CHAPTER - I
INTRODUCTION

1.1. Modern Sports, Games, Exercise and Performance

Evidence of physical activities, games, sports, exercise, dance etcetera may be found in archeological rudiments, literature and art from the earliest times to the most modern times. These activities were simple recreational pursuits as well as spontaneous contests and tournaments. Societies in different places and at different times seem to have planned their activities with different purposes or ends in view, depending upon what felt as the most important needs. As civilization advanced they were used to satisfy socio-nationalistic needs and more recently to satisfy the need for individual and social betterment. These physical activities in various forms have been used by human communities throughout the world from the primitive times to the most modern times for survival, competition and reward, fitness, individual and social development, and so on.

Almost all the nations now-a-days are taking keen interest in sports and games because of the multifaceted contributions they make towards individual and social development. Now a days sports and games have taken various forms and they play a significant role in the life of human beings. Sports and games are thought of as products of culture of every society. Sports and games reflect the culture of a society. There is a very strong reciprocal inter-relationship between sports and culture as they strongly influence each other. Sports have become basic culture in every modern society where different people participate in them with various purposes in view. Physical activities in the primitive societies were mainly focused on survival, defence of the community, competitions and reward, recreation, fitness and health. A few of these physical activities which received peoples acclaim transformed as sports
and games in course of time. Millions of people in every society and culture thus have been participating in various sports and games.

Because of multifaceted contributions games and sports have been rendering to the humans and the presence of several other activities akin to sports and games, people in different fields of endeavour have ventured to define and conceptualize their synonyms.

Four basic terms, play, games, sport and physical activity, lie at the root of this area. Definition of each one, independently, or as a mutually exclusive cluster, is at best elusive; however, with the common intuitive understanding that most people have of these terms, certain fundamental elements begin to appear upon examination.¹

**Sport** is a human activity that involves specific administrative organization and a historical background of rules which define the objective and limit the pattern of human behaviour; it involves competition and/or challenge and a definite outcome primarily determined by physical skill.²

**Games** are activities with an agree-on organization of time, space and terrain, with rules that define the objective and limit the pattern of human behaviour, the outcome, which is to determine a winner and a loser, is achieved by totaling or accumulating objectively scored points or successes.³


³Ibid. p.12.
Play is an enjoyable experience deriving from behaviour which is self-initiated in accordance with personal goals or expressive impulses; it tolerates all ranges of movement abilities; its rules are spontaneous; it has a temporal sequence but no predetermined ending; it results into tangible outcome, victory, or reward.  

In the modern days there is a public awareness about the need, values and the importance of sports. Sports in the present day society have become an inseparable part of day-to-day life of man. Sports is considered as a respected arena of man’s competitive instinct to excel and establish superiority in the present day competitive society. The desire to challenge and establish new records have become a matter of impulse and instinct. Sports in the present day materialistic world has attained prestigious propositions. Sportsmen and sportswomen throughout the world are treated in high esteems.

Every advanced society in the modern world treats sports equally with other areas of education in the upbringing of the individual and eventually the society. Sports provides for health, recreation, harmonious development of personality, human relations, developing moral character, individual and social development, democratic way of life, national and international cultural integration, transmission of individual and social values and education of the masses more seriously. They also helps in attempts of nations to excel and show superiority over other nations. Sports have become an object of universal attention in the contemporary society and a means of achieving status and prestige in the society. Consequently professionalism has entered into the domain of sports and games, which places more demands on every sportsperson besides coaches and trainers.

4 Ibid. p.12.
Callois has suggested that games should be considered along two dimensions.

- The descriptive behavior which predominates in various games, and
- The spirit with which this behavior is characterized.

Callois then goes on to classify games into four categories, on the basis of the behavior that predominates,

- Competition (agon)
- Chance (alea)
- Pretense (mimicry), and
- Vertigo (ilinx).

The spirit, dimension is seen as being on a continuum from one extreme, paida, which denotes spontaneity, noise, laughter, and agitation, to other extreme, ludus, which denotes patience, acceptance, perseverance, and discipline. Each game is thus characterized on the basis of the principal kind of behavior that is dominating and to what extent this behavior tends to be spontaneous or planned.

Sports and games are structured for obvious reasons which are summerised by Alderman as follows.

First, games are simply structured play; i.e., they are structured in that rules, temporal and spatial limits, and agreements on acceptable behaviour now exist where they didn’t before. What, then, are the advantages or the attractions that this structuring has over no structure? Well, first, it would seem that structure provides a better opportunity to the player to prove his superiority over other people or over his environment. Games provide more objectivity to

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6 Ibid. pp.52-53.
the play situation. Next, games can be seen as the structuring of play situations in order to achieve certain definable goals such as excellence, participation, health, fun, enjoyment and relaxation. Structure also provides the opportunity for a repetition of play situations that are attractive or enjoyable to the player.

Structure provides an opportunity to compare one’s abilities and capacities with those of other people in a fair and acceptable way. Structuring play may also provide the player with more meaning to his behavior, especially in cultural terms. And, finally, games seem to provide opportunity for the affiliative tendencies of people that independent, unstructured play cannot. Callois’ classification of games more accurately describes this structuring of play.

The enjoyment of succeeding impel people to participate in sports more vigorously. Most of our competitive sports are obviously agon in nature. They are activities deliberately structured to create an equality of chance within which two individuals or groups can struggle for the prize. For many people, the joy of competition, on an equal footing, is the main attraction of sport. The pure enjoyment of succeeding is a strong motive impelling people to participate – this is apart from the many external or artificial incentives that normally accompany victory or triumph. As Callois notes, agon is “the purest form of personal merit… it presupposes concentration, effort, and the will to win...(and) it implies perseverance and discipline.” What better characterization of modern competitive sport?7

The Origin of most of the sporting activities could be traced to the early days of man’s history. When man learnt to live in groups and defend himself from wild animals and hostile groups and to attack weaker animals for food, either individually or collectively, man has always expressed the instinct of attack and defence. Man has always had the instinct and propensity to excel and show superiority.

7Ibid. p.55.
Most of the activities used by primitive men have been a combination of various fundamental motor activities or patterns. These fundamental movement activities were a part of their daily life, because their existence was in open spaces. These movements were being used to manage both livelihood and safety. The fundamental activities may be broadly activities, depending upon the purposes for which they were used.

Modern sports and games are nothing but modifications of the racially old physical activities or fundamental motor and physical patterns, such as, running, jumping, throwing, climbing, leaping, swinging, hanging, pulling, pushing, holding, catching, gripping, lifting and so on that have been modified into major sports and games today.

The repeated actions and responses of these fundamental motor patterns, gradually originated into new activities. Almost all the sporting activities of today are modifications of these racially old fundamental movement activities which have been converted with a definite framework of rules and regulations, to suit various requirements of a vast majority of people the world over.

Man is a competitive animal as such tendency to achieve excellence is of universal character. By nature man is competitive as well as gregarious. Sports and games promote and develop this instinct of man in a positive manner.

Through the ages man’s struggle to achieve excellence in motor performance has been vigorous and constant. Seemingly he has always wanted to jump higher, run faster and demonstrate greater strength and skill. He has delighted in putting himself in contest with opponents to determine who is the superior performer. Man is by nature highly competitive and is on constant search of excellence in performance in physical activities.

In modern society, sports and games have altogether taken a different shape. Competitions among players and nations have become a normal phenomena. Many nations have taken to sports very seriously as sports is as
old as human society and it has achieved a universal following in the modern times. It has now become an integral part of the educational processes and social activities. Millions of sports enthusiasts participate in different events round the year. Many of them participate in sports for fun, adventure, health, physical fitness and financial benefits, linked with a high degree of popularity to establish physical efficiency or prowess and supremacy.

The unprecedented popularity of sports and better organization of sports activities and competitions would have been impossible without the recognition of the importance of sports and sports competitions by the societies around the world. The professionalism has entered in today’s competitive sports demanding the athletes of a very high level of performance.

Sports, games and physical education activities are looked upon as avenue for achieving and establishing supremacy, prestige, social recognition etcetera. To achieve this recognition one required extra-ordinary talent, skills, sustained interest, determination, training and so on.

Professionalism has entered sports arena, because of the emergence of keen and intense competitions between groups, societies and nations. Such intense competitions in national and international sports arena demands the sportspersons to perform at peak levels and within their best possible limits. Learning and performance of skills in games and sports at higher levels is a long and complex process. Because every nation is ambitious of achieving top honours in sports competitions at the highest level. They cater to the sports participation of their younger generations. Every nation stresses on the need to identify young talents, search talented children in sports and train them in specific sport. Talent search in sports and identification of the talents of children to put them to a specific sport is a difficult task by itself. This is due to the need for prognostication of performance at higher levels. Performance at higher levels of competitions depends upon many factors such as physical or physiological, psychological and
social. A coach or trainer has to consider every child as a bio-psycho-socio entity and the coach has to estimate the bio-psycho-social nature of every child before deciding upon what activity or sport is suited to the child’s characteristics. This demands the coach or trainer to consider various factors related to learning and performance of that individual in sport. There are many tools and devices to test, measure and evaluate one’s ability and performance. The processes of measuring and evaluating is in vogue by and large in all sports and games fields. Nevertheless, Kabaddi, an Indian game included in the Asian Games Competitions at Beijing in 1990 is an exception. Refined assessment procedures as applicable to Kabaddi game were not evolved yet.

1.2. Nature of Game

The origin of Kabaddi game lies in remote antiquity, in the pre independent India it was familiar in different regions. Never-the-less, different formats prevailed and was also called by different names such as Du-Du, Chadu Gudu, Kaun-Bada, Hututu etc. Amar, Gemini and Sanjeevini were the popular formats, and the latter version was accepted by vast majority of people in India by consensus. The game which was mostly popular in mofusil areas soon spread to urban areas too and become a part of curriculum in Physical Education colleges and is a scheduled competitions item in inter-school, inter-collegiate, inter-university, inter-district and inter-state competitions. In order to promote, control and regulate the game Kabaddi Federation of India was constituted. Since Kabaddi was familiar in India’s neighbouring countries, Asian Kabaddi Federation was formed. Innumerable State and National level Kabaddi Tournaments are conducted each year, besides continental and sub-continental level tournaments. Kabaddi game was included in the official competition events of Asian games at Beijing in 1990. India has been reigning supreme in the Asian games Kabaddi competition. This game is getting popular in Japan, Thailand, Singapore, Malaysia, China, Maldives, Bhutan, Srilanka, Pakistan, Nepal, Korea, and in the distant England and France. In India it has a mass following.
To the naive onlookers, the game looks as if it demands brutal strength. To the contrary, the game demands speedy movements, feinting, dodging, agility, arm-foot-eye coordination, cardiovascular endurance, flexibility and power, besides characteristics body build and mental abilities. The Kabaddi game encompasses attacking (Raiding) and defensive (Catching) skills. Attacking skills (Raiders skills) include touching the anti raiders with hand, with leg thrusts and kicking, the defensive skills (skills of anti raider) include ankle hold, knee hold, thigh hold, waist hold, wrist hold and a host of chain holds.

Kabaddi is a combative team game, played with absolutely no equipment, on a rectangular court, either out-doors or indoors with seven players on the ground in each side. Each side takes alternate chances at offence and defense. The aim of the game is to score points by raiding in the opponents court and touching as many defense players as possible without getting caught on a single breath. During play, the players on the defensive side are called “Anties” while the player of the offence is called the “Raider”. The attack in Kabaddi is known as a “Raid’. The anties touched by the raider during the attack are declared ‘out’ if they do not succeed in catching the raider before he returns to home court. These players can resume play only when their side scores points against the opposite side during their raiding turn or if the remaining players succeed in catching the opponent’s raider. It requires skills, agility, good lung capacity, muscular co-ordination, presence of mind, and quick responses, courage etcetera. For a single player to take on seven opponent is no mean task. It requires courage as well as ability to concentrate and anticipate the opponent’s moves. In order to facilitate further growth of Kabaddi game, valid assessment procedures to comprehensively estimate the players physical, physiological and psychological abilities are needed.

Dearth of comprehensive assessment processes in Kabaddi was pointed out by Prasad Rao. Kabaddi is basically an outdoor indigenous team game. This sport

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is no longer a simple means of reaction it requires new dimensions and high standard which demand specific and technological back-up. Kabaddi, which was once considered simple rustic game, has now evolved into its present form which demands among the players not just brawn but high standard of skill and technique. India's supremacy in the game was challenged by Pakistan in the SAF games 1993 making it obvious that there is no room for complacency. If India is to retain supremacy in the game in the International arena a steady stream of top class players are required to be trained, who have the required level of specific and general fitness suitable for the game. To evaluate general and specific fitness in many sports disciplines, such as Athletics, Badminton, Basketball, Volleyball, Football, Gymnastic, Swimming, Hockey, Wrestling etc., there are standardized skill tests. The investigator has found out that there are no such standard and valid tests to evaluate the performance of Kabaddi Players like in other competitive sports. Kabaddi game is characterised by offence and defence skills and dexterity. Each of the skills call for certain motor, physical, anthropometrical and psychological qualities. For example, a raider makes frequent use of the hand touch and foot touch as offensive techniques which call for specific qualities such as Speed, Agility, Flexibility etcetera. The investigator proposes certain tests to measure such specific qualities, which are of fundamental importance to good Kabaddi players. The process of selection of Kabaddi players has often felt the dearth of suitable yardsticks to measure the performance. Skills and abilities of certain elite Kabaddi players who are Arjuna Awardees, such as Ashok Sindhe, Raj Ratnam, Shanta Ram Jadav, Ms. Moniknath, Ms. Ramasarkar, B.C.Ramesh and Honappa were not comprehensively measured due to the said reason. So far selection of Kabaddi players has been based on game performance only. However, since performance is heavily dependent on the specific and general motor fitness of the players, the investigator feels that establishment of standard, valid tests to measure the performance of Kabaddi players is absolutely necessary which will contribute for the development of the game.
Of major considerations concerning performance are general factors, energy source, delaying fatigue, heat balance, weight control, cardiorespiratory and muscular functioning, body build, health, avoiding injuries, nutrition and diet and environmental factors such as altitude, temperature, climate and the like. The motor performance factors include such qualities as strength, speed, endurance, flexibility, agility, power, coordination and the like. Body composition and anthropometry also need a thorough consideration in relation to performance.

The maximal ability of a person to perform in any athletic event is obviously limited by his physical characteristics. But beyond these broad restrictions psychological factors often play a decisive role. In future, top performance and record breaking efforts will be greatly enhanced by giving more attention to the psychological aspects of the athlete such as motivation, anxiety, emotion, self confidence, personality of the athlete, stress, staleness and so on.9

Physical variables include Muscular Strength, Muscular Endurance, muscular Power, Flexibility, Cardio-respiratory Endurance, Speed and Agility etc., Man has to participate in Physical Activities in order to achieve growth and development and also to maintain good health. Muscular strength and flexibility are needed for good physique as well as excellent performance in any physical activity. A person who likes to do Gymnastics must have sound physical condition acquired by development of such qualities like power, speed, strength, agility, flexibility and endurance. Similarly a pursuer of a game requires body suppleness, quick reactions, a good eye to judge, opponent’s mind, team spirit, mutual understanding, loyalty, obedience, and regularity etcetera.10


In Kabaddi, the specific fitness is with reference to strength, speed and co-ordination. Fitness training equips the sportsperson to face the physiological and psychological challenges which come in his way in his competitive sports career. Specific fitness enables the player to perform the unusual movements required by a player of a concerned sport, which the non-sportsperson does not perform in his everyday routine. Specific fitness however depend a lot on general fitness and this is the reason why the sportsperson has to give equal importance to both general as well as specific fitness, to succeed.\textsuperscript{11}

The physical structure especially the height and leg length, arm length and the ideal weight have definite advantage in sports. Similarly segmental length of individual body parts and the length specifically are of considerable advantage in selected athletic events and certain games like Kabaddi, Volleyball, Basketball etc.

Aggression and anxiety had become an integral part of contemporary sports milieu in Kabaddi. Coaches have become sensitive to a player’s ability to withstand and react to physical coercion. It is noted that some players progress upwards, primarily because of their ability to fight. Toughness and willingness to fight have become important in establishing a positive identity. Self-confidence is the state or quality of being confident or certain of oneself or one’s abilities.\textsuperscript{12}

In Kabaddi self confidence plays a vital role in good performance. Self confidence appears in almost every theoretical account of behaviour in the field of Kabaddi.

Once the variables are identified it is easy to manipulate these variables so that the performance can be improved to desired level.


1.3. Reason for Selection of the Physical, Anthropometrical and Psychological Variables

Investigators in many countries are striving hard to find out best and easiest possible means and economical methods of selecting and training their sportsmen and sportswomen. Generalisations are being made on specific ground, as each country is aspiring to reach the top level, so as to bring credit to the nation. The old beliefs of selection of players only with reference to height, weight criteria do not exist any more. The performance divergence has compelled the investigator to reveal the basic performance traits. The total make up of Kabaddi player or an Athlete does not rely on one or two components. There may be many factors that collectively contribute to the high performance. Hence, importance must be given to all those specific result oriented factors while selecting and training in Kabaddi for higher level performance.

1.4. Reason for Selection of the Physical Variable

Kabaddi is a game in which the players are required to execute the skills ably supported by the physical prowess such as speed, power, cardiovascular endurance, strength endurance, agility, and flexibility; and therefore the investigator included the physical abilities as the variables for the study.

1.5. Reason for Selection of the Anthropometrical Variables

Possession of necessary motor abilities and mastery over the skills of the Kabaddi game alone will not ensure success. Apt physical structure is also necessary to derive optimum benefit.

Physical structure is comprised of various body segments whose measurements have been known as anthropometrical measurements. Whether one is an Offensive player or a Defensive player he is required to be blessed with ideal sized body and its parts like trunk length, height, weight, arm length and leg
length, according to his role in the team during competitive situation. Thus the investigator has selected the above as anthropometrical variables for his study.

1.6. Reason for Selection of the Psychological Variables

Men may look alike, yet they differ in many aspects. The reason for this may be genetic or social or both. One of the areas in which individuals differ is mental deposition and attendant attitudes and behaviour. Individuals blessed with favourable mental depositions, attitudes and the behaviour better acclimatise to training and competition environment. In the ongoing Kabaddi competitions at higher levels, the players who have the mental abilities, attitudes and behaviours which are admirably, well suited will have an edge over the others who do not possess them in appropriate measure. Among the many psychological factors that play a significant role in achieving success in the Kabaddi competition at higher level, Aggression, Self-confidence and Anxiety are very prominent. Self-confidence is the hub of sports contents. Anxiety of appropriate degree helps in the arousal. Aggression is the basic need of every Kabaddi Player and more so for the offensive player. Thus the investigator considered the above three factors as psychological variables of the study.

Kabaddi game is strength oriented coupled with a lot of co-ordinating ability which help to execute techniques perfectly. A player can apply the technique rationally, if he is good at all motor qualities and at tactical ability. These qualities will help the player to achieve his goal upto some extent. If a player wants to become a top class player he requires the other factors like Anthropometrical such as height, weight, arm length, leg length and physical variables such as speed, agility, flexibility, endurance etc., and psychological variables such as self confidence, motivation, aggression, anxiety etc., with capacities and tactical abilities which will make the player achieve the aim of representing the country in international competitions.13

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**Speed:** Kabaddi is a game of speed. In Kabaddi pursuit is an offensive technique used by a raider. Pursuit is an aggressive raiding tactic, pursuit is nothing but chasing the opponent; pursuit is a sudden surprise chase. The pursuer should have good speed, reaction ability and mastery over technique. Speed and reaction ability are the required essential qualities required for a Kabaddi player to achieve higher level performance.\(^\text{14}\)

**Agility:** C.V. Rao\(^\text{15}\) states that in raiding, foot work is essential for maintenance of balance in any maneuver. Wider the base greater the stability is a basic principle but as good deal of kicking with one leg is involved in raiding and as the raider has to change his position quickly and without notice from moment to moment, there is very little chance for the raider to rest his body weight on both feet at the same time. It is for this reason that great power of agility is necessary for Kabaddi players. His body build agility and temperament play a considerable part along with the player’s mental qualities which go to make the individuality or personality of a Kabaddi player. That gives distinction to a player and is the hallmark of excellence. It is these same qualities that enable a player to adjust to the continuously changing situations in a raid. The raider wants to attack from one side to other side with rapid change of directions which is required to achieve a good performance in Kabaddi.

**Arm Strength and Leg Strength:** Prasad Rao\(^\text{16}\) states that Kabaddi is sometimes described as an off spring of wrestling, since one man’s strength is availed to fight against one or more of the opponents. As one player has to contend against a team of players the game demands in its participants supreme qualities of arm strength and leg strength. The Arm Strength and Leg Strength have an advantage to stop the raider as well as to push the anti raider for reaching towards the midline. The arm strength and leg power were the most important quality required for Kabaddi players to show the performance.

\(^{14}\text{Ibid. pp.2-3.}\)
\(^{15}\text{Ibid. pp.2-4.}\)
**Flexibility:** Prasad Rao\(^{17}\) writes that flexibility is essentially required in offensive and defensive techniques. A raider while lifting an anti-raider, and falling to reach the central line flexibility may be useful, besides it is required for the smooth execution of the skill in kabaddi.

**Endurance:** Prasad Rao\(^{18}\) states that in Kabaddi a raider has to adopt various movements in the course of one respiration, which calls for possession of a great deal cardiovascular endurance, which is an essential quality for a raider to raid. A raider may have to take continuous raid’s depending upon the situation and to face upto 7 opponents at any given time.

**Leg Explosive Power:** Prasad Rao\(^{19}\) states that power is an essential ingredient for most sports. Kabaddi being a body contact game, the players have to use a lot of explosive power, combined with speed and strength. A player will be in good form, when he is able to use the power effectively combining it with skill. A raider who uses his leg muscles in foot work, leg thrust, pushing the anti raiders and lifting the anti raiders and rushing to the mid line etc. optimally utilize explosive power of legs.

**Trunk Length:** Prasad Rao\(^{20}\) states that the Trunk length of Kabaddi players play a decisive role in raiding and also in escaping from the chain holds. Trunk length may be more useful in backward roll and backward diving to reach the centre line. Rolling and diving have become commonly used escaping tactics used by raiders to come out of struggles and to cover the required distance quickly.

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\(^{17}\)Ibid. p.175.

\(^{18}\)Ibid. pp.176-177.

\(^{19}\)Ibid. pp.177-178.

\(^{20}\)Ibid. pp.140-141.
Height and Weight

Jagmohan\textsuperscript{21} defines the game of Kabaddi is characterized by struggle and reaching the target. This struggle will be between the raider and anties. The raider attempts to touch the anti and reach the midline safely, while the anti attempts to prevent the raider from reaching mid line which are the two important factors in this game. To touch an anti and to reach the midline means that the raider should have good height, weight, arm length and leg length and greater leg strength to overcome one or more anties availing his own tactical abilities. One who has ideal weight, will struggle less to reach the midline, provided if the player is having sound tactical abilities. In the same manner, to prevent the raider from having successful raid, the anties too need ideal height and weight. Thus height and weight helps to achieve top level performance in Kabaddi.

**Arm Length:** Prasad Rao\textsuperscript{22} defines the raider should develop the capacity to swing the arms fully extended, so as to touch the opponent as well as to reach the centre line. Hand touch is a fundamental and the easiest skill which every raider applies in one or the other forms to score points.

**Leg Length:** Prasad Rao\textsuperscript{23} writes, Leg length is a decisive factor when touching with leg is attempted by the raider like thrusting leg and making kicks towards anti raiders, which are widely recommended and used skills. Almost every raider uses this skill, during raid, which can be executed even when he is at considerable distance from the anties. This skill is extremely popular, and brings in the desired results in the bonus line game also.


\textsuperscript{23} Ibid. p.75.
**Anxiety** - Prasad Rao\(^{24}\) writes, in the game situation in Kabaddi, a player may be excited. When this happens the player loses control over himself which will lead to the team's performance adversely. Since Kabaddi is a body contact game there are plenty of chances for a player to get excited. Some times the referees decisions may also lead to players losing their temper, especially when they feel that the decision is not justified and not in their favour. Some common causes for emotional excitement are fear, inferiority feeling, fear of injury or of facing a bigger opponent, lack of confidence and anxiety presented by an unknown situation that may involve risk etc., have a demoralizing effect on a player.

**Aggression** : Geetha Mathew\(^{25}\) writes, Sports and games like kabaddi, wrestling and football are considered as aggressive sports. In Kabaddi, a player must be aggressive during the course of execution of the technique in raiding as well as in catching.

**Self Confidence:** According to Prasad Rao\(^{26}\) experience makes a person more confident to face any given situation. Self-confidence facilitates improved performance. Self-confidence is gained by taking part in different competitions, during which process player will get a ideas about the opponents and type of game. A well-experienced team always maintains the tempo of the game even in the most difficult situation by keeping cool and confident. The adequate amount of confidence and exposure will prepare the team to face even a negative audience without undue tension by playing matches in different venues with various teams.

\(^{24}\)Ibid. pp212-213.


Kabaddi is an Indian game and is being played predominantly in the rural parts of the country. Kabaddi was being accepted as an international game and the status of Kabaddi was being elevated.

To measure and evaluate Kabaddi players' performance, availability of scientific tools are scanty at the present juncture. This has affected enunciation of different types of qualities contributing to the successful performance in Kabaddi. Therefore, the author has ventured into taking this problem to find out the predominantly contributing variables to Kabaddi performance.

1.7. Statement of the Problem

The purpose of the present investigation was to find the relationship of selected Physical variables, Anthropometrical variables and Psychological variables with Performance in Kabaddi.

1.8. Objective of the Study
1. To estimate the performance ability of Kabaddi players from the study variables.
2. To find the dominant predictors of performance ability of kabaddi players among the study variables.
3. To estimate the performance ability of kabaddi players from the selected physical variables speed, agility, power, flexibility and cardiovascular endurance.
4. To estimate the performance ability of kabaddi players from the selected anthropometrical variables height, trunk length, weight, arm length and leg length.
5. To estimate the performance ability of kabaddi players from the selected psychological variables anxiety, aggression, self-confidence.
1.9. Delimitations

1. The study was delimited to the male Kabaddi players in the age group of 18-25 years, who were selected as subjects from different Universities of Karnataka State. The subjects included were players specialized in different departments of the Kabaddi game, based on positional play. The study was delimited to the following Physical variables, Anthropometrical variables and Psychological variables.

a) **Physical variables**:- Speed, Agility, Power, Flexibility and cardiovascular Endurance.

b) **Anthropometrical variables**:- Trunk length, Height, Arm length, Leg length and Weight.

c) **Psychological Variables**:- Anxiety, Aggression and Self-confidence.

1.10. Limitations

1. The influence of different modes of training programme of Kabaddi players selected for the present study and their influence on the data collected and their subsequent influence on the result of the study.

2. The training age of subject under the study, might have been different which might have influenced the data collected.

3. No special motivation techniques were used for the subjects to perform well.

4. Even though the subjects were motivated to give a good performance in different selected physical tests, their level of interest and motivation influencing their performance in various tests administered was a limitation by itself.

5. The rating of the subjects was done subjectively by the experts and coaches in the field.
6. Food habits, motivational factors, fitness levels of the subjects were not taken into consideration. The geographical region to which the subjects belonged may have an effect on the result of the study, which could not be controlled.

1.11. Definition and Explanation of the Terms

1.11.1. Speed

The capacity of an individual to perform successive movements of the same pattern at a fast rate.²⁷

1.11.2. Agility

Agility is the ability of a person to change direction or body position quickly and regain poise or control to proceed with other movement.²⁸

1.11.3. Power

The capacity of the individual to release maximum force in the shortest period of time.²⁹

1.11.4. Endurance

Endurance is the result of physiological capacity of the individual to sustain over a period of time.³⁰

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²⁹ V. Hubert, Dhanraj, Volleyball for Men and Women, (Calcutta : YMCA Publishing house : 1963), p.44.

1.11.5. Flexibility

It is the range of movement at a joint or joint complexes.\(^{31}\)

1.11.6. Trunk Length

It measures the projective length calculated by subtracting Height, Symphysion from height suprasternale. If Symphysion height cannot be taken then this measurement can be determined by subtracting height, iliospinale anterior from height suprasternale. One should add 20\% of the measurement to get correct measurement (According to Mollison).\(^{32}\)

1.11.7. Height

Amount of measure of upward extension of subject from bottom to top.\(^{33}\)

1.11.8. Arm length

From acromion process to the tip of the third finger. It is sometimes measured while subject is holding a wand: measurement is from acromian process to upper surface of wand.\(^{34}\)


1.11.9. Leg Length

From the end of the spinal column to the floor also taken from greater trochanter to floor.\(^{35}\)

1.11.10. Weight

Subject stands erect on the weighing machine bare footed with feet parallel, weight equally distributed. The subjects will be in a minimum dress. Weight will be recorded to the nearest half of kilogram.\(^{36}\)

1.11.11. Aggression

Dictionary meaning of aggression is “to attack”, “go on the offensive”, “disposed to attack”. It was identified tough mindedness and aggressiveness as personality traits which coincide positively with athletic ability and success.\(^{37}\)

1.11.12. Anxiety

A tendency to perceive competitive situation as threatening and to respond to these situations with feeling of apprehension or tension is sports competition Anxiety.\(^{38}\)

1.11.13. Self Confidence

Self-confidence is the state or quality or being confident certain of one self or one’s abilities.\(^{39}\)

\(^{35}\) Ibid. p.180.


1.11.14. Performance

Performance in sports is a unity of execution and result of sport action or a complex sequence of sports action measured or evaluated according to agreed and socially determined norms.\(^{40}\)

1.11.15. Kabaddi

Kabaddi is basically an outdoor indigenous team game, which is the only combative sport in which offence is an individual effort whereas defence is a group effort.\(^{41}\)

1.12. Hypotheses

1. The performance in Kabaddi is correlated to the physical variable - Speed as predictor for the performance in Kabaddi.
2. The performance in Kabaddi is correlated to the physical variable - Agility as predictor for the performance in Kabaddi.
3. The performance in Kabaddi is correlated to the physical variable - Flexibility as predictor for the performance in Kabaddi.
4. The performance in Kabaddi is correlated to the physical variable - Endurance as predictor for the performance in Kabaddi.
5. The performance in Kabaddi is correlated to the physical variable - Power as predictor for the performance in Kabaddi.
6. The performance in Kabaddi is correlated to the performance in Kabaddi and physical variable – arm strength endurance.
7. The performance in Kabaddi is correlated to the anthropometric variable - Trunk length as predictor for the performance in Kabaddi.


8. The performance in Kabaddi is correlated to the anthropometric variable - Height as predictor for the performance in Kabaddi.
9. The performance in Kabaddi is correlated to the anthropometric variable - Weight as predictor for the performance in Kabaddi.
10. The performance in Kabaddi is correlated to the anthropometric variable - Arm length as predictor for the performance in Kabaddi.
11. The performance in Kabaddi is correlated to the anthropometric variable - Leg length as predictor for the performance in Kabaddi.
12. The performance in Kabaddi is correlated to the Psychological variable - Aggression as predictor for the performance in Kabaddi.
13. The performance in Kabaddi is correlated to the Psychological variable - Anxiety as predictor for the performance in Kabaddi.
14. The performance in Kabaddi is correlated to the Psychological variable - Self confidence as predictor for the performance in Kabaddi.
15. There are few variables among the physical variables which act as the dominant predictors in the multiple regression of the performance in Kabaddi on the physical variables.
16. There are few variables, among the anthropometrical variables which act as the dominant predictors in the multiple regression of the performance in Kabaddi on the physical variables.
17. There are few variables, among the psychological variables which act as the dominant predictors in the multiple regression of the performance in Kabaddi on the physical variables.
18. There is multiple regression of performance in Kabaddi on study variables – speed, agility, flexibility, endurance, leg explosive power, arm strength endurance, standing broad jump, pull-ups, trunk length, height, weight, arm-length, leg length, aggression, anxiety, self confidence.
19. There are few variables, among the study variables which act as the dominant predictors in the multiple regression of the performance in Kabaddi on the study variables.

1.13. Significance of the Study

The present study undertaken by the investigator may be justified as worthwhile on following grounds.

1. The findings of the present study may add to the existing knowledge in the area of Physical Education and sports which will greatly benefit the Physical Education teachers and Coaches. The findings may help them to assess the individual player’s ability from the stand point of selected Physical, Anthropometrical and Psychological variables. This may be used for the purpose of guiding and counseling the individual players and also in screening, classifying and selecting the players with reference to the variables selected in the present study.

2. The findings of the study may be used as a measure for determining performance ability of Kabaddi players. The information from the findings of the study may be used to develop a sound training and coaching programme for the Kabaddi players and if there is any need to design and develop a sound programme to eliminate the weak points of players and for assessment of the potentials of Kabaddi players. Hence the findings of the study may serve as diagnostic, prognostic and remedial measures of performance among Kabaddi players because they can be used as sighting devices and indicators of performance ability of Kabaddi players.

3. The study may throw light on some dominant basic Physical, Anthropometrical and Psychological (characteristics) variables as determinants and predictors of performance ability among
Kabaddi players at the University level. That is the study may throw light on the dominant physical, Anthropometrical and Psychological variables related to performance ability among Kabaddi players.

4. The findings of the study may be used by coaches for the purpose of feedback. Also, such findings may be utilised by the individual players to find out their weaknesses to rectify and to improve the performance ability from the standpoint of selected Physical variables, Anthropometrical variables and Psychological variables i.e., it can be used for the purpose of self-evaluation.