

ANALYSIS OF PSYCHOLOGICAL CHARACTERISTICS OF MALE AND FEMALE SPORTSPERSONS OF SELECTED SPORTS DISCIPLINE

By

JAYAKUMAR.R

A Thesis Submitted to
the University of Calicut for the Degree of

DOCTOR OF PHILOSOPHY IN PHYSICAL EDUCATION

Under the Supervision of

Dr. P.T.JOSEPH

Director of Physical Education
Kannur University
kannur



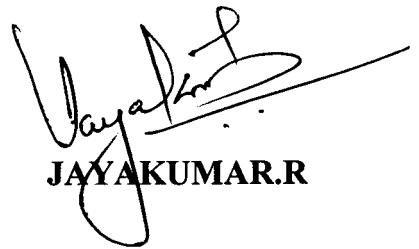
**DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT
KERALA
JULY 2010**

DECLARATION

I hereby, declare that the thesis entitled " **ANALYSIS OF PSYCHOLOGICAL CHARACTERISTICS OF MALE AND FEMALE SPORTSPERSONS OF SELECTED SPORTS DISCIPLINE**" submitted to the University of Calicut, Kerala for the award of the Degree of Doctor of Philosophy in Physical Education is a record of bonafide research work done by me under the guidance and supervision of **Dr. P.T.JOSEPH**, Director of Physical Education, Kannur University, Kerala and it has not previously formed the basis for award of any degree, diploma, associateship, fellowship or other similar title or recognition of any other University.

C.U.Campus,

Date:



JAYAKUMAR.R



SCHOOL OF PHYSICAL EDUCATION & SPORTS SCIENCE
MANGATTUPARAMBA
KANNUR UNIVERSITY CAMPUS P.O., KANNUR-670 567, KERALA

Dr. P. T. JOSEPH
Director of Physical Education

Date.....

Certificate

This is to certify that the work entitled "**ANALYSIS OF PSYCHOLOGICAL CHARACTERISTICS OF MALE AND FEMALE SPORTSPERSONS OF SELECTED SPORTS DISCIPLINE**" is a piece of research work done by **JAYAKUMAR.R**, under my guidance and supervision for the degree of Doctor of Philosophy in Physical Education in the University of Calicut, Kerala. The completed research study by the scholar is original of this kind and has not been carried out by any scholar in any other University.

Kannur,

Date: 17/07/10

A handwritten signature in black ink, appearing to read 'P. T. Joseph', is written over the printed name.

Dr.P.T.JOSEPH

Dedicated to
My Parents, Wife & Children

ACKNOWLEDGEMENT

At the outset, the investigator thanks the Almighty God for showering grace for the successful completion of this research work.

*The investigator is greatly indebted to **Dr. P.T.Joseph**, Director of Physical Education, Kannur University, Kerala whose incomparable and inspiring guidance, thoughtful and helpful comments, have been a never wavering support for the investigator during the entire period of the study. I owe very much to him and express earnest gratitude.*

*The investigator expresses his heartfelt gratitude to **Dr. K.P. Manoj**, Assistant Director & Head, Department of Physical Education, University of Calicut for his scholarly assistance and tireless efforts in finalizing different phases of the study.*

*The investigator wishes to express his thankfulness to **Dr. Elamaran M.**, Lecturer, Department of Physical Education & Sports Sciences, Annamalai University for his scholarly assistance and service which made this endeavour fruitful.*

*The investigator wishes to express his gratitude to **Dr. T. I. Manoj**, Professor, Department of Physical Education, Agriculture University, Vellayani, Kerala for his generous and constant assistance throughout the work.*

*The magnitude of assistance provided by **Dr. Madhavan. N** and **Dr. K. Kesavadas**, Lecturers, Centre for Physical Education, University of Calicut, during different phases of the work has been "duty above and beyond the call". The investigator expresses his heartfelt gratitude to both.*

*The investigator has been lavished with an inexhaustible fund of support and encouragement from his friends **Dr. Abdussalam**, Lecturer, Govt. Medical College, Calicut, **Mr. Wilson. V. A.**, Lecturer, Department*

*of Physical Education, Kannur University, **Dr.Babu .D.Thattil**, Lecturer, Govt.college Pattambi, **Dr.JoeJoseph**, Physical Education Teacher, Govt.School Palakkad, **Dr.GeorgeJoseph**, Lecturer, Government College of Physical Education ,Calicut, **Mr. Anilkumar.N**, Lecturer, Christ College, Irinjalakkuda, their assistance and service are deeply acknowledged.*

*The investigator is really thankful to **Mr.Mohammed Najeeb**, M.Phil Scholar,School of Physical Education and Sports Science,Kannur University for his help in data collection and completion of this study.*

*The investigator is again thankful to **Mr.Rajesh. K., Bina Photostat,Chenakkal**, for his meticulous typing of the report.*

With all humility, the scholar recognizes the inspiration and assistance shown to him by all his friends, the teachers and students of Centre for Physical Education, University of Calicut, throughout the study.

The investigator is highly obliged to his devoted family for giving genuine support and encouragement throughout the course of this study as well as career.

Last but not the least the investigator wishes to place on record his deep indebtedness and gratitude to one and all, those have helped, contributed and inspired directly and indirectly in the preparation of this doctoral thesis.

JKR.

CURRICULUM VITA

PERSONAL INFORMATION:

Name : JAYAKUMAR. R
Date of Birth : 06-01-1971
Place of Birth : Mavelikkara, Alappuzha

EDUCATIONAL QUALIFICATIONS:

M.Phil : Certificate from Alagappa University
(Department of Physical Education and HealthSciences ,Alagappa University (1996-97)
MPed : Certificate from Alagappa University (Alagappa University College of Physical Education)
B.Sc Botany : Certificate from Kerala University
Pre-Degree (2nd Group) : Certificate from Kerala University
SSLC : Secondary School Leaving Certificate from Department of Education, Kerala state.

PROFESSIONAL EXPEREIENCE:

- Worked as Physical Education Teacher in the Sree Budha Central School, Karunagappally, Kollam from 04/08/1997 to 06/12/1997.
- Worked as Lecturer in Physical Education, Kerala University Teacher Education Centre, Kayamkulam. Alappuzha, from 08-12-1997 to 11/09/1998.
- Served as Co-ordinator at the Centre for Physical Education, University of Calicut for a period from 08/01/2003 to 08/08/2003 and 28/01/2005 to 03/01/2007.
- Working as Lecturer in Physical Education, at the Centre for Physical Education, University of Calicut, since September 1998.
- Served as member of Board of Examination, University of Calicut for MPed ,BPed and BPE courses.
- Served as member of Board of Examination, University of Kannur for MPed and BPed courses.
- Served as Selector for various Calicut University teams for later University Competitions.

- Served as Manager of Calicut University team for various Inter-University tournaments.
- Organized various Inter-Collegiate tournaments in the Centre, University of Calicut.
- Served as organizing Committee member for various All India Inter-University tournaments held at Calicut University Campus.
- Attended various National Seminars and Workshops.
- Presented papers in various Seminars.

ACHIEVEMENTS:

- Coach of Calicut University Men Cricket team since 2003.
- Coach of Calicut University Women Cricket team, 2005-06.
- Assistant Coach of Calicut University Women Cricket team, 2009-10.
- Calicut University Women Cricket team bagged the Champions trophy in the All India Inter – University tournament during the year 2009-10, became runner-up in the South – West Inter-University tournament during the same year.
- Calicut University Men Cricket team became the runner up in the Anandam Ammal Memorial All India Inter University Twenty – Twenty Cricket tournament organized by Kalasalingam University, Tamil Nadu in the year 2007-08. Runner in the All India Inter – University 20-20 tournament held at Gualior 2009-10.
- Centre for Physical Education Men Cricket team became runner up in the year 2002-03, bagged champion ship in 2003-04 and forth position in the year 2008-09.
- The Women Cricket team secured 3rd place in the year 2005-06 in the Calicut University Inter-Zone Cricket tournament.
- Centre for Physical Education Men Softball team became the runner-up 2002-03, Winner 2003-04, Winner 2004-05, runner-up 2005-06 runner-up 2006-07, in the Calicut University Inter-Zone Softball tournament.

SOCIAL SERVICE:

- Worked as N.S.S. Programme Officer during the year 1999 - 2001.

TABLE OF CONTENTS

Chapter	Title	Page No.
	LIST OF TABLES	
	LIST OF FIGURES	
I	INTRODUCTION	1
	Statement of the problem	
	Delimitation	
	Limitation	
	Hypotheses	
	Definition and Explanation of terms	
	Significance of the study	
II	REVIEW OF RELATED LITERATURE	44
	Aggression	
	Anxiety	
	Achievement Motivation	
	Self-confidence	
	Neuroticism	
	Extroversion	
III	METHOLOGY	104
	Selection of subjects	
	Selection of variables	
	Selection of Tools	
	Collection of Data	
	Administration of Questionnaire	
	Aggression	
	Anxiety	
	Self-confidence	
	Achievement – motivation	
	Neuroticism and Extroversion	
	Statistical technique	

IV	ANALYSIS OF DATA AND RESULT OF THE STUDY	114
	Analysis of Data	
	Discussion on findings	
	Discussion on Hypotheses	
V	SUMMARY, CONCLUSION AND RECOMMENDATION	160
	Summary	
	Conclusion	
	Recommendation	
	BIBLIOGRAPHY	169
	Books	
	Journals and Periodicals	
	Proceedings of Conference/Seminar	
	Miscellaneous	
	APPENDIX	i

LIST OF TABLES

Table No.	Title	Page No.
1	Descriptive Statistics of Aggression Scores Among Male group	115
2	Analysis of Variance of Aggression Score among selected Male group	115
3	Pair wise comparison of Aggression scores of Male players in selected group	116
4	Descriptive Statistics of Aggression Scores Among Female group	117
5	Analysis of Variance of Aggression Score among selected Female group	117
6	Pair wise comparison of Aggression scores of Female players in selected group	118
7	Descriptive Statistics of Self-confidence Scores Among Male group	120
8	Analysis of Variance of Self-confidence Score among selected Male group	120
9	Pair wise comparison of Self-confidence scores of Male players in selected group	121
10	Descriptive Statistics of Self-confidence Scores Among Female group	122
11	Analysis of Variance of Self-confidence Score among selected Female group	122
12	Pair wise comparison of Self-confidence scores of Female players in selected group	123
13	Descriptive statistics of Achievement Motivation scores among Male group	125
14	Analysis of Variance of Achievement Motivation scores among selected Male group	125
15	Descriptive Statistics of Achievement Motivation Scores Among Female group	126
16	Analysis of Variance of Achievement Motivation Score among selected Female group	126
17	Pair wise comparison of Achievement Motivation scores of Female players in selected group	127

Table No.	Title	Page No.
18	Descriptive Statistics of Anxiety Scores Among Male group	129
19	Analysis of Variance of Anxiety Score among selected Male group	129
20	Pair wise comparison of Anxiety scores of Male players in selected group	130
21	Descriptive Statistics of Anxiety Scores Among Female group	131
22	Analysis of Variance of Anxiety Score among selected Female group	132
23	Pair wise comparison of Anxiety scores of Female players in selected group	133
24	Descriptive Statistics of Neuroticism Scores Among Male group	135
25	Analysis of Variance of Neuroticism Score among selected Male group	135
26	Descriptive Statistics of Neuroticism Scores Among Female group	136
27	Analysis of Variance of Neuroticism Score among selected Female group	136
28	Pair wise comparison of Neuroticism scores of Female players in selected group	137
29	Descriptive Statistics of Extroversion Scores Among Male group	139
30	Analysis of Variance of Extroversion Score among selected Male group	139
31	Pair wise comparison of Extroversion scores of Male players in selected group	140
32	Descriptive Statistics of Extroversion Scores Among Female group	141
33	Analysis of Variance of Extroversion Score among selected Female group	141
34	Pair wise comparison of Extroversion scores of Female players in selected group	142
35	Comparison of Aggression scores between Male and Female players	144

Table No.	Title	Page No.
36	Comparison of Self-confidence scores between Male and female players	144
37	Comparison of Achievement Motivation scores between Male and female players	145
38	Comparison of Anxiety scores between male and female players	146
39	Comparison of Neuroticism scores between male and female players	146
40	Comparison of Extroversion scores between Male and female players	147

LIST OF FIGURES

Figure No..	Title	Page No.
1	Means of aggression scores among selected Male and Female group	119
2	Means of self-confidence scores among selected Male and female group	124
3	Mean of Achievement – Motivation scores among selected Male and female group	128
4	Mean of Anxiety scores among selected Male and female group	134
5	Mean of Neuroticism scores among selected Male and female group	138
6	Mean of Extroversion scores among Male and female group	143

Introduction

- ✦ Statement of the problem
- ✦ Delimitation
- ✦ Limitation
- ✦ Hypotheses
- ✦ Definition and Explanation of terms
- ✦ Significance of the study

CHAPTER I

INTRODUCTION

Man has through the ages been bellicose, an ambitious animal in the universe with a tendency to conquer the highest as much as possible. From monkey to homosapien he has survived in this universe by fighting with other animals in order to occupy the position of being the emperor of the planet. When he evolved into complete human being as we find him now, he continued his congenital attitude of fighting against his own fellow being not only physically but also psychologically and intellectually, where survival of the fittest was the only moto.

Sports is an artistic transformation of the inherent fighting nature of human being. Now-a-days, sport is more than competition or winning medals. It has a wide impact on the social, political and patriotic domains of the country and hence the pressure on sports persons and athletes have immensely increased, where psychological parameters have a big role on the performance of athletes and sports persons.

By nature human beings are competitive and ambitious for excellence in all athletic performance. Not only every man but every nation wants to show their supremacy by challenging the other nation. Thus this challenge stimulates, inspires and motivates all the nations to sweat and strive, to run

faster, jump higher, and throw faster in the present competitive sports world. This can only be possible through scientific, systematic and planned sports training as well as channelizing them into appropriate games and sports finding out their potentialities (Carl. E. Klafs & Daniel D Aruheim, 1969).

Sport is a highly organized form of play and play is a general innate tendency. Play is very important for the preservation, growth and development of an organism. From its very simple form, today sport has emerged into a highly organized activity of human society(Dr. M.L. Kamlesh and M.S. Sangral,1980).

Sports performance is indeed an aspect of complex human performance, which has several aspects or dimensions. Hence several disciplines of sports science are required to work in a co-ordinate manner to explore the nature of sports performance and the process of improving sports performance; they have been established in the last few decades. These disciplines include sports medicine, sports physiology, sports training, sports biomechanics, psychology and certain aspects of sports performance and sports training (Hardayal Singh, 1991).

Sports has both psychological and social dimensions apart from physical, physiological and technical aspects. People's interest in sports is found in all societies of the world. Most of the nations share a common interest in sports competition, especially at certain times during Olympic

game, when the people of every nation focus their attention on that drama of the competition. The teams are prepared not only to play the games, but also to win. For winning the games, it is not only the proficiency in the skills, which bring victory, but more important is the spirit of the players with which they play and perform their best in the competition (Alderman,1974)

Participation in modern sport is influenced by various physical, physiological, sociological and psychological factors. During training, besides good physique and physical fitness of the athlete, main emphasis is laid on the development of various types of motor skills involved in the game as well as on teaching the strategies, techniques and tactics of the game. Until recently, the coaches have been paying no adequate attention to the social and psychological factors which although have been proved to contribute to performance in events in the higher competitive sports. It is only recently that sports administrators and coaches have realized the importance of the psychological preparation and training of the players to enable them to bear the strain and stress inherent in sports participation. So now the sports trainers and coaches have started giving more importance to the psychological conditioning or in building the mental make-up of the players before their contests in the national and international competitions (Dr. Agya Jit Singh).

Psychology is the science of activities of an individual in relation to his environment. Some psychologists who analyzed the mind said that the mind

could think feel and act. The most accepted definition is that Psychology is the science of behaviour and experience. Behaviour includes all manifestations of life. As a pure science, Psychology is concerned primarily with systematic study of behaviour and other verification through experimentation.

Sports psychology, a new discipline of the 20th century is a branch of psychology which deals with the scientific study of sportsmen's behaviour in various sports setting. Sports is typically understood in the sense that it includes recreations, physical activities as well as highly organized competitive sports and games. Sports psychology applies the psychological principles in sports situation. It aims at understanding an athlete and helps to enhance his learning potentials and tackles the competition situation effectively.

Sports psychology is mainly concerned with psycho regulative analysis of sports ability and performance. Sports ability's relationship with training and competition, psychology of different sports and physical exercise, psychological effect of subjective and objective environments, formulation of personality through sports ability and participation utilizing the psychological principals in preparing the athlete and application of socio psychological findings.

Almost all serious athletes soon learn that peak performance requires more than physical training. Mental and emotional "conditioning" are also important. Recognizing this fact, many teams, both professional and amateur, now include psychologists among their staff. The sports psychologist might also provide personal counseling for performance by lowering stress and conflicts, besides in those factors that affect athletic achievement.

Fross and Troppmen (1976) stated that there are many factors which influence the behaviour of sportsmen such as psychological, sociological etc. The psychological variables are anxiety, self confidence, self concept, personality, aggression, motivation, perseverance, fear etc. These psychological variables have both positive and negative effects on the performance of athletes.

Psychology of sports means applying psychological theories and concepts to aspects of sports such as coaching and teaching. The sports psychologist uses psychological assessment techniques and intervention strategies in an effort to help individuals to achieve their optimal performance. While sports psychology is concerned with analyzing human behaviour in various types of sports setting; it focuses on the mental aspects of performance.

Psychologists believe that winning and losing should not be considered a subjective experience of the athlete alone. It has been found deeply related

to performance in the subsequent competition. Losing threatens sports where as winning strengthens it. This fact has been substantiated by Dr. Pani (1980) who found that the decrease in the intelligibility of kinesthetic sensations was more pertinent after defeat than the post – victory stage (Gurbaksh S. Sandhu, 1992).

Many different types of social relationships exist in sport. For example, individuals have distinct relationships with a close sport friend, their teammates as a group, and their coach. Peer relationships are relationships between relative equals, while athlete-adult relationships represent imbalances in power. In general, peer relations can be divided into two distinct categories: friendship and peer acceptance. Friendship describes a close, mutual dyadic relationship between two individuals, while peer acceptance describes a group-level construct of acceptance or liking by the peer group. Strong links in the academic domain have been established between peer relationships and social competence, friendliness, cooperativeness, altruism, perspective-taking, and self-esteem.

Peers play an important role within the sport context as well. Positive team interactions, friendship, and social support from peers are strong sources of sport enjoyment, motivation, expectation of success, and future participation intentions.

In the case of psychological skills the main aim is to maximize the probabilities of success. Sport psychology lectures are known to be both very entertaining and informative. Coaches and players are realizing that to get a head they need an added resource and that resource is a trained mind. Whatever the reason, the fact remains the same, they are not utilizing their most powerful resource, the mind. Most athletes fatigue mentally before they fatigue physically, due to the fact that their mind is not in a good shape as their bodies. The mind-body connection is a very powerful one. For everything you think in your mind, your body has a reaction, regardless of whether it is real or imagined (Karlene Sugarman, M.A., 1998).

The trend of serious, year round training and competition in sports has helped athletes equalize in sports the skill at the top, making the limit in competitions physical preparation, and making psychological components more important than ever before. Today's psycho for sports is of top most importance with the sole aim of enabling the athlete to select, act up on and persistently refine a procedure to give the best.

Psyche is the word used to describe a person's whole state of mind. This can be negative or positive, and is rarely both at the same time. Now and then, we can feel natural but otherwise we can be either mostly positive or mostly negative.

By positive mentality we mean feelings, thoughts and an energy level that steer the body in an advantageous way. A negative mentality is the opposite, feelings, thoughts and energy that are negative in character, thus controlling the body, and hence the performance, in a negative way (Willio,1986)

The best, most consistent, and most confident performers are able to control or channel their emotions, to focus their concentration, and to bounce back from setbacks in an emotionally mature or constructive way. They have refined their ability to quickly shift from an emotional reaction to a performance focus, particularly in response to increased anxiety or errors. High levels of excellence are developed long before the day of the event, through countless hours of practice and through experience which allow you to learn how to maintain control over your own emotional state (Terry, 1980)

The emphasis would be on the athlete's own capacity and ability to feel and to experience what is going on in his or her body, to experience cognitively and physically in a fine-tuned integrated manner what involvement in exercise and sport is all about. The focus would be on the athlete's own internal state as a function of performance in every endeavour, sport or otherwise (Dorothy, Bette, 1984)

To be a better athlete does not necessarily mean that you must train harder or longer. It could mean that you need to address all the components

that make up an athletic performance, those being physical as well as mental. It means assessing which facets you have overlooked or ignored in your preparation and training. Since you do not enter competition without skills in your training and conditioning programs. This means developing strategies which allow you to enter competition with the proper mindset and which will enable you to perform at your most consistent and highest level. If you are interested in getting the most out of your athletic endeavours, you can no longer treat your performance as a combination of isolated factors which come together in some mysterious and unified way on the day of the competition you would never think to enter a long distance race without spending time physically preparing your body to meet the conditioning demands of the race. Yet you probably enter the race without determining what psychological skills you need to help achieve your best physical performance. Almost no one prepares and practices the necessary mental conditioning. (Dorothy, Bette, 1984)

To realize a top performance in sport with physiological and psychological components, body and mind have to form a unit.

According to Newton's "Law of gravity" the level of performance for body and mind tends to be the same. If there is a discrepancy, the athlete will not be able to perform on his individual best performance level. In today's top sport, it seems that very often the mental side (function) is not trained well

enough and the performance level decreases because of this deficit. If the whole system adjusts to the lower level, the athlete feels psyched – out and performs badly. If an athlete can adjust the system to his or her higher level, he or she feels psyched-up and he or she is able to a peak performance, to his or her individual top performance (Guido Schiling, 1993).

At the top level in sport, there is very little difference in the skill levels of the participants and that the major factor likely to distinguish the winner from the loser is the ability to cope with psychological pressure.

Whilst physical conditions, such as weather and speed of the greens, might be more suited to one golfer than another on a particular day, it is much more likely that the discrepancy in the two scores is again due to psychological factors. These factors might include motivation, effort, concentration, confidence and so on, but one consistent and crucial factor is the ability to handle the stress of competition (Stephen J. Bull, 1991).

Mental preparation for competition is not normally something that starts the night before a big event. Rather, it is a general philosophy that should influence almost everything you do in your overall preparation. Preparation is the key to success, and there really are not any short cuts to becoming a champion athlete. When individuals make that all important transition from being someone who makes promises to someone who makes

commitments, then they are likely to fulfill their potential. Until then, the chances of success are limited.

The committed athlete is one who learns the techniques of centering, visualization and performance segmenting. This athlete takes the time and effort to experiment with pre-event focusing, energizing and goal setting for both training and competition.

“Remember, the opposition is really the person you see in the mirror every morning. It is that person who tries to persuade you that you do not have to be the model athlete and you can cut corners. Well, if you can win that battle on a daily basis, then you are getting close to finding out just how good you can be in your sport” (Stephen J. Bull, 1991).

The athletes have to prepare themselves to face the extraordinary emotional and psychological situations to reach new-horizons in performance. Aggression, Anxiety, Self-confidence and Motivation play a devils dance in the modern competitive sports. This is what makes sports today a universal psycho-social struggle for supremacy. All other things being equal, an athletic event or game is won in the mind. One of the goals of applied sports psychology is to investigate human performance and to enhance sports performance by a balance between the physical and mental dimensions of performance. Sports without psychology is a headless horseman trying to run

in various directions without accomplishing anything worth the name (E.G. Booth, 1958).

The application of psychological principles to the improvement of performance in sports has received greater attention in these days. There are certain accepted psychological principles, which have to be applied, so that the athletes and the players are able to show their best performances. Coaches, Physical Educationists and Sport Scientists have always expressed a great need to know more about those psychological principles and factors which are helpful to improve performance in sports. It is to distinguish the athlete from non-athletes or the outstanding athletes from the average athletes.

Aggression and Sports

- Human beings are capable of a wide range of behaviours. Aggressive behaviour is quite visible in sport. On the one hand, they may show comparison and help others, while on the other, they may seek to harass others, through aggressive actions. Of course, not all aggressive behaviour in sport is violent and destructive. In fact, many forms of aggressive behaviour are accepted and even promoted. Often aggression is "part of the game".

Aggression is a behavioural aspect, and not an attitude, emotion or motive; also, aggression is directed or intentional behaviour. Accidental harm is not aggression but acts that are intended to injure others are aggression whether or not they are successful.

The word Aggression comes from the Latin root *aggredi* (to attack) and *gradi* (to go toward). Literally, then the word means to walk toward or approach to "move against" or "to move with intender" to hurt or "to harm". The major problem when studying aggression in sport is in finding an acceptable universal definition, most psychologists describe aggression in terms of behavior (J.M.Silva and R.S. Weinberg, 1984).

Aggression is behaviour and actions that usually seek to inflict psychological and physical harm, either on another person or on his possessions or dear ones. Aggression has directional components. Some aggression is directed inward and in its extreme form many culminate in self-destructive behaviours including suicide (Bryant J. Cratty, 1989).

Research into the relationship between aggression and sport has taken three main routes. Some researchers have approached aggression in sport as a catharsis that allows for the release of aggressive impulses and reduces aggressive behaviour in non-sport settings. Other investigators have examined the antecedents and consequences of aggression in sport, while still others have focused on the effects of aggressive behaviour on sport performance. The following review highlights the major findings of these three approaches.

1. Sport as catharsis for aggression
2. Antecedents of aggression in sport
3. Aggression and sport performance

Aggressive behaviour is quite visible in sport. To observe aggressive sport behaviour, we could attend a basketball game and watch players "Fight" for rebounds, or we could watch runners throw elbows and for position in 1,500 meters race (Diana L.Gill, 2000).

Aggression affects performances and other sport behaviours either immediately or over a period. Aggression influences our thoughts and feelings about the sport experience. It also influences how sport participants react to their own aggressive behaviours and aggressive behaviours of others. Aggression in sport has been found to be helpful at times if expressed by defensive players whose expressions of skill need not be precise.

An increase in socially related cognitive skills is associated with decreases in aggressive behaviour. However, the link between aggression and intelligence or academic skills is less evident.

Many definition of aggression have evolved over the past seventy five years. According to Kaufman (1970), aggression is a behaviour directed against living target, in which there is a probability greater than zero of imparting anxious stimulus. Baron (1977) defines aggression as any form of behaviour directed towards the goal of harming an injury to another being, who is motivated to avoid such treatment.

Over the years two basic kinds of aggression have been identified, hostile aggression and instrumental aggression. For individuals engaged in hostile aggression, the primary goal is the injury of other human beings. Individual engaged in instrumental aggression also intend to harm target.

Aggression is in two types external and internal. External Aggression may be directed towards either the person or person who caused the frustration or towards the substitutes. Internal aggression is turned inwards the self. Instead of releasing one's emotional tension by attacking other, one may attack himself. Instead of blaming others, the individual blames himself, eventually the person becomes neurotic or even tries to find escape through suicide. As far as the well being of the individual is concerned this inward aggression is far more dangerous than outward aggression (S.K. Mangal, 1984).

It has been suggested by these, exposing the frustration hypothesis, that all competitive behaviour will inevitably lead to aggression on the part of at least a position of those involved. The reasoning is that (a) in competitive situations, not all can win; (b) the losers experience frustration at not meeting their expected goals; and (c) frustration leads to aggression (Bryat J. Cratty, 2001).

Frustration may be defined as the blocking of behaviour that has previously been reinforced. The blocking can occur in any part of the

sequence of instrumental response. Thus there are three different aspects of the behavioural sequence that might involve frustration. When a person is prevented from reaching his goal, he usually seeks an alternative route. He may become angry and perhaps aggress, but, more likely, he will make persistent attempts to solve the problem by non aggression means. In fact, the temporary blocking of behaviour is the major stimulus for problem-solving behavior (Arnold H. Buss, 2000).

Research examining the influence of significant others, on legitimacy and expression of aggressive behaviours supports the relationship between social goal orientations and moral development. Cultural and team norms condoning unsportsmanlike play have been linked to the perceived likelihood of aggression among athletes representing a variety of sports, such as football, ice hockey, soccer, and basketball. In essence, the studies suggest that peer beliefs and behaviours within the social context of sport can act as important influences on decision making related to aggression, unfair play, and unsportsmanlike acts.

Anxiety and Sports

Anxiety is one of the most common deterrents to good performance. At worst, the effects of anxiety subtly impair the performance by restraining the individual. That is not to say that you cannot produce superlative performance when nervous. In fact, most athletes experience some anxiety

before producing their top performance. By its nature, anxiety tends to interfere with athletic performance. The lowering of anxiety may be caused due to regular participation in games and sports (Bell Keith, 1983).

Anxiety is one of the greatest problems of modern society. Cultural conflicts, economics and industrialization add to the problem of man, thus increasing the anxiety level. Anxiety refers to that emotional state of mind where a fear of danger or loss of suffering is a prominent feature. It generally arises as a result of fear for something unknown which creates tension and disturbance (William P. Morgen, 1985).

Anxiety is the greatest problem of modern trends in scientific knowledge. Anxiety is one of the important psychological factor influencing sports performance. Anxiety which is a complex emotional state may be characterized as a general fear of foreboding usually accompanied by tension. Anxiety is related to fear of failure, either real or anticipated. The basic anxieties are state anxiety, trait anxiety, further they may be classified as competitive trait anxiety, cognitive anxiety and somatic anxiety. Conflicts among athletes can lead to unpleasant anxious feeling and abnormal behaviour as a result of faulty defensive mechanism caused by failure to fulfill one's personal potential. Anxiety is either the major symptom in itself or accomplish attempt to overcome other symptoms (Reuben, 1983).

Research findings on anxiety related to physical activity and sports is found to be confusing and contradictory, partly because of inconsistencies in terminology, lack of agreement on the meaning of anxiety, manifest anxiety, and specific anxiety. Even then, there is an ample evidence to show that anxiety is an effective as well as pleasurable tradictory finding, a number of investigations show that, although anxiety level tends to increase prior to the athletic competition, there is a tendency in the individual for participation in physical activity and acquisition of athletics skills to reduce the level of anxiety: such as effort may or may not be conscious one (M.L .Kamlesh , 1990).

Emotional states arising in situation of impending danger are manifested in fear of unfavorable events. Anxiety represents generalized, defused or pointless fright. Anxiety may manifested as a feeling of helplessness, uncertainty of oneself, lack of sufficient strength in the face of sufficient fashion and inauguration of their potency and threat. Anxiety may lead to inadequate conviction that one is threatened by other people, his own body the result of his own action. Anxiety has relationship with performance. The level of evidences prior to performance may be different from arousal during the performance. At worst the effect of anxiety gets the person tied up on knots. At best it suitably inspires performance (Reath F. Bell , 1983).

Anxiety is a psychological fervour, which differs from arousal in that it encompasses some degree of activation and an unpleasant emotional state. This term anxiety is used to describe the combination of intensity of behaviour and directional effect or motion. The direction of effect, a characteristic of anxiety is negative in that it describes subjective feelings that are unpleasant (Anne and Bernette, 1986).

Laboratory, field and clinical evidence demonstrate that athletic and skill performance can suffer if anxiety becomes too high and many youngsters report that various worries prevent them from playing their best when they compete. Competitive anxiety can affect youngster's health by disrupting normal sleeping and creating gastrointestinal problems. Cognitive approach and environmental approaches are widely used in reducing anxiety.

Anxiety is manifested in a variety of ways. Sometimes the individuals experience it as merely a sense of harmless dare without being able to identify why or what, he/she is fearful? Psychologist calls this "Free floating anxiety" to indicate that it is not attached to any specific object when an individual's main symptom is that of free floating anxiety. Psychologist's diagnose this condition as an anxiety state.

The over anxious individual has a high level of cerebral and emotional activity with neuromuscular tension that may eventually lead the individual to the exhaustion stage and perhaps to psychosomatic disorders.

An intense irrational fear of something specific is phobia. There are many kinds of phobias such as fear of some places, animals and so on. The patient tries to control anxiety by avoiding phobic object or situation. Some people who are otherwise normal have phobias. Their feelings may be mild but later in crowds that they become complete recluses to avoid such situations. Phobias may have their origin in fears learned by the association of painful or unpleasant events with particular situations.

The level of anxiety may be lowered through regular participation in games and sports and the success leads to the increase in physical fitness, motor fitness, skills and tactics.

The internal imagery perspective should be more effective for performance enhancement. Success imagery before or during competition among elite athletes may help in controlling the emotional state and feelings of anxiety. It leads to building a confidence in the athlete that he will successfully cope with the upcoming task placed before him. The mental focus provides the desired motivation and helps them in optimizing the efforts during the process leading to outstanding performance.

Although, competition evokes anxiety as a result of the expectancy of winning and losing, the theories maintain that stress causes anxiety when there is a lack of agreement between the requirements of the environment and the individual's ability and lack of agreement between what the environment

provides and the individual's values and expectations. Stress will be created when the demands of the environment are too great or when the environment provides too few means.

Therefore it is hard to generalize that intensive competition is harmful, because for certain students' competition is the optimal way of learning while for others even a slightly competitive environment can be too much to cope with.

Every task has an optimal level of arousal that requires to be solved successfully. Children with high level trait anxiety start to deal with the task with higher tension. Therefore in order to achieve their best and not to get to a debilitating anxiety state they have to be surrounded by an environment that does not increase their basic anxiety level, and competition would. On the contrary, those students who have a low trait anxiety level might react to everything that increases their arousal and anxiety with facilitation and better achievement. Anxiety evoked by competition increases the achievement of competitive students.

Confidence and Sports

Confidence is an important antecedent to good performance. It tends to act as a self fulfilling prophecy. If you do believe in your ability to perform well or the probability that you will, you think you can do well, you are more

likely to come through but there is nothing magical about the effect of confidence on its acquisition. Behaviour is consistent with what we think, we are qualified to do, deserve to do or capable of doing and are likely to do. As long as expectancies remain high, we are likely to exert concentrated efforts and to persist in the face of adverse circumstances (Keith, 1983).

Confidence gets you moving forwards success instead of trying to avoid failure. With confidence, you tend to focus your thought and images on coping with the environment and your opponents on mastering the task and on the rewards that will acquire from success rather worrying and catastrophizing about performing below par and consequences of doing poorly. As a result you are mentally rehearsing successful action, rather than imaginatively pertaining to poor performances.

Further more confidence facilitates focus on the task at hand. The focus, as trying to avoid failure that comes with the lack of confidence, tends to impair concentration. It makes you more easily distracted and deters you from your purpose. A confident approach is an assertive approach, one that respects your right to compete and to win.

Some athlete's have too little confidence, we say they are diffident. Other athletes have too high confidence or false confidence, we say are over confident. Diffident athletes become psychological prisoners of their own

negative self images. They see themselves as losers and they become losers (Walker,1980).

Self confidence emerges from one's perceived ability to do a thing. Given a choice to do a task by choosing one from the equally difficult items, the person is likely to select the one he thinks he is more confident of.

Self-confidence is described as "the belief or degree of certainty individuals possess about their ability to be successful in sport" according to Vealey, an expert in Sports Psychology. When players are confident they can perform at their best level and it is rare for successful players to have a persistent lack of confidence. Self-confidence is arguably one of the most important things one can have. Self-confidence reflects the assessment of ones own self-worth. It will play a large part in determining ones happiness through life, says Vealey (1988).

Self-confidence in sport is an athlete's expectation for success. This expectation often varies because it's based on sources outside the player's control. For example, many players' confidence goes up and down with the score of the match. For a coach, it is important to emphasize self-confidence sources that are within the control of the athlete.

It is well known that self-confidence is vital for successful athletic performance, and the most successful performers always rate high in levels of

self-confidence. It is difficult to provide a precise definition of self-confidence. It has been defined as "the belief that you can successfully perform a desired behaviour" (Weinberg & Gould, 1999). It is felt that an individual will be more likely to have confidence if they have practiced hard and prepared themselves physically and technically as these will lead to good performances which build confidence. More than capable of achieving their potentials, have doubts about their ability to succeed and expect their attempt to end in failure, and then they can create a 'self -fulfilling prophecy', which can form psychological barriers to future good performance (Robert S.Weinberg, Danial Gould, 2003).

Achievement Motivation and Sports

The meaning of achievement motivation has been a controversial subject and a topic of key interest to psychologists. The concept of achievement motivation appears in almost every theoretical account of behaviour. Motivation is a mental event which determines the course of action. Motivation is used to consider any inner condition of the organism that initiates or directs its behaviour towards a goal. By motivation we mean conditions within the organism that activate behaviour and influence its direction.

The term 'motivation' has been variously defined etymologically, to motivate is to induce movement. Some Psychologists identify it with the

process of arousing or stimulating behaviour, others describe it as a psychological and physiological condition which causes one to work, study or strive to satisfy his needs. Some describe it as an internal condition, arousing, sustaining and directing the intensity of effects. Others explain it with reference to external goals and purposes (Anitha Joseph)

To achieve some goal one must have achievement motivation. Motivation must be intrinsic. It is something an individual has to develop within oneself. The external forces can only activate. If the right ingredients come together to the individual at the right time, the individual's performance will reach the optimum level and nothing can stop the individual from achieving the goal.

Achievement motivation may be characterized as the tendency to maintain and increase individual proficiency in all areas in which a standard or quality is taken as Binding (Desai, 1970).

In the field of physical education and sports no athlete can win or even show good performance without motivation. Motivation is a wonder drug which works miracles with athletes on and off the field. It is a sort of warm up before the final plunge. In the absence of proper motivation, not only the learning process but also the performance becomes an uphill task. An unmotivated performer would not involve himself in learning, competing against others and achieving higher goals in life (M.L.Kamlesh, 1983).

Motivation plays a vital role in learning sports and athletics. It improves the performances because the facial expression of the spectators and their cheering, exert influence on the performance.

The achievement motivation varies for people from situation to situation and it is influenced by cultural and social forces. Therefore, the urge to achieve in sports in general or in a particular activity is effected potentially by the values and actions of others. Ultimately, it is the young person's cognitive and personality disposition that determine the degree of presence of an achievement motivation (Richard H. Cox ,1985)

This concept was developed by Mc Cleand (1983) and refers to motivation to achieve some standard of accomplishment or proficiency. People with a strong achievement motive, (which Mc Cleland calls need for achievement) prefer moderate easy or hard goals or risks, want concrete feedback regarding task performance, prefer tasks where skill rather than luck determines the outcome, seek personal responsibility, have a future time perspective, and are somewhat optimal in estimating their chances for success especially on new takes.

Research has suggested that motivation can affect both performance variables as well as levels of participation. However, it is unclear if motivation affects involvement in physical activity or if involvement in these programs influences motivation (Cervello, et.al.,2006).

Achievement motivation theories emphasize the significant role others play in an individual's beliefs and behaviours. Nicholls' (1984) Achievement Goal theory, conceives of variations in goal orientations to help describe different patterns of motivated behaviour. In general, goal orientations represent a person's perceptions and beliefs about the causes of success in an activity, and these goal orientations vary from individual to individual. According to Nicholls, achievement behavior has as its goal "competence or perception of competence" that can be constructed in "at least two different ways". Individuals who are task goal-oriented define success in terms of mastery, skill improvement, and learning that is assessed through comparisons between past and present personal performance. Individuals who are ego goal-oriented define competence in terms of demonstrating superior skills and ability in comparison to others.

Personality Traits and Sports

Conventional ideology supports the notion that sport "builds character" and has positive effects on "prosocial personality traits" (Rees, Roger, Howell & Frank, 1990).

Rushall, one of the psychologists, says that knowledge of personality of an individual is important for maximizing the individual responses. He has given many suggestions regarding the use of personality information by the coaches, physical education teachers and players. For example,

understanding individual behaviour, coach and player interaction, relationship between personality and physical performance etc.

Personality and youth athletic participation are inter-related in that personality development often occurs, for better or for worse, on an athletic field at an early age, though personality seems to have an impact on athletic participation and performance among youth.

Psychologists do not agree on the exact definition of personality, but for our purpose we will define personality as the characteristic pattern of behaviour and modes of thinking that determine a person's adjustment to the environment. A complete description of an individual's personality would include many factor, intellectual abilities, motives acquired in the process of growing up, emotional reactivity, attitudes, belief and moral value.

Personality is based on an individual's most striking characteristics. Thus, we may refer to someone as having an "aggressive personality" or a "shy personality". The word "personality" has a more neutral universal meaning, being "what characterizes an individual" or put more formally, personality is the sum total of the ways in which an individual's characteristically reacts to and interacts with others and with subjects .

Eysenck identified the major component of personality as a small member of personality types .Each type is made up of a set of personality

characteristics. For example, people who fit Eysenck's extroversion type is said to have such characteristics as sociability, liveliness and excitability. The three personality dimension distinguished by Eysenck are extroversion – introversion, neuroticism-stability, and psychotic-strength of the super-ego.

Psychological skill training programs emphasize education in the conceptual rationale for the procedures and personal acquisition of mental skills to place the athlete in control. Specifically psychological skill training consists of (a) Relaxation training, (b) self-instructional training to reduce negative, non-constructive thoughts and emotions, while learning and practicing positive, adaptive self-statement and (c) attention/ concentration control. Veering around this concept is the facts that consistency, confidence, concentration, anxiety, personality, positive attitude and will are the fundamental psychological skills, which when learnt and practiced become the most conducive factors in the enhancement of athletic performance (M.L. Kamalesh, 1993).

There has been and there are still numerous scientific researchers in the world today who are still trying to investigate the psychological problems of athletes. The study of different variables in the field of sports, exercise, health as well as an individual's social wellbeing, whether it is physiological, psychological or spiritual, is an area of research that requires a lot of investigation. The researcher would like to know what the study on

aggression, anxiety, self-confidence, achievement motivation and personality of players are and intends to conduct an analysis on a group of male and female players.

The other main focus of sports psychology is enhancing mental health and well being through participation in sport, exercise and physical activity that is enhancing the psychological effects of participation in sport, exercise and physical activity. Researchers indicate that vigorous physical activity is related to a reduction in anxiety and depression.

Men and women are active in sports. Gender differences in sport behaviour are quite evident. Females and males do not necessarily experience sport the same way. Parents, spectators, coaches and teammates treat boys and girls differently at least to some extent and gender roles may influence the way the two children respond in the situation. Certainly biological sex is a very salient characteristic that influence much of our behaviour and interactions with others. Not surprisingly, then, gender influences sport behaviour.

Sex refers to the biological based categories of male and female, and gender refers to the psychological features frequently associated with these biological states. Within sport psychology, we usually focus on social psychological aspects of personality and behaviour and thus gender and

gender role are the terms typically used to refer to these characteristics and behaviour.

Most investigators acknowledge that biological factors have some influence on behaviour, but not that biological factors are absolute determinants. Even those gender differences with the strongest supporting evidence do not parallel the dichotomous biological sex difference. Instead, the behaviours of females and males overlap considerably. About 40% of females are more aggressive than the average male. Similarly, many females are more competitive than many males. Even if biological sex has some influence on competitive behaviour, the social psychological aspects of gender in sport and competition pose more questions and implications for sport participants.

The modern sports training lay a greater emphasis on preparing the athletes psychologically than physically and thus lot of emphasis is being given to the psychological research dealing with psychological characteristics of the top level athletes, mental rehearsals of the training task etc. It has helped coaches to coach more effectively and athletes to learn more efficiently (John,1982).

Statement of the Problem

The purpose of the study was to analyze the psychological characteristics of male and female sport persons belonging to selected sport discipline.

Delimitation

1. The study was delimited to the following sports disciplines.
 - a) Track & Field Athletics (sprinters and jumpers)
 - b) Badminton
 - c) Swimming
 - d) Football
 - e) Volleyball
 - f) Basketball
2. The study was further delimited to the following psychological variables.
 - a) Aggression
 - b) Anxiety
 - c) Achievement Motivation
 - d) Self-confidence
 - e) Personality (neuroticism and extroversion)

3. The study was delimited to sport persons who had participated in the All India Inter-University competition and National level championship in their respective games.

Limitations

1. The differences that exist among the subjects due to varied social, cultural and religious factors were not taken into consideration and this is considered as a limitation of the study.
2. The general mood of the subjects and environmental factors at the time of responding to the questionnaire might be different from the actual and this is considered as another limitation of this study.
3. No special motivation technique was used while administering the questionnaire and is considered as another limitation of this study.
4. The test was administered at different point of time considering the availability of the subjects depending on their tournament and camps. This also might have affected the response.

Hypotheses

It was hypothesized that the psychological characteristics of sports person participating in different sports discipline will be distinct in nature and

optimum for players of University and National level. Hence the following hypotheses were drawn.

- 1) There will be significant difference in Aggression, Self Confidence, Achievement Motivation, Anxiety, and Personality traits (Extroversion and Neuroticism) between players of Football , Volleyball , Basketball, Badminton , Swimming , and Track & Field (Sprinters& Jumpers)
- 2) There will not be any significant difference in Aggression, Self Confidence, Achievement Motivation, Anxiety, and Personality traits (Extroversion and Neuroticism) between Male and Female players of Football , Volleyball , Basketball , Badminton , Swimming , and Track & Field (Sprinters & Jumpers)

Definition and Explanation of Terms

Sports Psychology

According to Browne and Mahoney,(2004) “ Sports Psychology is the application of psychological principles to sports and physical activity at all levels of skill improvement”.

Sports psychology is the scientific study of human behaviour in sports. It is mainly concerned with psycho-regulative analysis of sports ability and performance. Sports psychology aim at understanding the athletes and enhancing their learning potentials for the development of highly skilful

competitive performance. Some of its objectives are to predict the performance and identify the growth and development which are essential for athletic efficiency to make up the personality which really is a vital force for ones achievement.

Aggression

Aggression is a form of overt behaviour intended to harm a living person either physically and psychologically. It includes physical attack and verbal abuse.

Aggression is a motivational state of personality characteristics, a response of frustration, an inherent drive or the fulfilling of a socially learned role requirement (Here and Roge,1983).

Aggression is a part of human behaviour and is necessary for an individual to live and struggle for higher achievements. Struggle for supremacy, dominance, and excellence in sports obviously involve aggression. Aggression, in one form or the other, is inevitable and inescapable in sports activities. When hostility takes over aggression, the situation become alarming and it becomes an anti-social behaviour. Aggression may help in the performance of an athlete because it arouses the athlete to put in the harder effort for the success of the team. Athletes must be helped to reduce and control aggression in order to play calmly and perform best. Appropriate level

of aggression, as permitted under the rules governing the game, tends to improve the skill and enhance the effort, and on the other hand, high or low level of aggression will hamper and retard the performance in sports.

Anxiety

Anxiety is a negative emotion characterized by feeling of apprehension and tension (Birch, 2005).

Anxiety is a common occurrence – most people experience it before or after stressful situations.

According to Frost, (1971) anxiety is an uneasiness and feeling of foreboding often found when a person is about to embark in a hazardous venture and it is often accompanied by a strong desire to excel

Cratty, (1983) defines that "Anxiety appears to be a general fear of foreboding a personality trait marked by a lower threshold to stressful event."

Anxiety is defined as an emotion characterized by unpleasant subjective feeling of anticipated danger, tension and distress and attended by sympathetic nervous system arousal (Davidoft, 1976).

Marmour, (1983) has defined anxiety as "A psychological state that occurs when an individual experience a sense of impending or threatening danger"

It is a subjective feeling of apprehension and tension.

Anxiety means a disturbed state of mind; emotional reactivity; arousal; nervousness and unrealistic and unpleasant state of mind. Anxiety is an essential ingredient of any competitive situation and without certain level of anxiety, there cannot be competitive performance. Neither too high, nor too low level of anxiety is conducive to sports performance. Adequate level of anxiety produces best result. Unless sports persons learn to cope up with stressful competitive situation by managing anxiety, they would fail to achieve their goal.

Self Confidence

Self confidence is the state of quality of being confident of oneself or one's abilities (Ebel, 1969).

Self-confidence is the degree of certainty that athletes possess about their ability to be successful in sports.

Self-confidence refers to the internal rather than external determination of behaviour in which one will engage.

Self confidence is a very essential quality of sportsman. An athlete should have self confidence to achieve his goal. If he doubts about his success then he will not perform well in his event. Self confidence is a boosting variable which help a person to do his work in a good manner. Many

psychologists have found out that if one has self confidence he/she wins the competition usually. So self confidence is a positive attitude of oneself toward one's self concept and it helps more in the field of sports.

Motivation

Motivation is what makes our behaviour more vigorous and energetic (Kalat,1999).

An inferred internal process that activates, guides and maintains behaviour overtime (Baron,1992).

Cratty (1983) defines motivation as a personality characteristic related to general state of arousal and subsequent level of attention paid to a problem or task facing on individual.

Motivation is an urge to push toward a goal.

Achievement Motivation

Henry Muray defined achievement motivation as "the need to accomplish something difficult, to overcome obstacles and attain high standard, to rival and surpass others, to increase self regard by the successful exercise of talent."

According to Mc Clelland (1964), achievement motivation refers to success in competition with some definite standard of excellence.

Chaplin, (1965) defines achievement motivation, as the combination of forces, which initiate, directs and sustain behaviour towards scholarly goal.

Achievement motivation is conceptually defined by Chauhan, (1982) as an urge to improve. A broader concept of achievement motivation is dissatisfaction with the present state of affairs and urges to improve the life conditions of oneself.

Personality

According to Allport, (1965) Personality is “the dynamic organization with in the individual of those psychological systems that determine his or her unique adjustment to the environment”.

Personality structure refers to the basic elements or traits of an individual and how they blend together to exhibit that individuals particular behavioural tendencies in certain situation. Study of the dynamics of personality attempts to understand how an individual’s various characteristics interact and operate to influence behavior. In the present study, the investigator measured on the neuroticism and extroversion dimension of personality.

Extroversion

Extroversion is an “outward-turning” of the libido that involves a positive movement of interest away from one's inner experience towards outer experience (Carl Jung, 1971).

Extroversion is the state of being concerned primarily with things outside the self; with the external environment rather than with one's own thoughts and feelings. Extroverts are very easily attracted towards other world and happenings there. They can change their ideology and strategies according to the need of changing situation. They can express themselves before others and make friends, familiarize them and talk their hearts with full interests and carelessness.

They are very sociable. They like parties. They have many friends. They mingle frequently with others.

Introversion

Introversion is an ‘inward-turning’ of psychic energy and involves a negative movement or withdrawal of subjective interest away from outer objects and toward one's inner experience (Dolliver, 1994)

Introverts are people who are self –conscious and self-centered. They seem to have no relation with the outside world. They keep away from external happenings and gatherings. They feel at home in his own world,

where, only he makes the changes. Their thought is very pointed and deep and they express it to other. Many of the genius, poets, philosophers and scientists are found to be introverts.

Neuroticism

Neuroticism is a typical nature of mind, which makes an individual emotionally over responsive and unstable, anxious, worrisome, moody and prone to breakdown under pressure (Eysenck, 1996).

Neurotics are classified as moody, touchy, unstable, restless, anxious and are prone to breakdown under stress.

Significance of the Study

In the recent years, physical educators, coaches, sports experts and even most of the players have realized the importance of sports psychology. The significance of the study is based on the fact that psychological factors can be a valuable tool to improve the quality of performance or spirit of sports to the elite.

Sports psychology helps to predict sportsmen's behaviour and to find out the problem of the athletes. It gives opportunity to understand the athletes better and the dynamic socio-psychological forces affecting them as they perform individually or in group. The knowledge of Sports psychology is needed to improve the performance of an individual by controlling the

negative factors. Sports psychology gives the coaches and teachers a better understanding of the behaviour of a player so that he can change and modify it to bring out the full potential and best performance of the athletes. The teacher can also understand the limits and limitations to the learner. To teach and train an individual effectively knowledge of individual difference and motivation is inevitable. Selection of players will be more effective if one knows various psychological factors of various teams. Sports psychology gives the players chance to analyze themselves and improve their own performance.

Sports scientists lay more emphasis on sports psychology aspects rather than physical preparation. Many research studies have proved this with regard to excellent performance in different sports. For example Lee Evans said that he lay more importance to psychology build up of the athlete and he tries to toughen the mental attitude of his trainee (Buch Reynold world record holder in 400 M race) and in more than one occasion Evans has found his method proved correct (Lokapally , 1991).

There is a general opinion that an athlete possesses unique and definite personality characteristic. One who has the desire, determination, attitude, heart, and self motivation only can achieve top position in competitions.

The outcome of the results shall have a significant influence in the society, thereby encourage more and more people to take part in the games

and sports, which may develop psychological stability and balance, in other words mental health

1. The result of the study may help to assess the psychological characteristic of male and female sport person.
2. The result of the study may help to find out the difference in psychological characteristics if any among sports persons participating in different sports activities.
3. The result of the study will add to the quantum of existing knowledge especially in the area of sport psychology and will be beneficial for sports persons and researchers for getting feedback.
4. The results of the study may provide necessary information to physical education teachers and coaches regarding the psychological requisites necessary for a specific sport.

Review of Related Literature

- ✦ Aggression
- ✦ Anxiety
- ✦ Achievement Motivation
- ✦ Self-confidence
- ✦ Neuroticism
- ✦ Extroversion

CHAPTER II

REVIEW OF RELATED LITERATURE

A serious and scholarly attempt has been made by the investigator to go through the related literature and a brief review of the studies related to the present problem has been made and is described in this chapter.

John and Bryan (1978) conducted an investigation entitled "Aggressive Behavior and its effects on performance overtime in Ice Hockey". The purpose of this study was to investigate the relationship between aggression and athletic performance using an archival approach on the records of a college hockey team over an eight year period; high aggressive and low aggressive groups were defined. Aggression was defined on the basis of certain types of norm violation which distinguished aggressive acts more clearly than former research studies by separating instrumental aggression from hostile aggression. The results showed a significant relationship between aggression and successful performance, as measured by goals and assists. It was speculated that the present study could become the basis for systematic and programmatic research on aggression and other variables.

Raja Sadasivan (1992) conducted a comparative study of aggression and anxiety among Blind and Normal School Kabaddi players in Tamil Nadu. The investigation had included sixty seven blind Kabaddi players and eighty

one normal school Kabaddi players. The questionnaire developed by Smith, Rainer Martens were used to study aggression and anxiety respectively.

The investigator used 't' test to compare the level of aggression and anxiety among blind and normal Kabaddi players. The mean scores of aggression of blind and normal Kabaddi players were computed to analyze the level of aggression and its differences. The mean scores of anxiety of blind and normal Kabaddi players were computed to analyze the level of anxiety and its difference. 't' test was used to determine the significance of aggression and anxiety level among blind and normal players.

The results of this investigation revealed that the level of aggression of Blind School Kabaddi players was greater than that of the Normal School Kabaddi players.

Volkumer (1972) conducted an investigation, "Investigations into the aggressiveness in competitive social systems" and suggested that the relative point spread between the two teams' scores may have an effect upon the type of aggression witnessed in sporting contest. A greater point spread produces higher probability of reactive aggression into the players of the losing team because the game is becoming or has become out of reach. A smaller point spread produces higher probability of instrumental aggression because the game is still "within reach"

Silva (1976) studied 122 male volunteers in either a sport (Basketball) situation or a non-sports (peg-board) situation. Trained confederates were used throughout the study to investigate the hostile or assertive behaviours. The results indicated that after aggression in the non sport setting, high levels of guilt were experienced; however, hostile aggression in the basketball setting did not create high levels of guilt. She has suggested that the most powerful way that such perceptions can be changed and aggressive behaviour reduced is through a modification of the reinforcement structure of sports teams.

Bryant J. Cratty (1989) found that highly successful players of both team Handball and Soccer/Football held more positive attitudes about committing aggressive acts than did less successful athletes in these sports. However, a closer examination of the available data raises questions about the global assertion that aggression always helps performance.

Widmeyer and Birch (1984) discovered a curvilinear relationship between individual aggression and individual success. Specifically, they found that the highly successful University Ice Hockey players were either extremely aggressive or extremely non aggressive, whereas all the stars were moderately aggressive. The fact that most of the highly aggressive all star group defencemen are more aggressive than less successful defencemen, and successful forwards are less aggressive than less successful forwards.

In the archival study, Widmeyer and Birch (1985) examined the relationship between aggression and performance of 32 professional Ice Hockey teams at various times over the period of our seasons. Aggressive penalties were operationally defined a non-sanctioned aggressive act in which a player would make a contact with one's stick or body with the intend to do harm (that is, slaything, speaking, high sticking, cross checking etc.) and 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 period, in the third period in the first segment of the season and in the third segment of the season. Results indicated no significant relationship between aggression and team performance for all game 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 author concluded that aggression was an effective strategy to achieve success in all Ice Hockey game, provided it took place early in contest.

Lavebure and Passer (1995) conducted a study and found that frequency of aggressive acts designed by Eighter S. Yellow card or penalty was analysed for the first half of the 1973-74 season of the Belgion National Soccer League (240 games). On the basis the frustration Aggression, stimulus

response generalization, arousal and attribution models. It was predicted that more aggressive act would be displaced by the players in a losing state. The findings yield general support from the predictions, was suggested to increase the casual interpretability of future data. Several methods of minimizing aggression in interactive team sports were discussed. It was concluded that a modification of the competition game structure, necessitating a mixture of co-operation and competition based on reinforcement contingencies was the most viable approach.

The authors describe the design and reliability of a rating scale that measures aggressive behaviours in adults and children. On the Overt Aggression Scale (OAS), aggression is divided into four categories: verbal aggression, physical aggression against objects, physical aggression against self, and physical aggression against others. In addition, specific interventions related to each aggressive event can be recorded on the OAS. The clinical and research applications of this scale are discussed (S.C. Yudofsky, J.M. Silver, W. Jackson, J. Endicott and D. Williams).

An analogue task of instrumental and hostile aggression during a competitive game, modified to minimize overlap between aggressive responses, was evaluated in 8- to 14-year-old clinically referred boys ($n = 33$). Postgame interviews indicated that the hostile response, an aversive noise, was perceived by over 80% of subjects as hostile and not instrumental. In

contrast, the instrumental response, blocking the opponent's game, was perceived about equally as having instrumental and hostile functions. The hostile aggressive response was uniquely correlated with continuous performance task impulsive commission errors ($r = .51$), which supported the theoretical relation of hostile aggression to poor impulse control. These results suggest that instrumental and hostile aggression can be distinguished and when precisely defined are distinct in theoretically important ways (M.S. Atkins, Stoff DM, Osborne ML, and Brown K., 1993).

Waldman (1996) conducted a study to address whether (1) aggressive boys show hostile biases or general deficits in social perception, (2) aggressive boys' social perceptual difficulties also characterize isolate and isolate-aggressive children, (3) aggressive, isolate, and isolate-aggressive boys' social perceptual difficulties are attributable to inattention and impulsivity, and (4) aggressive and nonaggressive boys differ in the links between social perception and proposed behavioral responses. Aggressive boys demonstrated hostile biases, but not general deficits, in intention-cue detection relative to average-status boys. Isolate-aggressive boys resembled aggressive boys in social perception, whereas isolate boys showed mild deficits relative to average-status boys. Although isolates' general deficits were predominantly accounted for by inattention and impulsivity, aggressives' and isolate-aggressives' hostile biases remained after these problems were statistically controlled. The aggressive groups proposed aggressive responses

much more frequently than the nonaggressive groups following intentions perceived as nonhostile. Measures corresponding to several stages of Dodge's social information processing model discriminated the aggressive from nonaggressive groups, thus providing support for this model.

Hudley and Friday (1996) conducted a research to evaluate the effectiveness of attribution retraining program in reducing levels of reactive, peer-directed aggression. This research hypothesizes that aggressive young boys' tendency to attribute hostile intentions to others in ambiguous social interactions causes display of inappropriate, peer-directed aggression. A reduction in attributional bias should produce a decrease in reactive physical and verbal aggression directed toward peers. A 12-session, attributional intervention has been designed to reduce aggressive students' tendency to infer hostile intentions in peers following ambiguous peer provocations. The program trains boys to (1) accurately perceive and categorize the available social cues in interactions with peers, (2) attribute negative outcomes of ambiguous causality to accidental or uncontrollable causes, and (3) generate behaviours appropriate to these retrained attributions. African-American and Latino male elementary-school students ($N = 384$), in grades four-six, served as subjects in one of three groups: experimental attribution retraining program, attention training, and no-attention control group. Three broad categories of outcome data were collected: teacher and administrator reports of behaviour, independent observations of behaviour, and self-reports from

participating students. Process measures to assess implementation fidelity include videotaped training sessions, observations of intervention sessions, student attendance records, and weekly team meetings. The baseline data indicated that students who were evenly distributed across the four sites were not significantly different on the baseline indicators: student cognitions, teacher perceptions of behaviour, and student suspension rates. Substantial evidence has shown that aggressive boys tend to attribute hostile intentions to peers, often resulting in inappropriate retaliatory aggression. The Brain Power Program was designed to determine whether psycho educational strategies in a school context are effective in reducing attributional bias and whether such reductions significantly reduce aggressive behavior.

Rasclé, Coulomb and Pfister (1998) examined the relationship of goal orientations with aggression in male adolescent Handball across three institutional sport context, Physical Education, Interscholastic, and League (clubs). 30 Handball games were videotaped (10 per context) and observed on monitor by means of a grid allowing the distinction between Instrumental (non-emotional and task-oriented) and Hostile (an emotional response which is an end in itself (aggression). 240 players also completed the "Questionnaire de Perception du Succès en Sport." A main effect of context emerged from 2 separate one-way multivariate analyses of variance for goal orientations and aggression. Univariate F tests and Newman-Keuls post hoc analyses indicated that Ego-goal orientation and Instrumental aggression were significantly

higher in the League context than in the other two. Statistically significant positive correlations between measures of Ego-goal orientation and aggression were observed. Discriminant function analysis indicated that strongly Ego-goal classified players displayed more Instrumental aggression than lower Ego-goal classified players.

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 nonlaboratory 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 nonaggressive penalties (e.g., delay of game, illegal equipment, too many players). As expected, preseason trait aggressiveness scores predicted aggressive penalty minutes ($r = .33$) but not nonaggressive penalty minutes ($r = .04$) (B.J Bushman, and Wells GL., 1998).

Viewing aggression in its healthy form, in contrast to its extreme and inappropriate versions, and sport as a health-promoting exercise in psychological development and maturation may allow participants and spectators alike to retain an interest in aggression and sport and derive further

enjoyment from them. In addition, it will benefit all involved with sport to have a broader understanding of human aggression. Physicians, mental health professionals, and other health care providers can be influential in this process, and should be willing to get involved and speak out when issues and problems arise (R.W. Burton, 2005).

A number of studies have demonstrated that increased socially related cognitive skills are associated with decreases in aggressive behaviour. However, the link between aggression and intelligence or academic skills is less evident. While some research indicates that poor academic performance is related to aggression, it is unclear which components of intellectual ability and performance are critical to the management of aggressive behaviours. In two independent longitudinal studies of elementary school-age children, the relationship among several aspects of cognitive competence and several aspects of aggressive behaviour were examined. The results of the first study showed that aggressive behaviour observed in kinder Garden children was more closely related to academic performance in the first and second grades than to general cognitive ability (IQ). The results of the second study, a comprehensive three-year investigation of Upper Elementary School-age children, indicated that teachers' assessments of aggression and parents' ratings of cruelty were consistent over time for boys, but not for girls. The inter-correlations among aggression measures within each of the three years also revealed stable sex differences. Boys identified as aggressive in the

classroom were more likely to be perceived as aggressive, cruel, and/or delinquent at home, but for girls, there was little correlation between aggression at school and in the home. The analyses relating measures of cognitive functioning to indices of aggressive behaviour made clear the importance of discriminating among various facets of these psychological constructs. IQ had a negligible relationship with aggression and a weak inverse relationship to delinquency. An overall index of cognitive functioning was a somewhat more consistent negative correlate of aggression, cruelty, and delinquency, especially for boys. A similar pattern was found for the correlates of academic performance. Academic disability was strongly related to delinquency in boys, and to a lesser degree to aggression in boys. Of the several cognitively related factors that were explored, Low Need Achievement manifested the strongest and most consistent relationships with the different facets of aggression and antisocial behavior, especially in boys (Seymour Feshbach).

There have been numerous studies of the effects of traditional martial arts training on aggressiveness, most reporting a decline in aggressiveness with training. The majority of these studies have examined students of Karate or Taekwondo, disciplines emphasizing strikes and blocks. In contrast, this cross-sectional study examined the effects of traditional Judo training on aggressiveness by looking at 51 Judo students. Furthermore, we incorporate into our analysis two variables generally associated with aggression, age and

sex, to control for their effects. Aggressiveness declined as expected across training and ages, but surprisingly sex had no effect in this setting (B.W Lamarre , and Nosanchuk TA, 1999).

Rasclé and Coulomb (2003) examined the effects of the interaction between young male Handball players' goal orientations (13-15 years of age) and induced motivational context (individual vs. collective performance) on observed aggression. Ten Handball games, 5 under each induced motivational context, were videotaped and observed on monitor by means of a grid allowing the distinction between instrumental and hostile aggression. The results indicated (a) significant effects of the Induced motivational context and the Motivational Profile; and (b) an interaction between Induced motivational context and Motivational Profile on observed instrumental aggression. In a collective performance-induced context, players classified as being strongly both task-and ego-goal oriented displayed more instrumental aggression compared with those classified as having strong task-goal orientation and low ego-goal orientation.

Cobb and Robert (1993) conducted a study to determine whether or not significant interaction exists between self-concept and anxiety tolerance for high school males. Self-concept was measured by total scores obtained from the Tennessee Self-concept Scale (TSCS) Anxiety tolerance was measured through performance of a complex motor skill under non-stress and stress

conditions. One hundred nine high school Varsity Basketball players attending Basketball camp at Manchester College participated in the study. A 3 x 2 (Self Concept level & stress condition) ANOVA with one within factor (stress condition performed revealed no significant interaction between self-concept and anxiety tolerance among the subjects. No statistically significant interaction was found among the high, medium, and low self-concept groups when stress and non-stress results were compared. Under the conditions imposed in this study self concept is not significantly related to anxiety tolerance during complex motor skill performance for the high school males who participated in the study.

Pandy (1991) and others in their study analyse the scientific analysis of pre competition anxiety among the athletes of both sexes and was delimited to Track and Field athletics. Fifty college Level athletes who participated in Inter collegiate Athlete meet was administered Sports competitive Anxiety Test (SCAT). The result indicated that female athletes showed lower anxiety level than male athletes. It was found that experience and achievement level play an important role in management of A-state prior to the competition.

Hasrani (1991) conducted a study on precompetitive anxiety of Basketballers and Track and Field Athletes. A sample of twenty-five Basketballers and twenty two athletes were administioned SCAT (Martens 1977) questionnaire a day prior to their departure for the competition. Results

showed insignificant differences in anxiety level of Basketballers and Track and Basketballers had better experience in coping with precompetition anxiety than Track and Field athletes.

Tyagi and Subramanian (1992) conducted a study to find out the effect of competition and anxiety of College female Hockey players. Forty four female Hockey players participated in the inter collegiate Hockey Tournaments were administered; the translated version of Rainer martens scat on three occasions ie. one month before the actual competition, one hour after the actual competition, one hour before the actual competition and one month after the competition, to determine whether forthcoming competition increased the anxiety end of Inter Collegiate Hockey players. Results indicated that the coming competition increased the anxiety level of the players though not to a significant level and also their inexperienced players possessed higher level of competition trait anxiety than the experienced player.

Pown Radha (1991) conducted a study on psychological factors and Soccer performance of South Indian University players. In this study, psychological factors, namely competition, Anxiety and Aggressiveness were studied in relation to Soccer playing ability. Accordingly 100 south Indian Inter-University Soccer players from the states of Tamil Nadu, Kerala, Andhra Pradesh, and Karnataka were selected. Sports Competition Anxiety Test

(SCAT) questionnaire and Aggressiveness questionnaire (Ad) developed by Rainer Marten and Smith to measure the Anxiety and Aggressiveness were adopted. Experts subjectively rated the soccer playing ability of the subjects (0 to 10 point scale) on a 10 point rating scale.

The obtained factors on the psychological factors were correlated with Soccer playing ability using person's product moment correlation and partial correlation to eliminate the influence of the third variable, it is traced from the result that there was a negative correlation between playing ability and aggressiveness. Among the two psychological factors aggressiveness was highly correlated with Soccer playing ability at significant level. The results of this investigation revealed that moderate levels of Anxiety and Aggressiveness are present among the South Indian Inter University Players.

Parthiban (1992) conducted a study on selected psychological factors as determinants for the Basketball performance among the male college Basketball players of Inter Collegiate level. Psychological variables such as motivation, anxiety, aggression and personality factors were studied. The questionnaire were used to collect data. Motivation through the Achievement Motivation Questionnaire prepared by Kamelesh, Anxiety was measured through the Sports Anxiety Test questionnaire (SCAT) developed by Rainer Martens. A questionnaire containing four statements was administered to find out the specific type of aggressive behaviour in competitive game and

sports, personality through Eysenck's Reliability Inventory. Zero order correlation was used to determine the relationship between psychological factors and Basket ball performance individually. Multiple correlation was used to find out the most valid variable related to basketball.

The result of this study showed that the psychological factors were significantly related to Basketball playing ability at Inter Collegiate level. Anxiety was more significantly correlated with the performance of Basketball performance Aggression had shown significant relationship with Basketball playing ability.

Personality traits were significantly related to Basketball playing ability at intercollegiate level.

Jared L. Bleak, Christina M. Frederick (1998) conducted a study on Superstitious Behavior in sport: Levels of Effectiveness and Determinants of Use in Three Collegiate Sports. The study reveals that the use of superstitious behaviour in sport is evident from numerous TV and newspaper reports covering athletics. These rituals can come in the form of ice baths before a Football game, to listening to a certain song before a gymnastics event. Athletes may have lucky charms that inspire them during the context or they may repeat a secret phrase known only to them before shooting a free throw. Other superstitious behaviour related to food, pre and post-game activity, clothing, and behaviour during competition are prevalent in all major sports

(Buhrmann, Brown, and Zaugg, 1982). Superstitious behaviours in sport can be defined as actions which are repetitive, formal, sequential, distinct from technical performance, and which the athletes believe to be powerful in controlling luck or other external factors (Womack, 1992). The repetitive nature of such events allows for the term "ritual" to be used to describe these superstitious behaviours. Buhrmann et al. (1982) and Becker (1975) discuss how use of superstition in sport can serve other purposes for the athlete as well, such as the lowering of anxiety levels and enhancing the outcomes of performance.

Finch and Marie (1994) examined how athletes cope with stress and how their coping strategies influence their performance. One hundred and forty-eight Collegiate Softball players from 13 teams competing across the South Eastern United States participated in this investigation. They completed the COPE< a questionnaire designed to assess various coping strategies, the sports anxiety scale, a measure of trait anxiety, and a demographic questionnaire. Their coaches also correlated a demographic questionnaire assessing each athlete's coping ability, the impact it had on her performance, and the effort it took her to cope. Results revealed that athletes used a wide variety of coping skills to deal with the stress of sports. Specifically, subjects reported greater use of adaptive and emotion-focused strategies than maladaptive or problem-focused coping strategies. In addition, high trait anxiety levels were related to the types of coping strategy selected.

The results suggested that a profile of more effective copers includes low trait anxiety, high use of adaptive coping strategies low use of maladaptive coping strategies, higher self-ran of coping ability and more automated coping skills.

Swain and Jones (1992) "conducted a study on relationship between sport achievement orientation and cognitive anxiety, somatic anxiety, and self-confidence in a sample at male (n=60) track and field athletes. Subjects responded to the Competitive State Anxiety Inventory – 2 (CSAI-2) on five occasions during the pre-competition period and also completed the Sports Orientation Questionnaire (SOQ). In the case of cognitive anxiety, the high competitive group exhibited no change across time. The low competitive group exhibited no change across time. The low competitive group showed a progressive increase as the competition neared. Findings for somatic anxiety revealed that the low competitive group reported as earlier elevation in the somatic response. The findings revealed that the high competitive group, although reporting higher levels of self confidence throughout the experimental period, reported reduced self-confidence on the day of competition, the low competitive group, self confidence remained stable.

Grauer and Paul Henry (1991) investigated the effects of a Psychological Skill Training (PST) program over a two-month competitive Football season on Cognitive anxiety, Somatic anxiety, Self-confidence (CSAI-2), mood states (POMS), trait anxiety (SCAT), and attentional style

(TAIS) of High School Football players. Subjects consisted of 59 members of the 1988 Concordia Academy and Edison High School Football teams. A repeated measures design was used to determine the initial equivalence of the teams and to check for game effect and interaction. The specific psychological characteristic dealt with in this manner included Cognitive, Somatic anxiety and Self-confidence, as measured by the CSAI-2 and mood states, as measured by the POMS. A simple repeated – measures design was used to determine if changes across administrations was statistically significant for both teams. Paired t-test were run using the first and last game means for both teams to determine if the means had made a significant change over the course of the season. The effect of a PST program on trait anxiety, as measured by the SCAT, was analysed statistically using a pre-post test format. Paired t-test were employed to analyze the change of the pre-season and post season means. The relationships between trait anxiety and cognitive and somatic anxiety was investigated. In order to determine the extent of the linear relationship between the mean of the Pre-season SCAT score and the mean of the four CSAI-2 game scores on cognitive and somatic anxiety a simple pearson product-moment correlation was calculated. The impact of a PST program on attentional style as measured by the TAIS was investigated. Paired t-test were used to analyze the change in Pre and Post season means.

Graham Jones, Austin Swain, and Andrew Cale (1991) examined changes in and antecedents of cognitive anxiety, somatic anxiety, and self-

confidence in a sample of male ($n=28$) and female ($n=28$) University athletes. Subjects responded to the Competitive State Anxiety Inventory-2 and six antecedent items during the week preceding an important competition. In the case of cognitive anxiety, males showed no change across time, females showed a progressive increase as the competition neared. Males and females showed the same patterning in somatic anxiety with increases occurring only on the day of competition. Self-confidence scores revealed a reduction in self-confidence as the competition neared in both genders, but there was a greater decrease in females than in males. Stepwise multiple regression analyses showed that different antecedents predicted Cognitive Anxiety and Self-confidence in males and females. Specifically, significant predictors in the female were associated with personal goals and standards, significant predictors in the males were associated with interpersonal comparison and winning.

Christina.M.Canuso and Diane.L Gill (1990) conducted a study to examined 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 frontalis muscle activity was recorded at those times. Results revealed that the cognitive and

semantic components of state anxiety are moderately related to one another and change differently over time. Intra individual regression analyses conducted to text relationship between anxiety and performance revealed no linear or curvilinear relationships between any of the CSAI-2 components and performance. The frontal is IEMG/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 influence differently by competitive conditions and task demands.

Boutin and Kenneth James (1983) examined the relationship of anxiety level and performance in MAIN Inter Collegiate Basketball games. The relationship between the anxiety level of MAIN basketball players and their performance in games indicated no significant levels. Players who possessed high levels of pre-game anxiety were apparently able to dissipate it once the game began, not reflecting the anxiety in their performance. Turnovers per minute were the Basketball performance indicator most consistently affected by anxiety, reaching significant levels in the following situations. (1) players who participated over 20 minutes (2) In the relationship between the length of time played, number of personal foals and turnovers (3) game starters with anxiety represented by one test item and non-starters by seven test items. (4) All players with anxiety represented by five different test items.

Ewess and Khaineldin Ali Ahmed (1980) conducted a study to examine the relationship between the State Anxiety male and female scholastic athletic team members and their athletic teams psychological environment. Four hundred and forty-one male and female athletic team members were selected from Eugene-spring field: A packet containing directions-a personal data from requesting age, sex and sport. The team atmosphere scale and the state Anxiety scale were given to each subject. One way analysis of variance of unequal sample sizes were calculated between schools, male and female athletic teams, and sports, to test the hypotheses regarding their perceptions of their athletic teams psychological environment. The Pearson-product moment correlation was used to determine the relationship between TAS scores and State Anxiety scale scores. The critical level for all tests of significance was set at .05. The result indicated that six of the TAS subscales support, practicality, affiliation, involvement, variety and clarity, correlated significantly with state anxiety. The variety subscales correlated positively, suggesting, that a more varied, less predictable team atmosphere was associated with state anxiety. The other five subscales, however, correlated negatively suggesting that less support, practicality, affiliation, involvement and clarity was associated with more state anxiety. All but one of the twelve TAS distinguished adequately among different sports teams. However, only three subscales varied from school to school. These findings suggest that the TAS distinguishes psychological team atmosphere characteristics more

readily than overall school characteristics. No overall relationship was found, however, between, TAS and state anxiety. Males and females did not significantly differ in their mean TAS scores or state anxiety. An overall correlation between TAS and state anxiety was found for male athletes.

The Competitive State Anxiety Inventory-2 (CSAI-2) is one of the most frequently used instruments when assessing competitive state anxiety in sport psychology research. However, doubts have been expressed about the factorial validity of both the English and the Greek versions of the scale. Hence, a revised version of the inventory (CSAI-2R) has recently been suggested to be more psychometrically sound (Cox et al., 2003). In the present study, the aim was to evaluate the psychometric properties of the Swedish version of the CSAI-2 using confirmatory factor analyses. A total of 969 athletes (571 men and 398 women) competing in 26 different sports completed the Swedish version of the CSAI-2. Three different factor structures were evaluated: the original three-factor model (with cognitive anxiety, somatic anxiety and self-confidence), a two-factor model in which self-confidence was excluded, and a three-factor model containing 17 items (CSAI-2R). The results revealed that only the 17-item model displayed an acceptable fit to the data. Although some doubts remain about the amount of variance that can be attributed to error variance in the subscales, the results suggest that it is better to use the CSAI-2R rather than the original CSAI-2 (Lundqvist Carolina, and Hassmén Peter, 2005).

From the findings summarized in this review, it appears that there is little evidence in support of the inverted-U hypothesis. Available research indicates that there is considerable variability in the optimal precompetition anxiety responses among athletes, which does not conform 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 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 is precisely defined, the validity of ZOF theory can be directly examined through hypothesis testing, whereas it has been argued that the inverted-U hypothesis is effectively shielded against falsification. 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 this is so. Further research is clearly indicated, but one explanation for this finding may involve how the athlete interprets or conceptualizes anxiety. For example, Mahoney and Avenier 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 takers perceive their anxiety to be more threatening and debilitating than do better performers. Furthermore, temporal differences in the patterning of anxiety, fear responses, 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 as 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 (J.S. Raglin, 1992).

Wong, Lox, Clark (1993) examined the relations among athletic context, i.e., team-sport versus individual-sport, competitive trait anxiety, perceived ability, and self-presentation confidence for 62 men and 34 women athletes. The analyses showed that the athletic context is associated with variations in competitive trait anxiety and self-presentation confidence; however, no main effect or interaction was noted for perceived ability. Results

support the notion that aspects of the sports context are significantly related to various precompetitive cognitions.

The influence of anxiety on sport performance was examined using the inverted-U hypothesis and Zone of Optimal Function (ZOF) theory. Sixty-seven Collegiate Track and Field athletes completed versions of the State-Trait Anxiety Inventory (STAI) to determine baseline state anxiety, recalled best anxiety, and pre-competition anxiety. Pre-competition state anxiety was determined 1 h before competition in four meets. Three variants of the inverted-U hypothesis were examined: 1) task-specific anxiety, 2) individualized median pre-competition anxiety, and 3) mean pre-competition anxiety. For ZOF, optimal anxiety was established from anxiety scores based on recalled best performance. Subjects were grouped as either inside or outside of optimal anxiety levels according to inverted-U or ZOF criteria. Mean group performance was determined by transforming individual results using intra- and inter individual standards. ANOVA revealed that subjects possessing optimal anxiety according to inverted-U criteria performed no better ($P > 0.05$) than cases outside optimal. Subjects with pre-competition anxiety values within their individual ZOF performed significantly ($P < 0.05$) better than cases with anxiety outside ZOF for all contrasts. The largest ($P < 0.05$) performance decrements resulted when anxiety was within a 1 SD range above or below ZOF. These results indicate that ZOF theory was more

efficacious than the variants of the inverted-U hypothesis examined (P.E. Turner, Raglin J.S., 1996).

Arent and Landers (2003) examined 104 College-age participants performed a simple response time task while riding a Bicycle Ergo Meter. Participants were randomly assigned to one of eight arousal groups (between 20 and 90% of heart rate reserve) and were told they were competing for a cash prize. Prior to the task, the Competitive State Anxiety Inventory-2 and Sport Anxiety Scale (SAS) were administered to assess the influence of cognitive and somatic anxiety. As hypothesized, regression analysis revealed a significant quadratic trend for arousal and reaction time. This accounted for 13.2% of the variance, F change (1, 101) = 15.10, $p < .001$, in performance beyond that accounted for by the nonsignificant linear trend. As predicted by the Inverted-U hypothesis, optimal performance on the simple task was seen at 60 and 70% of maximum arousal. Furthermore, for the simple task used in this study, only somatic anxiety as measured by the SAS accounted for significant variance in performance beyond that accounted for by arousal alone. These findings support predictions of the Inverted-U hypothesis and raise doubts about the utility theories that rely on differentiation of cognitive and somatic anxiety to predict performance on simple tasks that are not cognitively loaded.

Wiggins, Lai and Deiters (2005) conducted a study to assess whether athletes who perceived their scores on trait anxiety to be debilitating to performance also experienced higher burnout scores. 84 NCAA Division I female ice hockey and soccer athletes, ages 18 to 23 years, volunteered. Participants were given a trait version of the Competitive State Anxiety Inventory-2 with an added direction scale to collect general perceptions of anxiety. They also completed the Burnout Inventory for Athletes. A one-way multivariate analysis of variance for group anxiety yielded an overall significant effect, with the Facilitative group ($n = 40$) reporting a lower mean burnout score. Mean intensity of cognitive anxiety was significantly higher for the Debilitative group ($n = 44$), while mean self-confidence intensity was significantly higher for the Facilitative group.

Savoy (1997) conducted a study to develop an individualized mental training programme to improve performance across regular and post season play of two NCAA Division female Basketball players. Two players participated in a group mental training program that included entering, focusing and imagery, which began in preseason and continued until the end of post season play. The two athletes were assessed for state somatic and cognitive anxiety inventory – 2 and individual interviews during late January and February of regular season play. The evaluation of both athletes indicated a decrease in state cognitive and somatic anxiety and an improvement on self-

confidence after the intervention. Both athletes showed an improvement in game performance statistics in the coach's overall performance evaluation.

George and Thomas Robert (1993) investigated the relationship between self-confidence and performance. Male Intercollegiate and High School Baseball players (N=53) completed self-report measures over a nine-game period during their respective seasons. Perceptions of self-efficacy (confidence in hitting performance) competitive state anxiety, effort expenditure and performance were assessed, as well as an objective measure of performance (contact percentage). It was hypothesized that previous performance and anxiety would significantly predict self-efficacy beliefs, and that self-efficacy would mediate the effects of previous performance and anxiety on effort expenditure and hitting performance. Moderate support for Bandura's model was found in that higher contact percentages were predictive of stronger percepts of efficacy in five games, and lower levels of somatic and cognitive anxiety were associated with stronger self-efficacy beliefs in seven games. In turn, self-efficacy was a predictor of effort and hitting performance in six of the nine games. In all cases, higher percepts of efficacy were associated with increased effort expenditure and greater hitting performances. Results are discussed in relation to the ecological validity of previous casual examinations of self-efficacy theory, as well as the utility of self-efficacy theory as a frame work for investigating the self-confidence – performance relationship.

Cathy. D. Lirgg (1991) conducted a meta-analysis to examine the magnitude of gender differences in self-confidence in physical activity according to Lenney's assertions. An overall non homogeneous effect size of 0.40 favouring males was found. Although masculine tasks produced a larger effect – size differences than neutral tasks, it was also not homogeneous, only one study employed a feminine task, resulting in a large effect size favouring females. However, the results of a regression analysis, which found that sex type of task contributed to gender differences in self-confidence, did support Lenney's Contention. Whether or not the task took place in a competitive situation did not differentially affect the magnitude of the gender differences. Age of subject and type of confidence measure employed are also discussed as possible variables contributing to gender differences in self-confidence.

Gold and Gingerlee (1990) carried out a study to investigate the achievement orientation, self-confidence and attributions of five female Collegiate Varsity Tennis players ages 18-22. Change in these constructs were described and their inter relationships were explored over a single competitive tension season. Quantitative and Qualitative measures, including questionnaires, interview and journals were used to assess achievement orientation, self-confidence and attributions. The results were integrated to develop players motivation profiles. Results indicated that, (a) the players were stable in their levels of achievement orientation from match to match, irrespective of confidence level. (b) each player's achievement orientation had

different characteristics (c) athlete's pre-match expectations were higher for events they won, (d) following matches which they won, athlete tended to have lower expectations for winning the next match and (e) substantial increases and decreases in expectancy to win and play well were observed between matches. Finally, the advantages to using a idiographic design to study fluctuations in athletes motivation was under scored.

Kjormo and Halvari (2002) tested among 136 Norwegian Olympic level athletes yielded two paths related to performance. The first path indicated that self-confidence, modeled as an antecedent of competitive anxiety, is negatively correlated with group goal-clarity, which in turn is positively correlated with performance. Competitive anxiety mediates the relation between self-confidence and performance, whereas group goal-clarity mediates the relation between group cohesion and performance. Results from multiple regression analyses supported the model in the total sample and among individual sport athletes organized in training groups ($n=100$). Among team sport athletes ($n=36$), personality and group measures are more strongly intercorrelated than among individual sport athletes, and the relation with performance is more complex for the former group. The interaction of self-confidence and competitive anxiety is related to performance among team sport athletes.

Taylor. J. (2003) conducted study to examine the ability of certain psychological attributes to predict performance in six National Collegiate Athletic Association Division I collegiate sports. Eighty-four athletes from the varsity sports team of cross country running, alpine and Nordic skiing, tennis, basketball, and track and field at the University of Colorado completed a questionnaire adapted from Martens (1977; Martens *et al.*, 1983) that measured their trait levels of self-confidence (Bandura, 1977), somatic anxiety, and cognitive anxiety (Martens, 1977; Martens *et al.*, 1983). In addition, at three to six competitions during the season, the members of the cross country running and tennis teams filled out a state measure (Martens *et al.*, 1983) of the three attributes from one to two hours prior to the competition. Following each competition, subjective and objective ratings of performance were obtained, and, for all sports, coaches' ratings of performance and an overall seasonal team ranking were determined as seasonal performance measures. The sports were dichotomized along motor and physiological dimensions. Results indicate that all three psychological attributes were significant predictors of performance in both fine motor, anaerobic sports and gross motor, aerobic sports. Further, clear differences in these relationships emerged as a function of the dichotomization. In addition, unexpected sex differences emerged. The findings are discussed relative to prior research and their implications for future research.

Psychountaki and Zervas (1999) examine the relationships among competitive worries, sport confidence, and performance of young athletes. Participants were 143 young swimmers aged 11 to 12 years. The athletes completed trait and state questionnaires (competitive worries and sport confidence) in noncompetitive and competitive conditions, respectively. The results indicated: (a) significant relationships among trait and state characteristics and between trait General Self confidence and performance ratings in both races as well as between performance ratings in Races 1 and 2; (b) Significant differences in state variables among athletes with moderate or high and low scores on the trait variables; (c) Significant differences in performance among athletes with moderate or high and low scores on the trait General Self-confidence and trait Positive Thinking in Race 1 and on variables trait General Self-confidence, state General Self confidence, and state Positive Thinking Race 2; and (d) trait General Self-confidence and trait Confidence in Unfavourable Situations were the most important predictors of young Swimmers' performances. These results may be useful in application to competitive sports for young athletes. They may help in psycho diagnostic procedures and may be used for both the content and the direction of individual programs for psychological preparation of young athletes.

Ramesh (1994) made a comparison of anxiety and self-confidence among qualified Football, Volleyball and Basketball referees in Tamil Nadu. For this study 30 qualified active, Soccer, Volleyball and Basketball referees

were chosen in Tamil Nadu at random as subjects. By using questionnaires the data for psychological variables Anxiety and Self-confidence were collected from the soccer Volleyball and Basketball referees. The data was examined and in order to find the difference in the psychological variables among the Soccer Volleyball and Basketball referees, ANOVA was applied and the "F" ratio was more than the table value. Scheffe's post hoc test was used to determine the significance among the paired means at 0.05 level of confidence. The results found that Volleyball referees had low level of anxiety than that of Soccer and Basketball referees, another result was that Soccer referees had high level of anxiety than Basketball, Volleyball referees and the third result was that Basketball referees had high level of anxiety than Volleyball referees and low level of anxiety than Soccer referees. Besides, there was no significant difference in self-confidence between Basketball and Volleyball referees.

Jayshree Acharya (1994) conducted a study on the position wise analysis of Cognitive worry, Somatic tension and Self-confidence of women Hockey players. She had chosen 113 female Hockey players who participated in all India Inter University Hockey Championship 1992 (first eight teams) were divided into three categories according to their playing positions i.e., forwards (N=52) mid fielders (N=27) and defenders (n=34). They were tested for three components of competitive state anxiety, cognitive worry. Somatic tension and self-confidence, a day before they were to play as in their fixture.

The analysis of variance computed on the data so collected on the three positions of players has indicated that no significant difference was among them.

Finkenberg and Dinacci (1975) conducted a study on cognitive and somatic state anxiety and self-confidence in cheer leading competition. 77 cheerleader participating in a National Collegiate Championship competition were administered the competitive state anxiety inventory. Two immediately prior to performance significant correlation were found between cognitive and somatic consistent with previous research. Negative correlation were found between both cognitive and somatic anxiety and self confidence also as previously reported. Canonical discriminate analysis indicate that significant discrimination between the term could be accomplished by combination of the state anxiety variable. Both group 36 men and 41 women differed significantly from normative scores on the somatic subscale.

Lox (1992) studied perceived threat as a cognitive component of state anxiety and confidence. This study was designed to test propositions from the 1990 competitive anxiety model proposed by Marton, Vealey and Burton. Specifically the relationship among perceived threat and state response of anxiety, confidence and efficiency were examined to assess whether perceived threat might explain anxiety and confidence in 52 Inter Collegiate female Volleyball player. Somatic anxiety was significantly correlated with

perception of importance of both outcome and personal performance while under training regarding of both performances was significantly related to cognitive anxiety. In addition, perceived threat was significantly related to state self-confidence and self-efficiency.

Jaxlov (1987) predicting athletic performance with self-confidence and somatic and cognitive anxiety as function of motor and physiological requirement in six sports. The purpose of the present study is to examine the ability to certain psychological attributes associated to division collegiate sports, Eighty four athletes from the varsity sport team of Cross country running, Alphin and nordic sking Tennis, Basketball and Track and Field at University of Colorobo Completed a questionnaire adopted levels of self-confidence stomatic anxiety and cognitive anxiety.

Tim Woodman, Lew Hardy (2004). Conducted a study on the Relative Impact of Cognitive Anxiety and Self-confidence upon Sport Performance : a Meta-analysis. This meta-analysis ($k = 48$) investigated two relationships in competitive sport: (1) state cognitive anxiety with performance and (2) state self-confidence with performance. The cognitive anxiety mean effect size was $r = -0.10$ ($P < 0.05$). The self-confidence mean effect size was $r = 0.24$ ($P < 0.001$). A paired-samples t -test revealed that the magnitude of the self-confidence mean effect size was significantly greater than that of the cognitive anxiety mean effect size. The moderator variables for the cognitive

anxiety-performance relationship were sex and standard of competition. The mean effect size for men ($r = 0.22$) was significantly greater than the mean effect size for women ($r = -0.03$). The mean effect size for high-standard competition ($r=0.27$) was significantly greater than that for comparatively low-standard competition ($r=0.06$). The significant moderator variables for the self-confidence performance relationship were sex, standard of competition and measurement. The mean effect size for men ($r=0.29$) was significantly greater than that for women ($r = 0.04$) and the mean effect size for high-standard competition ($r=0.33$) was significantly greater than that for low-standard competition ($r=0.16$). The mean effect size derived from studies employing the Competitive State Anxiety Inventory-2 ($r=0.19$) was significantly smaller than the mean effect size derived from studies using other measures of self-confidence ($r=0.38$). Measurement issues are discussed and future research directions are offered in light of the results.

Peter Hassmen, John S. Raglin, Carolina Lundqvist (2004) conducted a study on Intra-Individual Variability in State Anxiety and Self-Confidence in Elite Footballers. Pre competition anxiety levels are assumed to moderate sports performance. Unfortunately, cross sectional and homothetic research designs have often shown non-significant findings; intra-individual variability may be a contributing factor. The extent of variability in pre-competition anxiety and self confidence responses as related to Soccer performance and trait measure were therefore examined using an idiographic approach.

Individual patterns of variability were found for Cognitive and Somatic Anxiety and Self-Confidence scores yielded prior to the games played. Variability in Somatic Anxiety was significantly related to variability in Soccer performance. Players low in anxiety variability scores significantly higher on Private self-Consciousness. The findings suggest the influence of anxiety and self-confidence on performance may be better understood when trait characteristic of the individual are also considered.

Jim Taylor (1997) conducted a study on Predicting Soccer Performance with Self-confidence and Somatic and Cognitive Anxiety as a Function of Motor and Physiological Requirements in Six Sports The purpose of the study is to examine the ability of certain psychological attributes to predict performance is six National football Association Division I collegiate sports Eighty-four players from the varsity teams at the University of Colorado completed a questionnaire adapted from Martens (1977, Martens et al 1983) that measured their trait levels of self-confidence (Bandura, 1977), somatic anxiety and cognitive anxiety (Martens, 1977 Martens et al, 1983) In addition, at three to six competitions during the season, the members of the teams filled out a state measure (Martens et al 1983) of the three attributes from one to two hours prior to the competition Following each competition, subjective and objective ratings of performance were obtained, and for all sports coaches' ratings of performance and an overall seasonal team ranking were determined as seasonal performance measures. The sports were dichotomized

along motor and physiological dimensions. Results indicate that all three psychological attributes were significant predictors of Performance in both fine and gross motor, aerobic sports further, clear differences in these relationships emerged as a function of the dichotomization in addition, unexpected sex differences emerged. The findings are discussed relative to prior research and their implications for future research.

S.R. Bray, K.A. Martin (1998) conducted a study on The effect of competition location on Football players Performance and psychological states. *Objective.* To examine the performance and pre-competition psychological states of Football players performance in relation to competition location. It was hypothesized that Footballers would perform better when competing at home. Self-reports of state anxiety were expected to be lower and self-confidence higher prior to home matches compared to away. *Design.* Within-subjects design to examine Footballers performance and pre-competition psychological states at home and away competitions. *Methods.* Junior women footballers (N=26) completed the Competitive State Anxiety Inventory-2 approximately one-half hour prior to competitions that were held at home and away. Objective (match position) and subjective (coach ratings) measures of performance were also obtained. *Results.* Contrary to hypotheses, no differences between home and away performances were observed (i.e no home advantage) players reported no differences in pre-competition state anxiety or self-confidence at home compared to away.

Brodkin and Weiss (1996) conducted a study to examine developmental differences in motives for participating in competitive Swimming across the lifespan. Six age groupings were chosen based on underlying cognitive criteria identified in the literature, younger and older adults. Swimmers from YMCA (N=100) completed the participation Motivation Questionnaire modified by D. Gould Feltz and Weiss (1985). A MANOVA on the factor scores revealed a significant age group main effect follow-up analysis indicated that characteristics of competitive Swimming was rated significantly lower by the older adults while social status was rated significantly higher by older adults while social status was rated significantly higher by older children and High School/College age Swimmer, significant others was rated significantly higher by children, and fun was rated most important by younger children and older adults.

Kang and Linejkin (1992) examined exercise motivation and behaviour of two cultural groups, American and Taiwanese. Gender and group differences on associated variables were studied. Also, relationships between psychological and personal variables were tested. Self-motivation inventory, personal, incentives for exercise questionnaire, and sport orientation. Questionnaire served as exercise motivation measures. Personal and program variables and open-ended questions, were also included to assess relevant factors. A total of 391 American and Taiwanese exercisers participated in this study. The results indicated cultural, gender and group differences on

psychological, personal and program variables. Relationships between psychological and personal variables were significant. Specifically, American exercisers were found more self-motivated and competitive, with higher incentives for exercise than Taiwanese. Older exercise appeared to have different incentives than younger adults – further, four program factors – social support, exercise leadership, organized classes, and group activity – were important in both cultures.

Ebbeck and Vicki (1991) conducted on integrated research approach to the study of motivation was adopted by incorporating variables from sport psychology, motor development and motor learning/control sub disciplines. Specifically, the relationship at age and skill with self-perception and motivational characteristics at tennis participants was examined. Canonical correlation analyses revealed that the set of age and skill variables was significantly related to the set of psychological variables for both males and females. For males, age was positively associated with intrinsic motivation and controllable attributions for successful outcomes, but negatively associated with tennis salience, competitive trait anxiety and norm-referenced conceptions of ability. Increase in skill were associated with higher ratings of tennis salience, perceived tennis competence, global self-worth, preference for challenging tasks, intrinsic motivation and internal and controllable attributions for success. For females, higher skill level was associated with increase in perceived tennis competence, intrinsic motivation, preference for

challenging tasks, and tennis salience older as compared to younger, females were lower in tennis salience, competitive trait anxiety, preference for challenging tasks, as well as norm – and self referenced conceptions at ability. The percentage of variance explained in the psychological variables by age and skill was 27% and 44% for females and females, respectively. These findings suggest that an integrated research approach can extend our understanding of social-psychological variables in the physical-activity setting.

Rademaker (1984) and Timothy Arnold 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 than females, white 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 analyses between the various comparisons groups revealed that less successful white males were more strongly characterized by the p_1 profile than 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 p_1 profile than successful white males. This findings was 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 situation to another, but dependent +ve tests revealed a significant differences in competitiveness. Finally, comparison groups showed changes in achievement profiles in the 40 percent range. It was concluded that the efficacy of the p_1 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 was subject to situational influence.

Sturman and Cantor (1999) investigated the relationships among achievement motivation; Type A behavior, and motivational orientation in a sample of college undergraduates. Employing a content analytic scoring system to assess intrinsic and extrinsic motivational orientations in open-ended material, intrinsic orientation was associated with achievement motivation and extrinsic orientation with Type A behavior. Supplementary analyses revealed a linkage between Type A behavior and instrumental concerns about interpersonal superiority and prestige. The findings help to bridge previously disparate research traditions in dispositional achievement behavior and contextual motivational orientation.

Thomas (1993) conducted "A study of Anxiety, ACHIEVEMENT Motivation and Self concept among college women players of different types of games in Kerala". For this purpose she selected 150 players as subject at

random and their age was between sixteen and twenty two years. Kamalsh's sports achievement questionnaire was used. It find out of the achievement motivation of the players. The Scheffe's post-hoc test was applied to find out the significant difference of paired means. She came to a conclusion that the level of achievement motivation among the players than that of the non contact game and contact game. And the achievement motivation of contact game players was greater than that of the non contact game players.

Gurdeep and Ashok (1991) conducted a study on "Effect of Verbal and Tangible motivation on selected performance tests at primary level".

Three matched groups containing 20 subjects each of which one group served as "control group", on which no motivation device was applied. Remaining two groups were used as "experimental group" for verbal and tangible motivation, pre-motivation and post-motivation, tests were applied and data collected was arranged in tabular form for statistical analysis, on the basis of which the following conclusions were drawn, (a) Tangible motivation in the form of various incentives given to the participants as appropriate time is found to be more effective than verbal motivation in sports performance (b) motivation helped in improving their interest ability and aptitude towards performance oriented task (c) it was found that motivation should not be given beyond the physiological and psychological limits of the performer in childhood.

Braathen and Svebak (1992) studied a range motivational characteristics in a sample of 228 males and 124 females (age 15 to 16 years) recruited from the most promising performers of different sports, mainly in Western Norway. They completed the sport orientation questionnaire (competitiveness, win and goal orientation) the short sensation seeking scale, the life orientation test (optimism) a new scale on social reactivity (reactive and proactive negativism) and questions on the importance of friendship among short performers and of being the best. The males scored significantly higher on competitiveness, win and goal orientation, sensation seeking and so called reactive negativism but scored significantly lower than females on the importance of friendship. More complex group differences were also significant. One example is the relatively high mean score for proactive negativism in male performing sports and the low mean in females of team sports.

Patil (1991) conducted a study on "Motivational Profile of Women Hockey Players", for this purpose she selected two hundred and thirty eight International and National Hockey players of India. The data were collected by administering "The Incentive Motivation Inventory" developed by Wood to the subjects. t-test was used to find out the significance of the difference in mean performance of the two samples. She came to a conclusion that International and National Hockey players are just average in the level of motivation and do not differ with each other.

Acharya, Kamalesh and Pandey (1993) conducted "A Study of Relationship between Academic Achievement and Intelligence on measured by different tests in the Context of Physical Education Majors". For this purpose they selected fifty four male and thirty four female students from Lakshmi Bhai National College of Physical Education, Trivandrum, coefficient of correlation (r) was calculated to find out the relationship between standard progressive matrices and general mental ability test. They came to a conclusion that intelligence test has substantial or marked relationship with academic achievement.

Tod and Hodge (2001) examined the relationship between moral reasoning and achievement motivation in sport. Eight male under-21 year old Rugby union players were interviewed three times across a six-month Rugby season. During these interviews individuals were presented with a series of four moral dilemmas and were asked open-ended questions with regard to their moral reasoning and achievement goals in each dilemma. Results revealed that an individual achievement goal orientation profile appeared to influence the level of moral reasoning used. Individuals whose goal profiles were dominated by an ego orientation tended to use a less mature level of moral reasoning that was influenced by self-centeredness and a win-at-all-costs attitude. In contrast, individuals whose goal profiles consisted of a combination of task and ego goal orientations tended to use more mature levels of moral reasoning. Their moral reasoning was characterized by a

concern for all the people involved in the in moral dilemma. However all participants' moral reasoning was influenced by situational variables such as significant others. The results of this study complement previous quantitative research and indicate that future research should more fully explore the interactions between individual differences (i.e., goal profiles) and situational factors (i.e., motivational climate) on moral reasoning in sport.

Tjeerdsma (1993) investigated the ability of a model based on achievement motivation theory to explain the motivation/ performance process in a natural physical education setting. The subjects were 49 sixth grade children participating in a 14-lesson Volleyball unit in an actual middle school. Subjects completed four questionnaires which assessed their goal orientations and intrinsic motivation in physical education as well as their motor skill and volleyball perceived competence. Lessons were videotaped and coded to determine each student's consistent engagement (persistence/effort) and performance (success) rate during the unit. Results showed that the proposed model did not do an acceptable job of describing the motivation/performance process in this physical education setting. However, several significant relationships among the variables in the model were identified. Volleyball performance was positively related to consistent engagement rate and motor skill perceived competence. Motor skill perceived competence was positively related to Volleyball perceived competence, while perceived competence overall (motor skill and volleyball) was positively

related to intrinsic motivation. The only significant relationship found between the goal orientations and the remaining variables was the positive association between task orientation and the challenge dimension of intrinsic motivation. The effect of the context, including the content, characteristics of physical education settings in general, the climate produced by the teacher (types of tasks, management, and feedback), and the role of student perceptions of success are discussed.

Matheson and Mathes (1999) examined changes in Cognitive anxiety, Somatic anxiety, and Self-confidence as measured by the Competitive State Anxiety Inventory-2 in a sample of 50 female High School Gymnasts prior to their performance at a practice session, dual meet, and district championship meet. The purpose of the study was to examine (1) the relationship between state anxiety and performance setting, (2) experience, and (3) difficulty of the movement task. Analysis showed that at the dual meet athletes experienced significantly greater cognitive and somatic anxiety and lower self-confidence than at the practice or district championship. State anxiety did not vary significantly with the athletes' over-all experience or the difficulty of the routines they performed. The unexpected finding that the dual meet was the most anxiety provoking was attributed to the greater uncertainty of outcome in a competition and the fact that the dual meet occurred early in the season.

Basumatory (1992) randomly selected 50 male and 30 female Judokas age 19-24 years of inter varsity level to study the relationship between Achievement motivation and Pre competition anxiety. The data on achievement motivation was collected by administering the sports achievement motivation test by Kamlesh to the Judokas one day before the competition. The data on pre-competition anxiety was collected by administering sports competition anxiety was collected by administering sports competition anxiety test (Adult form) one hour before the competition. There was significant relationship between achievement motivation and pre-competition anxiety of Inter University level male Judokas. There is no significant relationship between achievement motivation and pre-competition anxiety of Inters Variety level of male and female Judokas.

Psychologically athletic performance is a multiplicative function of intrapersonal (for example, intrinsic motivation) and interpersonal (for example, social support) factors. It is theorized that the layer immediately surrounding an athlete's inner core of psychological functioning consists of 4 intrapersonal factors: self-motivation, cognitive capacity and coping skills, affective orientation and mental training skills. The layer surrounding these factors is comprised of interpersonal factors, such as social support and the athlete-coach relationship. A theoretical model was advanced to show that competition-generated intrinsic motivation predisposition and social support are the two main properties of the athletic competition context that buffer

against increased athletic and life stress. If such buffering effects occur, athletes' physical and psychological capacity is maintained or even enhanced. This in turn promotes continued competitive athletic participation and performance. Maximization of psychological conditions for successful performance requires that coaches foster athletes' intrapersonal and interpersonal psychosocial resources by serving as facilitators of their autonomous self-regulation rather than as controllers of their goals and behaviors (S.E. Iso-Ahola, 1995).

Balaguer, Duda and Crespo (1999) studied the relationship of goal orientations and the perceived motivational climate created by the coach in relation to 219 competitive Spanish Tennis players': a) perceived improvement in different facets of the game, b) satisfaction with their competitive results, overall level of play, and coach, and c) ratings of their coach. Then, they examined whether the dependent variables were best predicted by the perceived situationally emphasized goal structure created by the coach and/or the athletes' dispositional goal perspective. Intermediate (N=70), advanced (N=124), and professional (N=25) level players completed Spanish versions of the TEOSQ and the PMCSQ-2 and items assessing perceived improvement specific to Tennis, satisfaction and coach ratings. The results were consistent with the tenets of goal perspective theory and provide further support for the promotion of a task involving atmosphere in sport.

Ntoumanis and Biddle (1998) examined the relationships of achievement goal orientations and perceived motivational climate to perceptions of the intensity and direction of competitive state anxiety in a sample of university athletes representing various team sports. Although some studies have demonstrated that task orientation and mastery climate are associated with adaptive emotional patterns and ego orientation and performance climate are linked to less adaptive emotions, others have not verified these findings. In the present study, structural equation modeling was used to test these links. The results showed that perceptions of a performance climate were associated with ego orientation, whereas perceptions of a mastery climate were linked to task orientation. Furthermore, no significant links were found between task orientation and direction of competitive anxiety, while it was shown that the impact of ego orientation on the intensity and direction of cognitive and somatic anxiety was exerted through self-confidence. No significant direct links were found between motivational climates and competitive anxiety, thus implying that motivational climates may have an indirect impact on affective responses through the different goal orientations. The findings of the present study are discussed along with suggestions for examining situational and individual difference variables that may explain the relationships between intensity and direction of competitive anxiety and achievement goals and motivational climates.

Lee (2008) and others examined the value-expressive function of attitudes and achievement goal theory in predicting moral attitudes. In Study 1, the Youth Sport Values Questionnaire (YSVQ; Lee, Whitehead, & Balchin, 2000) was modified to measure moral, competence, and status values. In Study 2, structural equation modeling on data from 549 competitors (317 males, 232 females) aged 12-15 years showed that moral and competence values predicted prosocial attitudes, whereas moral (negatively) and status values (positively) predicted antisocial attitudes. Competence and status values predicted task and ego orientation, respectively, and task and ego orientation partially mediated the effect of competence values on prosocial attitudes and of status values on antisocial attitudes, respectively. The role of sport values is discussed, and new research directions are proposed.

Miner (1987) conducted a study to determine if differences existed between levels of achievement and affiliative motivation of male and female Interscholastic and Intercollegiate Basketball competitors. These differences were measured by the achievement and affiliation scales of the personality research (Form E). The instrument was administered to 80 males and 92 females. It was concluded that (1) Intercollegiate male and female Basketball competitors do not differ in their levels of achievement or affiliative motivation. (2) Interscholastic males have higher achievement motivation than interscholastic females. (3) Interscholastic and Intercollegiate

competitors do not differ in their levels of achievement or affiliative motivation.

Singh *et al.* (1993) conducted a study on "Relationship of Achievement Motivation and Attribution to performance outcome in competitive athletics." The subjects were fifty athletes who participated in All India Intervarsity Athletic Meet held at Calicut University, Kerala, in December 1988. For the purpose of the study two psychological tests were administered to athletes who took part in 100 mts, 800 mts, 5000 mts run, Discuss throw and Long jump. The sport achievement motivation questionnaire was administered a day prior to the competition and the attribution questionnaire soon after the events.

From the results it is evident that the level of achievement motivation of the athletes significantly contributes to performance in 100 mts and 800 mts run. However, no significant relationship is observed between achievement motivation level and performance in 5000 mts, Discuss throw and Long jump. The data also revealed the athletes participating in 100 mts attribute their success to ability and task difficulty. Performance of 5000 mts run is attributed to ability and efforts whereas the performance in 800 mts run and discuss throw is attributed to ability.

Kamath *et al.* (1999), personality is the overall pattern of psychological characteristics that makes each person a unique individual. The present study

is an investigation to evaluate the manifest needs as well as to examine the relationship between these variables and the psychological skill employed. Nine pre-elite Volleyball players (Girls) volunteered to participate and they completed a battery of psychological questionnaires consisting of Edwards Personal Preference Schedule (Edwards, 1959) and psychological skills inventory for sports (PSISR – 5). Results were analysed and the main findings revealed that the Volleyballers have a high need for order and endurance. They were also found to be highly motivated and team focused.

Kenneth (1985) conducted a study on prediction of performance from selected personality traits, and state anxiety levels of competitive male and female gymnastics. Subjects for the study were 21 male and 35 female gymnasts, aged 9 to 23 who competed in either sectional or national qualifying meets in the United States and Canada. Path analysis and a multiple regression technique were used to analysis the data. Based upon the findings and within the limitations of the study, the following conclusions were drawn (1). The personality – anxiety model was supported by explaining over 51 per cent of the variability in the criterion, (ii) Pre-competitive anxiety was not a statistically significant prediction of gymnastic performance, (iii) The hypothesis related to the personality performance, relationships were not supported by necessary data since the model explained only 38.1 per cent of the total variability in gymnastics performance.

The Eysenck Personality Inventory was administered to 46 team sport and 36 individual sport athletes as well as 40 non-athletes by Golas (1971). The 82 athletes were also classified as representing either a combative (N=41) or non-combative (N=41) sport. Regardless of classification procedure, the athletes were found to be significantly more extroverted than the non-athletes. The sport groups did not differ on the E dimension, however. Also none of the groups differed on the neuroticism stability dimension.

Shaw, Singh and Pathak (1990), administered personality questionnaire and competitive state anxiety inventory-2 on twenty one international marathon runners to investigate extroversion, neuroticism, psychotics and state anxiety, cognitive anxiety, self confidence. The result obtained indicated that successful Marathon runners found to have mean value in age (chronological) extroversion, neuroticism and self-confidence scale whereas low mean value in psychotics, cognitive anxiety, somatic anxiety and total competitive state anxiety.

Singh and Brar (1987) conducted a study of Extroversion-Neuroticism and Self-concept on University Handball players and compared the extraversion, neuroticism and self-concept of male and female players. The findings of the study indicated that there is no significant difference in extroversion and neuroticism between male and female and they are just above the norm in neuroticism and just below in case of extroversion.

Mc Clusky (1997), undertook a study to determine if there were significant difference on certain personality traits between those who participated in High risk Vs. Low risk sport at CSU during spring quarter, 1075 and to determine if there were significant difference in the same personality traits between those subject who did travel Vs those who did not travel to represent CSU in intercollegiate competition. The personality research from a was administered to 18 female Tennis players, 4 male Tennis players, 4 female Ski-racers and 11 Ski-male racers.

A two-way factorial design was used to determine if any significant difference (0.05) level existed between each group. The selected personality traits were found for neither the High risk Vs the Low risk group nor the travel Vs no travel group. The aggression trait in the travel no travel segment did approach significant.

Mehta (1988), made an analysis of personality traits of medium, spin and fast bowlers, wicket keepers and batsmen of National level and concluded that in the dimensions of neuroticism significant differences was found between wicket keepers and spin bowlers and in extroversion, differences was found between wicket keepers and batsman, wicket keepers and fast bowlers.

Singh (1987) tested the psychological characteristics of top-level male and female Track and Field athletes and Hockey players. The results of the study showed that on extraversion and neuroticism, the mean differences

scored between the Athletes and Hockey players were significant. The Athletes have obtained more scores on extraversion as well as on neuroticism than the Hockey players, whether they are males or females.

Amutha (1989) conducted a study on the effect of personality Dimensions on learning the skills of Basketball, among High School boys in Pondicherry and observed that a significant positive correlation existed between personality dimension and Basketball learning ability. It was found that the extrovert group had gained the highest level of learning due to six-week training.

The study by Sindhu, Mann and Brar (1988) compare the extrovert neuroticism and attention between team players and individual athletes and concluded that team players and wrestlers are more extrovert than individual athletes and wrestlers and found higher in neuroticism scale. Singh and Brar in their study on top level male and female Track and Field athletes and Hockey players observed that athletes have obtained more scores on extraversion as well as neuroticism than the Hockey players.

In a comparative study of Professional Physical Education male students, belonging to high and low fitness group, Bhattacharjee (1989) concluded that there were significant difference between the high and low fitness subjects in personality factors. The high fitness group was lean towards factors like outgoing, emotionally stable, assertive, venturesome,

suspicious, shrewd, apprehensive, experimenting and self-sufficient. At the same time, the low fitness group was lean towards the factors less intelligent, expedient, tough-minded undisciplined self-conflict and relaxed in personality profile. The high fitness group had better physical self-concept than that of low fitness group. The high and low fitness groups did not differ significantly in other self-concept dimensions that are social, temperamental, educational, moral and intellectual, though the total self-concept of high fitness group was significantly higher than that of low fitness group.

NB 602.0
796.01
3/1/11

Dhillon (1979) conducted a study on 800 sportsmen and non-sports men of both sexes to know their school adjustment, personality and motivation level. She found that sportsmen were significantly better adjusted with their teachers and classmates and their personality and level of motivation was higher compared to the non-sportsmen.

Renjith (2002) conducted a comparative study on sports anxiety and achievement motivation between inter collegiate and university level male Basketball players. He assessed 30 male Basketball players from Tamil Nadu; who have participated in intercollegiate and inter university tournaments to measure anxiety, achievement motivation and found that there was no significant difference in the levels of motivation between inter collegiate and university players. There was no significant difference in the levels of anxiety, but the values are very close.

Shanker (1986) conducted a study on 78 male subjects consisting of 48 gymnasts who participated in All India Inter-University Gymnastics

championship and 30 non athletes). The purpose of the study was to find out the personality type differences between position winner gymnasts and no position winner gymnasts and non-athletes. It was found that position winner gymnasts and non-position winner did not differ significantly on any of the two dimensions of personality in extroversion and neuroticism. 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 introvert in comparison to all the gymnasts.

Sharma (1991) conducted a study on frustration among working women. He conducted the study on 240 married and 160 unmarried women, working as teachers, nurses, doctors, bank employees and office workers in Varnasi city drawn by incidental purpose sampling procedure. He found that there was a significant correlation among frustration, aggression scores and different values. Working women with high socio-economic status were optimistic of getting over a frustrating obstacle, where as those with low socio-economic status tried to avoid if or deny its presence and to blame others.

Davis and Mogle (1994) 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 athlete activities. The purpose of the present study was to compare elite athletes, recreational sport enthusiasts, and non-athlete control group on a number of

the personality variables that have been related to sport and athletes could be distinguished from other groups on extroversion, neuroticism, tough-mindedness, sensation seeking, or achieving tendency. However, those classified as recreational sport enthusiastic had higher scores than any other group on the psychoticism scale, and they were the only group who had higher extroversion scores than non-athletes. It was concluded that the adaptiveness of extroversion, sensation seeking and psychoticism to sporting activities was likely to be diminished among high performance athletes, at least than non-team sports, because of the long hours of solidarity and repetitive training that required for successful competition.

The purpose of Newman's (1968) study was to add to the knowledge of characteristics of personality traits of faster and slower competitive 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 strokes, and 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.

Methodology

- ✦ Selection of subjects
- ✦ Selection of variables
- ✦ Selection of Tools
- ✦ Collection of Data
- ✦ Administration of Questionnaire
- ✦ Aggression
- ✦ Anxiety
- ✦ Self-confidence
- ✦ Achievement – motivation
- ✦ Neuroticism and Extroversion
- ✦ Statistical technique

CHAPTER III

METHODOLOGY

In this chapter, the research scholar presents the selection of subjects, selection of the variables, and collection of data. The administration of the test with a description for its procedure and various statistical techniques used for analysing data also get berth in this chapter.

Selection of Subject

For the purpose of the study, 40 male and female sportspersons each from Volleyball, Basketball, Football, Badminton, Swimming and Track and Field (Sprinters & Jumpers) were selected as subjects. All players selected, were position holders in All India Inter-University and National level tournaments, in their respective game. The age of the subjects were between 19 and 24 and the subjects had a minimum training back ground of 5 to 6 years.

Selection of Variable

It is generalised by sports scientists, that high level of performance in sports are characterized by definite psychological profiles, which generally distinguish from lower level of performance. Modern sports training gives equal emphasis on preparing the athletes psychologically as well as

physically. Higher level of performance is depended upon the athlete's psychological make up.

The following Psychological variables, which are related to the performance in the above said games were selected for the purpose of the study.

1. Aggression
2. Self-confidence
3. Achievement motivation
4. Anxiety
5. Personality traits (Extroversion and Neuroticism)

Selection of Tools

The following standardized tools were selected to collect data on the selected psychological variables:

- 1) Aggression: Aggression Questionnaire of Smith
- 2) Anxiety: Anxiety questionnaire SCAT by Martens
- 3) Achievement Motivation questionnaire by M.L. Kamlesh
- 4) Self confidence – Self confidence questionnaire by Agnihotry
- 5) Personality traits – Eysenck personality inventory.

Collection of Data

The data was collected from the venues of the All India Inter-University Competition and National Championships of the above mentioned sports such as Athletics (Sprints and Jumps), Swimming, Badminton, Volleyball, Football and Basketball.

Administration of Questionnaire

The data was collected by administering the questionnaire by the investigator himself. To ensure maximum co-operation from the subjects, the research scholar had a meeting with the subjects in the presence of their respective coaches. The purpose of the study was clearly explained to them so that there was no ambiguity among the subjects regarding the efforts which they had to put for the successful completion of the investigation.

Subjects were seated and the questionnaires were distributed to them. The directions were given by the research scholar from the test booklet, while the subjects read them silently. All the doubts were clearly explained by the research scholar. Then the subjects were asked to answer the questions following the directions given in the questionnaire. No time limit was given for filling up a questionnaire. But the subjects were asked to respond as quickly as possible. The completed questionnaires were collected back by the research scholar.

Aggression

Tool: Aggression questionnaire developed by Smith 1979.

Description

Aggression questionnaire contains four statements with five levels of responses and was administered to find out the specific type of aggressive behaviour in competitive sports and games. There was no right and wrong answer. The subjects were asked to circle either strongly disagree, for which 1 point on one end is awarded, or on the other hand 5 points are awarded for circling strongly agree. The average value was obtained for the four statements and recorded as the individual score.

Scoring

This inventory is scored with the help of the scoring key given below. The range of score was from 4 to 20. The higher the score, the more aggressive the player is.

Scoring key

Sl. No	Response	Score
1	Strongly disagree	1
2	Disagree	2
3	Undecided	3
4	Agree	4
5	Strongly agree	5

Self-Confidence

Tool

Agnihothri's Self-confidence Inventory (ASCI) developed by Rekha Agnihothri was used to measure self confidence.

Description

The ASCI questionnaire was given to all subjects. The inventory can be scored by the hand. A score of 1 ,if answered for a response indicating lack of self-confidence, that is a mark (X) to wrong response to items 2, 7, 23, 31, 40, 45, 53 and 55. On the other hand, zero score is given for responses indicated by a correct response marked (✓) to the above said item.

At the same time, for all the remaining test items above, a score of one is given for responses which is indicated by a correct response marked (✓). On the other hand, zero is given for response indicated by a wrong response marked an (X) to all remaining items which has not been mentioned above.

Lower the score the highest would be the level of self-confidence and vice versa.

Achievement Motivation

Tool

The standard psychological tool constructed by Dr. M.C. Kamlesh was used to measure (SAMT) Achievement Motivation (1990).

Description

Motivation is measured through Achievement Motivation test. The test consists of incomplete statements which can be completed by choosing either of the two proposed parts against each statement. The subjects were asked to tick (✓) to second part, which in their opinion fits in the best, in the first part.

Scoring

The Sports Achievement Motivation Test is a self-evaluation questionnaire of twenty statements. It includes positive and negative statements, response value which extends from 0 to 40. Each statement carries a maximum score of two and the minimum ,zero. When the subject ticks the high pole part, they were given two points and when they touch the low poles they earn zero.

Scoring Key

1a, 2b, 3a, 4a, 5b, 6b, 7b, 8b, 9b, 10a, 11a, 12a, 13a, 14b, 15b, 16a, 17a, 18a, 19a, 20a

The items 1, 3, 4, 9, 10 ,11, 1,2 ,13, 16, 17, 18 and 20, if the respondent answers “a” he/she scores 2 points, if the answer is “b” he/she gets only zero point.

The items 2, 5, 6, 7, 8, 14, 15 and 19, if the respondent answers “b” he/she scores 2 points, if “a” he/she gets only zero point.

After conducting further studies by SMT the author has given the following classification criteria based on percent and points.

Raw/Mean Score	Classification
0 – 24	Low
24 – 30	Moderate
30 above	High

4. Sport Competitive Anxiety Test (SCAT)

Tool

Borrowing from Spielber’s conceptualization, Martens and associates (Martens, 1977; Vealey & Burton) created the Sport Competitive Anxiety Test (SCAT). A sport specific measure of Anxiety has been a pivotal part of the assessment of trait anxiety in sport since its inception. Total number of questions in this questionnaire were ‘15’ .It is a LIKERTS method and each statement consist of three responses, the options of each question are HARDLY EVER, SOME TIMES and OFTEN. The respondents made tick mark (✓)

Scoring Key

For question number 2, 3, 5, 8, 9, 12, 14 and 15 the points are scored as per the given criteria.

Grading	Points of Statement
Hardly ever	1
Sometimes	2
Often	3

For question number 6 and 11 the points are scored as per given criteria.

Grading	Points of Statement
Often	1
Sometimes	2
Hardly ever	3

And the statement numbers 1, 4, 7, 10 and 13 were not scored below each statement, were also given three responses (Hardly ever, Sometimes, Often).

There was no right and wrong answer. The minimum score that can be obtained by the subject was 10 points and the maximum , 30 points. The higher the score , the more anxious the player is.

EYSENCK PERSONALITY INVENTORY (EPI)

Tools

Eysenck personality inventory (EPI) developed by H.J. Eysenck and S.B.G. Eysenck.

Description

The Eysenck Personality Inventory is a modified version of the Maudsley Personality Inventory. As a development of the MPI, like the parent instrument it sets out to measure two major dimensions of personality, extroversion (E) and neuroticism (N).

The scoring of the response forms was done in accordance with the instructions contained in the manual of the test. The prescribed key was used for the purpose. There were 57 questions in all on the form A of the EPI; 24 questions pertain to 'E' factor and 24 to 'N', while the remaining '9' questions show the presence or absence of 'L', i.e., "faking good" (in the sequence of questions E and N are shown alternatively and every sixth question is a 'lie').

The responses given by the subjects were scored in accordance with the prescribed key, to determine whether the factor 'E' or 'N' was present or absent. All the questions carry only two responses i.e., yes or no. Scoring done with the prescribed key clearly showed, after counting the total number of E or N separately, as to what quantitative level was a factor present. So as

to decide, whether the total score was to be 'considered' for statistical analysis or not. Hence response forms showing more than 5 'lies' have been discarded and the score of such subjects has not been included in the statistical treatment of the data. The total score, in each case on E and N factors would not exceed 24, the minimum being zero.

The manual of the inventory tells that the mean score of the normal population of E factor is 12.070 and 'N' factor it is 9.065. If the mean score on E factor of this population goes above this, the sample, an average may be considered to be more extrovert; similarly, if the mean score on 'N' factor goes above this, the sample may be considered to be more neurotic. Eysenck considers neuroticism to be significantly wedded to introversion.

Statistical Technique

For the purpose of comparing the selected psychological factors of athletes belonging to various sports group, One way Analysis of Variance (ANOVA) was used. The LSD Post-hoc test was used for testing the significant difference if any; among the paired group means. The level of significant was set at 0.05. 't' test was used to compare the male and female sports persons of different sports discipline. The level of significant was set to 0.05. χ^2 scale was also used to analyze the data.

Analysis of Data and Result of the Study

- ✦ Analysis of Data
- ✦ Discussion on findings
- ✦ Discussion on Hypotheses

CHAPTER IV

ANALYSIS OF THE DATA AND RESULTS OF THE STUDY

The statistical analysis of data collected on selected psychological variables is presented in this chapter. The data pertaining to Aggression, Self confidence, Achievement Motivation, Anxiety and Personality traits (Neuroticism and Extroversion) among Inter University and National level Volleyball, Basketball, Football, Track & Field, Swimming and Badminton players were subjected to one-way analysis of variance. Where ever 'F' ratio found to be significant, the LSD Post-hoc test was applied to find out the significant differences among the paired group means. The level of significance was chosen at 0.05 level. To compare the male and female sports persons of different sports disciplines 't' test was used. The level of significance was chosen at 0.05 level.

The analysis of the data was done using SPSS (Statistical Package for Social Science). The results pertaining to the analysis done and the graphical representation of relevant results are presented in this chapter. The details of analysis follow:

Table 1
DESCRIPTIVE STATISTICS OF AGGRESSION SCORES AMONG
MALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Aggression	Volleyball	40	14.40	2.26	10	19	9
	Basketball	40	13.10	1.69	11	17	6
	Football	40	12.67	1.90	10	17	7
	Badminton	40	11.77	1.70	10	17	7
	Swimming	40	14.82	2.70	10	19	9
	Track & Field	40	14.90	2.59	10	19	9

Table 2
ANALYSIS OF VARIANCE OF AGGRESSION SCORES AMONG
SELECTED MALE GROUPS

Source	Sum of Squares	D f	Mean Square	F
Between Groups	330.64	5	66.12	13.94*
Within Groups	1110.32	234	4.74	
Total	1440.96	239		

* The mean difference is significant at the 0.05 level.

Table 2 reveals that there is a significant difference in the scores of Aggression among sports persons of selected games as the obtained F value of 13.94 is much higher than the required table value of 2.26

As the F ratio was found significant, Least Significant Difference (LSD) Post- hoc test was applied to test the significance between mean scores which is presented in table 3.

Table 3
PAIR WISE COMPARISON OF AGGRESSION SCORES AMONG
MALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
14.40	13.10					1.30	1.65
14.40		12.67				1.73*	1.65
14.40			11.77			2.63*	1.65
14.40				14.82		0.42	1.65
14.40					14.90	0.50	1.65
	13.10	12.67				0.43	1.65
	13.10		11.77			1.33	1.65
	13.10			14.82		1.72*	1.65
	13.10				14.90	1.80*	1.65
		12.67	11.77			0.90	1.65
		12.67		14.82		2.15*	1.65
		12.67			14.90	2.23*	1.65
			11.77	14.82		3.05*	1.65
			11.77		14.90	3.13*	1.65
				14.82	14.90	0.08	1.65

* The mean difference is significant at the 0.05 level.

Table 3 reveals that there is a significant difference in aggression between Volleyball and Football players (1.73), Volleyball and Badminton players (2.63), Basketball players and Swimmers (1.72), Basketball players and Track & Field Athletes (1.80), Football players and Swimmers (2.15), Football players and Track & Field athletes (2.23), Badminton players and Track & Field athletes (3.13) and Badminton players and Swimmers (3.05) since the obtained mean value is higher than the Critical value (1.65).

Table 4
DESCRIPTIVE STATISTICS OF AGGRESSION SCORES AMONG FEMALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Aggression	Volleyball	40	14.32	2.23	10	18	8
	Basketball	40	13.60	1.51	10	16	6
	Football	40	12.87	1.49	10	15	5
	Badminton	40	12.20	1.36	10	14	4
	Swimming	40	14.92	2.30	10	19	9
	Track & Field	40	14.42	2.28	10	19	9

Table 5
ANALYSIS OF VARIANCE OF AGGRESSION SCORES AMONG SELECTED FEMALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	214.15	5	42.83	11.74*
Within Groups	853.70	234	3.65	
Total	1067.85	239		

* The mean difference is significant at the .05 level.

Table 5 shows that there is a significant difference in the scores of Aggression among sports persons of selected games as the obtained F value of 11.74 is much higher than the required table value of 2.26.

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant difference between mean scores which is present in table 6.

Table 6
PAIR WISE COMPARISON OF AGGRESSION SCORES AMONG
FEMALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
14.32	13.60					0.72	1.44
14.32		12.87				1.45*	1.44
14.32			12.20			2.12*	1.44
14.32				14.92		0.60	1.44
14.32					14.42	0.10	1.44
	13.60	12.87				0.72	1.44
	13.60		12.20			1.40	1.44
	13.60			14.92		1.32	1.44
	13.60				14.42	0.82	1.44
		12.87	12.20			0.67	1.44
		12.87		14.92		2.05*	1.44
		12.87			14.42	1.55*	1.44
			12.20	14.92		2.72*	1.44
			12.20		14.42	2.22*	1.44
				14.92	14.42	0.50	1.44

* The mean difference is significant at the .05 level.

Table 6 indicates that there is significant difference between Volleyball and Badminton players (2.12) Volleyball and Football players (1.45), Football players and Swimmers (2.05), Football players and Track &Field athletes (1.55),Badminton players and Swimmers (2.72) and also Badminton players and Track & Field athletes (2.22) since the obtained mean value is

higher than the Critical value (1.44), thus providing that Swimmers were better than players of selected other games with respect to Aggression score.

Figure 1
MEANS OF AGGRESSION SCORES AMONG MALE AND FEMALE GROUPS

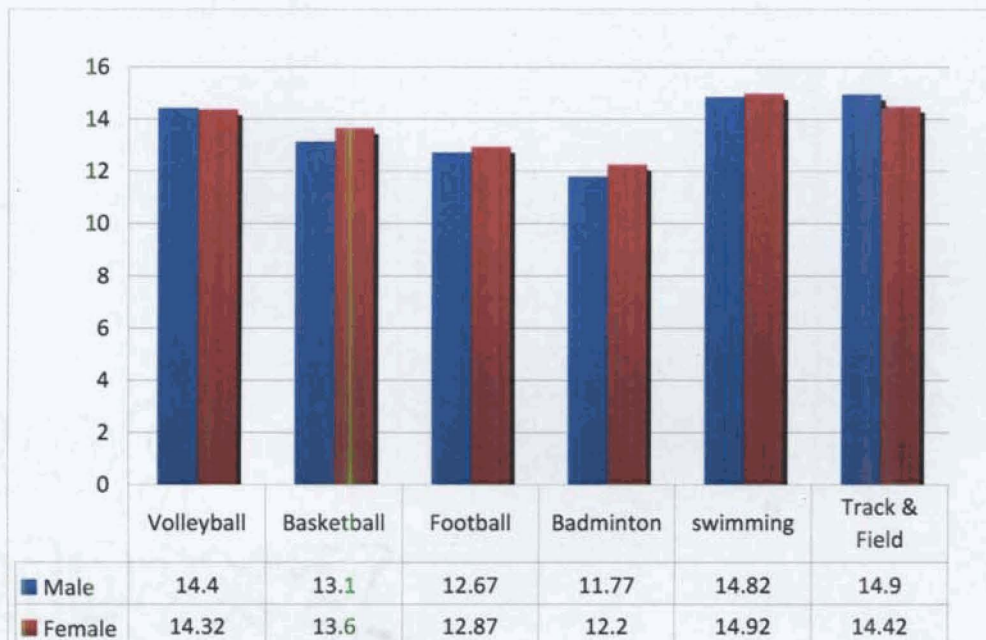


Table 7

**DESCRIPTIVE STATISTICS OF SELF CONFIDENCE SCORES
AMONG MALE GROUPS**

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Self Confidence	Volleyball	40	24.57	4.06	16	32	16
	Basketball	40	26.97	4.10	20	35	15
	Football	40	25.77	3.24	20	34	14
	Badminton	40	23.12	2.65	20	30	10
	Swimming	40	22.67	4.81	8	31	23
	Track & Field	40	23.67	4.39	16	31	15

Table 8

**ANALYSIS OF VARIANCE OF SELF CONFIDENCE SCORES
AMONG SELECTED MALE GROUPS**

Source	Sum of Squares	Df	Mean Square	F
Between Groups	546.08	5	109.22	7.03*
Within Groups	3635.65	234	15.54	
Total	4181.73	239		

* The mean difference is significant at the 0.05 level.

Table 8 reveals that there is a significant difference in the scores of Self confidence among sports persons of selected groups as the obtained F value of 7.03 is much higher than the required table value of 2.26

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant between mean scores which is presented in table 9.

Table 9
PAIR WISE COMPARISON OF SELF CONFIDENCE SCORES
AMONG MALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
24.57	26.97					2.40	2.96
24.57		25.77				1.20	2.96
24.57			23.12			1.45	2.96
24.57				22.67		1.90	2.96
24.57					23.67	0.90	2.96
	26.97	25.77				1.20	2.96
	26.97		23.12			3.85*	2.96
	26.97			22.67		4.30*	2.96
	26.97				23.67	3.30*	2.96
		25.77	23.12			2.65	2.96
		25.77		22.67		3.10*	2.96
		25.77			23.67	2.10	2.96
			23.12	22.67		0.45	2.96
			23.12		23.67	0.55	2.96
				22.67	23.67	1.00	2.96

* The mean difference is significant at the 0.05 level.

Table 9 reveals that a significant difference is found in Self-confidence between Basketball and Badminton players (3.85), Basketball players and Swimmers (4.30), Basketball players and Track & Field athletes (3.30), Football players and Swimmers (2.96) since the obtained mean value is higher than the Critical value of (2.96).

Table 10
DESCRIPTIVE STATISTICS OF SELF CONFIDENCE SCORES
AMONG FEMALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Self Confidence	Volleyball	40	23.70	5.72	13	34	21
	Basketball	40	26.17	3.49	19	34	15
	Football	40	25.75	3.51	19	32	13
	Badminton	40	24.12	2.82	20	34	14
	Swimming	40	23.55	5.17	14	32	18
	Track & Field	40	23.25	4.40	14	32	18

Table 11
ANALYSIS OF VARIANCE OF SELF CONFIDENCE SCORES
AMONG SELECTED FEMALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	303.20	5	60.64	4.06*
Within Groups	3491.28	234	14.92	
Total	3794.48	239		

* The mean difference is significant at the 0.05 level.

Table 11 shows a significant difference in the scores of self confidence among Volleyball, Basketball, Football, Badminton, Swimming and Track & Field Players as the obtained F value of 4.06 is much higher than the required table value of 2.26 .

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant difference between mean scores which is presented in table 12.

Table 12
PAIR WISE COMPARISON OF SELF CONFIDENCE SCORES
AMONG FEMALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
23.70	26.17					2.47	2.90
23.70		25.75				2.05	2.90
23.70			24.12			0.42	2.90
23.70				23.55		0.15	2.90
23.70					23.25	0.45	2.90
	26.17	25.75				0.42	2.90
	26.17		26.72			2.05	2.90
	26.17			23.55		2.62	2.90
	26.17				23.25	2.92*	2.90
		25.75	26.72			1.62	2.90
		25.75		23.55		2.20	2.90
		25.75			23.25	2.50	2.90
			26.72	23.55		0.57	2.90
			26.72		23.25	0.87	2.90
				23.55	23.25	0.30	2.90

* The mean difference is significant at the 0.05 level.

Table 12 indicates that a significant difference is seen in Self-confidence between players of Basketball and Track & Field (2.92), since the obtained mean value is higher than the Critical Value of (2.90).

Figure 2

MEANS OF SELF CONFIDENCE SCORES AMONG MALE AND FEMALE GROUPS

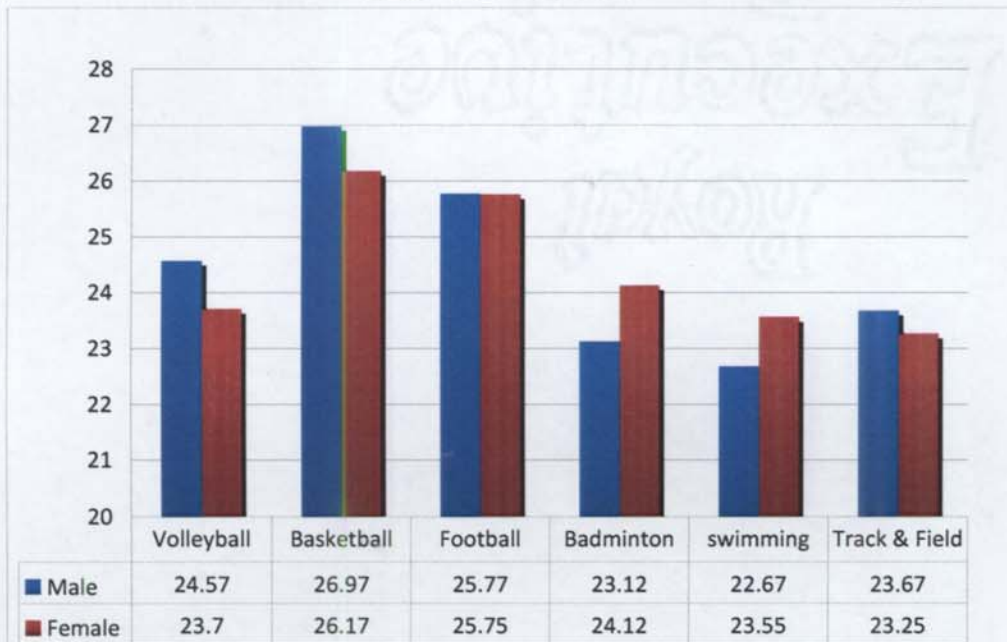


Table 13
DESCRIPTIVE STATISTICS OF ACHIEVEMENT MOTIVATION
SCORES AMONG MALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Achievement Motivation	Volleyball	40	23.35	3.70	16	34	18
	Basketball	40	23.35	2.93	18	30	12
	Football	40	23.75	3.09	20	34	14
	Badminton	40	23.50	2.26	20	30	10
	Swimming	40	25.00	4.36	16	34	18
	Track & Field	40	24.25	4.75	16	34	18

Table 14
ANALYSIS OF VARIANCE OF ACHIEVEMENT MOTIVATION
SCORES AMONG SELECTED MALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	84.53	5	16.91	1.29
Within Groups	3069.20	234	13.12	
Total	3153.73	239		

* The mean difference is not significant at the 0.05 level.

Table 14 shows that there is no significant difference in the scores of Achievement motivation among sports persons of selected game as the obtained F value of 1.29 is much lower than the required table value of 2.26

Table 15
DESCRIPTIVE STATISTICS OF ACHIEVEMENT MOTIVATION
SCORES AMONG FEMALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Achievement Motivation	Volleyball	40	23.12	2.47	19	32	13
	Basketball	40	23.42	2.50	19	30	11
	Football	40	24.57	3.26	20	34	14
	Badminton	40	23.05	3.00	20	30	10
	Swimming	40	26.00	4.46	16	34	18
	Track & Field	40	23.65	5.18	16	34	18

Table 16
ANALYSIS OF VARIANCE OF ACHIEVEMENT MOTIVATION
SCORES AMONG FEMALE SELECTED GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	257.87	5	51.57	3.81*
Within Groups	3168.92	234	13.54	
Total	3426.80	239		

* The mean difference is significant at the 0.05 level.

Table 16 reveals that there is a significant difference in the scores of Achievement motivation among sports persons of selected game as the obtained F value of 3.81 is much higher than the required table value of 2.26.

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant difference between mean scores which is presented in table 17.

Table 17
PAIR WISE COMPARISON OF ACHIEVEMENT MOTIVATION
SCORES AMONG FEMALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
23.12	23.42					0.32	2.76
23.12		24.57				1.45	2.76
23.12			23.05			0.07	2.76
23.12				26.00		2.87*	2.76
23.12					23.65	0.52	2.76
	23.42	24.57				1.15	2.76
	23.42		23.05			0.37	2.76
	23.42			26.00		2.57	2.76
	23.42				23.65	0.22	2.76
		24.57	23.05			1.52	2.76
		24.57		26.00		1.42	2.76
		24.57			23.65	0.92	2.76
			23.05	26.00		2.95*	2.76
			23.05		23.65	0.60	2.76
				26.00	23.65	2.35	2.76

* The mean difference is significant at the 0.05 level.

Table 17 indicates that there is significant difference in Achievement motivation between Volleyball players and Swimmers(2.87),and Badminton players and Swimmers(2.95) since the obtained mean value is higher than the Critical Value of (2.76)..

Figure 3
MEANS OF ACHIEVEMENT MOTIVATION SCORES AMONG
MALE AND FEMALE GROUPS

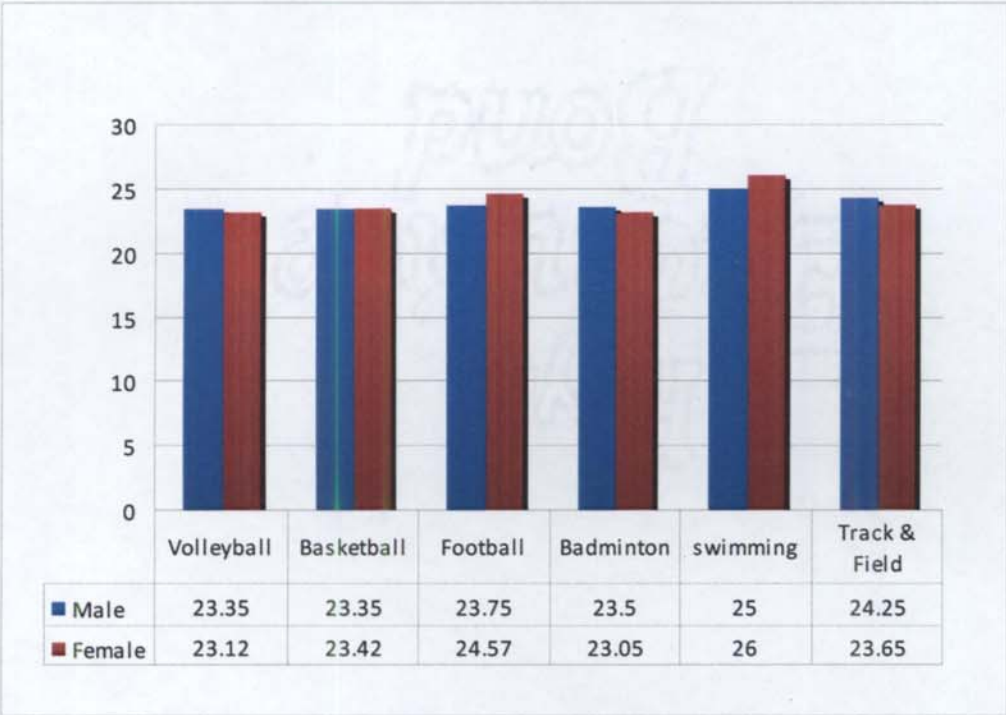


Table 18
DESCRIPTIVE STATISTICS OF ANXIETY SCORES AMONG MALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Anxiety	Volleyball	40	19.57	3.43	15	26	11
	Basketball	40	19.95	2.97	13	30	17
	Football	40	15.65	2.78	12	22	10
	Badminton	40	13.25	2.34	7	18	11
	Swimming	40	19.20	2.59	15	26	11
	Track & Field	40	18.60	3.36	13	25	12

Table 19
ANALYSIS OF VARIANCE OF ANXIETY SCORES AMONG SELECTED MALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	1425.72	5	285.14	33.03*
Within Groups	2020.27	234	8.63	
Total	3445.99	239		

* The mean difference is significant at the 0.05 level.

Table 19 shows that there is a significant difference in the scores of anxiety among players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field as the obtained F value of 33.03 is much higher than the required table value of 2.26.

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant between mean scores which is presented in table 20.

Table 20
PAIR WISE COMPARISON OF ANXIETY SCORES AMONG MALE
PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
19.57	19.95					0.37	2.21
19.57		15.65				3.92*	2.21
19.57			13.25			6.32*	2.21
19.57				19.20		0.37	2.21
19.57					18.60	0.97	2.21
	19.95	15.65				4.30*	2.21
	19.95		13.25			6.70*	2.21
	19.95			19.20		0.75	2.21
	19.95				18.60	1.35	2.21
		15.65	13.25			2.40*	2.21
		15.65		19.20		3.55*	2.21
		15.65			18.60	2.95*	2.21
			13.25	19.20		5.95*	2.21
			13.25		18.60	5.35*	2.21
				19.20	18.60	0.60	2.21

* The mean difference is significant at the 0.05 level.

Table 20 reveals that significant difference is there in anxiety between Volleyball and Football players (3.92), Volleyball and Badminton players (6.32), Basketball and Football players (4.30), Basketball and Badminton players (6.70),Football and Badminton players(2.40), Football players and Swimmers (3.55), Football players and Track & Field athletes (2.95), Badminton players and Swimmers (5.95), Badminton players and Track & Field athletes (5.35) since the obtained mean value higher than the required Critical Value of (2.21),

Table 21
DESCRIPTIVE STATISTICS OF ANXIETY SCORES AMONG
FEMALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Anxiety	Volleyball	40	19.60	3.68	12	26	14
	Basketball	40	19.87	2.25	12	23	11
	Football	40	16.55	1.69	13	20	7
	Badminton	40	13.35	1.62	11	21	10
	Swimming	40	19.17	3.41	12	26	14
	Track & Field	40	19.47	3.06	12	26	14

Table 22
ANALYSIS OF VARIANCE OF ANXIETY SCORES AMONG
SELECTED FEMALE GROUPS

Source	Sum of Squares	df	Mean Square	F
Between Groups	1334.27	5	266.85	35.46*
Within Groups	1760.72	234	7.52	
Total	3094.99	239		

* The mean difference is significant at the 0.05 level.

Table 22 indicates significant difference in Anxiety among the sports persons of selected game as the obtained F value of 35.46 is much higher than the required table value of 2.26 .

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant difference between mean scores which is presented in table 23.

Table 23
PAIR WISE COMPARISON OF ANXIETY SCORES AMONG
FEMALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
19.60	19.87					0.27	2.06
19.60		16.55				3.05*	2.06
19.60			13.35			6.25*	2.06
19.60				19.17		0.42	2.06
19.60					19.47	0.12	2.06
	19.87	16.55				3.32*	2.06
	19.87		13.35			6.52*	2.06
	19.87			19.17		0.70	2.06
	19.87				19.47	0.40	2.06
		16.55	13.35			3.20*	2.06
		16.55		19.17		2.62*	2.06
		16.55			19.47	2.92*	2.06
			13.35	19.17		5.82*	2.06
			13.35		19.47	6.12*	2.06
				19.17	19.47	0.30	2.06

* The mean difference is significant at the 0.05 level.

Table 23 reveals that there is significant difference in anxiety between Volleyball and Football players (3.05) Volleyball and Badminton players (6.25), Basketball and Football players (3.32) Basketball and Badminton players (6.52), Football and Badminton players (3.20), Football players and Swimmers (2.62), Football players and Track & Field athletes

(2.92), Badminton players and Swimmers (5.82) and Badminton players and Track & Field athletes (6.12) since the mean difference is higher than the required Critical Value of (2.06).

Figure 4
MEANS OF ANXIETY SCORES AMONG MALE AND FEMALE GROUPS

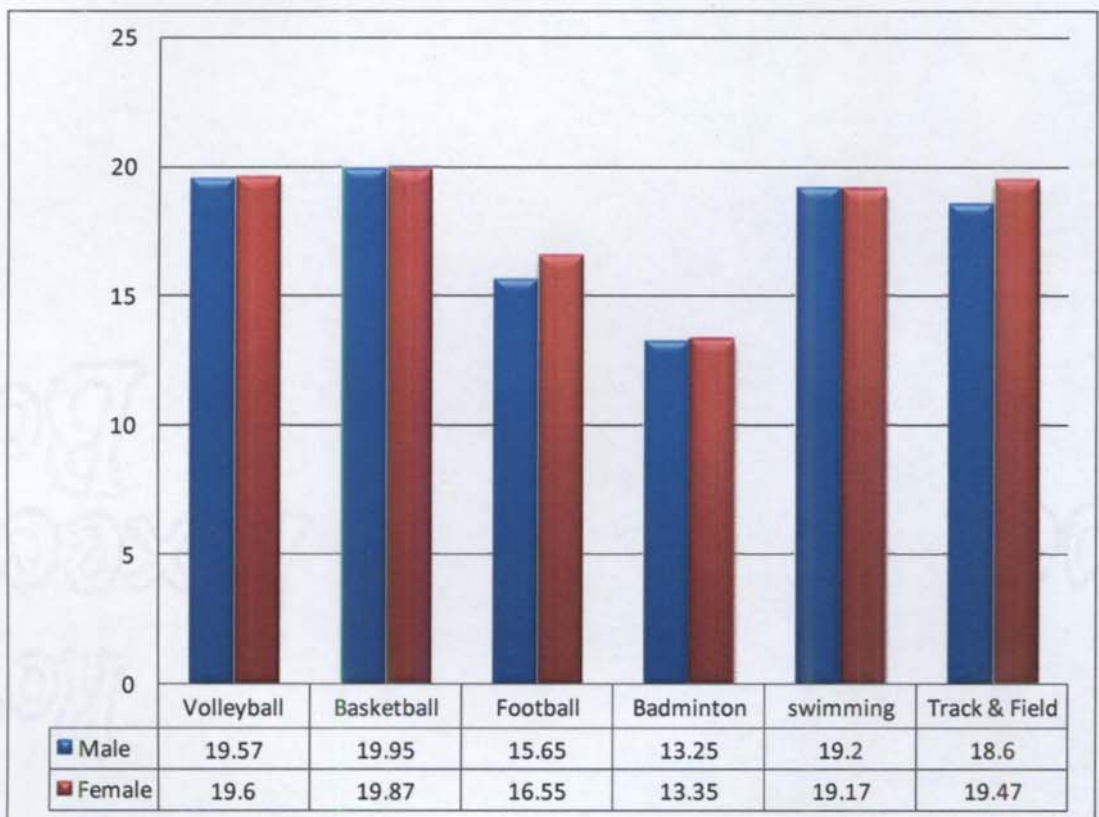


Table 24

**DESCRIPTIVE STATISTICS OF NEUROTICISM SCORES
AMONG MALE GROUPS**

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Neuroticism	Volleyball	40	11.52	3.74	4	19	15
	Basketball	40	11.80	3.38	6	19	13
	Football	40	11.82	3.18	6	19	13
	Badminton	40	10.82	2.89	5	16	11
	Swimming	40	11.80	3.70	2	20	18
	Track & Field	40	10.10	3.01	4	18	14

Table 25

**ANALYSIS OF VARIANCE OF NEUROTICISM SCORES AMONG
SELECTED MALE GROUPS**

Source	Sum of Squares	Df	Mean Square	F
Between Groups	99.64	5	19.93	1.79
Within Groups	2599.92	234	11.11	
Total	2699.56	239		

Table 25 reveals that there is no significant difference in the scores of Neuroticism among Volleyball, Basketball, Football and Badminton players, Swimmers and Track & Field athletes as the obtained F value of 1.79 is lesser than the required table value of 2.26

Table 26
DESCRIPTIVE STATISTICS OF NEUROTICISM SCORES AMONG FEMALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Neuroticism	Volleyball	40	12.25	3.50	4	19	15
	Basketball	40	11.87	2.06	7	19	12
	Football	40	11.70	2.34	6	19	13
	Badminton	40	10.67	1.68	7	14	7
	Swimming	40	11.42	3.90	2	20	18
	Track & Field	40	10.05	2.54	5	15	10

Table 27
ANALYSIS OF VARIANCE OF NEUROTICISM SCORES AMONG SELECTED FEMALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	134.27	5	26.85	3.46*
Within Groups	1816.72	234	7.76	
Total	1950.99	239		

* The mean difference is significant at the 0.05 level.

Table 27 reveals significant difference in the scores of Neuroticism among players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field P as the obtained F value of 3.46 is much higher than the required table value of 2.26.

As the F ratio was found significant, Least Significant Difference (LSD) Post-hoc test was applied to test the significant difference between mean scores which is presented in table 28.

Table 28

**PAIR WISE COMPARISON OF NEUROTICISM SCORES AMONG
FEMALE PLAYERS OF SELECTED GROUPS**

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
12.25	11.87					0.37	2.09
12.25		11.70				0.55	2.09
12.25			10.67			1.57	2.09
12.25				11.42		0.82	2.09
12.25					10.05	2.20*	2.09
	11.87	11.70				0.17	2.09
	11.87		10.67			1.20	2.09
	11.87			11.42		0.45	2.09
	11.87				10.05	1.82	2.09
		11.70	10.67			1.02	2.09
		11.70		11.42		0.27	2.09
		11.70			10.05	1.65	2.09
			10.67	11.42		0.75	2.09
			10.67		10.05	0.62	2.09
				11.42	10.05	1.37	2.09

* The mean difference is significant at the 0.05 level.

Table 28 reveals that there is significant difference in Neuroticism between Volleyball players and Track & Field athletes (2.20) since the mean value is higher than the required Critical Value of (2.09).

Figure 5

MEANS OF NEUROTICISM SCORES AMONG MALE AND FEMALE GROUPS

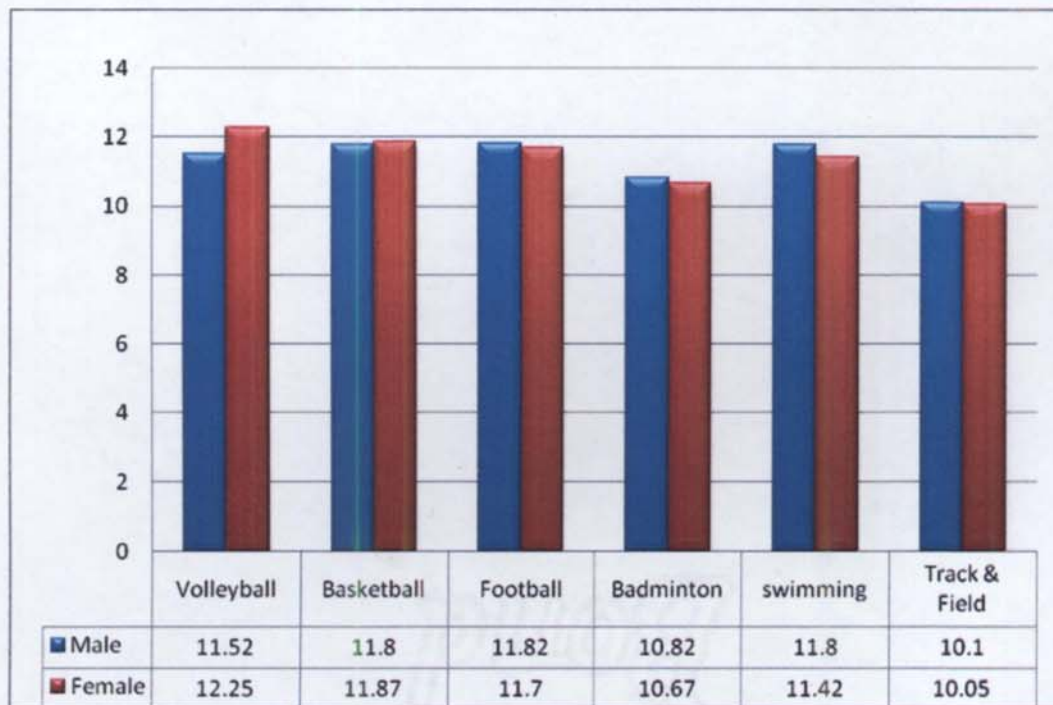


Table 29
DESCRIPTIVE STATISTICS OF EXTROVERSION SCORES
AMONG MALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Extroversion	Volleyball	40	11.07	3.01	4	19	15
	Basketball	40	12.10	1.85	7	16	11
	Football	40	11.87	3.16	6	19	13
	Badminton	40	11.00	2.47	7	17	10
	Swimming	40	10.17	3.00	3	17	14
	Track & Field	40	10.95	2.61	7	18	11

Table 30
ANALYSIS OF VARIANCE OF EXTROVERSION SCORES AMONG
SELECTED MALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	97.37	5	19.47	3.05*
Within Groups	1495.26	234	6.39	
Total	1592.63	239		

* The mean difference is significant at the 0.05 level.

Table 30 reveals that significant difference can be found in Extroversion among sports persons of selected games as the obtained F value of 3.05 is much higher than the required table value of 2.26.

As the F ratio was found significant, Least Significant Difference (LSD) post hoc test was applied to test the significant difference between mean scores which is presented in the table 31.

Table 31

**PAIR WISE COMPARISON OF EXTROVERSION SCORES AMONG
MALE PLAYERS OF SELECTED GROUPS**

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
11.07	12.10					1.03	1.90
11.07		11.87				0.80	1.90
11.07			11.00			0.07	1.90
11.07				10.17		0.90	1.90
11.07					10.95	1.12	1.90
	12.10	11.87				0.23	1.90
	12.10		11.00			1.1	1.90
	12.10			10.17		1.93*	1.90
	12.10				10.95	1.15	1.90
		11.87	11.00			0.87	1.90
		11.87		10.17		1.70	1.90
		11.87			10.95	0.92	1.90
			11.00	10.17		0.83	1.90
			11.00		10.95	0.05	1.90
				10.17	10.95	0.78	1.90

* The mean difference is significant at the 0.05 level.

Table 31 reveals that there is a significant difference in Extroversion between Basketball players and Swimmers (1.93) since the mean value is higher than the required Critical value of (1.90).

Table 32
DESCRIPTIVE STATISTICS OF EXTROVERSION SCORES
AMONG FEMALE GROUPS

Variable	Groups	N	Mean	S. D.	Minimum	Maximum	Range
Extroversion	Volleyball	40	11.35	2.53	6	17	11
	Basketball	40	12.67	3.25	6	19	13
	Football	40	12.20	1.96	6	17	11
	Badminton	40	10.40	2.39	7	16	9
	Swimming	40	10.97	2.96	6	17	11
	Track & Field	40	11.35	2.22	6	19	13

Table 33
ANALYSIS OF VARIANCE OF EXTROVERSION SCORES AMONG
SELECTED FEMALE GROUPS

Source	Sum of Squares	Df	Mean Square	F
Between Groups	136.03	5	27.21	4.05*
Within Groups	1569.95	234	6.71	
Total	1705.98	239		

* The mean difference is significant at the 0.05 level.

Table 33 reveals that there is significant difference in Extroversion among players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field as the obtained F value of 4.05 is much higher than the required table value of 2.26.

As the F ratio was found significant, Least Significant Difference (LSD) post hoc test was applied to test the significant difference between mean scores which is presented in the table 34.

Table 34
PAIR WISE COMPARISON OF EXTROVERSION SCORES AMONG
FEMALE PLAYERS OF SELECTED GROUPS

Volleyball	Basketball	Football	Badminton	Swimming	Track&Field	M.D.	C.D.
11.35	12.67					1.32	1.95
11.35		12.20				0.85	1.95
11.35			10.40			0.95	1.95
11.35				10.97		0.37	1.95
11.35					11.35	0.00	1.95
	12.67	12.20				0.47	1.95
	12.67		10.40			2.27*	1.95
	12.67			10.97		1.70	1.95
	12.67				11.35	1.32	1.95
		12.20	10.40			1.85	1.95
		12.20		10.97		1.22	1.95
		12.20			11.35	0.85	1.95
			10.40	10.97		0.57	1.95
			10.40		11.35	0.95	1.95
				10.97	11.35	0.37	1.95

* The mean difference is significant at the 0.05 level.

Table 34 shows that there is a significant difference in Extroversion between Basketball and Badminton players (2.27) since the obtained mean difference is higher than the required Critical value of (1.95).

Figure 6
MEANS OF EXTROVERSION SCORES AMONG MALE AND FEMALE GROUPS

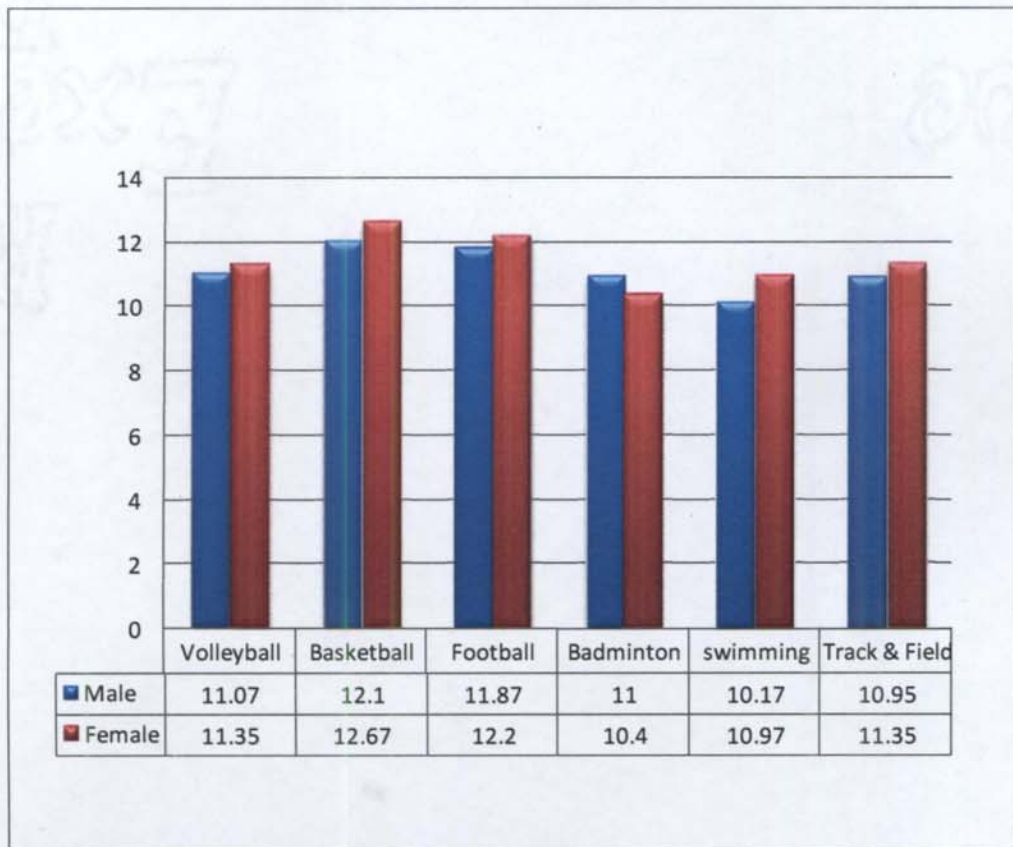


Table 35
COMPARISON OF AGGRESSION SCORES BETWEEN MALE AND FEMALE PLAYERS.

Group	Male			Female			DM	sDM	T
	N	Mean	SD	N	Mean	SD			
Volleyball	40	14.40	2.26	40	14.32	2.23	0.75	0.53	0.14
Basketball	40	13.10	1.69	40	13.60	1.52	0.50	0.39	1.27
Football	40	12.67	1.90	40	12.87	1.49	0.20	0.42	0.47
Badminton	40	11.77	1.70	40	12.20	1.36	0.42	0.34	1.25
Swimming	40	14.82	2.70	40	14.92	2.30	1.00	0.61	0.16
Track & Field	40	14.90	2.59	40	14.42	2.28	0.47	0.55	0.86

Table 36 reveals that the mean difference on Aggression scores between male and female Volleyball players (0.14), Basketball players (1.27) Football players (0.47), Badminton players (1.25) Swimmers (0.16) and Track & Field athletes (0.86) were not significant since these values are lesser than the table value (2.02).

Table 36
COMPARISON OF SELF CONFIDENCE SCORES BETWEEN MALE AND FEMALE PLAYERS.

Group	Male			Female			DM	sDM	T
	N	Mean	SD	N	Mean	SD			
Volleyball	40	24.57	4.06	40	23.70	5.72	0.87	1.47	0.76
Basketball	40	26.97	4.10	40	26.17	3.49	0.80	0.89	0.89
Football	40	25.77	3.24	40	25.75	3.51	0.02	0.67	0.04
Badminton	40	23.12	2.65	40	24.12	2.82	1.00	0.63	1.59
Swimming	40	22.67	4.81	40	23.55	5.17	0.87	1.14	0.77
Track & Field	40	23.67	4.39	40	23.25	4.40	0.42	1.04	0.41

Table 36 shows that the mean difference on Self confidence scores between male and female Volleyball players (0.76), Basketball players (0.89) Football players (0.04), Badminton players (1.59) Swimmers (0.77) and Track & Field athletes (0.41) were not significant since these values are lesser than the table value (2.02).

Table 37
COMPARISON OF ACHIEVEMENT MOTIVATION SCORES
BETWEEN MALE AND FEMALE PLAYERS

.Group	Male			Female			DM	sDM	T
	N	Mean	SD	N	Mean	SD			
Volleyball	40	23.35	3.70	40	23.12	2.47	0.22	0.74	0.30
Basketball	40	23.35	2.93	40	23.42	2.50	0.75	0.63	0.12
Football	40	23.75	3.09	40	24.57	3.62	0.82	0.77	1.06
Badminton	40	23.50	2.26	40	23.05	3.00	0.45	0.60	0.75
Swimming	40	25.00	4.37	40	26.00	4.46	1.00	0.97	1.03
Track & Field	40	24.25	4.75	40	23.65	5.18	0.60	1.09	0.55

Table 36 indicates that the mean difference on Achievement motivation scores between male and female Volleyball players (0.30), Basketball players (0.12) Football players (1.06), Badminton players (0.75) Swimmers (1.03) and Track & Field athletes (0.55) were not significant since these values are lesser than the table value (2.02).

Table 38

COMPARISON OF ANXIETY SCORES BETWEEN MALE AND FEMALE PLAYERS.

Group	Male			Female			DM	sDM	T
	N	Mean	SD	N	Mean	SD			
Volleyball	40	19.57	3.43	40	19.60	3.68	0.02	0.75	0.33
Basketball	40	19.95	2.97	40	19.87	2.25	0.08	0.56	0.13
Football	40	15.65	2.78	40	16.55	1.69	0.90	0.52	1.72
Badminton	40	13.25	2.34	40	13.35	1.62	0.10	0.47	0.21
Swimming	40	19.20	2.59	40	19.17	3.41	0.03	0.67	0.37
Track & Field	40	18.60	3.57	40	19.47	3.06	0.87	0.73	1.19

Table 36 indicates that the mean difference on Anxiety scores between male and female Volleyball players (0.33), Basketball players (0.13) football players (1.72), Badminton players (0.21) Swimmers (0.37) and Track & Field athletes (1.72) were not significant since these values are lesser than the table value (2.02).

Table 39

COMPARISON OF NEUROTICISM SCORES BETWEEN MALE AND FEMALE PLAYERS.

Group	Male			Female			DM	sDM	T
	N	Mean	SD	N	Mean	SD			
Volleyball	40	11.52	3.74	40	12.25	3.50	0.72	0.80	0.91
Basketball	40	11.80	3.38	40	11.87	2.06	0.07	0.66	0.11
Football	40	11.82	3.18	40	11.70	2.34	0.12	0.61	0.20
Badminton	40	10.82	2.89	40	10.67	1.68	0.15	0.52	0.29
Swimming	40	11.80	3.70	40	11.42	3.90	0.37	0.76	0.49
Track & Field	40	10.10	3.01	40	10.05	2.54	0.05	0.60	0.08

Table 36 indicates that the mean difference on Neuroticism scores between male and female Volleyball players (0.91), Basketball players (0.11) Football players (0.20), Badminton players (0.29) Swimmers (0.29) and Track & Field athletes (0.08) were not significant since these values are lesser than the table value (2.02).

Table 40
COMPARISON OF EXTROVERSION SCORES BETWEEN MALE
AND FEMALE PLAYERS.

Group	Male			Female			DM	sDM	T
	N	Mean	SD	N	Mean	SD			
Volleyball	40	11.07	3.01	40	11.35	2.53	0.27	0.56	0.49
Basketball	40	12.10	1.85	40	12.67	3.25	0.57	0.66	0.87
Football	40	11.87	3.16	40	12.20	1.96	0.33	0.60	0.54
Badminton	40	11.00	2.47	40	10.40	2.39	0.60	0.54	1.11
Swimming	40	10.17	3.00	40	10.97	2.96	0.80	0.71	1.13
Track & Field	40	10.95	2.61	40	11.35	2.22	0.40	0.51	0.79

Table 36 indicates that the mean difference on Extroversion scores between male and female Volleyball players (0.49), Basketball players (0.87) Football players (0.54), Badminton players (1.11), Swimmers (1.13) and Track & Field athletes (0.79) were not significant since these values are lesser than the table value (2.02).

Scores on selected variables were converted to 6 σ scale and the same has been given in the appendix.

DISCUSSION ON FINDINGS

In an attempt to recognize the importance of psychological factors in optimal and exceptional athletic performance among the sportspersons, the Psychological inventory was administered to male and female sportspersons belonging to different sports groups such as Volleyball, Basketball, Football, Badminton, Swimming, and Track & Field. The different aspects of the Sports Specific Psychological Inventory namely Aggression, Self-confidence, Achievement motivation, Anxiety and Personality characteristics (Neuroticism and Extroversion) were analysed with respect to different sports discipline.

Discussion on the findings of Aggression

The findings pertaining to Aggression indicates no significant difference between male and female sportspersons of Volleyball, Football, Basketball, Badminton, Swimming, and Sprints & Jumps.

Analysis of the data indicates that there was a significant difference in Aggression of male Volleyball players and Football players, Volleyball players and Badminton players, Basketball players and Swimmers, Basketball players and Sprinters & Jumpers, Football players and Swimmers, Football players and Sprinters & Jumpers, Badminton players and Swimmers, Badminton players and Track & Field athletes and in the other cases there was no significant difference.

In the case of female there was significant difference in Aggression between Volleyball and Badminton players, Volleyball and Basketball players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes and in the other cases there was no significant difference.

Both male and female in Track & Field, Swimming and Volleyball were more Aggressive than the players of other selected games. The Aggression in Volleyball players is comparatively higher than that of Basketball, Football and Badminton players, due to the nature of the game. Volleyball requires aggressive smashing and blocking where as Football and Basketball are body contact games and require more of accuracy and ball control. In the cases of Swimming and Track & Field (Sprinters and Jumpers) they also have to perform the event with maximum intensity and speed, which required aggressive behaviour. So the aggression level of Swimmers and Track & Field athletes (Sprinters and Jumpers) were also higher than Volleyball, Basketball, Football and Badminton players. Similar conclusion were also drawn by Bryant .J Cratty (1998), D.L.Wann (1997), M.L.Kamalesh (1992), Singh and Agya (1987).

Discussion on the findings of Self confidence

The findings pertaining to self –confidence indicate no significant difference between male and female sportspersons of Volleyball, Football, Basketball, Badminton, Swimming, and Track & Field (Sprints and Jumps).

Analysis of the data indicate that there was a significant difference in Self confidence of male Basketball and Badminton players, Basketball players and Swimmers, Basketball players and Track & Field athletes, Football players and Swimmers and in other cases there were no significant difference.

In the case of female there was no significant difference in Self confidence of female Volleyball and Basketball players, Volleyball and Football players ,Volleyball and Badminton players, Volleyball players and Swimmers , Volleyball players and Track & Field athletes, Basketball and Football players, Basketball and Badminton players, Basketball players and Swimmers, Football and Badminton players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes, Swimmers and Track & Field athletes and in other cases there were a significant difference between Basketball players and Track & Field athletes. The level of self-confidence of Basketball players is lower as compared to Sprinters and Jumpers.

In the case of Self-confidence there was no drastic difference between the athletes of selected game and scores indicate lower level of Self – confidence as per the norms of the questionnaire .However the Self – confidence of Swimmers and Track & Field athletes were marginally higher than the scores of other games. In the individual game, the person has to compete himself against the opponents, where as in the team events a group of players join together and fight against the opponents. Hence the players of individual sports required more self-confidence as compared to the team game. Similar conclusions were also drawn by M.L.Kamakesh (1992), Richard .H. Cox and Zhan Liu (1993)

Discussion on the findings of Achievement Motivation

The finding pertaining to Achievement Motivation indicates no significant difference between male and female sportspersons of Volleyball, Football, Basketball, Badminton, Swimming, and Track & Field (sprinters and jumpers).

Analysis of the data indicates that there was no significant difference in Achievement motivation of male Volleyball and Basketball players , Volleyball and Football players , Volleyball and Badminton players, Volleyball players and Swimmers ,Volleyball players and Track & Field athletes, Basketball and Football players, Basketball and Badminton players, Basketball players and Swimmers, Basketball players and Track & Field

athletes, Football and Badminton players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes, Swimmers and Track & Field athletes.

In the case of female athletes there was significant difference in Achievement motivation between Volleyball players and Swimmers, Badminton players and Swimmers and in all other cases there were no significant difference.

Not much difference exist in the case of Achievement motivation among the athletes of selected game and the scores indicate lower or moderate level of Achievement Motivation as per the norms of the questionnaire. However the Achievement Motivation of Swimmers and Track & Field athletes were marginally higher than the scores of the players of other games. It is probably because Achievement Motivation has a direct relation to the individual's disposition to his striving for success, competition and public evaluation. Also the level of Achievement Motivation is related to individual's ability to with-stand the burden of strenuous training and the agony of injury. In the case of Track & Field athlete and Swimmers they have to undergo strenuous training for a long time which requires high level of motivation and the subjects selected were also from a society which gives more recognition to sports achievement. Hence the players of individual

sports require more Achievement Motivation as compared to the players of team game. Similar conclusions were also drawn by Nesving (1977), Montgonrg (1977) and Miner, Mary and Jane (1987).

Discussion on the findings of Anxiety

The finding pertaining to Anxiety indicates that there was no significant difference between male and female sportspersons of Volleyball, Football, Basketball, Badminton, Swimming, and Track & Field (sprinters and jumpers).

Analysis of the data indicates that there was significant difference in Anxiety of male Volleyball and Football players, Volleyball and Badminton players, Basketball and Football players, Basketball and Badminton players, Football and Badminton players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes and in all other cases there were no significant difference.

In the case of female there was significant difference in Anxiety of Volleyball and Football players , Volleyball and Badminton players, Basketball and Football players ,Basketball and Badminton players, Football and Badminton players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers , Badminton players and Track & Field athletes .

Except in the case of Badminton, other games show more or less similar trends in anxiety. In Badminton anxiety was low compared to other games. It is due to the specific or unique nature of the game. Badminton does not involve much technique and tactical movement as compared to Football, Basketball, and Volleyball. Similar conclusions were also drawn by Agya Jit Sing (1992), Richard and Zhan (1993) and Bryant .J. Cratty (1983)

Discussion on the findings of Personality characteristics

Neuroticism

The finding pertaining to Neuroticism indicates no significant difference between male and female sportspersons belonging to Volleyball, Football, Basketball, Badminton, Swimming, and Track & Field (Sprinters and Jumpers).

Analysis of the data indicate that there was no significant difference in neuroticism of male Volleyball and Basketball players , Volleyball and Football players , Volleyball and Badminton players, Volleyball players and Swimmers ,Volleyball players and Track & Field athletes, Basketball and Football players, Basketball and Badminton players, Basketball players and Swimmers, Basketball players and Track & Field athletes, Football and Badminton players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes, Swimmers and Track & Field athletes.

In the case of female there was significant difference in Neuroticism between Volleyball players and Track & Field athletes and in all other case there were no significant difference.

Extroversion

The finding pertaining to Extroversion indicates that the players belonging to the selected game were not extrovert. Further, there was no significant difference between male and female sportspersons of Volleyball, Football, Basketball, Badminton, Swimming, and Track & Field (Sprints and Jumps).

Analysis of the data indicate that there was significant difference in Extroversion of male Basketball players and Swimmers and no significant difference in other cases.

In the case of female, there was significant difference in Extroversion between Basketball and Badminton players. In all other cases there was no significant difference.

In the case of personality characteristics (Neuroticism and Extroversion), Volleyball players were found higher in Neuroticism where as Basketball players were found significantly higher in Extroversion. No significant differences were noted among the other groups. However none of

the groups were found to be highly extrovert or neurotic. Similar conclusions were also drawn by Sing and Brar(1987), and Ajay(1987).

The significant and insignificant difference found in the personality characteristics (Neuroticism and Extroversion) between these groups may be due to the fact that the development of personality characteristics deeply depends upon the social and cultural back ground of the individual. Basketball players are mainly from urban society where as volleyball players belong to rural society, so there are chances for basket ballers to develop more social contact and extrovert characteristics. Another reason may be the nature of the game. Basketball is a body contact game, hence they have to control the emotion and stabilize the behaviour patterns.

A significant difference in various personality factors may be found only when an athlete is committed to sports from his/her childhood and has reached the highest level of achievement.

Discussion of Hypothesis

On the basis of finding, the hypothesis stated earlier has been partially accepted.

- 1) In the case of Aggression in male, the hypothesis was accepted. There is significant difference between Volleyball and Football players, Volleyball and Badminton players, Basketball players and Swimmers,

Basketball players and Track & Field athletes, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes and in all other cases it has been rejected.

- 2) In the case of Aggression in female, the hypothesis has been accepted between Volleyball players and Badminton players, Volleyball players and Basketball players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers, Badminton players and Track & Field athletes and in all other cases it has been rejected.
- 3) In the case of Self-confidence in male, the hypothesis has been accepted between Basketball players and Badminton players, Basketball players and Swimmers, Basketball players and Track & Field athletes, Football players and Swimmers and in all other cases it has been rejected.
- 4) In the case of Self-confidence in female, the hypothesis is accepted between Basketball players and Track & Field athletes and in all other cases it has been rejected.
- 5) In the case of Achievement motivation in male, hypothesis has been rejected
- 6) The hypothesis has been accepted in the case of Achievement motivation in female between Volleyball players and Swimmers,

Badminton players and swimmers. In all other cases it has been rejected.

- 7) In case of Anxiety of male players the hypothesis has been accepted between Volleyball and Football players ,volleyball and Badminton players, Basketball and Football players, Basketball and Badminton players, Football and Badminton players ,Football players and Swimmers, Football players and Track & Field athletes , Badminton players and Swimmers, Badminton players and Track & Field athletes and in all other cases it has been rejected.
- 8) The hypothesis has been accepted in the case of Anxiety in female between Volleyball and Football players , Volleyball and Badminton players, Basketball and Football players ,Basketball and Badminton players, Football and Badminton players, Football players and Swimmers, Football players and Track & Field athletes, Badminton players and Swimmers , Badminton players and Track & Field athletes and in all other cases it has been rejected.
- 9) In the case of Neuroticism in male, the hypothesis has been rejected.
- 10) In the case of Neuroticism in female, the hypothesis has been rejected except in the case of Volleyball players and Track &Field athletes.
- 11) In the case of Extroversion in male, the hypothesis has been accepted between Basketball players and Swimmers and in all other cases it has been rejected.

- 12) In the case of Extroversion in female, the hypothesis has been accepted between Basketball and Badminton players and in all other cases it has been rejected.
- 13) Hypothesis stated second has been accepted in all other cases.

Summary, Conclusion and Recommendation

- ✦ Summary
- ✦ Conclusion
- ✦ Recommendation

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

Sports psychology is that branch of psychology which is intimately connected with human behaviour on the play field, both under practice and competitive situations, with a view to bring about qualitative improvement in performance. It is the study of human behaviour in sports settings with an emphasis on the mental aspect of behaviour. Sports psychology is an important ingredient of sports training programme and deals with the way in which various psychological states and traits influence sports performance.

The main purpose of Sports psychology is to understand the behaviour of an athlete, to modify it according to the demands of situations, and to optimize the benefits for elite performance and excellence. Sports psychologist are striving hard to investigate athletic performance, to stabilize it, and to improve sports performance by seeking an appropriate balance between physiological and psychological dimensions of performance.

Sports psychology is a science in which the principles of psychology are applied in a sports or exercise setting .These principle are often applied to enhance the performance. Sports psychology is the scientific study of people

and their behaviour in sports and exercise activities and the practical application of knowledge. Sports psychology concerns with both psychological factors that influence participation and performance in sports and exercise as well as psychological effects derived from them. Sports psychologists are involved in performance enhancements of athletes at the elite level. The personality of an athlete's is one of the determining factors in the performance of an event. Depending up on the nature of the sports events the personality of the athletes also will vary. The other psychological factors such as Aggression, Anxiety, Self-confidence, etc will also affect the performance.

Aggression is a part of human behaviour and is necessary for an individual to live and struggle for higher-achievements. Struggle for supremacy, dominance, and excellence in sports obviously involve aggression. Aggression may help in the performance of an athlete because it arouses the athlete to put in harder effort for the success of the team. Athletes must be helped to reduce and control aggression in order to play calmly and perform the best. Appropriate level of aggression, as permitted under the rules governing the game, tend to improve the skill and enhance the effort, and on the other hand, high or low level of aggression will hamper and retard the performance in sports.

Motivation is a force, a drive which prompts, compels, and energizes an individual to act or behave in a particular manner, at a particular time, for attaining a specific goal or purpose. In the absence of motivation, either there will be no learning, or very little learning, and the learned activity or skill will be forgotten very soon. Motivation is the first requisite of efficient learning

Anxiety means a disturbed state of mind; emotional reactivity; arousal; nervousness; and unrealistic and unpleasant state of mind. Anxiety is an essential ingredient of any competitive situation. Unless sports persons learn to cope up with stressful competitive situation by managing anxiety, they would fail to achieve their best performance. Depending upon the level of competition and competitive experience of an athlete, each person will have certain level of anxiety. However, too much anxiety will adversely affect the quality of performance.

The human personality is a marvelously intricate structure, delicately - woven of motives, emotions, habits and thoughts into a pattern that balances the pulls and pushes of the outside world. It is the totality of his being, and includes his physical, mental, emotional and temperamental makeup. His experience, perception, memory, imagination, instincts, habits, thoughts and sentiments constitute his personality. Personality differences are inevitable. Personality traits are basic to Sports excellence. It is necessary to identify and

cultivate those personality traits which are most conducive to the performance in sports.

Sports is the only field where sportsman's behaviour is moulded, modified and studied. Every aspect of sportsman's behaviour becomes a subject of study under Sports Psychology. Many branches of psychology contribute to understanding and modification of behaviour of sportsman.

The purpose of the present study was to analyze the psychological characteristics of male and female sports persons belonging to different sports groups.

For the purpose of the study 40 male and female sports person each from Volleyball, Football, Basketball, Badminton, Swimming and Track & Field were selected. All players selected were position holders in All India-Inter university and National level tournaments in their respective game. The age of the subjects were between 19 and 24 and the subjects had a minimum training back ground of 5 to 6 years.

The data was collected using the following standardized questionnaire. The data for Aggression was tested using Aggression Test Questionnaire prepared by Smith. The data for Anxiety was collected by using the Sports competition Anxiety (SCAT) questionnaire prepared by Martens. The achievement Motivation data was collected using Achievement Motivation

Questionnaire prepared by M.L. Kamalesh. The Self-confidence Questionnaire, prepared by Agnihotry was used for collecting data on Self-confidence. The data on Personality was collected using the Eysenck Personality Inventory Questionnaire prepared by Eysenck.

The investigator collected the data for the above variables from the players during the All India Inter-University Competition and National Championship of the respective game. To compare the selected psychological factors of Athletes belong to various sports group, One Way Analysis of Variance (ANOVA) was used. The LSD Post-hoc test was used for testing the significant difference if any, among the paired group means. The level of significant was set at 0.05. 't' test was used to compare the male and female sports persons of different sports discipline. The level of significant was set to 0.05. 6^σ scale was also used to analyse the data.

CONCLUSION

With in the limitation of present study and on the basis of the result of the study the following conclusions were considered appropriate.

- 1) The Aggression level of male and female University and National Level players are moderate and similar in Track & Field, Swimming and Volleyball.

- 2) The Self-confidence level of male and female players are moderate and similar in the case of Badminton, Swimming, and Track & Field and are very low in team events.
- 3) The Achievement motivation level of male and female players are low in Volleyball, Basketball, Football, Swimming and Badminton and is high in the case of Track & Field
- 4) The Anxiety level of male and female players are moderate and similar in the case of Volleyball, Basketball, Football, Swimming, and Track & Field and is low in the case of Badminton.
- 5) In the case of Personality characteristics (Neuroticism and Extroversion), Volleyball players were found higher in neuroticism where as Basketball players were found significantly higher in extroversion. No significant differences were noted among the other groups in the selected personality characteristics .However none of the groups were said to be highly extrovert or neurotic since they were just above and below in Neuroticism (9.065) and Extroversion (12.070) respectively as per norms.
- 6) There were no significant differences in Aggression between male and female players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field.

- 7) There were no significant differences in Self confidence between male and female players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field.
- 8) There were no significant differences in Achievement motivation between male and female players of Volleyball, Basketball, Football Badminton, Swimming and Track & Field.
- 9) There were no significant differences in Anxiety between male and female players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field.
- 10) There were no significant differences in Neuroticism between male and female players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field.
- 11) There were no significant differences in extroversion between male and female players of Volleyball, Basketball, Football, Badminton, Swimming and Track & Field.

Recommendation

On the basis of the result of the present study the following recommendations are made.

- 1) In training male and female players, equal emphasis has to be given for Psychological preparation.

- 2) For best performance in sports, the Aggression level of the athletes and players has to be kept at its optimum.
- 3) In individual sports, more emphasis has to be given in building Self confidence as compared to group events.
- 4) In the present study, the Achievement motivation of the players are at low and moderate level, which is the limiting factor in achieving excellence.
- 5) For the best performance in sports, the Anxiety level of the athletes or players has to be kept in an adequate level, too high and too low level of anxiety is conducive to sports performance.
- 6) For selection of athletes, the coaches must give more preference to the players who have positive psychological characteristics including their personality.
- 7) While giving training the coach must give equal emphasis in building performance related psychological and physical qualities.
- 8) With the result obtained in studies like this, it is recommended that Sports policy makers and Authorities bring sports psychology to the forefront and recognize the need for psychological preparation of sports person.

- 9) Every coach should sketch the psychological profile of his team and find out what psychological factors are most conducive to their performance and suggest ways and means to improve.
- 10) Counseling for Aggression, Self Confidence, Motivation, Anxiety etc should be made a part of the training session for sports person of both sexes of individual and team sports.
- 11) It is also recommended that a similar study may be conducted in other sports disciplines which are not included in this study.
- 12) A similar study may be conducted in other Psychological variables which are not included in this study.
- 13) It is also recommended that a similar study may be conducted for sportsmen and sportswomen participating in different levels of competition.
- 14) Similar study can be conducted on subjects with varied age.
- 15) Similar study can be conducted in actual sports situation to know the effect of psychological skill on playing situation so as to evaluate the performance in sports and games.
- 16) Similar study may be conducted by administering a programme for the improvement of performance of the players.



Bibliography

BIBLIOGRAPHY

BOOKS

- Alderman, R.B. *Psychological Behaviour in Sports*, Philadelphia PA:Saunders, 1974.
- Allport, Gurdern, W. *Pattern and Growth in Personality*, New York: Half, Rinehart and Winston, Chicago, Halt, 1965.
- Bell, Keith F. *Championship Thinking* , Englewood Cliffs N.J: Prentice Hall Inc., 1983.
- Bell, Reath F. *The Athletes Guide to Winning Performance in all Sports*, London: Prentice Hall, Inc., 1983.
- Birch, K., et al. *Sport and exercise psychology*. Garland Science Bio Scientific Publishers, 2005.
- Bird, Anne Marie. & Bernette K. Cripe. *Psychology of sports Behaviour*, Saint Louis: Times/Mirror Mosby College Publishing, 1986.
- Browne & Mahoney. cited by Dr. Ajmer Singh, et.al, *Modern Test Book of Physical Education Health and Sports*, New Delhi: Kalyani Publishers, 2004.
- Bull, Stephen J. *Sports Psychology- A self help guide*, The Crowood Press Ltd., 1991.
- Chaplin, P. *Dictionary of Psychology*, New York: Dell publishing Company, 1965.
- Chauhan, S.S. *Advanced Educational Psychology*, New Delhi: Vikas publishing House, 1982.
- Cleland, M.C. as cited by Roan Harre and Roger Lab, *The Encyclopedia Dictionary of Psychology*, London: Basil publisher Limited, 1983.

- Cox, Richard H. *Psychology Concepts and Application*, America: W.M.C. Brown and company, 1985.
- Cratty, Bryant J. *Psychology in contemporary Sport*, Englewood cliffs, New Jersey: Prentice Hall, 1989.
- Cratty, Bryant., J. *Psychology in contemporary sports Guidelines for coaches and Athlets*, Los Angeles: Prentice Hall, Inc., 1983.
- Cratty, Bryant, J. *Social psychology in athletis*, Los Angels: Prentice Hall Inc., 2001.
- Cratty, Bryant, J. *Psychological preparation and Athletic Excellence*, Ithaka, N.Y. Movement Publication, 1995.
- Davidoft, Linda. L. *Introduction to Psychology*, United States of America: McGraw Hill Inc., 1976.
- Desai, D.B. *Research on Achievement Motivation*, London: Macmillan and Company, 1970.
- Dumas. as cited by S.H Walker, *Wining the Psychology of Competition*, New York: Nortony, 1980.
- Ebel, Robert L. *Encyclopedia of Psychology*, New York: Mcmillan Book Company, 1969.
- Eysenck H.J. & Eysenck. S.B.G. *Personality Structure and Measurement*, London: Hodder Stoughton, 1996.
- Fross, Donald E & Robert J. Troppmen, *A Psychological Approach*, New York: John Wiley and Sons, (1976).
- Frost, R. B., *Psychological Concepts Applied to Physical Education and Coaching*, Massachusetts: Addition Wesley Publication Co., Inc.
- Frost, Reuben B. (1983). *Psychological Concepts Applied to Physical Education*, Los Angles: Prentice Hall, Inc., (1983).

- Gill, Diana, L. *Psychological Dynamics of Sport Exercise*, 2nd edition, Champaign Illinois: Human Kinetics, 2000.
- Harris, Dorothy .V and Bette .L. Harris. The athletes guide to sports psychology: Mental skill for physical people, USA: Leisure Press, 1984.
- Jung, Carl. *Psychological Types* (RFC Hall, Trans), Collected works, New Jersey: Princeton University Press. (Vol.6), 1971.
- Kalat, James. W. *Introduction to Psychology*, 5th edition. North Carolina State University, 1999.
- Kamlesh, M.L. & M.S. Sangral. *Principles and History of Physical Education*, Ludhiana: Prakash Brother Educational Publishers, 1980.
- Kamlesh, M.L. *Psychology of physical Education and Sports* (New Delhi: Metropolitan Books Company Pvt. Ltd., 1983.
- Kamlesh, M.L. *Athletic Personality A Psychological Pride*, Delhi: Surjeet Publications, 1990.
- Kamlesh, M.L. *Competitive Anxiety and Sports*, cited in Jitendra Mohan, N.K. Chadha, S.Sultan Akhtar. Eds, *Psychology of Sports: The Indian Perspective*, Friend Publication, India, 1992.
- Karlene Sugarman. M.A. *Winning the Mental Way*, November 26, 1998.
- Keith, Bell F. *The Athletes Guide to winning Performance in All sports*, London: Prentice-Hall Inc., 1983.
- Klafs, Carl. E. & Daniel D Aruheim. *Modern Principles of Athletic Training*, St. Louis: C.V. Moshy Company, 1969.
- Lewellyn, John, H., & Judy A. Blucker. *Psychology of Coaching Theory and Application*, Delhi: Surjeet Publishers, 1982.
- Mangal, S.K. *Abnormal Psychology*, Sterling Publishers Private Limited, 1984.

- Marmour, S. *Personality Close Analysis*, McGraw Hill Book Co., 1983.
- McClelland, D.C. *An Introduction to Motivation*, New Jersey: Prentice Hall Inc., 1964.
- Morgen ,William, P. *Limits of Human Performance*, New Delhi: Human Kinetics Publishers Inc., 1985.
- Orlick, Terry. *Inpursuit of Excellance*, Human Kinetic Publishers, INC and Coaching Association of Canada, 1980.
- Railo, Willio. *Willing to Win*, Holland: Van Boekhoven- Bosch B.V, Utrecht,1986.
- Sandhu, Gurbaksh S. *Psychology In Sports, A contemporary Perspective*, Department of Physical Education ,Punjab University, Chandigarh,1992.
- Shankar, Ganesh. *Personality of Indian Varsity Male Gymnasts'* cited by N.N. Mall and Jitendra Mohan, *Psychological Analysis of Sports Performance*, 1986.
- Silva, J.M. & R.S. Weinberg. *Psychological foundations of Sport*, Illinois: Human Kinetics, 1984.
- Silva, J.M. 'Changes in the Affective State of guilt as a function of Exhibiting productive assertion of hostile aggression: as cited by G.C. Roberts and K.M.Newell (Eds), *Psychology of Motor Behavior and Sport*, Campaign: Human Kinetics, 1976.
- Singh, Agya Jit. *Sports Psychology – A study of Indian Sportsmen*, Delhi: Friends Publication, 1972.
- Singh, Agya Jit. *Competitive Anxiety and Sports*, cited in Jitendra Mohan, N.K. Chadha, S.Sultan Akhtar. Eds, *Psychology of Sports: The Indian Perspective*, Friend Publication, India,1992.

Singh, Hardayal. *Science of Sports Training*, New Delhi: D.V.S. Publications, 1991.

Wann, B.L. *Sports Psychology*, Upper Saddle River, N.J. Prentice Hall, 1997.

Weinberg, Robert S., Daniel Gould. *Foundation of Sports and Exercise Psychology*, 3rd edition, USA: Edward Brothers Publication, 2003.

Widmeyer, W.N. & Birch, J.S. as cited by Silva J.M. & Weinberg R.S. *Psychological Foundations of Sport*, Illinois: Human Kinetics, 1984.

Journals And Periodicals

Acharya, Jayasree., M.L., Kamalesh & Vivek, Pandey. "A Study of Relationship between Academic Achievement and Intelligence as Measured by Different Tests in the Context of Physical Education Majors," *Horizons in Sports Psychology*, 1993.

Arent, S.M. & Landers, D.M. Arousal, anxiety, and performance: a re-examination of the Inverted-U hypothesis. *Research Quarterly for Exercise Sport*. 2003.

Atkins, M.S., Stoff, D.M., Osborne, M.L., & Brown, K. Distinguishing instrumental and hostile aggression: does it make a difference?, *Journal of Abnormal Child Psychology*, 1993.

Balaguer, I., Duda, J.L. & Crespo, M. Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction and coach ratings among tennis players. *Scand Journal Medical Science Sports*, 1999.

Baron, Robert. A. "Psychology", *Library of Congress Cataloging in Publication Data*, 1992.

Booth E.G. Personality Traits of Athletes, MMPI, *Research quarterly*, 1958.

- Boutin & Kenneth, James. "Relationship of anxiety level and performance in MAIN intercollegiate Basketball Games", *Dissertation Abstracts International*, 1983.
- Brar, R.S. & Ajmer, Singh. "A Study of Extraversion neuroticism and Self concept of University Handball Players". Sports Science Health Fitness and Performance Patiala: *Indian Association of Sports Sciences and Education*, 1987.
- Broathen, E.T. & Svebak, S. "Motivational Difference among Talented Teen-age Athletes: The Significance of Gender Type of Sports and Level of Excellence", *Scandinavian Journal of Medicine and Science in Sports* (DNIL) 2:3, 1992.
- Brodkin, Peter & Maureen, R. Weiss. "Developmental differences in Motivation for participating in Competitive swimming," *Journal of sport and exercise Psychology*, 1996.
- Burton, R.W. Aggression and sport. *Clinical Sports Medicine*. 2005.
- Bushman, B.J. & Wells, G.L. Trait aggressiveness and hockey penalties: predicting hot tempers on the ice. *Journal of Applied Psychology*. 1998.
- Buss, Arnold, H. Psychology Behaviour in Perspectives, Canada: Tehn Willey and Sons, INC, 2000.
- Carolina, Lundqvist. & Hassmén, Peter. Competitive State Anxiety Inventory-2 (CSAI-2): evaluating the Swedish version by confirmatory factor analyses. *Journal Sports Science*. Vol. 23 (issue 7), 2005.
- Caruso, Christina. M. & Diane, L. Gill. "Psychological and Physiological changes in competitive state Anxiety during Non-competition and competitive success and failure", *Journal of sport and exercise psychology* 1990.

- Clusky, Mc. "Personality traits and Participation in high risk Vs. low risk sports", *Completed Research in Health, Physical Education and Recreation*, 1977.
- Cobb. & Steve, Robert. "The interaction between self-concept and anxiety tolerance for high school males during complex motor skill performance," *Dissertation Abstracts International*, 1993.
- Cox, Richard .H. and Zhan Liu. Psychological Skill: A Cross-Cultural Investigation, *International Journal for Sports Psychology*, 24:3, 1993.
- Davis, Caroline & John, P. Mogle. 'Some Personality Correlates of Interest and Excellence in Sports,' *International Journal of Sports Psychology*, 25: 2, (6), 1994.
- Dolliver R.H. 'Individual Psychology,' *Journal of DLERIAN Theory, Research and Practice*, 1994.
- Ebbeck. & Vicki. "Self-perception and motivational characterisation of tennis participants: The influence of age and skill," *Dissertation Abstracts International* 51:11, 1991.
- Ewess & Khaireldin, Ali Ahmed. "The relationship between Athlete Team Psycho-social environment and state anxiety", *Dissertation Abstracts Internationals* 41:2, 1980.
- Feshbach, Seymour. Cognitive competencies and aggressive behavior: A developmental study. *Aggressive Behavior* Volume 10 Issue 3.
- Finch & Laura, Marie. "The relationship among coping strategies, trait anxiety, and performance in collegiate soft-ball players." *Dissertation Abstracts International*, 54:9, 1994.
- Finkenbery, M.E. & Dinancci, J.N. "Cognitive and Somatic State Anxiety and Self-confidence in Cheevleading Competition, *Precept Motor Skill*, 1992.

- George. & Thomas, Robert. "Self-confidence and base ball performance: A Casual examination of self-efficacy theory," *Dissertation Abstracts International* 54:6, 1993.
- Gold. & Ginger, Lee. "Achievement orientation, self-confidence and attributions of female collegiate tennis players: A case study", *Dissertation Abstracts International* 51:5, 1990.
- Graues, and Paul Henry., "The effect of a season long Psychological skill training program on selected Psychological Characteristics of High School Football Players," *Dissertation Abstracts International*, 51:8 ,February- 1991.
- Hudley, C. & Friday, J. Attributional bias and reactive aggression, *American Journal for Preventive Medicine*. 12(5 Suppl), 1996.
- Iso-Ahola, S.E. Intrapersonal and interpersonal factors in athletic performance. *Scand Journal Medical Science Sports*. 5(4) ,1995.
- Jane, Miner Many. "Gender and Levels of affinitive and achievement motivation of Scholartics and Inter collegiate Basketball Competitors" *Dissertation Abstract International*. 47:10, 1987.
- Jaxlor, J. Predicting Athletic Performance with Self-confidence and Somatic and Cognitive Anxiety as a Function of Motor and Physiological Requirements in Six Sport," *J. Press*, 55(1), 1987.
- Jones, Graham, Austin, Swoin & Andrew, Dale. "Gender differences in Pre Competition Temporal Patterning and antecedents of anxiety and self-confidence," *Journal of Sport and exercise Psychology*, 13:1, 1991.
- Kang. & Linejjin. "A cross-cultural study on exercise motivation and behaviour: The case of American and Taiwanese exercises," *Dissertation Abstracts International* 53:1, 1992.

- Kenneth, Reed Gregory. Prediction of Performance from Selected Personality Trails and State Anxiety Levels of Competitive male and Female Gymnastics. *Dissertation Abstracts International*, (1985).
- Kjormo, O. & Halvari, H. Two ways related performance in elite sports: the path of self confidence and the path of group cohesion and group goal-clarity, *Research quarterly*, 2001.
- Lamarre, B.W., & Nosanchuk, T.. Judo - the gentle way: a replication of studies on martial arts and aggression. *Percept Motor Skills*, 88(3 Pt 1): 1999.
- Lavebure & Passer. The effect of game location and importance of aggression in team sport, *Journal of Sport Psychology*, 1995.
- Lee, M.J., Whitehead, J., Ntoumanis. N., & Hatzigeorgiadis, A. Relationships among values, achievement orientations, and attitudes in youth sport. *Journal of Sport Exercise Psychology*, 2008.
- Lirgg, Cathy D. "Gender difference in self-confidence in Physical Activity: A Meta-Analysis of Recent Studies," *Journal of Sport and exercise Psychology*, 13:3, 1991.
- Lokapally, Vijay. "An interview with Lee Evans." *Sport Star*, 13:41, 1991.
- Lox, C.L. Perceived Threat as a Cognitive Component of State Anxiety and Self-confidence, *Percept Motor skill*, 1992.
- Macarthy, John. F., & Bryan, R. Kelly. "Aggressive behaviours and its Effect on Performance Overtime in Ice Hockey Athletes: An Archival study", *International Journal of Sports Psychology*, 1978.
- Matheson, H. & S. Mathes. Influence of Performance setting experience and difficulty of routine on precompetition anxiety and self confidence High School Female Gymnasts, *Journal of Sports Sciences*, 1999.

- Miner, Mary and Jane. Gender and Levels of affiliation and Achievement Motivation of Interscholastic and Intercollegiate Basketball competitions, *Dissertation Abstracts International* 47:10, 1987.
- Montgonerg, Michael .J. Personality Traits of Men and Women Basketball Players at College Level, *Complete Research in Health, Physical Education and Recreation*, 19, 1977.
- Moreno, Cervello., E.M., J.A., Villodre, & N.A., Iglesias, D. Goal orientation, motivational climate, and dispositional flow of high school students engaged in extracurricular physical activity. *Percept and Motor Skills*, 2006.
- Nesvig, Lisa P. The Relationship of Achievement Motivation and performance among Inter Collegiate Gymnasts, *Complete Research in Health, Physical Education and Recreation*, 19, 1977.
- Newman, Earl N. 'Personality Traits of Faster and Slower Competitive Swimmers', *Dissertation Abstracts International*, 39: (12), 1968.
- Nicholls, J. G. Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 1984.
- Ntoumanis, N. and Biddle, S. The relationship between competitive anxiety, achievement goals, and motivational climates. *Research Quarterly Exercise Sport*, 69(2): 1998.
- Psychountaki, M. & Zervas, Y. Competitive Worries, Sports Confidence and Performance rating for young swimmers, *Research Quarterly for Sports Psychology*, 1999.
- Rademaker. & Timothy, Arnold. "Comparison of achievement Motivation profiles between successful and less successful, Black and White, and Male and female Trade and field athletes", *Dissertation Abstracts International* 44:12, 1984.

- Radha, K. Pown. "Psychological Factors and soccer performance of South Indian University Players", *Souvenir First International and Six National Conference of Sports Psychology*, 1991.
- Raglin, J.S. Anxiety and sport performance. *Exercise and Sport Science Review*. 20: 1992.
- Rasclé, O., Coulomb, G., & Pfister, R. Aggression and goal orientations in handball: Influence of institutional sport context. *Percept Motor Skills*. 86(3 Pt 2): 1998.
- Rasclé, Olivier. & Genevieve, Coulomb. Aggression in youth handball: Relationships between goal orientations and induced motivational context. *Social Behavior and Personality: An International Journal*. Volume: 31 / Issue: 2003.
- Rees, C., Roger, Howell, & Frank, M. Do high school sports build character? A quasi-experiment on a national sample. *Social Science Journal*, 1990.
- Savoy. "Two Individual Mental Training Programmes for team Sport". *International Journal of Sport Psychology*, 1977.
- Sharma, U. 'A Study of Frustration among Working Women', *Fourth Survey of Research in Education*, Vol. 1, 1991.
- Sindhu, G.S., N.S. Mann. & R.S. Brar. 'Comparative Study of Extraversion – Neuroticism and Attention of Team and Individual Athletes', in Sodhi et al., *Sports Sciences: Health Fitness and Performance*, Patiala: Indian Association of Sports Sciences and Education, 1988.
- Singh, Agay Jit. "Psychological characteristics of top level Indian sportsman", *Sports Science Health Fitness and Performance Patiala: Indian Association of Sports Sciences and Education*, 1987.

- Singh, Ajmeer & R.S. Brar. 'A Study of Extraversion – Neuroticism and Self-concept of University Handball Players', in Sodhi *et al.*, *Sports Sciences: Health Fitness and Performance*, Patiala: Indian Association of Sports Sciences and Education, 1987.
- Singh, Gurdeep. & Ashok, Singh. "Effect of Verbal and Tangible Motivation on Selected Performance Task at Primary Level", *Souvenir First International and Sixth National Conference on Sports Psychology*, 1991.
- Sturman, Ted. S. & D. M. Bussn, Cantor. Achievement Motivation and Type A Behavior as Motivational Orientations, *Journal of Research in Personality*, Volume 33, Issue 2, 1999.
- Swain, Austin & Graham, Jones. "Relationship Between Sports Achievement Orientation and Competitive State Anxiety," *Sport Psychologist*: 6, 42-54, 1992.
- Taylor, J. Predicting athletic performance with self confidence and somatic and cognitive anxiety as a function of motor and physiological requirement in six sports, *Complete research on Athlete's Psychology*, 12, 2003.
- Tod, David. and Ken, Hodge. Moral Reasoning and Achievement Motivation in Sport: A Qualitative Inquiry, *Journal of Sport Behavior*, 2001.
- Turner, P.E. & Raglin, J.S. Variability in precompetition anxiety and performance in college track and field athletes. *Medical Science of Sports Exercise*. 28(3): 1996.
- Vealey., "Sources of Self confidence: Conceptualization and instrument development" *Journal of Sports and Exercise Psychology*.
- Volkumer. "Investigations into the Aggressiveness in Competitive Social System." *Sport Wissens Chart*, 1972.

- Waldman, I.D. Aggressive boys' hostile perceptual and response biases: the role of attention and impulsivity. *Child Development*, 1996.
- Widmeyer W.N., & Birch J.S. Aggression in professional ice hockey: a strategy for success or a reaction to failure, *Journal of sports Psychology*, 117 (1st Half): 1984.
- Widmeyer, W.N. & Birch, J.S. "Aggression in professional ice Hockey – a strategy for success of a Reaction to Failure", 1985.
- Wiggins, M.S., Lai, C. & Deiters, J.A. Anxiety and burnout in female collegiate ice hockey and soccer athletes. *Percept Motor Skills*. 101(2): 2005.
- Wong, E.H., Lox, C.L. & Clark, S.E. Relation between sports context, competitive trait anxiety, perceived ability, and self-presentation confidence. *Percept Motor Skills*. 76(3 Pt 1): 1993.
- Yudofsky, S.C., J.M. Silver, W. Jackson, J. Endicott & D. Williams. The Overt Aggression Scale for the objective rating of verbal and physical aggression. *American Journal for Psychiatry*, 1986.

Proceedings of Conference / Seminar

- Acharya, Jayshree. Position Wise Analysis of Cognitive Worry, Somatic Tension and Self Confidence of Women Hockey Players, *IX National Conference of Sports Psychology Abstracts*, Nagarjuna University: Sports Psychology Association of India, 1994.
- Hasrani, S.S. "Pre-competition Anxiety of Basketballers and Track and Field Athletes." A paper presented in the *VII National Conference on sports psychology*, Lakshmibai National College of Physical Education, Trivandrum, (1991).

Kamath, Rose., Jolly., Roy, Anuradha, S. Psychological skill among talented Volleyball players (Girls). 28 *XII National Conference of Sports Psychology* -30th December ,(1999).

Pandey, Vivek., Jayasree. & Shylaja. "Pre competitive Anxiety in Track and Field Athletics as a function Gender. " A paper presented in the *VII National Conference of Sports Psychology*, Lakshmibai National college of physical Education, Trivandrum, (1991).

Patial,Om Kumari. "Motivation Profile of Women Hockey Players", Paper presented in the *First International and Sixth National Conference of Sports Psychology*, New Delhi:, (1991).

Schiling, Guido. "Mental Training," ACTAS Prouding, VIII World Congress of Sports Psychology. Edictor/ Siddiniosepa, 1993.

Shaw., Dhannanjay, Singh.M.K. & Pathak. "Personality and Anxiety Level at International Marathon Runners", New Delhi: *Paper presented in the International Psychology Conference*, 1990.

Tyagi, Sarita. & Subramanian, S. "Effect of competition on Anxiety of college Female Hockey players" A paper presented in the International Conference for Health revaluation and sport Excellence. Indira Gandhi Institute of physical Education, 1992.

Theses

Amuthas, S. *Effect of Personality Dimensions on Learning Basketball Skills Among High School Boys in Pondichery*, Unpublished Doctoral Thesis, Pondichery: Pondichery University, 1989.

Bhattacharjee, Subhasis. *Comparison of Psychological Profiles of Professional Physical Education Male and Female Students belonging to High and Low Fitness Group*, Unpublished Master of Philosophy Dissertation, Gwalior: Jiwaji University, 1989.

- Dhillon, G.K. *A Comparative Study of the Personality Characteristics, Adjustment and Motivation Level of Non-participants and Participant Children of Secondary Schools in Physical Activities*, Unpublished Doctoral Thesis, Patiala: Punjabi University, 1979.
- Here and Roge, Lamp, *Encyclopaedia Dictornary Of Psychology*, Oxter: Black Well Publishers Ltd.,1983.
- Joseph, Anitha, M.A. *Focus of Control Achievement Motivation academic Achievement and Self Concept Among Student leaders*, (Degree of Doctor of Philosophy in Psychology).
- Mehta, Deepak. "An analysis of self concept and personality traits of medium, fast bowlers, spin bowlers, wicket keepers and batsman of National level", *Unpublished Master's Thesis, Jiwaji University, Gwalior*, 1988.
- Parthiban, C. "Selected Psychological Factors as determinants for the basketball performance", M.Phil Dissertation Alagappa University, 1992.
- Ramesh. "Comparison of Anxiety and self confidence among qualified Football, Volleyball, Basketball, Referees in Tamil Nadu," Unpublished M.Phil Dissertation, Alagappa University, Karakudi, 1994.
- Renith, P. *Comparison of Competitive Sports Anxiety and Achievement Motivation between Inter Collegiate and University male Basketball Players*, Unpublished Master of Philosophy Dissertation, Chennai: Madras University, 2002.
- Sadasivam, Raja. "Comparative study of Aggression and Anxiety among Blind and Normal School kabadi players in Tamilnadu", M. Phil Dissertation, Alagappa University, 1992.
- Thomas, Mary. "A study of Anxiety Achievement Motivation and Self Concept among College Women Players of Different Types of Games

in Kerala", Unpublished M.Phil dissertation, Alagappa University, Karaikudi, 1993.

Tjeerdsma, Bonnie. "An exploration of the causal relationships among achievement motivation variables in physical education," *Doctoral Dissertation Abstracts*, University of South Carolina, 1993.

Websites

Bleak, Jared. L. & Christina, M. Fredrick. Superstitious Behaviour in Sport: Levels of Effectiveness and Determinants. *Questia Online Journal*. <http://www.questia.com/PM.qst?a=&se=gglsc&d=5002285263>, 1998.

Bray, S.R. & Martin, K.A. The effect of competition location on Football players performance and psychological states. *www.games development. gaa.ie*, 1998.

Hassmen, Peter., John., S. Reglin., & Carolina, Lundqvist. Intra individual variability in state anxiety and self confidence in elite foos balers. [http:// www.questia.com/p.m. qst?a =0&se=gglse&d = 5006914316](http://www.questia.com/p.m.qst?a=0&se=gglse&d=5006914316), 2004.

Taylor, Jim. *Journal of Personality* (Jim Taylor.meta pres.com/index weqlhhvtke5nd9a3.pdf), 1997.

Woodmean, Tim. & Lew, Hardy. The relative impact cognitive anxiety and self confident upon sports performance: A meta analysis, 2004. [http://taylorandfrancis . metapress.com/content/eld3u3g1t949we n4](http://taylorandfrancis.metapress.com/content/eld3u3g1t949we n4).



Appendices

APPENDIX-I
PROCEEDINGS LETTER

Name :

Game :

Jayakumar. R
Research Scholar
Physical Education
University of Calicut

Dear Friends

I am happy to introduce myself as a research scholar pursuing Ph.D. Study in Physical Education from University of Calicut, Kerala, under the guidance of Dr. P. T. Joseph, Director of Physical Education, Kannur University

My research topic is "ANALYSIS OF PSYCHOLOGICAL CHARACTERISTICS OF MALE AND FEMALE SPORTSPERSONS OF SELECTED SPORTS DISCIPLINE" for my doctoral study. For the successful completion of my research work I have to collect five datas on Aggression, Anxiety , Achievement Motivation and Personality.

I request you to fill up the details as requested in the five questionnaires. The details obtained through these questionnaires will be kept confidential and the identity of the responses will not be revealed. The data obtained will be used only for the purpose of the research.

I request you to extend your co-operation by filling in the questionnaire and give it to me at your earliest.

Thanking you

Yours faith fully.

Jayakumar. R.

APPENDIX-II

AGGRESSION QUESTIONNAIRE

1. If you want to get personal recognition in (sports) it helps to play rough. People in(sports) admire this.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

2. Roughing up the other team might mean getting penalized but in the long run it often helps you to win.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

3. Most people in (sports) don't respect players who will not retaliate when they are picket on.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

4. To be successful most teams (sports) require at least one or tow aggressive people.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

INSTRUCTION

Obtain your average value from these four.

Statements and record it.

(The statements have been adapted from Smith 1979)

APPENDIX III

AGNIHOTRY REKHA SELF CONFIDENCE

QUESTIONNAIRE

T-True

F- False

1. It always happens to you that you cannot come to a first decision/conclusion to the fast movement of your work. (T/F)
2. Whenever a subject is brought to you /or asked about the subject you don't hesitate to give answer to it. (T/F)
3. Whenever you have a meeting with the public you experience self confidence (T/F)
4. Feelings some time hurt others (T/F)
5. Whenever you don't want to meet some people you change your route (T/F)
6. You always fear that other don't like you (T/F)
7. Without any distress you confuse any difficult problems (T/F)
8. For a silly thing people unjustify blame (T/F)
9. You always deny to play certain game because you know your not good at it. (T/F)
10. You always worry/think more on every subject matter (T/F)
11. You don't plainly explain your feeling (T/F)
12. You think every one is always interested to get the best out of you. (T/F)
13. Whenever you start a work you have the fear of loosing /not succeeding it. (T/F)
14. At times when needed you feel that you are unable to give the correct answer that express your feelings (T/F)
15. You feel life is very strenuous (T/F)
16. You get yourself back to face any problems (T/F)
17. You get yourself back to face any problems (T/F)

Appendices iv

18. Most of the times you have neglected to do the work the assignment given to you, because you feel that you are incapable of doing (T/F)
19. You feel that you are not facing the problems in an orderly manner (T/F)
20. You spend most of your time, simply thinking of your future (T/F)
21. You have lost some of your golden changes because you are unable to take a quick and final decision (T/F)
22. It is believed that always live in depressed mood (T/F)
23. You make friendship within no time as others to (T/F)
24. Whatever your feelings do not match others feel much discouraged (T/F)
25. It is believed that you are satisfied within (your imaging thoughts) your impossible wishes) (T/F)
26. You don't have a positive way to be taken without for any job (T/F)
27. You get discouraged immediately (T/F)
28. Whenever you get upset it takes more time for you to get back no normalcy. (T/F)
29. You feel that nobody understand you (T/F)
30. Sometimes you feel discomfort (or) uneasy to sit quietly in one place (T/F)
31. You are single you experience yourself with courage and boldness (T/F)
32. You are simple you feel yourself and then there is no one for you (T/F)
33. You feel difficult to have conversation with your superiors (T/F)
34. You feel difficult to make new friends (T/F)
35. At any social gathering discussion instead of active participation you keep yourself as aloof /away (T/F)
36. It is difficult for you to speak before a large gathering (T/F)
37. Whenever some one looks at you, you can't do better than normally you do the job (T/F)

38. Whenever someone comments you either favourably or unfavourably you feel distressed. (T/F)
39. You advice your-self a man of success you always feel that whatever you want to do, you can do it. (T/F)
40. You feel difficult to take as firm decision to your own (T/F)
41. Whenever you want to move a coin against every enemy you feel you have done it. (T/F)
42. You make your decisions so every knowing fully what should be the next step (T/F)
43. You keep yourself mentally relaxed by not storming the brain (T/F)
44. You feel much believe with those who humiliate the atmosphere. (T/F)
45. You feel thinking large man is not a worthy man (T/F)
46. You are so sensitive that you start trying immediately (T/F)
47. You experience nervousness before when you enter inside a meeting hall (T/F)
48. You get frustrated because whatever you (think or work) are wanted to do, you feel it unable to do it. (T/F)
49. You feel your friend had done something good for his life or living or he is doing well better than that of you. (T/F)
50. You always live in a state of confusion (T/F)
51. When you get a change to become a good teacher, or a good politician, you avail it. (T/F)
52. You feel that no promises can stop you to achieve your goal. (T/F)
53. You take back yourself with your natural style any party or a good gathering (T/F)
54. Whenever you are to face any difficult task or to face a tough time you feel what was necessary you do, did not do it. (T/F)

APPENDIX IV
SPORT ACHIEVEMENT MOTIVATION TEST
(Dr. M.L. Kamlesh,1990)

Name : Class :

Gender : Age :

Sports Participation, if any :

DIRECTION

"WHAT YOU WISH TO ACHIEVE IN YOUR SPORTS CAREER" is an important proposition for you as student as well as a player of some game/ sport.

This test is meant to make you understand this proposition as well as to know how you move in this direction.

Below are given a few incomplete statement which can be completed choosing either of the 1WO proposed parts against each statement. Please TICK the part which, in your opinion fits the best.

This has nothing to do with your examination. Your response will be kept secret.

Complete all the statements without hesitation.

Finish the test as early as possible without brooding too much over a statement.

1. I enjoy playing
 - (a) vigorous game(s) ,
 - (b) game(s) which requires little physical effort.
2. As a player I like to be called
 - (a) a well equipped player
 - (b) a top scorer
3. In my life I would like to
 - (a) Use sport as a profession
 - (b) use my sports achievements to get other benefits like employment,
4. I want to earn fame in sports

- (a) by my hard work
- (b) by working hard with the selectors
- 5. During the holidays, I want
 - (a) to watch matches
 - (b) to spend time in perfecting my game
- 6. I take pride in being called
 - (a) a sportsman of fine manners
 - (b) a sportsman of perfect techniques and skills
- 7. It is my nature
 - (a) to just. participate in sports rather than to compete
 - (b) to sports competition-petitions seriously
- 8. I play the game
 - (a) to keep good health
 - (b) to earn a name in the world
- 9. I feel extremely unhappy when
 - (a) I loss a match
 - (b) I loss my sports equipment or kit
- 10. Generally I make friends with
 - (a) those who are out sportsmen though I influential
 - (b) those who are mighty influential but sportsmen of lesser ability.
- 11. Have a tendency to concentrate
 - (a) on one game only
 - (b) on more than one game
- 12. I feel my success depends up on
 - (a) my own hard work
 - (b) my friends or officials

13. I want to practice sport so that
 - (a) I may be selected to represent my school state/ nation
 - (b) so that I may keep fit.
14. I feel that winning in sport is
 - (a) something to be proud of
 - (b) everything for me
15. I shall feel contented if my team
 - (a) just win a match
 - (b) crushes the opposite team
16. In near future, I shall be
 - (a) a star sportsman
 - (b) a rich person.
17. Generally I have a feeling that
 - (a) I must represent my country in my sport
 - (b) I may achieve some success in sport activities
18. Criticism on my performance
 - (a) helps me to work harder
 - (b) discourages me a great deal
19. I would like to
 - (a) do much better than others
 - (b) the best within my power
20. Generally I have a feeling
 - (a) that I would create a new record in my game/sport
 - (b) that I shall retire before I reach the top in my game

APPENDIX-A3**KEY TO ACHIEVEMENT MOTIVATION TEST**

The SAMT carrying a test-retest reliability as .70, is a test of 20 statements, the response value of which ranges between 0-40. The validity of the SAJMT with the actual performance of the athletes had been worked out to be .55 which is marked. On the basis of the percentile point norms suggested in he said test/ subjects securing below 24 could be characterized "low in sport achievement motivation, those scoring below 30 but above 24 as moderate and those scoring above 30 as highly motivated.

KEY OF THE QUESTIONS

1. a	2. b	c. a	4. a
2. b	6. a	7. b	8. b
9. a	10. a	11. a	12. a
13. a	14. b	15. b	16. 1
17. a	18. a	19. b	20. a

For correct statement two marks will be given and for incorrect statement '0'

APPENDIX V

QUESTIONNAIRE (SCAT)

Name :

Age :Event.....

University:

Mark the answers that are closest
to you experience. If your answer is

"HARDLY-EVER", Mark the option 1;

"SOMETIMES", Mark option 2;

"OFTEN", Mark option 3;

OPTIONS	
1	HRDLY EVER
2	SOMETIMES
3	OFTEN

1.	Competing against others is socially enjoyable	1	2	3
2.	Before I complete I feel uneasy	1	2	3
3.	Before I complete I worry about not performing well	1	2	3
4.	I am a good sportsman when I compete	1	2	3
5.	When I compete, I worry about making mistakes	1	2	3
6.	Before I compete, I am calm	1	2	3
7.	Setting a goal is important when competing	1	2	3
8.	Before I compete, I get an uneasy feeling in my stomach	1	2	3
9.	Just before competing I notice my heart beats faster	1	2	3
10.	I like to compete in games that demand considerable Physical energy	1	2	3
11.	Before I compete, I feel relaxed	1	2	3
12.	Before I compete, I am nervous	1	2	3
13.	Team sports are more existing than individual Sports	1	2	3
14.	I get nervous wanting to start the game	1	2	3
15.	Before I compete I usually getup tight	1	2	3

APPENDIX VI EYSENCK & SYBIL B.G.EYSENCK

Name:

Age:

Sex:

Game:

High achievement:

Here are some questions regarding the way you behave, feel and act. After each question there is a space for answering 'YES' or 'NO'.

Try to decide whether 'YES' or 'NO' represents your usual way of acting or feeling. Then put a circle around 'YES' or 'NO'. Work quickly and don't spend too much time over any question; we want your first reaction, not a long-drawn out thought process. The whole questionnaire should not take more than a few minutes. Be sure not to omit any questions. Work quickly and remember to answer every question. There are no right or wrong answers and this isn't a test of intelligence or ability, but simply a measure of the way you behave.

1. Do you often long for excitement?
Yes ☐ No ☐
2. Do you often need understanding friends to cheer you up ?
Yes ☐ No ☐
3. Are you usually care- free?
Yes ☐ No ☐
4. Do you find it very hard to take 'no' for an answer?
Yes ☐ No ☐
5. Do you stop and think over before doing anything?
Yes ☐ No ☐
6. If you say 'you will do something' , do you always keep your
Promise, no matter how inconvenient it might be to do so?
Yes ☐ No ☐
7. Does your mood often go up and down?

- Yes ☐ No ☐
8. Do you generally do and say things quickly without stopping to think?
Yes ☐ No ☐
9. Do you ever feel just miserable for no good reason?
Yes ☐ No ☐
10. Would you do almost anything for a dare? -
Yes ☐ No ☐
11. Do you suddenly feel shy when you want to talk to an attractive
Stranger?
Yes ☐ No ☐
12. Once in a while do you lose your temper and get angry?
Yes ☐ No ☐
13. Do you often do things on the spur of the moment?
Yes ☐ No ☐
14. Do you often worry about things you should not have done or said?
Yes ☐ No ☐
15. Generally, do you prefer reading to meeting people?
Yes ☐ No ☐
16. Are you feeling rather easily hurt?
Yes ☐ No ☐
17. Do you like going out a lot?
Yes ☐ No ☐
18. Do you occasionally have thoughts and ideas that you would
Not like other people to know about?
Yes ☐ No ☐
19. Are you sometimes bubbling over with energy and sometimes
Very sluggish?
Yes ☐ No ☐
20. Do you prefer to have few but special friends?

- Yes ☐ No ☐
21. Do you daydream a lot?
Yes ☐ No ☐
22. When people shout at you, do you shout back?
Yes ☐ No ☐
23. Are you often troubled about feeling of guilt?
Yes ☐ No ☐
24. Are all your habits good and desirable ones?
Yes ☐ No ☐
25. Can you usually let yourself go enjoy yourself a lot at a gay party?
Yes ☐ No ☐
26. Would you call yourself tense or highly strung?
Yes ☐ No ☐
27. Do other people think of you as being very lively?
Yes ☐ No ☐
28. After you have done something important, do you often come feeling
you could have done better?
Yes ☐ No ☐
29. Are you mostly quite when you are with other people?
Yes ☐ No ☐
30. Do you sometimes gossip?
Yes ☐ No ☐
31. Do ideas run through your head so that you cannot sleep?
Yes ☐ No ☐
32. If there is something you want to know about world, you rather look
It up in a book than talk to someone about it?
Yes ☐ No ☐
33. Do you get palpitations or thumbing in you heart?
Yes ☐ No ☐

34. Do you like the kind of work that you need to pay close attention to?
Yes ☐ No ☐
35. Do you get attacks 'of shaking or trembling?
Yes ☐ No ☐
36. Would you always declare everything at the customs, even if you know
that you could never be found out?
Yes ☐ No ☐
37. Do you hate being with a crowd who play jokes on one another?
Yes ☐ No ☐
38. Are you an irritable person?
Yes ☐ No ☐
39. Do you like doing things in which you have to act quickly?
Yes ☐ No ☐
40. Do you worry about awful things that might happen?
Yes ☐ No ☐
41. Are you slow and unhurried in the way you move?
Yes ☐ No ☐
42. Have you ever been late for an appointment or work?
Yes ☐ No ☐
43. Do you have many nightmares?
Yes ☐ No ☐
44. Do you like talking to people so much that you never miss a chance of
talking to a stranger?
Yes ☐ No ☐
45. Are you troubled by aches and pains
Yes ☐ No ☐
46. Would you be very unhappy if you could not see lots of people
Most of the time?
Yes ☐ No ☐

47. Would you call yourself a nervous person?
Yes ☐ No ☐
48. Of all the people you know are there some whom you definitely do not like?
Yes ☐ No ☐
49. Would you say that you were fairly self- confident?
Yes ☐ No ☐
50. Are you easily hurt when people find fault with you or your work?
Yes ☐ No ☐
51. Do you find it hard to really enjoy yourself at a lively party?
Yes ☐ No ☐
52. Are you troubled with feeling of inferiority?
Yes ☐ No ☐
53. Can you easily get some life into a rather dull party?
Yes ☐ No ☐
54. Do you sometimes talk about thin s you know nothing about?
Yes ☐ No ☐
55. Do you worry about your health?
Yes ☐ No ☐
56. Do you like playing pranks on others?
Yes ☐ No ☐
57. Do you suffer from sleeplessness?
Yes ☐ No ☐

Source: H J Eysenck and Sybil B G Eysenck, Personality Inventory, Agra Psychological Research Cell, Agra, 1988.

APPENDIX VII

6 SIGMA SCALE

AGGRESSION (Male)

Male	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	7.62	9.88	12.14	14.40	16.66	18.92	21.18
Basketball	8.03	9.72	11.41	13.10	14.79	16.48	18.17
Football	6.67	8.87	10.77	12.67	14.57	16.47	18.37
Badminton	6.67	8.37	10.07	11.77	13.47	15.17	16.87
Swimming	7.65	9.85	12.05	14.82	17.52	20.22	22.92
Track & Field	7.13	9.72	12.31	14.90	17.49	20.08	22.37

Self-Confidence

Male	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	12.39	16.45	20.51	24.57	28.63	32.69	36.75
Basketball	14.67	18.77	22.87	26.97	31.07	35.17	39.27
Football	15.05	18.29	21.53	25.77	29.01	32.25	35.49
Badminton	15.17	17.82	20.47	23.12	25.77	28.42	31.07
Swimming	8.24	13.05	17.88	22.67	27.48	32.29	37.10
Track & Field	10.50	14.89	19.28	23.67	28.06	32.45	36.48

Achievement Motivation

Male	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	12.25	15.95	19.65	23.35	27.05	30.75	34.45
Basketball	14.56	17.49	20.42	23.35	26.28	29.21	32.14
Football	14.48	17.57	20.66	23.75	26.84	29.93	33.02
Badminton	16.72	18.98	21.24	23.50	25.76	28.02	30.28
Swimming	11.89	16.26	20.63	25.00	29.37	33.74	38.11
Track & Field	10.00	14.75	19.50	24.25	29.00	33.75	38.50

Anxiety

Male	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	9.28	12.71	16.14	19.57	23.00	26.43	29.86
Basketball	11.04	14.01	16.98	19.95	22.92	25.89	28.86
Football	7.31	10.09	12.87	15.65	18.43	21.21	23.99
Badminton	6.23	8.57	10.91	13.25	15.59	17.93	20.27
Swimming	11.43	14.02	16.61	19.20	21.79	24.38	26.97
Track & Field	8.52	11.88	15.24	18.60	21.96	25.32	28.68

Neuroticism

Male	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	0.30	4.04	7.78	11.52	15.26	19.0	22.74
Basketball	1.66	5.04	8.42	11.80	15.10	18.48	21.86
Football	2.28	5.46	8.64	11.82	15.00	18.18	21.36
Badminton	2.15	5.04	7.93	10.82	13.71	16.60	19.49
Swimming	0.7	4.4	8.10	11.80	15.50	19.2	22.9
Track & Field	1.07	4.08	7.09	10.10	13.11	16.12	19.13

Extroversion

Male	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	2.04	5.05	8.06	11.07	14.08	17.09	20.1
Basketball	6.55	8.40	10.25	12.10	13.95	15.80	17.65
Football	2.39	5.55	8.71	11.87	15.03	18.19	31.35
Badminton	3.59	6.06	8.53	11.00	13.47	15.94	18.41
Swimming	1.17	4.17	7.17	10.17	13.17	16.17	19.17
Track & Field	3.12	5.73	8.34	10.95	13.56	16.17	18.71

Aggression (Female)

Female	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	7.63	9.86	12.09	14.32	16.55	18.78	21.01
Basketball	9.07	10.58	12.09	13.60	15.11	16.62	18.31
Football	8.40	9.89	11.38	12.87	14.36	15.85	17.34
Badminton	8.12	9.48	10.84	12.20	13.56	14.92	16.28
Swimming	8.02	10.32	12.62	14.92	17.22	19.52	21.82
Track & Field	7.58	9.86	12.14	14.42	16.7	19.1	21.6

Self-Confidence

Female	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	6.54	12.26	17.98	23.70	29.42	35.14	40.86
Basketball	15.70	19.19	22.68	26.17	29.66	33.15	36.44
Football	15.22	18.73	22.24	25.75	29.26	32.77	36.28
Badminton	15.66	18.42	21.30	24.12	26.94	29.76	32.58
Swimming	8.04	13.21	18.38	23.55	28.72	33.89	39.06
Track & Field	10.05	14.45	18.85	23.25	27.65	32.05	36.45

Achievement Motivation

Female	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	15.71	18.18	20.65	23.12	25.59	28.06	30.53
Basketball	15.92	18.42	20.92	23.42	25.92	28.42	30.92
Football	14.79	18.05	21.31	24.57	27.83	31.09	34.35
Badminton	14.05	17.05	20.05	23.05	26.05	29.05	32.05
Swimming	12.62	17.08	21.54	26.00	30.46	34.92	39.38
Track & Field	8.11	13.29	18.47	23.65	28.83	34.01	39.19

Anxiety

Female	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	9.46	12.24	15.92	19.60	23.28	26.96	30.64
Basketball	13.12	15.37	17.62	19.87	22.05	24.30	26.55
Football	11.48	13.17	14.86	16.55	18.24	19.93	21.62
Badminton	8.49	10.11	11.73	13.35	14.97	16.59	18.21
Swimming	8.94	12.35	15.76	19.17	22.58	25.99	29.4
Track & Field	10.29	13.35	16.41	19.47	22.53	25.59	28.65

Neuroticism

Female	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	17.5	5.25	8.75	12.25	15.75	19.25	22.75
Basketball	5.69	7.75	9.81	11.87	13.93	15.99	18.05
Football	4.68	7.02	9.36	11.70	14.04	16.38	18.72
Badminton	5.63	7.31	8.99	10.67	12.35	14.03	15.71
Swimming	0.31	3.6	7.51	11.42	15.33	19.24	23.15
Track & Field	2.43	4.97	7.51	10.05	12.59	15.13	17.67

Extroversion

Female	-3 σ	-2 σ	- σ	M	σ	2 σ	3 σ
Volleyball	3.76	6.29	8.83	11.35	13.88	16.41	18.94
Basketball	2.92	6.14	9.42	12.67	15.92	19.17	22.42
Football	6.32	8.28	10.24	12.20	14.16	16.12	18.08
Badminton	3.20	5.62	8.01	10.40	12.79	15.18	17.57
Swimming	2.12	5.07	8.02	10.97	13.92	16.87	19.82
Track & Field	4.69	6.91	9.13	11.35	13.57	15.79	18.01

NB 6020