

CHAPTER - II

REVIEW OF RELATED LITERATURE

The research scholar has made every possible effort to go through the literature related to the problems in the game of Cricket wherever available. The scholar has gleaned through almost every source like research quarterly, journal of various kinds, periodicals, encyclopedia, relevant books and e-resources on Cricket training and Yoga to pick up the related materials. While going through the various sources of literature, it has been observed that very little work has been done on yoga related to the game of Cricket. However, the scholar has gone through the literature of allied studies that are related with other games and sports to collect the necessary information.

Selvakumar and Vallimurugan (2014) to investigate the influence of yogic practice on selected psychological variables among cricket players. It was hypothesized that there would have been a significant influence of twelve weeks yogic practice on selected psychological variables among cricket players. For the present study 30 male cricket players from Tiruchirappalli district, Tamilnadu, India were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group ‘A’ and Group ‘B’. Group ‘A’ underwent yogic practice and Group ‘B’ underwent no training. Anxiety was assessed using Spielberger questionnaire, aggression was assessed using Smith questionnaire and self confidence was assessed by

Agnihotri's Self Confidence Inventory questionnaire. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of yogic practice on selected psychological variables among cricket players. The level of significance was set at 0.05. The findings of the present study have strongly indicates that yogic practice of twelve weeks have significant effect on selected performance variable of cricket players. Hence the hypothesis earlier set that yogic practice would have been significant effect on selected psychological variables in light of the same the hypothesis was accepted.

Selvakumar and Vallimurugan (2014) to find out the effect of game specific field training with yogic practices on selected physical variables among cricket players. It was hypothesized that the game specific field training with yogic practices group would show significant improvement on selected physical variables than control group. To achieve the purpose of the present study, thirty cricket players from Tiruchirappalli, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (n=30) were randomly assigned to two equal groups as game specific field training with yogic practices group (GSFTG) and control group (CG) in an equivalent manner. The game specific field training with yogic practices group participated for a period of twelve weeks for alternate three days in a week and the post-tests were taken. The physical variables such as speed and explosive power were measured using 50 metres run and standing broad jump. To find out the difference between the two groups analysis of covariance (ANCOVA) was

used. In case of physical variables i.e. speed and explosive power the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. The findings of the present study have strongly indicates that twelve weeks of game specific field training with yogic practices have significant effect on selected physical variables

ShakilaandChandrasekaran (2014) studied the influence of yogic practice on systolic blood pressure was studied among 30 sports women in two groups of 15 each with one being control group and the other an experimental group. The treatment of yogic practices made statistical significance on the experimental group on systolic blood pressure with ANCOVA as a statistical tool.

Sivakumar, (2014) studied the effect of training in yogic practice and physical exercises on selected physical, physiological, psychological and performance variables among male college cricket players. To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups and named Group-I as yogic practice group, Group-II as physical exercises group and Group-III as control group each group consisting of sixteen subjects. Subjects in the Group-I underwent the yogic practice, subject in the Group-II underwent the physical exercises and subjects in the Group-III did not go through any specific yogic (or) physical exercise but their regular practice. During the training period, training was given for both experimental groups, the yogic practice and physical

exercises were given for twelve weeks, five days per week for forty five minutes each day in the morning session under the supervision of the investigator. The physical variables namely speed, agility, flexibility and strength, physiological variables namely resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and breath holding time, psychological variables namely sports competitive anxiety test - cognitive, somatic and self confidence and performance variable namely cricket playing ability were chosen as variables for this study. Physical parameters were measured by standard tests namely fifty meters run, shuttle run, sit and reach and pull-ups. To measure the physiological parameters the following equipments namely stethoscope, sphygmomanometer and digital stop watch were used. The psychological factors were assessed by standardized questionnaire namely sports competitive anxiety test (SCAT) developed by Martens (1990) and competitive state anxiety questionnaire-II (CSAI-2) developed by Martens, Burton, Vealey, Bump and Smith (1990). The performance of each cricketer was subjectively rated by the three qualified coaches in a ten point scale. To make the study more scientific the subject reliability, reliability of data, instrument reliability and tester reliability were established. The data was collected before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyze the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. The result reveals that yogic practice group was better than the physical exercises group on all selected parameters except speed, agility, strength and resting heart rate among male college cricket players.

Sathianarayanamoorthi, (2013) conducted a study to find out the impact of game- specific field training with and without mental practice strategies on selected physiological and performance variables namely resting heart rate, systolic blood pressure, diastolic blood pressure and volleyball playing ability among male volleyball players. To achieve the purpose of the study thirty six male volleyball players have been randomly selected from affiliated college of Anna University Tiruchirappalli in the state of Tamil Nadu, India. The age of subjects were ranged from 17 to 23 years. The subjects had past experience of at least three years in volleyball and only who those represented their respective college teams were taken as subjects. A series of physiological tests was carried out on each participant. These included resting heart rate assessed by digital heart rate monitor, systolic blood pressure and diastolic blood pressure assessed by digital BP monitor, performance variable assessed by using subjective rating. The subjects were randomly assigned into three groups of 12 each, such as experimental and control groups. Group-I underwent Game-specific field training, Group-II underwent game-specific field training with mental practice strategies for 5 days a week, two sessions (morning & evening) per day and for 12 weeks, each session lasted 90 minutes. The control group maintained their daily routine activities and no special training was given. The subjects of the three groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. In case 'F' values found to be the significant the Scheffe's test was used as post hoc test. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups. The results of the study showed

that there was significant level differences exist among game-specific field training group, game-specific field training with mental practice strategies group and control group. And also game-specific field training group, game-specific field training with mental practice strategies group showed significant difference on level of resting heart rate, systolic blood pressure, diastolic blood pressure and Volleyball playing ability compared to control group. When experimental groups were compared game specific training with mental practice strategies group showed significant decrees in the resting heart rate, systolic blood pressure and diastolic blood pressure level and improvement in the Volleyball playing ability.

Sathianarayanamoorthi, (2013) studied the influence of game-specific field training with and without mental practice strategies on selected physical fitness components and physiological variables namely speed, explosive strength, flexibility, achievement motivation, aggression, sports competition anxiety male volleyball players. To achieve the purpose of the study thirty six male volleyball players have been randomly selected from affiliated college of Anna university Tiruchirappalli in the state of Tamil Nadu, India. The age of subjects were ranged from 17 to 23 years. The subjects had past experience of at least three years in volleyball players and only who those represented their respective college teams were taken as subjects. A series of physical fitness tests was carried out on each participant. These included speed assessed by 30mts dash, explosive strength assessed by vertical jump, flexibility assessed by sit and reach performance variable assessed by using subjective rating. The subjects were randomly assigned into three groups of 12 each, such as experimental and

control groups. group-I will undergo game-specific field training, group-II undergo game-specific field training with mental practice strategies for 5 days a week, two sessions (morning & evening) per day and for 8 weeks each session lasted 90 minutes. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups. The results of the study showed that there was significant level differences exist between game-specific field training group, game-specific field training with mental practice strategies group and control group. And also game-specific field training group, game-specific field training with mental practice strategies group showed significant improvement on level of speed, explosive strength, flexibility, achievement motivation, aggression, anxiety compared to control.

MacDonald., Cronin., Mill., McGuigan., and Stretch. (2013)Cricket is played in three formats at elite level: Test, One Day and Twenty20. Fielding is an important component of cricket, as all players are obliged to field. However, there is a paucity of literature on fielding compared with that on batting and bowling. We review the available literature in terms of technical, mental, physiological and physical factors important to fielding, to identify knowledge gaps and better understand the performance requirements of fielding in cricket. Internationally, three formats of cricket are played at the elite level: Test, One

Day and Twenty20. All players bat and field, while only some players bowl and one person keeps wicket. Dismissing a batsman can be achieved in different ways, some specific to fielders; hence, catching and throwing are vital skills. Common requirements for these skills are speed and accuracy. As well as dismissing batsmen, the role of fielders includes saving runs, particularly in the shorter formats of the game. Therefore, optimising the movements and skills required to successfully field can have an important influence on the game. However, despite the adage that 'catches win matches', research into fielding is sparse compared with that into batting and bowling. The purpose of this review was therefore to investigate and critique the existing knowledge of fielding in cricket, with the intent of better understanding the performance demands of fielding.

Afrouzeh, et. al., (2013) conducted a study to compare the effects of (a) physical practice with PETTTLEP-based (Physical, Environmental, Task, Timing, Learning, Emotion and Perspective imagery, and (b) physical practice with traditional imagery interventions, on new skill learning in novice volleyball players. Thirty six novice male volleyball players (Mage = 13.2 years, SD = 0.53 years) with 6-8 months practice experience were randomly assigned to one of three groups: physical practice + PETTTLEP imagery (n = 12), physical practice + traditional imagery (n = 12), and physical practice only (control group; n = 12). Participants in the PETTTLEP imagery group applied the seven components of PETTTLEP imagery training ; whereas participants in the traditional imagery group engaged in a relaxation session before imagery and used response laden motor imagery scripts. The two groups completed 15 minutes of imagery

training followed immediately by thirteen minutes of “passing” practice three times per week. The control group completed only thirteen minutes of “passing” practice three times per week. Each group performed their respective tasks for seven weeks. A pre-test took place during the first practice session in which “passing” was assessed. After the seven-week practice program, a post-test took place followed by a retention test, one “no-practice” week later. All groups improved significantly ($p < 0.05$) from pre- to post-test and retention test. Nevertheless, as hypothesised the PETTLEP group improved more ($p < 0.05$) than the traditional imagery and physical practice groups. The findings, therefore, support the effectiveness of PETTLEP in enhancing learning and performance of new skill when combined with physical practice.

Bell, Hardy, Beattie, and Stuart.(2013) to evaluate the effectiveness of a mental toughness intervention delivered to a group of elite youth cricketers. The central feature of the intervention was repeated exposure to punishment-conditioned stimuli in the training environment. To avoid the potentially harmful effects of punishment, the intervention was designed and delivered in a multidisciplinary transformational manner, and participants were taught a variety of coping strategies to deal with the threatening environment. A mixed model (group \times time) design was used to compare the intervention group against a comparison control group on various markers of mental toughness over time. Generally speaking, the intervention group demonstrated significant improvements in mental toughness in comparison with the control group. To the best of our knowledge, this is the first theoretically derived mental toughness intervention that has shown meaningful effects that can be differentiated from

general psychological skills training effects. Theoretical implications are discussed in the context of systematic desensitization training, and applied recommendations are offered in relation to the intelligent use of punishment in athletic training environments.

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Mohan and Kalidasan (2012)analysed the impact of progressive muscle relaxation training on selected psychological characteristics namely cognitive anxiety, somatic anxiety, and self confidence among male athletes. To achieve

the purpose of the study thirty male athletes have been selected from various Universities in the state of Tamil Nadu, India. The age of subjects were ranged from 18 to 25 years. The Competitive State Anxiety Inventory-2 (CSAI-2, also developed by Martens, et. al (1990) were used to collected relevant data. The subjects were randomly assigned into two groups of fifteen each, such as experimental and control groups. The experimental group participate in the in the muscle relaxation training for 3 days a week and for 6 weeks 20minutes per session. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables namely cognitive anxiety, somatic anxiety and self confidence at prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups. The results of the study showed that there was significant differences exist between muscle relaxation training group and control group. And also muscle relaxation training group showed significant improvement on cognitive anxiety, somatic anxiety and self-confidence level compared to control group.

Epelbaum and Maya (2012) examined the influence of mental imagery, progressive muscle relaxation, and their combined therapies on the accuracy of the tennis serve. Sixteen subjects who met study specific selection criteria were enrolled. Subjects were divided into four groups: a control group, a mental imagery experimental group, a progressive muscle relaxation experimental group, and a combined therapy experimental group. Prior to all testing sessions,

the experimental groups were exposed to five minutes of cognitive specific mental imagery, seven minutes of progressive muscle relaxation, or both of the techniques. Subjects in all groups then participated in four one-hour sessions, one week apart, comprised of sixty trials per session. It was observed that two trends emerged: mental imagery was a successful means of increasing serve accuracy, whereas progressive muscle relaxation and the combined therapies were not. It was determined that cognitive specific mental imagery may be successful in improving tennis serve accuracy, especially amongst more advanced players, while progressive muscle relaxation may only be successful in helping subjects with softer serves. It is recommended that cognitive specific mental imagery and progressive muscle relaxation should be further tested to help all athletes, advanced and amateur.

Duncan, (2012) examined the effects of a mental imagery intervention designed to enhance integrated regulation for exercise among women commencing an exercise program. Healthy women who previously did not exercise regularly ($N = 102$; M age = 29.54, $SD = 8.34$) participated in an 8-week cardiovascular exercise program in which they exercised 3 times each week at a moderate intensity. The intervention group ($n = 51$) received weekly guided imagery sessions which were administered in person via audio recording. A comparison group (i. e., attention control; $n = 51$) received health information delivered in the same manner. Despite substantial dropout of participants from both groups, the analysis revealed that participants in the imagery group experienced greater changes in integration than participants in the comparison group. These findings support the utility of imagery interventions for influencing

exercise-related cognitions, and more specifically integrated regulation. © 2012 Springer Science+Business Media, LLC.

Graham, et. al., (2012) investigated the effects of performing mental imagery on two self-control tasks, physical endurance and response inhibition. Sedentary undergraduates ($N = 37$) were randomly assigned to either an imagery condition ($n = 15$), attention-placebo condition ($n = 13$), or a quiet rest control ($n = 9$). Participants performed two isometric endurance tasks (30% of maximum handgrip squeeze) separated by their respective study manipulation, and followed by the Wisconsin Card Sort Test (WCST). It was expected that participants in the mental imagery condition would show greater decrements in performance on the second endurance trial (when compared to baseline) and more perseverative errors on the WCST compared to the control conditions. All of the participants' endurance performances declined over time ($p < .05$), however, no between group differences were found on endurance performances ($p > .05$) or on WCST scores ($p > .05$). Performing a basic 6 minute imagery session involving moderately-intense aerobic exercise does not appear to deplete self-control resources when compared to the attention-placebo and quiet rest control groups. However, the unanticipated decline in the endurance performances observed within the control conditions suggests that future research is needed to better understand the relationship between mental imagery and self-control depletion effects.

Post, et. al., (2012) examined the influence of an imagery intervention on the performance of swimmers' times on a thousand-yard practice set. Performance times for four swimmers were collected over a 15-week period

during preseason training. The intervention took place over a 3-week period and was introduced after the fourth week of the study. The results revealed that three out of four participants significantly improved their times on the one thousand-yard practice set after being introduced to the imagery intervention. The results are discussed in terms of the implications of using imagery to improve athlete's performance on continuous tasks.

Simoes, et. al., (2012) studied the impact of the implementation of a mental training program on swimmers' chronometric performance, with national and international Portuguese swimmers, based on the goal setting model proposed by Vasconcelos-Raposo (2001). This longitudinal study comprised a sample of nine swimmers (four male and five female) aged between fourteen and twenty, with five to eleven years of competitive experience. All swimmers were submitted to an evaluation system during two years. The first season involved the implementation of the goal setting model, and the second season was only evaluation, totaling seven assessments over the two years. The main results showed a significant improvement in chronometric performance during psychological intervention, followed by a reduction in swimmers' performance in the second season, when there was no interference from the investigator.

Seif-Barghi, et. al., (2012) investigated the effects of imagery training on passing improvement in elite soccer players. Methods: Sixty nine soccer players taking part in the national championship leagues in four age categories including U16, U19, U21 and over 21 were randomly assigned to the imagery and control groups. Interventional group participants completed an 8 week video-aided, cognitive imagery program on how to make a perfect soccer pass. Results:

Performance analysis through close video analysis showed that successful pass rate increased significantly in the intervention group compared to control (OR=1.19, P=0.002, 95%CI=1.06-1.33). Further analysis revealed that the results are statistically significant in U16 and U21 but not other categories. Conclusions: We concluded that successful soccer passing through real competitions as a multidimensional and critical open skill could be enhanced by an ecologically sound method of mental imagery.

Velentzas,et. al., (2011) investigated the influence of two different routine integration strategies on volleyball float-serve performance, and on the structure of players' mental representations. Thirty female players participated in our study. One group trained routines using imagery, another group trained using the method of routines introduction, and the third group acted as control group. Players' imagery ability, hand and ball velocity, serve accuracy, and players' movement mental representation were assessed. The imagery group served significantly more accurate with significantly increased ball velocity, and players' movement mental representation covered more clearly these of the experts.

Sharma andTyagi(2011) investigated the effect of specific training programme on physiological and fitness components of Table tennis players. For the study Table tennis players from Delhi were identified as subjects randomly. To conduct the study in accordance of the methodology the subjects were given a pre test for the physical and physiological parameters. The physiological parameters selected were systolic blood pressure, diastolic blood pressure, pulse rate, vital capacity, cardio respiratory endurance and breathing holding rate. The

physical parameters were speed, flexibility, power, balance and agility. The subjects underwent the programme of the specific training designed for the players. Pre test and post test comparisons were done to find the effect of the specific training on the players. The result reveals that significant difference were obtained on physiological (systolic blood pressure, pulse rate, and breathing holding rate) and fitness (speed and agility) components on the comparisons of means within the components on the comparisons of means within the control group.

Samsudeen, (2011) investigated the effect of asanas, pranayama, meditation and game-specific training on selected physical fitness components and performance parameters among District level Cricketers. Forty eight male college level Cricketer were randomly selected from various affiliated clubs of Madurai District and their age ranged between 18 and 25 years. Initially the Cricket playing ability of the subjects were subjectively rated by three qualified coaches. By using matching procedure on the basis of their Cricket playing ability the subject were classified into three matched groups, each having sixteen subjects. Group-I was involved in game-specific field training, Group-II was given game-specific field training combined with yogic practices and Group-III (Control) was not exposed to any specific training / conditioning. The game-specific field training schedule was specifically designed to improve the Cricket playing ability and fitness levels of the Cricketers. The game-specific training packages designed by the investigators of the study was administered for a period of twelve weeks, five days a week, two sessions each day, each session lasted two hours. The yogic practices were meted out for 45 minutes to

group-II either before or after the game-specific field training. The yoga practice includes selected asana, pranayama and meditation technique. The motor components namely speed; explosive strength, endurance and flexibility were selected as variables for this investigation. Fifty metres run, standing broad jump, twelve minutes run and stand & reach tests were used to collect the physical fitness components of the subjects. Three qualified coaches subjectively rated the Cricket playing ability of each player. The guideline for subjective rating was given by the investigators. The pre and post test were conducted one day before and after the experimental treatment. Analysis of covariance was used to analyse the collected data. Scheffe's test was used as a post hoc test to determine which of the paired mean differ significantly. The results of the study reveal that both game-specific training and game-specific combined with yogic practice produced positive impacts on the motor components and performance parameters.

Hairul, et. al., (2011) analysed the effects of two different relaxation techniques, namely progressive muscle relaxation (PMR) and autogenic relaxation (AGR) on moods of young soccer players. Sixteen adolescent athletes (mean age: 14.1 and 1.3) received either PMR or AGR training. Using Profile of Mood States-Adolescents, their mood states were measured one week before relaxation training, before the first relaxation session, and after the twelfth relaxation session. revealed no significant interaction effects and no significant main effects in any of the subscales. However, significant main effects for testing sessions were found for confusion, depression, fatigue, and tension subscales. Post hoc tests revealed post-intervention reductions in the confusion,

depression, fatigue, and tension subscale scores. These two relaxation techniques induce equivalent mood responses and may be used to regulate young soccer players' mood states.

Manikam,(2011) investigate the influence of strength training package with and without yogic practices on selected psychological and technical skills level among collegiate level Football players. Three matched groups each having 15 males of 18 to 25 years of age served as subjects. The Group-I acted as control group, Group-II was given strength training without yogic practices and Group-III was given strength training with yogic practices. The strength was given for twelve weeks, four days per week of two hours duration every day in the morning session. Yogic package was given for 45 minutes each for twelve weeks four days per week of two hours duration every day in the evening session to Group-III. Psychological variables namely anxiety and achievement motivation were selected as variables as they may have direct relation to the performance of Football players in competitive situation. These variables were assessed by administering standardized questionnaires. The skill level of the players was subjectively rated by three qualified coaches. Analysis of covariance (ANCOVA) was used to analyze the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. The results clearly indicate that there was a significant difference in players' performance due to training. The results also showed that strength training with yogic practice group showed significant improvement in all the selected psychological and technical skill level of the players compared to other groups.

Parthiban, (2011) investigated the study was to find out the Quantification of Physiological Responses to Yogic Practices and Weight Training among professional College men players. For this purpose, forty five men students studying undergraduate Engineering courses in Government College of Engineering, salem, Tamilndu, India, in the year 2010-2011 were selected as subjects at a random and they were divided randomly into three groups of fifteen each, group I underwent Yogic Practices, group II underwent weight training and group III acted as Control. The training period was limited to twelve weeks. The dependent variables selected for this study were Resting Pulse Rate, Respiratory Rate and Cardio Respiratory Endurance. All the subjects were tested prior to and immediately after the experimental period on resting pulse rate, respiratory rate, Cardio respiratory endurance. The data obtained from the experimental groups before and after the experimental period were statistically analyzed with Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, the Scheffe's test was applied as post hoc test to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases. Resting Pulse Rate, Respiratory Rate and Cardio Respiratory Endurance showed significant difference among the groups.

Saroja, (2011) conducted the study on to find out the effect of yoga practice, physical exercise and combination of yoga practice, physical exercise on selected motor ability components, physiological variables among college men students. For this purpose sixty college men students were selected as subjects at random from various colleges in Sivagangai District, Tamilnadu,

India and their age was 19-23 years. They were divided into four groups namely yoga group, physical exercise group, yogic practice and physical exercise combined group and control group. The first three groups did yoga asanas, pranayama, Dhayana and physical exercise respectively for six weeks. The pre and post test were taken for all the subjects before and after the training respectively. Dependent variables are Motor ability components (Flexibility, Cardio Respiratory endurance) and Physiological variables (Resting pulse rate, Breath holding time), Independent variables (yoga, physical exercise, combination of yoga and physical exercises group and control group) were selected. This study concluded that the level of flexibility was improved greater by selected yogic practices than that of physical exercises and combined training of yogic practices than that of physical exercises and endurance was significantly improved greater by selected combined activities than of physical exercises. Also physical exercises improve the cardio respiratory endurance greater than yogic practices. Yogic practices improved the resting pulse rate greater than physical exercise.

Bera and Rajapurkar (2010) to analyse the effect of Ujjayi and Bhastrika Pranayama on selected physiological variables. For this 60 physically challenged male students were randomly selected as the subjects from Amar Jyoti School and Roshni Rehabilitation Centre, Gwalior. Further the subjects were divided into two groups that is, experimental group and control group. The experimental group followed of Ujjayi and Bhastrika Pranayama for a period of 6 weeks. The training was given for 5 days in a week in the morning. Only four physiological variables that is, vital capacity, positive breath holding time, resting pulse rate and blood pressure were

selected for the study. Pre- and post-test data on selected physiological variables were recorded prior to and after completion of 6 weeks pranayama training of experimental group, and the control group did not participate in the training programme. The criterion measures for measuring vital capacity was measured with Recorder and Medicare Systems Spirometer (Helios 401) in litres, positive breath holding and resting pulse rate was measured with the help of stopwatch, and blood pressure was measured by sphygmomanometer and stethoscope. Paired 't' test statistical technique was employed to analyse the raw data, and the mean difference between the pretest and post-test scores each of the criterion variables of the groups. The level of significance was chosen at 0.05 level. From the findings it was observed that 't' ratio was not significant in case of resting pulse rate and diastolic blood pressure. However in case of vital capacity and positive breath holding time 't' was significant. (Mazumdar and Suryavanshi, 2010) Forty male high school students, age 12-15 yrs, participated for a study of yoga in relation to body composition, cardiovascular endurance and anaerobic power. The Ss were placed into two subsets viz., yoga group and control group. Body composition, cardiovascular endurance anaerobic power were measured using standard method. The duration of experiment was one year. The result of ANCOVA revealed that a significant improvement in ideal body weight, body density, cardiovascular endurance and anaerobic power was observed as a result of yoga training. This study could not show significant change in body fat (midaxillary), skeletal diameters and most of the body circumferences. It was evident that some of the fat-folds (tricep, subscapular, suprailiac, umbilical, thigh and calf) and body circumferences (waist, umbilical and hip) were reduced significantly.

Thelwell, Greenlees, and Weston. (2010) to examined the effects of a soccer-specific psychological skills intervention comprising self-talk, relaxation and imagery, on three performance subcomponents specific to midfield players throughout performance. Using a modified multiple baseline across individuals design, three participants had three performance subcomponents (passing, first touch and tackling) assessed across first and second half of performance, for a period of eight competitive games. The results showed the intervention to be effective in enhancing performance in the second half of performance for all participants in at least two of the performance subcomponents. As such, the findings provide some evidence to suggest that psychological skills may affect performance in differing ways throughout competition. Given the findings, potential applied implications and future research directions are discussed.

Mamassis, et. al., (2010) to investigate the impact of a season-long Mental Training Program (MTP) on two elite junior tennis players. The two reported cases were part of a study in which MTP players ($n = 5$) in addition to their tennis practice were exposed to 5 different psychological skills: goal setting, positive thinking and self-talk, concentration and routines, arousal regulation techniques, and imagery. Another group of elite junior tennis players ($n = 4$) followed the same amount and quality of tennis practice but received no mental training practice. Program effectiveness was evaluated through (a) the Competitive State Anxiety Inventory-2 (CSAI-2), (b) the athletes' appraisal on 8 aspects of tennis performance, and (c) tennis-specific statistical data of two selected cases. The results indicated an increase in the direction dimension of the somatic anxiety, cognitive anxiety and self-confidence for the intervention group

at the posttest. Moreover, the intensity of self-confidence, as well as the overall tennis performance, were greater for all the participants of the intervention group after the MTP. Results on two selected cases are reported which clearly demonstrate the effectiveness of the MTP in eliminating specific performance problems.

Mogharnasi, et. al., (2010) examined the effect of psychological skills on super league volleyball players' sport anxiety and performance and the relationship between these skills and volleyball players' experience in national teams. The statistical population consisted of all male volleyball players (n=118) who participated in super league volleyball matches in Iran (March 2010). 95 volunteer athletes were randomly selected for this research. In order to evaluate subjects' psychological skills, Test of Performance Strategies (TOPS) questionnaire which consisted of 8 subscales (self-talk, emotional control, goal setting, imagery, negative thinking, relaxation, automaticity and activation) was used. These subscales were rated on a 5-point Likert scale ranging from 1 (never) to 5 (always). Also, CSAI-2R questionnaire which evaluated three subscales of cognitive state anxiety, somatic state anxiety and self-confidence was used. These three subscales were rated on a Likert scale ranging from 1 (not at all) to 4 (very much so) in a competitive setting. The volleyball players' performance was analyzed in terms of the team place in the schedule of competitions: top teams (5 teams at the top of the schedule of competitions), middle teams (5 teams in the middle of the schedule of competitions) and weak teams (5 teams at the bottom of the schedule of competitions). After K-S test ($p < 0.05$) for data normality, descriptive statistics (mean, standard error),

MANOVA, and Pearson coefficients were used ($p \leq 0.05$) analyze the data. The results showed a significant difference in self talk, emotional control, imagery, negative thinking, relaxation and automaticity among the groups ($p < 0.05$) but there was no significant difference in goal setting and activation skills ($p > 0.05$). Also, there was a significant difference in cognitive state anxiety, somatic state anxiety and self-confidence among the groups. Based on the findings of the current study, it is recommended that coaches should attempt to focus upon developing confidence protection strategies that build robust efficacy expectations in order to influence self-confidence symptoms and to protect against anxiety debilitation.

Navaneethan and Soundararajan (2010) studied effect of psychological skill training techniques such as progressive muscle relaxation on competitive anxiety. The three sub-scales of competitive anxiety were also examined; cognitive anxiety, somatic anxiety and self-confidence. The study consisted of 24 male volleyball players from PSG College of Arts and Science, Coimbatore. Their age ranged from 18 to 25 years. The Competitive State Anxiety Inventory-2 (CSAI-2), also developed by Martens, Vealey, & Burton (1990) were used. Subjects were randomly assigned to either a relaxation training experimental group, or a no relaxation training control group. Both the experimental groups were given training for 3 days a week and for 6 weeks in total. Paired t-tests were used to test the effect of treatment groups individually between pre and post -tests of all the groups on variables used in the present study. The result of the study reveals that there was significant difference in 0.05 levels of competitive anxiety among the male inter-collegiate volleyball players.

Spittle and Kremer (2010) examined the effects of mental practice, physical practice, and no practice on the performance and retention of a novel throwing task. Research supports the effectiveness of mental practice on performance; however, retention of learning has not been adequately investigated. Participants were 152 students ages 18 to 44 years ($M = 20.5$, $SD = 2.9$), who completed a pretest, posttest, and five-week delayed retention test of dart throwing with the non preferred hand. In the practice phase, participants completed 50 mental practice or physical practice trials of the darts task or 50 trials of a catching task. Results indicated that overall scores increased from pretest to posttest and retention test, and decreased from posttest to retention test, but that these effects did not differ for type of practice. The findings suggest equal learning and retention of learning for novel throwing tasks for control, mental practice, and physical practice conditions; however, further research that considers issues raised is recommended.

Hemayattalab and Movahedi (2010) investigated the effect of five variations of imagery and physical practice on learning of Basketball free throws in adolescents with mental retardation (AWMR). Forty AWMR were randomly assigned to five groups and performed a variation of practice: physical practice, mental practice, physical practice followed by mental practice, mental practice followed by physical practice, and no practice. The groups exercised the task for 24 sessions. Following training, posttest and retention test were taken. All variations of practice resulted in performance improvement, yet the mental practice followed by physical practice resulted in better improvement. The

results suggest that mental practice associated with physical practice results in an outstanding performance improvement in AWMR.

Amutha, (2010) conducted study to find out the effect of selected yogic exercise and pranayama on anxiety, VO_2 max and flexibility. For this purpose fifty male students were selected from various high and higher secondary schools in and around Chidambaram town. They were divided into two equal groups. one as experimental group doing underwent training for nine weeks, weekly five days, Monday to Friday between 6.00 a.m to 8.00 a.m. and control group (n=25) did not participate in any special training. The result of the study indicated that the anxiety was reduced significantly, maximal oxygen uptake and the flexibility increased significantly for the training group. It was concluded that the yogic exercise and had reduced the anxiety and increased the maximal oxygen uptake and flexibility.

Alagesan.,Murugesan., and Senthilkumar. (2010) conducted study on effect of yogasana on selected physical fitness parameters such as strength endurance and flexibility. To achieve this purpose of the study thirty men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Tamilnadu were randomly selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group-I underwent yogasana for three days per week for twelve weeks. Group-II acted as control that did not undergo any special training programme apart from their regular physical education programme. The following variables namely strength endurance and flexibility were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables at prior to and

immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The 0.05 level of confidence was fixed at as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference Yogasana group and control group on selected criterion variables such as strength endurance and flexibility. Also it was found that there was a significant improvement on selected criterion variables due to yogasana.

DivyaandShenbagavall(2010) to investigate the purpose of the effect of Gymnastics exercises and Yoga on selected Physical performance, Physiological and Bio- chemical variables among college students. Ninety College women students were selected as subjects for this study and were divided into three groups namely control, yoga and gymnastics exercise groups. The age group of the subject was 18 to 21 years. To assess the effect of 12 weeks training for gymnastics and Yogic programme and the following dependent variables were chosen, vital capacity, heart rate, breath holding time, systolic blood pressure, diastolic blood pressure, blood sugar and cholesterol, endurance, speed and abdominal strength. The obtained data were statistically analysed through ANCOVA to test the significant difference and the result showed that the Gymnastic exercise and yogic training brought significant improvement among the college women on all variables expect in diastolic blood pressure.

SurenthiniandKarthikeyan(2010) to investigate the effect of yogasana on selected physical and physiological parameters. To achieve this purpose thirty men students studying Bachelor's degree in the Department of Physical

Education and Sports Science students of Annamalai University, Chidambaram, Tamilnadu, India were selected as subjects at random. The selected subjects were divided into two equal groups of fifteen subjects each, such as yogasana group and control group. The group-I underwent yogasana for three days per week for twelve weeks. The control group did not participated in any special training programme apart from their regular physical education activities as per their curriculum. Among the physical and physiological parameters, the following variables such as leg strength and breath holding time were selected. Leg strength was measured by using leg lift with dynamometer; breath holding time was measured by using holding the breath for time was measured. All the subjects of both groups were tested on selected physical and physiological parameters at prior and immediately after the training programme. The analysis of covariance was used to analyse the significant difference, if any between the groups. The level of significant to test the “F” ratio obtained by the analysis of covariance was fixed at .05 level confidences which was considered as an appropriate. The results of the study showed that there was a significant difference between yogasana group and control group on selected criterion variables such as leg strength and breathe holding time. And also it was found that there was a significant improvement on selected criterion variables namely leg strength and breath holding time due to yogasana.

SamsudeenandKalidasan (2010) examined the influence of game-specific field training and yogic practices on selected physical, physiological, psychological and performance variables among college level Cricketers. Methodology: subjects sixty four college level Cricket players were selected as

subject and their age range between 18 to 25 years. Statistical techniques: The Analysis of Covariance was used to analyze the collected data. Scheffe's test is to be used as post hoc test to determine which of the paired mean difference is significant. Results: The results are presented in bar diagram which reveals that there was significant difference among the groups. Group-II has shown significant improvement in all the selected parameters among college level cricket players.

Hassan, et. al., (2010) conducted a study to identify the kind of mental skills training needed most by the university soccer players. Eight male university football players (aged 25 to 36) from one large university in Kuala Lumpur agreed to participate in this study. On average, they have 10 years of playing experience. All of them have signed the informed consent letter to be tape-recorded. The interview transcripts were then hierarchically content analyzed to identify the themes. The findings revealed four themes emerged which are imagery, goal setting, self-talk, and relaxation. These four themes were the most needed psychological skill training by the respondents. Recommendations for future studies were also suggested.

Richard, et.al., (2007) to examined the effects of a soccer, midfielder-specific psychological skills intervention comprising relaxation, imagery and self-talk on position-specific performance measures. Using a multiple-baseline-across-individuals design, five participants had three performance subcomponents assessed across nine competitive matches. The results of the study indicated the position-specific intervention to enable at least small improvements on the three dependent variables for each participant. Social

validation data indicated all participants to perceive the intervention as being successful and appropriate to their needs. The findings provide further evidence to suggest the efficacy of sport, and position-specific interventions. Suggestions for future research are provided.

2.1 SUMMARY

In this chapter, totally 38 related literatures were documented. From the observations of above elicited literature it was observed only few research studies were done using game specific field training, yogic practice and mental training for cricket players. This chapter also reveals that research using field training, yogic practice and mental training were very many in other major games.