revealed significant differences for fighting, roughing, cross checking, high sticking, elbowing, slashing, and charging (all $Ps < 0.001$). In addition, it was shown within both intradivisional and interdivisional competition that aggression increased as the number of meetings between the teams increased. Results were seen as supporting Sherof

et al. (1961) intergroup conflict theory. Implications of the effects that unbalanced schedules have on aggression were discussed.

Newman\textsuperscript{30} studied that the personality traits of faster and slower competitive swimmers, the purpose of the study was to add to the knowledge of characteristics of swimmers by determining whether the factor which make a better swimmer, correlate significantly with measured personality traits, twenty one swimmers were trained throughout the swimming season on each of the swimming events, and rank of each swimmer was given the personality test. Statistical analysis of the ranking of their personality tests was made in the various stroke, then rank differences were correlated and were found significant at 0.05 level indicating a tendency for rank of swimmers performance to correspond with rank of personality variables.

McAuley and Duncan\textsuperscript{31} conducted the study suggested that attributional search is a consequence of disconfirming outcomes and that causal dimensions influence affective reactions to achievement


outcomes. The present study manipulated future expectancies for performance and actual outcome in a competitive motor task. Following competitive outcome, causal attribution, for and affective reactions to the outcome were assessed. Discriminate analysis indicated that winners experienced significantly more positive affect than did losers, who reported more intense negative affects. Regression analyses examined the relationship between causal dimensions and affective reactions. The locus of causality and stability dimensions significantly influenced a number of negative affects in losers, whereas all three dimensions in combination significantly influenced confidence in winners. The findings are discussed in relation to previous attribution - affect research in achievement settings and the role of disconfirming experiences in the attribution process.

Bushman and Wells\textsuperscript{32} analysed previous studies examining the validity of measures of trait aggressiveness either have been retrospective studies or have used laboratory aggression as the

criterion behavior. Can a measure of trait aggressiveness predict no laboratory physical aggression? The physical aggression subscale of the aggression questionnaire was completed by 91 high school hockey players prior to the start of the season. At the end of the season, these trait aggressiveness scores were regressed on minutes in the penalty box for aggressive penalties (e.g., fighting, slashing, tripping) and minutes in the penalty box for non aggressive penalties (e.g. Delay of game, illegal equipment, too many players). As expected, preseason trait aggressiveness scores predicted aggressive penalty minutes ($r = 0.33$) but non aggressive penalty minutes ($r = 0.04$).

Maynard, Evans and Smith\textsuperscript{33} conducted this study to evaluate the effects of a cognitive intervention technique and to further examine the anxiety - performance relationship in semi-professional soccer players. Participants completed a composite version of the competitive state anxiety inventory-2 (CSAI-2) 20 minutes before there soccer league matches. Two experimental groups, one suffering from debilitating cognitive anxiety (n=8), one suffering from debilitating

somatic anxiety (n=8), undertook a 12 week cognitive intervention. Player performances were evaluated using intraindividual criteria. A series of two-way analysis of variance (group and event), with repeated measures on the second factor, indicated significant group X. Event interactions for cognitive anxiety intensity and direction, and somatic anxiety intensity and direction, yet failed to reveal significant interactions or main effects for the performance measures. This study provided partial support for the 'matching hypothesis' in that a compatible treatment proved more effective in reducing the targeted anxiety in both experimental groups.

Ciccolella\textsuperscript{34} conducted a study to determine any differences in aggression of male and female athletes. Subjects for this study included male and female undergraduate students of Alma College and Brigham Young University who participated intervarsity athletics in basketball, softball (baseball for men), tennis, and swimming during the 1977-78 academic calendar year. The study employed the Minnesota Multiphase Personality Inventory (MMPI) as the measuring instrument. The scales of the MMPI selected to determine

\textsuperscript{34} Margaret Elizabeth Ciccolella, "Differences in Aggression of Male and Female Athletes," \textit{Dissertation Abstracts International} 39:6 (December 1978):3447-A.
aggression were 2 (depression), 3 (Hysteria), 4 (Psychopathic Deviancy), 5 (Masculinity femininity) and 9 (Hypomania). The statistical analysis included a university analysis of the five selected MMPI scales and an inspection of group mean profiles. The conclusion of this study was that female varsity athletes were more aggressive than male varsity athletes.

Davis and Mogk\textsuperscript{35} conducted the study for classification problems in many earlier studies have made it difficult to determine whether the observation of personality difference between athlete and non athlete groups is related to success in sport, or simply to participation in athletic activities. The purpose of the present study was to compare elite athletes, sub elite athletes, recreational sport enthusiasts, and a non-athlete control group on a number of the personality variables that have been related to sport and athletics in previous research. Thirty subjects (15 male and 15 female) were tested in each group. Results provided no evidence that elite athletes could

be distinguished from other groups on extraversion, neuroticisms, tough-mindedness, sensation-seeking, or achieving tendency. However, those classified a recreational sport enthusiasts had higher scores than any other group on the psychoticism scale, and they were the only group who had higher extraversion scores that non-athletes controls. It was concluded that the adaptiveness of extraversion, sensation seeking, and psychoticism to sporting activities is likely to be diminished among high performance athletes, at least is non-team sports, because of the long hours of solitary and repetitive training that is required for successful competition.

Lynn\textsuperscript{36} conducted a study to find out whether attribution to retaining could be applied as preventing intervention for fostering achievement motivation in early primary students.

One hundred twenty kinder garden children were randomly selected as students' for the study each student was assigned to one of four treatment conditions. (a) attribution training/holo schema reinforcement (HSR), (b) attribution training/ No HSR, (c) no

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attribution training/HSR, (d) no attribution training/No HSR. The procedure involve in all four shars are as - (a) initial expectancy of success rating, (b) discrimination card game during which attribution occurred (c) assembly of three puzzled during which HSR occurred and (d) final expectancy of success rating.

Analysis of variance with repeated measure revealed that attribution training did not procedure the expected increase in persistence. Infact, children all treatment condition became less persistence. Chi-square analysis indicated that significantly more children in the attribution training condition attributed failure to insufficient effort and success to adequate effort than student who did not receive attribution training, chi-square analysis also revealed that many of the children naturally tended to use holo schema reasoning. The reinforcement procedure did not produce a significant difference. It was concluded that some qualities associated with high achievement motivation i.e., taking responsibility of outcome and attributing the cause of success and failure to personal effort were strengthen through attribution training.
Rodrigo, Lusiardo and Pereira\textsuperscript{37} conducted a study to examine how the components of the competitive state anxiety inventory (CSAI-2) are related to each other and their relationship with performance in 51 male soccer players from four professional teams. The results indicated a moderate relationship between cognitive worry and somatic anxiety, confirming that there are separate, but related components of state anxiety. Also, cognitive worry was more consistently and inversely related to performance. Finally alpha coefficients of the Spanish version indicate that it is an internal reliable measure.

Hewitt and Jackson\textsuperscript{38} investigated differential attributions for win-loss in competitive tennis. Subjects were ten men and ten women from a high school tennis team. Each was asked to consider the last time they won a league match and to weight five factor in determining the outcome. The factors were skill, hustle, off-day, bad conditions, and luck. The weighting was done by asking respondents to distribute


100 points across the five categories in accordance with the importance of that category in determining the outcome. Outcome was a significant factor only for the categories of off-day ($t_{19} = 3.58$ p.01) and hustle ($t_{19} = 2.71$ p.0.05). The results suggests that one's own skill and effort are the most likely explanations for a loss. It is interesting to note that a personal win is rarely attributed to an opponent's lack of effort or an opponent's off-day but instead is attributed to ego centre elements of personal skill and effort and that a personal loss is rarely attributed to one's own lack of effort but rather to a "face-saving" elements of having an off-day.

Hanton, Jones and Mullen\textsuperscript{39} conducted this study reports the findings of past of an ongoing research programme examining sports performer's interpretations of competitive anxiety prior to competition. The notion of "directional perceptions" has questioned the limited utility of examining only the intensity of competitive anxiety responses as has Jones. The purpose of the study was to examine intensity and

\textsuperscript{39} S. Hanton, G. Jones and R. Muller, "Intensity and Direction of Competitive State Anxiety an Interpreted by Rugby Players and Rifle Shooters," \textit{Perceptual and Motor Skills} 90:2 (April 2000):513-12-A.
direction, that is, interpretation of intensity as facilitative or debilitating, of anxiety symptoms as a function of two types of sport. The types of sport were explosive (rugby league) version fine motor skills (target rifle shooting). The sample comprised 50 male rugby league participants and 50 target rifle shooters who completed a modified version of the competitive state anxiety inventory -2 prior to competition. Contingency analysis yielded a significant difference in the number of rugby players who reported somatic anxiety as facilitative and the number of rifle shooters who reported somatic states an debilitating. No such differences were evident for cognitive anxiety. Analysis of variance indicated no difference between the two groups on the intensity of cognitive and somatic anxiety, but the performers competing in rugby league interpreted both states as being more facilitative to performance; the rugby league players also higher scores on self confidence than the shooters. These findings provide continuing support for the measurement of direction on perceptions of competitive anxiety and highlights the importance of examining individual sports.
Maxon\textsuperscript{40} conducted a study to find the relation between achievement motivation and performance in competitive swimming. The tendency and a survey of a swimming achievement instrument designed by investigator were given to 44 college swimmers (29 males and 15 females) from four universities. The results obtained were as follows:

1. There were significant success survey questionnaire and the swimming success survey.

2. College swimmer's achieve significant by scores on Mehrabian measurement of achievement tendency than the norms for the college students in general.

3. Female swimmers obtained significantly higher level of achieving tendencies than the level of the male swimmers.

Robinson and Howe\textsuperscript{41} conducted the study to determine which of the causal dimensions of locus stability and constability were most


clearly associated with mood state profiles for both personal performances and team win or loss outcomes. The causal dimension scale and the profile of mood states were employed to assess attributional inferences and mood profiles over a crucial three game period. Although sample size prohibited the use of multivariate analysis, univariate analysis revealed that the unsuccessful performance, group experienced significant pre to post game mood disturbance, while the successful performance group demonstrated positive mood profiles for both pre and post game conditions. The successful group also attributed significantly more to controllable and stable factors than did the unsuccessful group. The win/loss outcome analysis revealed significantly greater post-game mood disturbance and dramatic one-to-post game mood disturbance for the team loss situation. No significant differences were revealed between the teams win and the team loss attribution. Finally, correlation analysis for both sets of the performance and outcome results indicated constability to be the dimension most clearly related to emotional reactions with stability and locus being loss efficiently involved.
Raglin\textsuperscript{42} conducted study appears that there is little evidence in support of the inverted - U hypothesis. Available research indicates that there is considerable variability in the optimal pre competition anxiety responses among athletes, which does not confirm to the inverted - U hypothesis. Many athletes appear to perform best when experiencing high levels of anxiety and interventions that act to produce quiescence may actually worsen the performance of this group. These findings indicate that there is a need to shift the research paradigm away from theories of anxiety and performance based on task characteristics or group effects and, instead, employ theoretical models that account for individual differences. Hanin's (39,40) ZOF theory appears to be a good candidate for furthering our knowledge in this area. It was developed on the basis of research with athletes and it explicitly incorporates the concept of individual differences in the anxiety-performance relationship. Most important, because an individual's optimal range of anxiety in precisely defined, the validity of ZOF theory can be directly examined through hypothesis testing.

whereas it has been argued that the invested - U hypothesis is effectively shielded against falsification (84). Although the findings of ZOF theory indicate that a significant percentage of athletes perform best at high levels of anxiety, Hanin's translated writings do not provide an explanation of why these is so. Further research is clearly indicated, but on explanation for this finding may involve how the athlete interprets or conceptualizes anxiety. For example, Mahoney and Avener (64) found that, although the absolute level of pre competition anxiety was similar between successful and unsuccessful Olympic gymnasts, there were differences in the way the athletes conceptualized the anxiety they were experiencing. The better performers viewed their anxiety as desirable, whereas anxiety was associated with self-doubts and catastrophizing in the unsuccessful gymnasts. Similar differences have been observed in the test anxiety literature where it has been found that poorer test taken perceive their anxiety to be more threatening and debilitating than do better performer (45).. Furthermore, temporal and differences in the patterning of anxiety, fear response, or cardio-respiratory measures have been found between successful and unsuccessful performers; this may reflect a difference in the ability to regulate anxiety. It may also
be the case that performance is not so much affected by the absolute level of pre competition anxiety on the consistency in the anxiety level across competitions. Athletes may also develop coping strategies that exploit consistent changes in attentional focus that result from elevated anxiety.