STUDY OF MENTAL TOUGHNESS VARIABLES AMONG SPORTS PERSONS IN RELATION TO GOAL SETTING ABILITY.

A Dissertation submitted to

Department of Physical Education

In the partial fulfillment of the requirement for the award of

The degree of

Master in Physical Education

By

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Certificate

This is to certify that Mr. Sandeep Kumar has completed M.P.ED. Dissertation titled ***"Study of Mental Toughness Variables among Sports Persons In Relation To Goal Setting Ability"*** under my guidance and supervision. To the best of my knowledge, the present work is the result of his original investigation. No part of the dissertation has ever been submitted for any other degree or diploma.

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Declaration

I hereby declare that the dissertation entitled *Study of Mental Toughness Variables among Sports Persons In Relation To Goal Setting Ability* submitted for M.P.Ed. Degree is entirely my original work and all ideas and references have been duly acknowledged. It does not contain any work for the award of any other degree or diploma.

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INVESTIGATOR

Sandeep Kumar

ABSTRACT

The purpose of the present study is to investigate mental toughness variables among sports persons in relation to goal setting ability belonging to various individual sports such as Badminton and Boxing.

The subjects for the study were 30 male sports person (10) for 2 major sports discipline like:- Badminton and Boxing in the age group of 18-28 years, further divided into two experimental groups and control group were selected by using non-probability and judgmental sampling technique having a playing experience of participating in All India Universities competition from Lovely Professional University Phagwara, Punjab

The athletes have undergone a three months goal setting program. During the total tenure the athletes were continuously under the observation of their respective coaches.

To have a better understanding of the athletes' rate of improvement in mental toughness, an individual profile was developed for each athlete. Along with the individual profile the overall performance of athletes belongs to different disciplines was also graphically analyzed. Further the pretest and post test data related to their mental toughness and performance components were analyzed by applying the analysis of covariance (ANCOVA).

The ANCOVA showed that there was a marked amount of improvement in mental toughness but whereas the mean score of three different groups did not show any significant difference. This outcome has indicated that the improvement was uniform throughout the subjects irrespective of the sports they belong to.

The adjusted post test mean scores of three different groups had shown a significant difference in GPP, self-confidence, negative energy control, attention control, visual/imagery control, motivation level, positive energy control, attitude control. Among the three groups badminton players were the good in GPP, self-confidence, visual/imagery control, positive energy control, where as in negative energy control, attention control, motivation level and attitude control boxers found to be the best.

Key words: ***Mental toughness, Performance profile, Goal setting***

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CHAPTER-I

INTRODUCTION

Coaches are always interested in learning of ways to motivate their athlete need strategies to maintain their efforts in the face of all type of setback, slumps of season periods, and so on. Unitary concepts of motivation, which originate in psychology such as instinct drives; conditioning, etc. such theories have been replaced by other approaches to understanding motivation. Goal setting is one of those more modest approaches to motivation in sports training.

Sports and exercise psychologist usually distinguish between subjective goals, spending most of their time help in their client or student set and achieve helping goal.

Subjective goals are general statement of interest (e.g.) “I want to do well”, “I want to have fun”.) But are not stated immeasurable, objective terms

In contrast objective goals focus on task, usually in a specific time (Locke et.al 1981)

Outcome goals typically focus on a competitive result of an event such as winning a race, earning a medal, or scoring more points than an opponent.

Performance goal focus on achieving standard or performance objectives independently of other competitor, usually making comparison with one’s own previous performance.

Process objective concentrate on the activities an individual must participate in amid execution to execute or perform well (Weinberg and Gould, 1999). Sport clinicians (scientists and professionals), mentors, sports analysts, games fans, and competitors recognize the significance of mental strength in wearing execution (Goldberg, 1998; Hodge, 1994; Tunney, 1987; Williams, 1988). In ahead of schedule take a shot at the issue, Loehr (1982, 1986) underlined that competitors and mentors felt that no less than fifty percent of achievement is because of mental elements that reflect mental durability. Additionally, Gould, Hodge, Peterson, and Petlichkoff (1987) underlined that mentors feel that mental strength is vital in making progress, while Norris (1999) has stressed the significance of mental sturdiness in creating champion competitors.

Mental "durability" is not about being savage, unfeeling, or impenetrable to feedback and dissatisfaction; it is not about being somebody we are definitely not. Maybe, it is a situated of

mental aptitudes that we can create to help us live with respectability as we seek after our expert and individual objectives.

Objective setting is just distinguished what you are attempting to do or to satisfy, essentially, it is the point of an activity or a progression of activity. In games, there are a few different ideas that are utilized as a part of the same way as an objective. An execution standard or record can be objective, achieving a specific number of focuses, helps handles and so on or taking in a particular aptitude, procedure, or movement can all be considered objectives in games (Harris & Harris, 1984).

Objective setting is an ideal motivational instrument & strategy that can enhance execution. Denison & Wins fill (2006) says "objective setting as a motivational device permits the competitor to commend that accomplishment is a do-it-without anyone else's help process that inspiration is an occasion that ooze water vapor inside the individual instead of in connection with others and that objective setting is the best motivational apparatus accessible to them. Objectives have a tendency to build individual errand execution by raising the singular's self-viability.

Mental sturdiness can be characterized as the capacity to center and refocus on your goal. Distractions and excuses can very easily side track anyone. The first step is taking the time to evaluate yourself and determine what success means to you. It has to be your mental image of success.

As a mentor, a working learning of games brain science methods will help you get to be more viable and along these lines substantially more effective with your competitors. Knowing how to get the most out of your players at "time to take care of business" and how to keep away from the mental traps that dreadfully numerous mentors fall into will improve your specialized abilities as a mentor and issue you the game changer. Train your competitors to utilize mental strength aptitudes and they'll routinely contend to their potential (Goldberg, 2004).

Alongside an abnormal state of inward inspiration, top competitors should likewise have the capacity to control mental and enthusiastic evil spirits like anxiety, loss of center and reasons for alarm of losing. Dissimilar to a hefty portion of us, they're consistently put in circumstances where there's outstanding weight, exceptional examination by huge quantities of evaluators and a

high motivator for achievement. Handicapping anxiety can worm in. Diversions like a shouting horde of 98,000 or unbearable knee damage can wreak ruin with core interest. The ability of competitors on the restricting group may be threatening. The numbers on the scoreboard can take the psyche off the minute and present reasons for alarm of annihilation.

Mental toughness plays vital role in victory of competition or championships. In games, what holds us returning for additional, after a long time, year round, is the great chance we'll get the opportunity to see a marvel or two. Somebody will have the capacity to stay airborne for an inconceivable time span and make an absurdly troublesome however fruitful shot at the wicker bin amidst absolute disorder. When a group will win at the Rose Bowl in the most recent 19 seconds of the amusement on the grounds that an orchestra of unlikely activities in superbly prepared human bodies and brains conveys the products at the right minute, against the chances and under the weapon.

What specialists do know, nonetheless, is that there are techniques that competitors can sustain in preparing and afterward amid rivalry to place them in that slippery condition of stream, where they surpass cognizant thought and the majority of the components of crest execution come together–concentration, physical aptitude, center, quiet, train, steady certainty. They're in the desired zone. Reluctance has fallen away and they're rising above confinements.

Previous baseball player Ray Knight said, "Fixation is the capacity to consider literally nothing when it is completely vital" and compactly summed up about 50% of the precepts of game brain science. Quite cherished Longhorn and training legend Darrell Royal summed up the other half when he expressed, "Fortunes is the thing that happens when planning meets opportunity

Mental strength is a need in focused games. Contending with different competitors, or even against one's own best, can be an upsetting procedure. Contending, as a rule, can bring about tension in a few competitors. It's one thing to appreciate playing b-ball on a day away from work, yet when one is playing a session of b-ball against an opponent group and everyone's eyes are on you to perform, mental sturdiness is frequently expected to defeat any anxiety and tension.

Mental sturdiness as a vital segment of games preparing, even before one get to the opposition organize in a game, the demonstration of preparing itself requires mental strength.

There may be times when one doesn't crave preparing and need the determination and sturdiness to bear on. At different times, he may be managing muscle soreness or a mellow and disturbing damage that doesn't prevent one from playing yet does divert. For this situation, one needs to rationally push through the distress and complete instructional meeting. Amid preparing he may have questions about his physical capacities. Viewing others exceed expectations in physical exercises that one have not yet comprehended can be yet another diversion. Mental strength in these situations involves staying concentrated on one's own advancement, overlooking diversions and pushing through every difficult minute.

Measuring execution in game gives entertainers heading. Objective setting is a methodology that can help encourage course and is normally utilized by game analysts. It can be contended that objective setting acts like an impetus to execution. Case in point, to raise execution levels one could contend that setting objectives would help to attain to points and direct core interest. Alternately, objective setting can be utilized to keep up superior levels. To this degree, it could be contended that objective setting is the support from which parts of execution can be raised. The viability of objective setting has been exhibited with high inner and outside legitimacy that has been beforehand reported (Locke and Latham, 2006). Further, an audit of confirmation (Locke and Latham, 1990) demonstrates that 91% of studies upheld the theory of particular objectives prompting preferred execution over setting no objectives. Furthermore, meta-examination results have built that 78% of studies showed moderate to solid impacts for objective setting (Kyllo and Landers, 1995) prompting execution upgrades.

Objective point of view hypothesis holds that individual objectives impact a singular's reasoning, feeling and activities in an accomplishment circumstance, for example, rivalry (Nicholls, 1989). Objective setting can be an imperative piece of any competitor's preparation arrangement, whether their objective is to enhance their physical abilities, mental aptitudes, or simply get more pleasure out of their game. Setting objectives can help competitors concentrate on what's most essential, expand their exertion and inspiration to stay with their arrangement, consider new methods in regards to how to finish their objectives and help them keep tabs on their development. As any individual who has ever set a determination knows, notwithstanding, setting objectives is simple; coming to objectives is intense.

The acronym SMART has been utilized by game analysts to help competitors recall five vital qualities of all around expressed objectives (Kirshenbaum, 1997).

•Specific

•Measurable

•Action-oriented

•Realistic

•Timely

Investigations of objective setting both in associations and the lab have observed that (a) particular, troublesome objectives lead to preferred execution over unclear or simple objectives; (b) transient objectives can encourage the accomplishment of long haul objectives; (c) objectives influence execution by influencing exertion, perseverance, and bearing of consideration, and by rousing method improvement; (d) input with respect to advance is important for objective setting to work; and (e) objectives must be acknowledged on the off chance that they are to influence execution.

Objective setting has been a standout amongst the most concentrated on and emphatically bolstered hypothetical develops in the sociologies. Upwards of 90% of objective setting studies demonstrate either full or halfway backing for its conduct change adequacy (Locke & Latham, 1990) and for upgrading execution in physical areas (Kyllo & Landers, 1995). Objective setting conduct has been considered in various field and lab settings, in a few nations including the United States, Canada, Japan, and Germany, and utilizing distinctive undertakings, for example, torment resilience, can gathering, hopping and riddles.

The games stadium likewise gives plentiful chances to research to be done in biological legitimate settings (Lane and Streeter, 2003). Environmental substantial examination aides beat a real impediment of objective setting exploration led in lab settings (Locke and Latham, 2006). Research center based exploration is considered a restriction in light of the fact that it neglects to consider human inspiration. To this degree, there are calls for natural substantial exploration to be connected (Kyllo and Landers, 1995; Lane and Streeter, 2003) to objective setting as it

identifies with common habitats that entertainers work inside. Weinberg (2003) fights that scientists have been blameworthy of doing research center based examination with no thought of entertainers comprehension of how, when and why competitors set objectives. It is along these lines contended that examination in natural legitimate settings can help answer the discord set forward by Weinberg (2003).

Weinberg (2003) backings the utilization of season long studies in inspecting the impacts of objective setting. Objective setting in b-ball ought to be focal in supporting entertainers as the game takes into consideration quick development prompting expanded chances to score with every turnover. It is subsequently contended that through objective setting entertainers get moment input that can raise inspiration levels. To this degree, fleeting objectives could seemingly give chances to entertainers to set objectives regularly that prompt objective adequacy. An extra part of this study is further reinforced in light of the fact that it is situated in a natural substantial setting. It has been proposed that investigation of human conduct in common habitats is imperative and objectives can act like prompt controller.

In spite of broad concurrence on the significance and advantages of mental strength and calls to recognize mental qualities that make champions, brilliant examination into mental sturdiness is restricted. Jones, Hinton and Connaught on (2002) directed a subjective investigation of world class competitors, planning to characterize mental durability and to focus the fundamental credits needed to be a rationally intense entertainer. The definition that rose up out of their investigation reasoned that:

Mental sturdiness is having the characteristic or created mental edge that empowers you to:

1. Generally, adapt better than your adversaries with the numerous requests (rivalry, preparing, way of life) that game places on an entertainer.

2. Specifically, be more predictable and better than your rivals in staying decided, centered, sure, and in control underweight.

Most top competitors and mentors accept that mental elements assume as vital a part as physical traits and educated aptitudes in the make-up of champions. At the point when physical aptitudes are equitably coordinated – as they have a tendency to be in focused game – the

contender with more noteworthy control over his or her psyche will typically develop as the victor. Mental quality is not going to adjust for absence of expertise, but rather in close challenges it can have the effect in the middle of winning and losing (Lee Crust).

Objective setting is a standout amongst the most critical abilities taught to competitors with a specific end goal to help them accomplish ideal execution. The objective setting procedure helps competitors comprehend where they are at present furthermore where they need to go. A mental aptitudes preparing specialist or game therapist can educate a competitor how to set precise objectives that are centered on the procedure and execution as opposed to concentrated on the result of Riva

Leith (2003) distinguishes between subjective goals and objective goals. Subjective goals are not related to a specific performance in sport; these may be related to just going out and trying one's best. Objective goals are based on an athlete's performance. For example, an objective goal of decreasing time by 2 seconds in the 50-meter freestyle event is focused on what needs to be done in order to become more successful at a specific sport. This specific objective goal would then help the athlete be more focused on the task at hand in order to improve technical and tactical skills.

STATEMENT OF THE PROBLEM

The purpose of the present study is to investigate the effect of goal setting on mental toughness and performance among sports person.

The sports person's opted for the present experiments were belonging to various individual sports such as Badminton and Boxing.

The subordinate reason for the study is to discover (a) the distinction in the mental toughness of sports person at various stages of goal setting over a period of one month (b) To find out the difference in their performance score at various stages of goal set (c) general performance profiling of the sports person at various stages of goal setting.

DELIMITATIONS

1. This study was delimited to 30 sports person between the age group of 18-28 years.
2. Further the study was delimited to general performance profiling, Tactical and Mental aspect of performance goal setting and mental toughness questionnaire.

LIMITATIONS

1. Questionnaire research has its limitations. As such, any bias that might have crept into the subject response on this account may be considered as a limitation of this study.
2. Sports person perception towards own behavior may be different. It may be considered as another limitation of this study.
3. Goal setting is done for a specific time, which will be for a period of one month.
4. The coaching style of coaches of various specialities is different, that might have an influence in the answers of the sports person may be considered as another limitation of the study.

HYPOTHESES

Based on the literature found, it is hypothesized that:

Hypothesis$_1$: There would be significant difference in the mental toughness scores of the sports person owing to goal setting at various interval of time.

Hypothesis$_2$: There would be a significant difference in the general performance profiles of sports person at various interval of time owing to Goal setting.

Hypothesis$_3$: There would be a significant difference in the performance of sports person at various interval of time owing to Goal setting.

DEFINITION AND EXPLANATION OF TERMS

Goal Setting: Objective setting is an intense strategy, particularly for enhancing game and activity execution (Kyllo and Landers, 1995).

Objective setting in expansive terms is the methodology of choosing something an individual need, arranging how to get it, and afterward functioning towards the target. Objective setting is not wishing or imagining. It is something that is continuously worked towards. Objective setting is a methodology; it is not something that settled spontaneously.

Mental toughness: A reasonable definition for mental sturdiness is as yet being explored. Loehr (1986) recommended that rationally extreme entertainers are trained scholars and react to weight by staying casual, quiet and stimulated. Loehr (1986) further proposed that rationally intense competitors can expand their stream of positive vitality in afflictions.

Jones, Hanton and Connaughton (2002) identified twelve attributes of mental toughness. These attributes include self-belief, an unshakeable focus, high levels of desire and determination (especially at times of distress), and overall consistency of effort and technique despite life and sport stresses. The strength of their research is that multiple components of mental toughness are identified – thus reinforcing the notion that mental toughness is multidimensional. Unfortunately, the definition presented remains inadequate in that it describes what mental toughness allows one to do, rather than defining mental toughness itself.

In games brain science, mental strength is a blend of educated aptitudes that will help you raise the level of your preparation and focused execution: These include: Objective Setting, Anxiety Administration, and Self-assurance, Bounce back capacity, Winning Fixation, Symbolism & Visualization (Goldberg, 1998).

Performance Profiling: It is the abilities disclosed by skill tests; short biographical outline (New Webster's Dictionary, 1999).

1. **Confidence in Practice:** It is the full belief in the trustworthiness of an athlete during practice (New Webster's Dictionary, 1999).

2. **Confidence in Competition:** It is the full belief in the trustworthiness of an athlete during competition (New Webster's Dictionary, 1999).
3. **Relaxation Skill:** It is the ability of the person to release any unnecessary tension, tightness or concerns (Weinberg, 1999).
4. **Imagination:** It is the intellectual capacity of framing pictures or ideas of articles or circumstances not existent or not specifically experienced (Oxford Lexicon, 1999).
5. **Determination:** It is the process of deciding or determining.
6. **Enjoyment:** It is a Pleasurable experience of something.
7. **Will to Win:** Will to win is characterized, as the force of the craving to thrashing a rival or to surpass some execution standard is a given game. Winning or losing ought to influence their feeling of self-regard. There is some closeness between the will to win idea and need accomplishment (Anand & Shukla, 1988).
8. **Originality:** The Capability of or given to inventing or creating something new.
9. **Technical Ability:** Ability to do something technically.
10. **Concentration:** It is defined as, "the ability to maintain on relevant environmental cues" (William James, 1993).
11. **Motivation:** It is defined as; "the bearing and force of one's exertion" (Sage, 1977).
12. **Flexibility:** It is the capacity of the skeletal muscles; joints to travel through their full scope of movement (John Mascenda, 1995).
13. **Aerobic Fitness:** It is the ability of an athlete to continue the physical activity for a longer time with sufficient amount of oxygen (Edward & Merle, 1993.)

SIGNIFICANCE OF THE STUDY

Competitors, mentors, sports analysts, and prominent media are in wide understanding that objective setting and mental strength is a basic fixing really taking shape of a champion competitor. Mental durability is the mental build that separates champions from the numerous sub-tip top competitors who appear to have the physical attributes and wearing aptitudes to be champions. Be that as it may, the issue is that backing for this broadly acknowledged case is generally narrative.

1. The findings of the study may add to existing knowledge in this area and will be beneficial to sports person to enhance their performance through performance profiling and goal setting for getting a feedback.

2. It will enable the Coach to understand the sports person's perception towards his goal and plan a program in a systematic manner.

3. Further the study also will be helpful to find out the motivational pattern of a sports person and make the sports person as well as the coach to distinguish between performance goal and outcome goal.
4. The study will further highlight on the role of goal setting on mental toughness of the sports person, which plays a vital role at the time of performance crunch.

5. This study can act as a mile stone in the research area of goal setting and mental toughness, as the effect of the same has been seen over a period of time, to understand various mechanisms of goal setting, performance profiling and mental toughness phenomenon to a sports person's performance.

This study being of its own kind can draw the attention of the coaches, athletes and sports administrator to realize the importance of this and to incorporate it in all sport setting. This can also be used for performance evaluation from time to time. As it is well known that to become a high level performer is not an overnight trick but it requires tremendous amount of positive attitude, dedication, discipline and hard work over the years. This investigation can highlight the requirement in that direction.

There are several emotions that can block a sports person's potential, for example, dread, perplexity, low vitality, weakness, and vulnerability. At the point when one vibe these negative feelings one should practice changing his mind set. This is the point at which one must work on making the positive feelings with the help of goal setting and mental strength to achieve the same. This is a humble effort and message to the athletes and coaches in the direction of performance and enhancement as it's the ultimate goal for both athletes and coach. Sturdiness is "to be solid and versatile; ready to withstand awesome strain without tearing or breaking."

The present effort put by the researcher is in the direction that how this concept of goal setting if done could help an athlete to reach to his goal without tearing or breaking. This process helps a sports person to be mentally tough for all kind of sports person endeavor.

Chapter- II

REVIEW OF RELATED LITERATURE

The known truths develop the structure of new speculations and standards. Audit of exploration studies serve as a clash between the old and the new, between the known and the obscure. It is a turning point driving the examination on the more responsible option of future. Survey of writing builds up the scientist's understanding and creates his scholarly prevalence over others. An investigation of important writing is a crucial venture to get a decent perception of what has been finished as to the issue under study. "The Writing in any field shapes the establishment whereupon all future work will be fabricated". The writing important to the present study which has been gathered from distinctive wellsprings of reference is depicted in this section.

Genuine exertion has been made by the scientist to find writing identified with this study, the significant studies found from different sources, which the analyst has gone over, are referred to beneath.

Studies pertaining to Goal Setting

Weinberg (1981) surveys the mental practice writing and in addition more momentum research on the impact of particular mental readiness systems on talented execution. A summary of the mental practice writing demonstrated that mental practice was by and large viable in improving execution. For greatest viability, mental practice ought to be utilized as a part of conjunction with physical practice and ought not be considered as a swap for physical practice. The level of viability of mental practice is subject to various variables, for example, conceptualizing capacity, past experience, assignment sort, and length of practice session. As of late, specialists have started to study the impact of particular mental readiness on engine execution. A percentage of the more famous procedures incorporate symbolism, self-viability

articulations, attentional center, preparatory excitement, and unwinding. Likewise, a few late methods, for example, stress vaccination preparing and visuo-engine conduct practice utilize a blend of the procedures. Albeit preparatory exact examination is empowering, more controlled result studies are important to focus the viability of these methods in upgrading gifted execution.

Locke and Latham (1985) investigations of objective setting both in associations and the lab have observed that (a) particular, troublesome objectives lead to preferred execution over obscure or simple objectives; (b) transient objectives can encourage the accomplishment of long haul objectives; (c) objectives influence execution by influencing exertion, determination, and heading of consideration, and by persuading technique advancement; (d) input in regards to advance is essential for objective setting to work; and (e) objectives must be acknowledged in the event that they are to influence execution. The ramifications of these discoveries for games are examined. Ten theories, taking into account past examination, are offered in regards to the impacts of objective setting in games. Moreover, proposals are made with respect to the accompanying: setting objectives for both practice and amusement circumstances; setting objectives for distinctive components of athletic aptitude and additionally for quality and stamina; utilizing objectives to build self-assurance; utilizing fleeting objectives to help accomplish long haul execution objectives; enhancing execution by expanding assignment trouble autonomously of objective trouble; and acquiring objective acknowledgement and responsibility in games.

Smith et. al. (1992) the improving impact of objective setting in execution was analyzed utilizing three variables by the creator. Subjects were requested that perform a novel ball errand and length of time of practice, open presentation of objective setting and the utilization of method were urged to realize the adjustment in level of execution. Results neglected to correspond the previously stated variables to undertaking execution. In any case, such perceptions may not be relevant in the field of games since this includes unpredictable connections between physical, social and mental variables.

Howe and Poole (1992) the motivation behind this study was to test the impacts of objective vicinity and accomplishment inspiration on b-ball shooting execution in a normal physical training class setting. Information were gathered on 79 male Review 10 understudies. One week before the start of a 4-week ball unit, understudies were ordered as high achievers and

low achievers in light of their accomplishment score on the Howe Sport Conduct Appraisal Scale. Inside every accomplishment gathering, subjects were arbitrarily doled out to a week after week fleeting objective gathering, a long haul objective gathering, or a transient in addition to long haul objective gathering. Subjects finished the Velocity Spot Shooting Test once consistently to gauge their execution in connection to their doled out objectives. No huge contrasts among the variables were uncovered. A post trial poll uncovered that a lion's share of understudies from every single objective condition were setting their own particular transient objectives. Results are talked about as far as Bandura's self-viability hypothesis of inspiration and the utilization of objectives in engine aptitude assignments in physical instruction.

Smith and Lee (1992) this study analyzed the facilitator impact of objective setting in physical execution. Three potential systems that may intercede this impact are depicted: increments in time spent honing, advancement of successful preparing methodologies, and increments in duty coming about because of open objective setting. Understudies (N=51) performed a novel undertaking under one of three conditions: open objective setting, private objective setting, and no objective setting. Objectives chose, time spent rehearsing, methodologies utilized amid practice, and genuine execution was evaluated. Subjects in the two objective setting gatherings indicated preferred execution over those in the control-bunch; those in the general population objective setting gathering invested the most energy practically speaking, however this was not reflected in better execution. Test execution was anticipated by pattern execution and by the objective set; practice time, preparing system, and open objective setting did not represent further fluctuation in execution. Despite the fact that this study neglected to locate an interceding impact for these three components, the outcomes must be deciphered with alert.

Eli, Hartman and Kolker (1994) the motivation behind the present examination was to explore the relationship between objective vicinity and execution. Objective setting was utilized as a motivational procedure for upgrading physical execution of youths with conduct issue. Subjects (N = 80) were arbitrarily allocated to one of two objective setting conditions: (a) long haul objectives and (b) short- in addition to long haul objectives. After a 3-week gauge period, subjects were tried on a 1-min situp errand once a week for 10 weeks. Results showed that the

short- in addition to long haul gathering displayed the best increment in execution, despite the fact that the long haul aggregate likewise showed critical upgrades. Results are examined in reference to Locke and Latham's (1985) way to deal with objective setting. Furthermore, a few methodological and hypothetical perspectives are talked about that are especially important to the utilization of objective setting with physical movement errands among persons with incapacities, for example, conduct issue.

Brobst and Ward (2002) the motivation behind the present examination was to explore the relationship between objective vicinity and execution. Objective setting was utilized as a motivational procedure for upgrading physical execution of youths with conduct issue. Subjects (N = 80) were arbitrarily allocated to one of two objective setting conditions: (a) long haul objectives and (b) short- in addition to long haul objectives. After a 3-week gauge period, subjects were tried on a 1-min situp errand once a week for 10 weeks. Results showed that the short- in addition to long haul gathering displayed the best increment in execution, despite the fact that the long haul aggregate likewise showed critical upgrades. Results are examined in reference to Locke and Latham's (1985) way to deal with objective setting. Furthermore, a few methodological and hypothetical perspectives are talked about that are especially important to the utilization of objective setting with physical movement errands among persons with incapacities, for example, conduct issue..

Fede (2004) investigated Running and its effects on mental parameters. The mental parameters they may be affected by running were identified to develop a clearer understanding of their relationships with altered states of consciousness. Data regarding endorphins, psychotherapy and biofeedback, brain laterality, running as an anti-depressant agent, and running addiction were obtained through an extensive review of current literature. The data were reviewed and synthesized. The Gestalt approach was used in making initiative judgments based on the literature. It was concluded that all of the areas studied do have an effect on condition, known as runner’s high.

Lee (2006) studies of goal setting in game have observed that particular, troublesome objectives lead to preferred execution over ambiguous or simple objectives. Objective setting

exploration is talked about, with the aftereffects of a study into the relationship between objective settings, self-adequacy and group execution in a female hockey game in the USA. The implications are discussed by the author.

Correa ET. al. (2006) to inspect the impacts of distinctive sorts of objective setting on engine aptitude obtaining amid cutting edge phases of learning. 44 female volleyball players were tried in four trial preparing gatherings with bland objectives, particular long haul objectives, particular transient objectives, and as a control bunch. This current study's pretest, preparing, and maintenance test stages utilized execution of a volleyball burrow/lower arm pass arranged to a target. Investigations yielded no huge contrasts among gatherings, in spite of the fact that execution expanded from pre to maintenance test.

Mellalieu et al (2006) Objective setting consequences for chose execution practices of 5 university rugby players were surveyed over a whole focused season utilizing self-created targets and objective accomplishment scaling. Results propose that objective setting was powerful for improving errand particular on-field conduct in rugby union.

Senecal, Loughead and Bloom (2008) the motivation behind the momentum study was to figure out if the usage of a season-long group building intercession project utilizing group objective setting expanded view of attachment. The members were 86 female secondary school b-ball players from 8 groups. The groups were arbitrarily appointed to either an exploratory group objective setting or control condition. Every member finished the Gathering Environment Survey (GEQ; Carron, Brawley, & Widmeyer, 2002; Carron, Widmeyer, & Brawley, 1985), which evaluated attachment at both the starting and end of the season. In general, the outcomes uncovered a huge multivariate impact, Pilli's follow $F(12, 438) = 2.68$, $p = .002$. Post hoc examinations demonstrated that toward the start of the season, competitors from both conditions did not contrast in their impression of attachment. In any case, toward the end of the season, competitors in the group objective setting condition held higher impression of attachment than competitors in the control condition. Generally, the outcomes showed that group objective setting was a compelling group building apparatus for impacting cohesiveness in game groups.

Paul J. McCarthy et. al. (2010) Positive influence is connected to improved inspiration, responsibility, and execution among youth sport entertainers; yet, couples of mental intercessions have particularly endeavored to improve positive influence among these competitors. To address this condition, we executed a solitary subject different benchmark outline to look at the impacts of an objective setting mediation on the positive and negative full of feeling reactions of three aggressive youth competitors. Measurable examination coupled with visual assessment criteria uncovered a noteworthy general increment in positive influence for members 1 and 2. A factually huge increment in positive influence likewise developed for member 3, yet it was unrealistic to recognize a critical trial impact utilizing visual examination criteria. No measurably noteworthy reductions in negative impact rose for any of the three members. These outcomes demonstrate some backing for the speculation that objective setting may upgrade positive influence among junior multi occasion competitors.

Fred C. Lunenburg (2011) Locke and Latham provide a well-developed goal-setting theory of motivation. The theory emphasizes the important relationship between goals and performance. Research supports predictions that the most effective performance seems to result when goals are specific and challenging, when they are used to evaluate performance and linked to feedback on results, and create commitment and acceptance. The motivational impact of goals may be affected by moderators such as ability and self-efficacy. Deadlines improve the effectiveness of goals. A learning goal orientation leads to higher performance than a performance goal orientation, and group goal-setting is as important as individual goal-setting.

Studies pertaining to Mental Toughness

Notwithstanding the evident significance of mental sturdiness, restricted exploration has been directed on the subject. Specifically, there is an absence of mental durability measures that have been assessed in connection to even least levels of psychometric criteria— dependability, element structure, and develop legitimacy. Sport clinicians (scientists and experts), mentors, sports pundits, games fans, and competitors recognize the significance of mental sturdiness in brandishing execution (Goldberg, 1998; Hodge, 1994; Tunney, 1987; Williams, 1988). In right on time chip away at the issue, Loehr (1982, 1986) underscored that competitors and mentors felt

that no less than fifty percent of achievement is because of mental elements that reflect mental strength. Additionally, Gould, Hodge, Perterson, and Petlichkoff (1987) accentuated that mentors feel that mental durability is critical in making progress, while Norris (1999) has underscored the significance of mental strength in creating champion competitor

Norris (1999) conducted a project to accomplish more prominent comprehension of the formative and mental methodologies of tennis champions. Phenomenological exploration outline, utilizing the subjective top to bottom meeting was utilized. Steady near investigation, as connected to grounded hypothesis, was utilized to guide information accumulation and examination. Champions were requested that depict their procedures toward title accomplishment, and what encouraged their athletic and mental advancement. Specifically compelling was the manner by which they followed their improvement, which incorporated the accompanying subjects: The parts of folks, educators, mentors and tutors, conceptualizations of mental sturdiness, process versus result introductions to rivalry, the zone, triumphing when not in the zone, sportsmanship, regulation of feeling, self-talk, self-information, self-unpredictability, inspiration, certainty, dreams and adolescence imaging, objective setting, acting aptitudes when contending, amusingness, autonomous considering, train, the historical backdrop of their own intensity, and their accomplishment of effectively battling with the mental weights of rivalry.

Basic to almost all the members was a persisting affection for the sport of tennis, the delight of contending, and a powerful urge to do especially well and buckle down in whatever attempt the champions sought after.

Connections with existent writing and past examination were display in the spaces of family and social variables, the greater part of the experiential qualities of crest execution, and the significance ascribed to having a mentor or guide who had the capacity to relate well by and by and professionally. As opposed to some past examination about champions and high achievers, a large portion of these champions had not met a plenitude of agony and injury in their own lives.

How champions characterize "champion" was a region of this exploration new to writing. Rising from the meetings were three styles of definition: Outside, reflecting achievement; Outer - Interior, significance achievement and model self-behavior; and Inner, reflecting both model

self-conduct- -and the worth that a champion is one who completely completes characteristic potential. Potential looking for is the means by which the majority of the champions portrayed their drive for title improvement and their introduction to life.

Gould et al. (2002), Golby and Sheard (2003), and Durand-Shrub and Salmela (2002), concentrated on all discovered a connection between the ownership of one of a kind mental qualities and execution achievement in tip top competitors. These studies were likewise ready to recognize mental durability as a standout amongst the most huge contributing mental abilities to execution achievement. Gould, Finch et al. (1993b) and Gould, Eklund et al. (1993a), both found that tip top competitors utilize a mixture of adapting techniques when confronted with affliction and distinguished the adapting procedures utilized by these competitors. These studies are useful as they extend the information of the novel methodologies utilized by competitors for crest execution.

Jim golby And Michael Sheared (2003) is studied on An intellectual behavioral Examination of Mental sturdiness in national rugby class football groups, This study inspected the relations between demographic attributes of rugby players and chose parts of mental execution in rugby association football. Mental sturdiness was surveyed utilizing Mental Execution Stock and Solidness on the Individual Perspectives Review 111-R. Members (N = 70) were universal rugby group footballers speaking to four groups (Wales, France, Ireland, Britain) in the 2000 Rugby Association World Container. Members finished the polls in preparing camp. Welsh-nationality players had an altogether higher mean score on two of the strength subscales. Toughness measures showed the best and most oftentimes measurably noteworthy contrasts. The discoveries agree with past work demonstrating better strength is connected than enhanced execution in games.

John Wayne Creasy Jr. (2005) considered on An Investigation of the Parts of Mental Strength in Game; numerous mentors are getting to be mindful of the significance of growing rationally extreme entertainers and are outlining projects to create it in their competitors. A standout amongst the hugest issues in outlining these projects is the irregularity in the definition

and depiction of mental sturdiness. In the event that projects are to be outlined with the objective of creating mental strength in competitors, the segments of the develop must be recognized.

Lee Crust (2008) is studied on an audit and calculated reevaluation of mental sturdiness: Suggestions for future analysts. This paper gives a survey of mental strength explore and inspects the major theoretical worries that are apparent in current mental durability writing. In spite of more thorough investigative ways to deal with the investigation of mental strength, various impediments are evident: these incorporate the presumption that first class or super tip top entertainers are rationally extreme (inability to give target measures), centering research singularly on tip top or super tip top entertainers, seeming to conceptualize mental sturdiness in supreme instead of relative terms, and overlooking context oriented contrasts. Examinations are made with examination advancements in the related idea of toughness. It is contended that more creative ways to deal with exploration are obliged to further create learning. This ought to incorporate more trial studies, longitudinal exploration, psychophysiological methodologies, and testing the impact of mental sturdiness in connections outside game execution. Further endeavors to see how mental durability creates are energized. With late advances in instruments to quantify mental strength, further quantitative examination is esteemed suitable. The viability of proposed routines for upgrading mental durability, for example, ecological controls, and mental abilities preparing methodologies need to be assessed if the hole between hypothetical research and practice is to be crossed over.

Lee Crust (2011) is studied on mental toughness in sport: An audit, Competitors, mentors, and connected games analysts have reliably alluded to mental sturdiness as a standout amongst the most imperative mental qualities identified with results and achievement in world class sport, in spite of the fact that specialists have, as of not long ago, dedicated little time to considering this idea. This survey considers a percentage of the rising definitions and conceptualizations, and looks at how mental durability may be created in entertainers. Subjective and quantitative ways to deal with the investigation of mental sturdiness are assessed, and improvements in measuring this vital idea are examined. Research that has analyzed the relationship between mental durability, execution, and recognition are additionally surveyed. Future headings for exploration are advertised.

Crust, L and Clough, P.J. (2011) it surveys late confirmation concerning the advancement of mental durability in youthful competitors, from first association in game through to ahead of schedule adulthood. The part and significance of hereditary qualities, ecological elements, and mental aptitudes preparing in the improvement of mental strength is talked about. Specifically, ecological components that can be controlled and affected by mentors and folks are underscored to help the exchange of learning from experimental exploration into connected practice. Of focal significance is the advancement of free critical thinking and moral obligation through a testing yet strong learning environment. We contend that to create mental sturdiness, youthful competitors must be continuously presented to, as opposed to protected from, requesting circumstances in preparing and rivalry so as to figure out how to adapt. Likewise, as competitors get to be all the more sincerely develop, they ought to end up progressively included in settling on choices in regards to their own advancement. Competitors ought to be energized and upheld in reflecting upon setbacks and disappointments that happen as a characteristic piece of the formative methodology. Adverse encounters, and the certainty boosting results of attaining to objectives, give chances to self-improvement, and permit imperative lessons to be learned. Different reasonable recommendations are given.

John L Perry et. al. (2013) the reason for this study was to evaluate the factorial legitimacy of the Mental Strength Poll 48 (Clough, Earle, & Sewell, 2002). Altogether, Model fit was surveyed utilizing affirming component investigation (CFA) and exploratory auxiliary comparison demonstrating, notwithstanding the hearty greatest probability estimator. Generally speaking, our outcomes bolster the factorial legitimacy of the MTQ48 and demonstrate that the MTQ48 is a strong psychometric measure of mental sturdiness. Alongside past information, which underpins the inside legitimacy of the MTQ48 notwithstanding aftereffects of this study, no doubt the MTQ48 is a worthy strategy for evaluating mental durability.

OVERVIEW OF THE REVIEWS

Sport therapists (analysts and professionals), mentors, sports pundits, games fans, and competitors recognize the significance of goal setting in sporting performance. Over the last few years there has been a considerable increase in research related to goal setting and mental toughness in sports. An increased amount of high quality research was however reviewed and these studies were conducted on various topics. The review also revealed that there were a significant number of qualitative and quantitative researches. The majority of studies focused on performance slumps and competitive demands. They used within persons and between persons research designs. The focuses of the studies were to demonstrate the casual relationship and comparing individual response to stress, coping, goal setting and mental toughness as criteria for performance enhancement. Knowledge of the interconnections between different types of goal setting and it's bearing on mental toughness along with the physical preparation for an athlete plays a major role in present context of sport which is not only demanding scientifically but also requires many aspect of human endeavor. There are several fundamental conceptual issues awaiting clarification and these issues have implications for future research and measurement of goal setting.

CHAPTER-III

PROCEDURE

In this chapter the procedure that was adopted for the selection of the subjects, procedure for administering the test item and the method employed for measurable investigation of information are depicted.

Selection of the subjects

The subjects for the study were 30 male sports person (10) for 2 major sports discipline like:- Badminton and Boxing in the age group of 18-28 years, further partitioned into two exploratory gatherings and control gathering were chosen by using non-probability and judgmental sampling technique having a playing experience of participating in All India Universities competition from Lovely Professional University Phagwara, Punjab. The player's goal was set with the help of the coach.

Further to fulfil the purposes of the study the athletes were divided into two experimental groups and a control group in the following order:

EX1: Ten Sports Person participated in Badminton.

EX2: Ten Sports Person participated in Boxing.

C1: Control group.

Selection of the test item

The first section was **demographic information(Appendix-A)** sheet consisting of several questions describing the sample's age, education and number of years they had participated in their sport and **Identification of Strength and Weaknesses (Appendix-D)** of each of the athlete prior to start the goal setting process.

The test items selected for psychological parameters for assessing in this study were as under:

1. Psychological Performance Inventory measuring Mental Toughness by James E. Loehr (1982).

2. Goal Setting (Mark Spargo, AIS 2000),

3. General Performance Profiling by Butler & Hardy (1992).

The test items selected as performance variables for assessing in this study were as under:

Badminton:

1. French Short Service Test (Scott et.al. 1941)
2. Poole Forehand Clear Test (Poole, James and Nelson 1970)
3. Fox Long Serve Test (Scott, Gladys and French 1959)

Boxing:

1. Quick Feet Test
2. Hand Eye Coordination Test (Beashel and Taylor 1997)
3. Punching Speed

NARRATION OF THE TEST ITEMS

1. Psychological Performance Inventory (PPI) by James E. Loehr (1982) (Appendix-B). It is a useful psychometric instrument to measure individual's mental toughness.

Mental Toughness Test (Loehr, 1982) is personal awareness version, which focuses on, the score range for seven broad personalities and behavioral factors that are associated with success in competitive activity. The idea of mental toughness and the ability to develop mentally tough athletes is a socially popularized concept, Respondents were asked to indicate whether each reason was almost always, often, sometimes, seldom, and almost never. The subject responds to each statement using a five point ordinal scale. Hence the minimum point of response in each system stands at 1 and maximum pole at 5.

The questionnaire had undergone psychometric testing. A factor analyses was performed on participants throughout several studies, resulting in seven factor solutions, which are consistent amongst research. This questionnaire measures various aspects of mental toughness such as:

Factor 1 Self Confidence

Factor 2 Negative energy control

Factor 3 Attention Control

Factor 4 Visual / imagery control

Factor 5 Motivational Level

Factor 6 Positive energy Control

Factor 7 Attitude Control

The forty two item scale yields an overall mental toughness score as well as seven six-item subscale scores in (a) self-confidence, (b) negative energy control, (c) attention control, (d)

visualisation and imagery control, (e) motivation, (f) positive energy and (g) attitude control. Subscale scores ranged from a low of 6 to a desirable high of 30 and total scores from 42 to 210. Scores were recorded on a five point Liker scale anchored by 'almost always' and 'almost never.'

The psychological performance inventory (PPI) is a useful psychometric instrument to measure individual's mental toughness on the basis of these norms given below:-

26-30 Excellent Skills

20-25 Room for improvement

6-19 needs special attention

The second part of the questionnaire is:

2. Goal Setting (Mark Spargo, AIS 2000) (Appendix-C)

Even though the goal setting process is straight forward, there are however rules which must be followed for goal setting to be successful.

The goals were negotiated quarterly as for the training schedule and keeping in mind the competitive aspect. Rules followed for setting the goal are the following:

- Agreed upon jointly by the coach and athlete concerned.
- Restricted to factors over which the athlete has personal control.
- Stated positively rather than in either negative or avoidance terms.
- Related to the segment of performance.
- Aimed at improving performance, not simply maintaining it (Challenging).
- As difficult as possible but still attainable.
- Related directly to performance.
- Observable and readily assessable (Measurable).

Based on the rules of goal setting the goal was set by the coach and the athlete in the presence of the investigator at the beginning of the study. The target kept was to be achieved with in a period of 10 days. But finally for assessment for this it was every athlete's performance record, which were the criteria taken into consideration.

3. General Performance Profiling by Butler & Hardy (1992) (Appendix-E)

To measure the competitor's recognizable proof of develops which he or she sees to constitute the basic characteristics of world class execution alongside the competitor's own appraisal of his or her present status to identify and prioritize targets and then use smarter principles to set goals, the research scholar selected General Performance Profiling Rating Scale developed by Butler and Hardy (1992). This rating scale was selected as it covers many of the important factors that influence athletic performance.

Performance Profile (Butler & Hardy, 1992):

Psycho-Physiological Profile:

Taking aspects of general performance profile based on psycho-physiological parameters was prepared, which is based on rating scales and both the coach and the athlete were asked to rate on that scale. This gave an idea regarding **right now situation** and **ideal situation** and how they have been able to achieve it. The components of the rating scale are.

1. Confidence in practice
2. Confidence in competition
3. Relaxation skill
4. Aerobic fitness
5. Anaerobic power
6. Imagination
7. Determination
8. Concentration
9. Motivation
10. Enjoyment
11. Technical Ability

12. Originality

13. Will to win

14. Flexibility

Scoring of the Psycho-Physiological Performance Profile

This profile was prepared on 10 point rating scale staring from minimum of 1(not at all) to a maximum of 10 (Very Much So).

Step 1- Rating scale was rated by both the coach and athlete.

Step 2- The goal –setting chart was be shown to both the coach and athlete and undertaking will be taken from them.

Step 3- Weekly feedback was being obtained from both the coach and athlete and feedback from the investigator was being given to the coach as well as to the athlete regarding their target.

Step4- This was continue for a period of Three months

Step 5- Final assessment was taken after the end of third month, which was basically, be considered as short term goal setting.

PERFORMANCE VARIABLES

Badminton

To understand the players strength, weaknesses, attitude and commitment the researcher has categorized the evaluation process in two categories i.e. evaluation of skill performance and evaluation of on court performance. While evaluating the skill performance the researcher has taken the following parameters into consideration i.e skill, accuracy, proficiency and consistency of the player. In the same way while evaluating on court performance the following performance parameters had been taken into consideration i.e. Ability to execute appropriate skill at

appropriate time, The opponents impact on the skill execution of the player and tactical adjustments made by the player during the competition.

1. **French Short Service Test**

To measure the accuracy of placement and ability in low, short serve in badminton the research scholar selected the French Short Service Test developed by Scott, M. Gladys, Aileen carpenter, Esther French and Louise Khul(1941). This skill test was selected as it helps in evaluating the efficiency of a badminton player to execute not only the short service but also the accuracy of placing the shuttle cock near the net area. (Validity: .41 to .66), (Reliability: .51 to .89)

2. **The Poole Forehand Clear Test**

To measure the player's ability to play defensive stroke the research scholar selected The Poole Forehand Clear Test developed by Poole James and Jack Nelson (1970). This skill test was selected as it helps in evaluating the player's efficiency in playing forehand defensive strokes. (Validity: .70), (Reliability: .90)

3. **Scott and Fox Long Serve Test**

To measure the player's ability to serve high and deep to the rear of the opponent's court the researcher has selected Scott and Fox Long Serve Test developed by Scott, M. Gladys and Esther French (1959). This skill test was selected as it measures the accuracy of placing the shuttle cock near the back line. (Validity: .54), (Reliability: .68 and .77)

On Court Performance

As specific skill tests are the means to evaluate the adaptability towards techniques of a specific game. Therefore it never produces a reliable data to access the performance of athletes, because on court performance is a product of techno-tactical, psychological, physiological aspect of an athlete.

By keeping these factors in mind the researcher has decided to administer a buildup competition on league basis to provide an actual situation of competition to collect a reliable set of data regarding performance of badminton players.

BOXING

Boxing is a combative sport. To excel the performance in boxing one should enhance his foot speed and agility. Therefore for accurate evaluation of boxing performance the researcher has three simple tests of foot speed, coordination and punching speed further to determine the overall performance.

1. Quick Feet Test

The entertainer was measured in his capacity of foot pace and deftness, The subject begins toward one side, and when prepared begins running along the stepping stool, putting a foot in every space without touching the sticks/rungs and record the best aftereffect of two trials.

2. Hand Eye Coordination Test

The performer was measured in his capacity of the boxer's vision framework to arrange the data got through the eyes to control direct, and direct the hands in the achievement of getting a ball. The boxer tosses a tennis ball with their right hand against the divider and gets it with the left hand, tosses the ball with the left hand and gets it with the right hand. This cycle of tossing and getting is rehashed for 30 seconds is the best score.

3. Punching Speed

The performer was measured in his ability of maximal punching arm/hand speed. This test utilizes a specially instrumented punching bag that can record the force and timing of a hit. The subject is instructed to hit the bag as fast and as hard as possible for a set time period. The result includes measures of peak punch and striking output.

Estimation of Actual Performance

After completion of three specific performance tests for evaluating sports person's power and speed of movement respectively best performance was noted down for estimating actual performance.

ADMINISTRATION OF TEST AND COLLECTION OF DATA

Before administration of psychological inventories and all the other performance related tests, all the subjects were well oriented with the purpose of the study. Then the research scholar has motivated the subjects to give appropriate and optimum response to each and every part of experimentation process going to be executed over them.

Primarily the researcher has tried to make the subjects understand the benefits of goal setting in relation to their sport performance in the presence of their coaches. The research scholar has started with identification of strength and weaknesses of the athletes in relation to their athletic performance along with demographic and background characteristics and personal goal setting contract, which was a series of long term goals that covers physical, mental and technical aspects of athlete’s performance in the presence of their coaches.

After completion of goal setting related questionnaires the subjects were then advised to fill general performance profile, a rating scale related to their self-estimation regarding their present psycho-physical capabilities along with psychological performance inventory to access the level of mental toughness.

The directions were read by the research scholar at a dictation speed to make the subjects understand the procedure to fill up the questionnaire. The subjects were asked to record the answers for all questions. The subjects were given enough time to answer the questionnaire. The questionnaire was taken back after it was duly completed. Thorough screening was done to ensure that no question/part was left unanswered.

Soon after finishing with the psychological variables the subjects were instructed to report in their respective play fields, where the skill and performance related tests were administered and scores were noted down. The whole procedure was repeated for three times

with a gap of 30 days to collect a set of data that pretends the influence of goal setting on some selected psycho-physical variables of sports person's i.e. mental toughness, sports performance and performance profile. The coach in charge was constantly in touch with the investigator and the guide for recording of their score and personal discussion were held from time to time.

STATISTICAL TECHNIQUE

In order to comprehend the rate of movement in all the subordinate variables all through the preparation, engaging insights, for example, mean and standard deviation has been connected in the present study. Further to look at the impact of objective setting program on mental strength, real execution and their related physical wellness variables ANCOVA and Post-Hoc Test (wherever appropriate) has been connected. The level of hugeness was settled at 0.05.

CHAPTER-IV

ANALYSIS OF DATA AND DISCUSSION OF FINDINGS

This chapter contains statistically treated data results, findings and discussions with regards to study of mental toughness variables among sports persons in relation to goal setting ability belonging to various individual sports such as Badminton and Boxing.

ANALYSIS OF DATA

The data thus collected were put to statistical computerization for analysis, which have been presented in this chapter. The descriptive statistics have been used to summarize the data so that they are easy to understand. Further profile of each sportsperson has been prepared graphically and discussed by means of their obtained scores in each psychological and performance parameters separately over a period of time for which the effect of goal setting was fixed .

Further the data pertaining to performance and fitness variables of every sport group such as Badminton, Boxing, treated with parametric statistics like ANCOVA and Post HOC test to determine the statistical significance of the study. The test items selected for psychological parameter for assessing for this study were as under:

The Psychological Performance Inventory (PPI; Loehr, 1986), to measure mental toughness.

General Execution Profiling by Steward & Tough (1992) was utilized to gauge the competitor's ID of builds which he or she sees to constitute the central characteristics of first class execution alongside the competitor's own particular appraisal of his present status. This rating scale was chosen as it covers a number of the vital components that impact sports execution.

Goal Setting (Mark Spargo, AIS 2000) was used for initial asses ment of goal setting ability of sports persons, even though the goal setting process is straight forward, there are however rules which must be followed for goal setting to be successful.

The test items analyzed for performance parameter for assessing the subject for this study were as under:

Badminton:

1. French Short Service Test (Scott et.al. 1941)
2. Poole Forehand Clear Test (Poole, James and Nelson 1970)
3. Fox Long Serve Test (Scott, Gladys and French 1959)

Boxing:

1. Quick Feet Test
2. Hand Eye Coordination Test (Beashel and Taylor 1997)
3. Punching Speed

DISCUSSIONS OF FINDINGS

The results are presented in this chapter in tabular form wise discussion of findings was made.

The findings and discussion of findings with regard to the present study have been presented in two sections. Section one deals with the Descriptive Statistics of the three groups. Section two deals with the comparison of pre-test and post-test of experimental and control group.

SECTION ONE

The findings pertaining experimental groups and control group means and standard deviations were computed and data pertaining to that have been presented in table 1

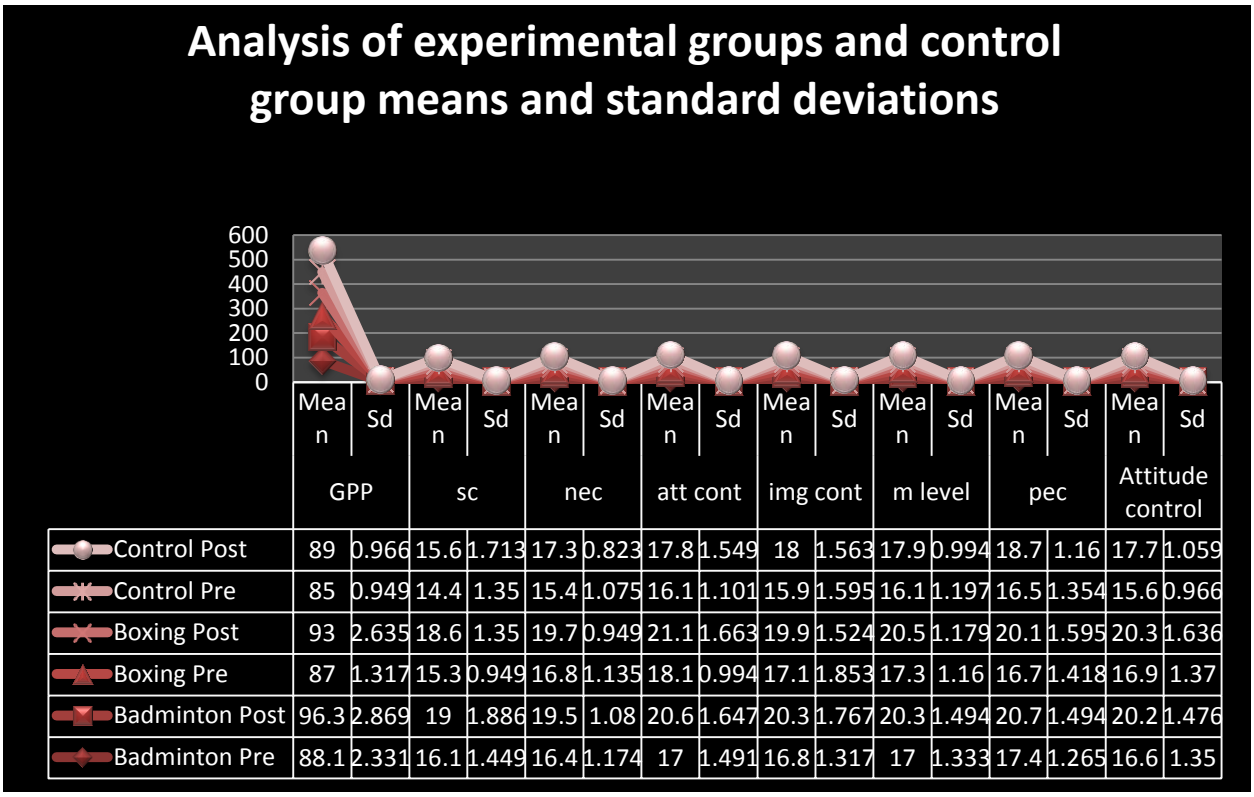
Analysis of experimental groups and control group means and standard deviations

TABLE-4.1

Variable	Non-Parametric	Badminton		Boxing		Control	
		Pre	Post	Pre	Post	Pre	Post
GPP	Mean	88.1	96.3	87	93	85	89
	Sd	2.33095	2.86938	1.316561	2.635231	0.94868	0.96609
Self confidence	Mean	16.1	19	15.3	18.6	14.4	15.6
	Sd	1.44914	1.88562	0.948683	1.349897	1.3499	1.7127
Negative Energy cont	Mean	16.4	19.5	16.8	19.7	15.4	17.3
	Sd	1.17379	1.08012	1.135292	0.948683	1.07497	0.82327
Attention control	Mean	17	20.6	18.1	21.1	16.1	17.8
	Sd	1.49071	1.64655	0.994429	1.66333	1.1005	1.54919
Imagery control	Mean	16.8	20.3	17.1	19.9	15.9	18
	Sd	1.31656	1.76698	1.852926	1.523884	1.59513	1.56347
Motivational level	Mean	17	20.3	17.3	20.5	16.1	17.9
	Sd	1.33333	1.49443	1.159502	1.178511	1.19722	0.99443
Positive Energy cont	Mean	17.4	20.7	16.7	20.1	16.5	18.7
	Sd	1.26491	1.49443	1.418136	1.595131	1.35401	1.1595
Attitude control	Mean	16.6	20.2	16.9	20.3	15.6	17.7
	Sd	1.3499	1.47573	1.37032	1.636392	0.96609	1.05935

Table-1 clearly indicates the mean and standard deviations of GPP pre-test badminton group 88.1±2.33095, boxing group 87±1.316561, and Control group 85±0.94868. GPP Post-test Badminton group 96.3±2.86938, boxing group 93±2.635231, Control group 89±0.96609. Self-confidence pre-test Badminton group 16.1±1.44914, Boxing group15.3±0.948683, Control group 14.4±1.3499, Post-test Badminton group 19±1.88562, Boxing group 18.6±1.349897, control group 15.6±1.7127. Negative energy control pre-test Badminton group 16.4±1.17379, Boxing group 16.8±1.135292, Control group 15.4±1.07497. Post-test Negative energy control Badminton 19.5±1.08012, Boxing group 19.7±0.948683, Control group 17.3±0.82327. Attention control pre-test Badminton group 17±1.49071, boxing group 18.1±0.994429, and Control group 16.1±1.1005. Post-test Badminton20.6±1.64655, Boxing group21.1±1.66333, and Control group 17.8±1.54919. Visual/imagery control pre-test Badminton group 16.8±1.31656, Boxing group 17.1±1.852926, and Control group 15.9±1.59513. Post-test Badminton 20.3±1.76698, Boxing group 19.9±1.523884, and Control group 18±1.56347.

Figure-4.1



	GPP		sc		nec		att cont		img cont		m level		pec		Attitude control	
	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Control Post	89	0.966	15.6	1.713	17.3	0.823	17.8	1.549	18	1.563	17.9	0.994	18.7	1.16	17.7	1.059
Control Pre	85	0.949	14.4	1.35	15.4	1.075	16.1	1.101	15.9	1.595	16.1	1.197	16.5	1.354	15.6	0.966
Boxing Post	93	2.635	18.6	1.35	19.7	0.949	21.1	1.663	19.9	1.524	20.5	1.179	20.1	1.595	20.3	1.636
Boxing Pre	87	1.317	15.3	0.949	16.8	1.135	18.1	0.994	17.1	1.853	17.3	1.16	16.7	1.418	16.9	1.37
Badminton Post	96.3	2.869	19	1.886	19.5	1.08	20.6	1.647	20.3	1.767	20.3	1.494	20.7	1.494	20.2	1.476
Badminton Pre	88.1	2.331	16.1	1.449	16.4	1.174	17	1.491	16.8	1.317	17	1.333	17.4	1.265	16.6	1.35

Section Two

To determine whether the experimental treatment was effective in bringing about a significant change in Goal Setting of the experimental groups in contrast to the control group a parametric statistics i.e. Analysis of Co-variance (ANCOVA) test was employed and further to access significant improvement Level of Significant Difference (LSD) test has been employed. The level of significance was set at 0.05 in both the cases.

Analysis of Co-variance of the means of Control and Experimental groups (Badminton & Boxing) in selected Physical Measures (GPP, Self-confidence, Negative Energy control, Attention control, Visual/Imagery control, Motivational level, Positive Energy control, Attitude control) of Athletes were computed and data pertaining to that have been presented below in Table – 4.2 to Table-4.8.

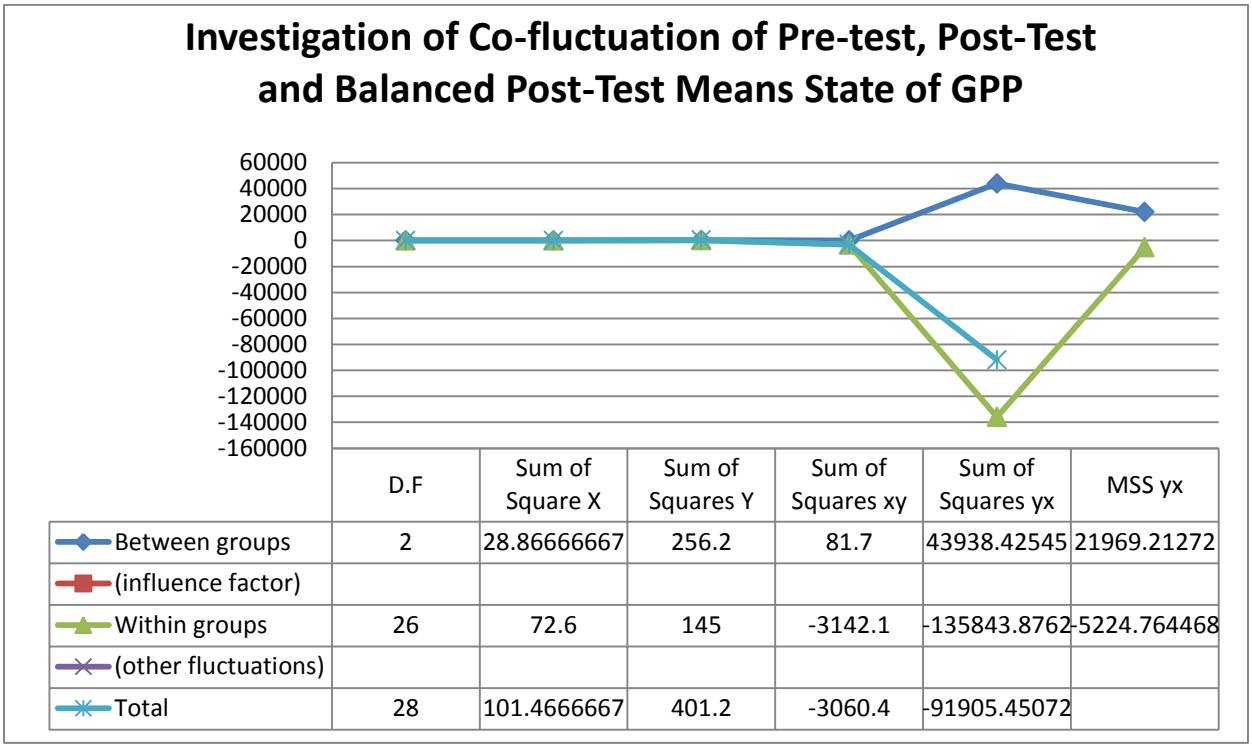
Table – 4.2

Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on GPP Measures of Badminton, Boxing and Control Group.

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
GPP	Between groups (influence factor)	2	28.86666667	256.2	81.7	43938.43	21969.21	-4.204823559
	Within groups (other fluctuations)	26	72.6	145	-3142.1	-135844	-5224.76	
	Total	28	101.4666667	401.2	-3060.4	-91905.5		

***Significant at 0.05 level of Confidence TAB. F.05 (2, 26) = 3.37**

Figure-4.2



	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares xy	Sum of Squares yx	MSS yx
Between groups	2	28.86666667	256.2	81.7	43938.42545	21969.21272
(influence factor)						
Within groups	26	72.6	145	-3142.1	-135843.8762	-5224.764468
(other fluctuations)						
Total	28	101.4666667	401.2	-3060.4	-91905.45072	

The examination of co-change for GPP was irrelevant if there should be an occurrence of pretest means from which it is pass that the post-test means is contrast unimportantly and that the arbitrary task of subjects to the two exploratory gatherings was truly unsuccessful. The post-test means yielded a f proportion of -4.204823559 which was additionally inconsequential at 0.05 level of certainty. The F- proportion required for centrality at fig 0.05 level of certainty was 2.60.

Table – 4.2.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on GPP

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
GPP	2.885307622	50.49288338		0.62
		50.49288338	38.90711662	0.62
	2.885307622		38.90711662	0.62

*significant at 0.05 level

Table – 4.3

Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on self-confidence of Badminton, Boxing and Control Group.

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Self Confidence	Between groups	2	14.46666667	69.06666667	29.33333333	21.8841	10.94205	8.236391654*
	(influence factor)							
	Within groups	26	43.4	74.8	41.8	34.54101	1.328501	
	(other fluctuations)							
	Total	28	57.86666667	143.8666667	71.13333333	56.42512		

***Significant at 0.05 level of Confidence** **TAB. F.05 (2, 26) = 3.37**

The examination of co-change for self confidence was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f proportion 8.236391654 of which were likewise noteworthy at 0.05 level of certainty. The F- proportion required for noteworthiness at fig 0.05 level of certainty was 2.60Table- 4.3.1

Figure-4.3

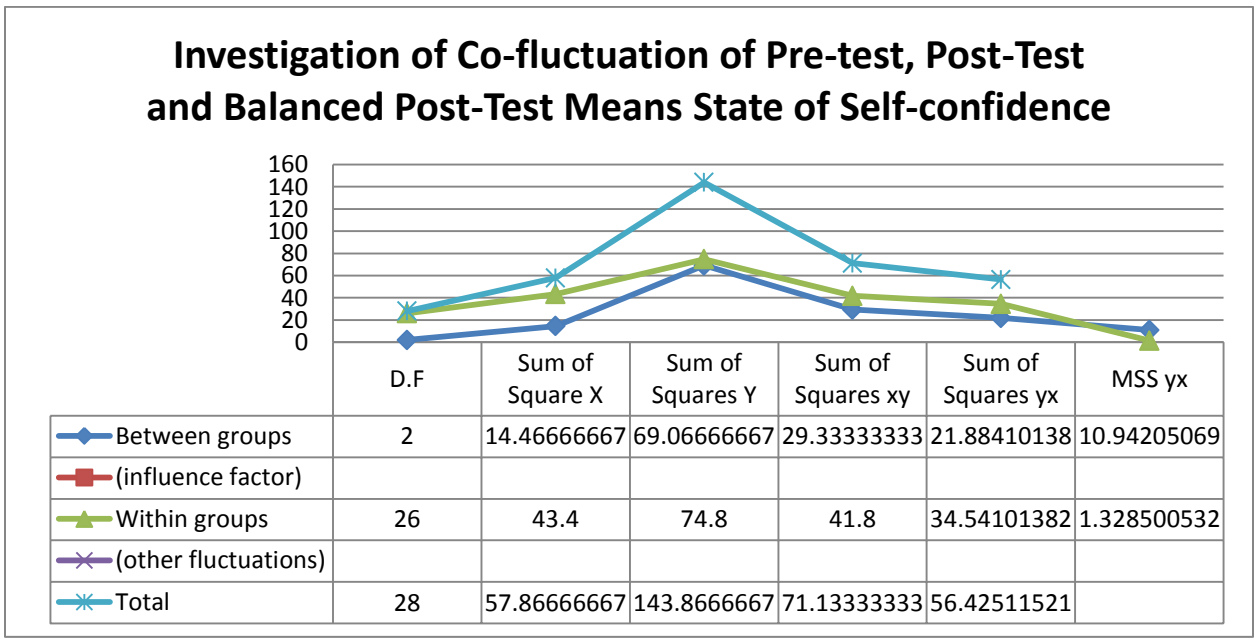


Table – 4.3.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Self Confidence.

The acquired F-worth is critical at 0.05 level of trust if there should arise an occurrence of Self-confidence (8.236391654). In this manner Level of Noteworthy Distinction was depended on discover the hugeness of requested balanced last means (LSD), which is indicated in Table – 4.3.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Self Confidence	0.032104455	-0.834715822		0.62
		-0.834715822	16.43471582	0.62
	0.032104455		16.43471582	0.62

*significant at 0.05 level

Table – 4.4

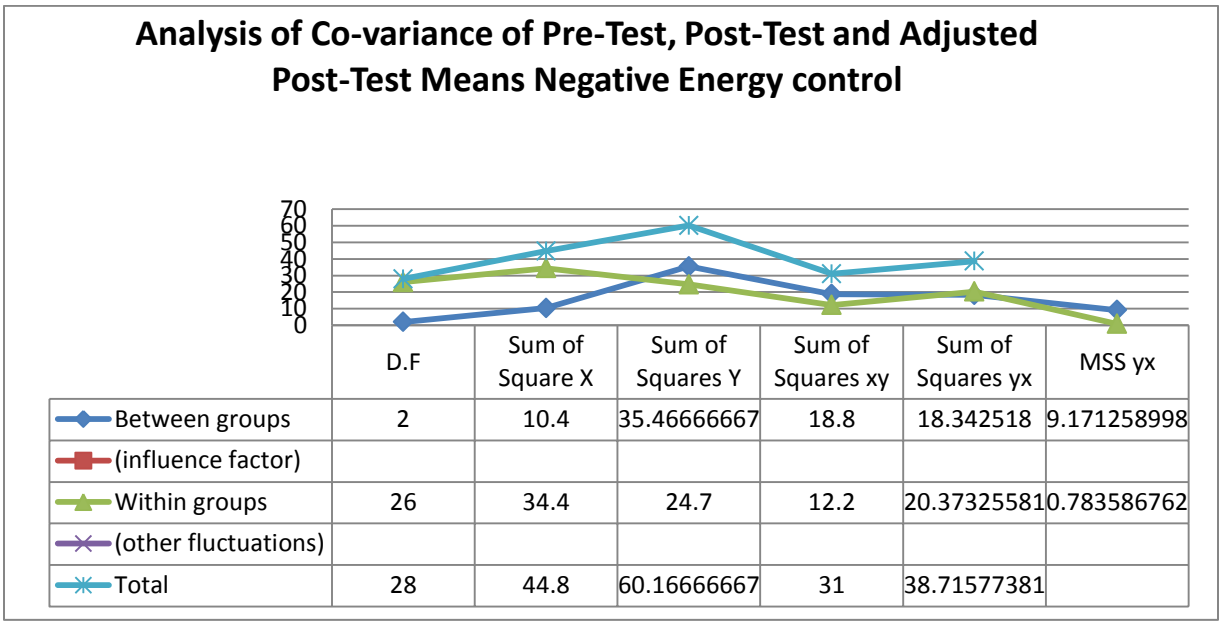
Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on Negative Energy Control of Badminton, Boxing and Control Group

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Negative Energy Control	Between groups (influence factor)	2	10.4	35.46666667	18.8	18.34252	9.171259	**11.7042036***
	Within groups (other fluctuations)	26	34.4	24.7	12.2	20.37326	0.783587	
	Total	28	44.8	60.16666667	31	38.71577		

***Significant at 0.05 level of Confidence** **TAB. F.05 (2, 26) = 3.37**

The examination of co-change for Negative Energy Control was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f proportion 11.7042036 of which were likewise noteworthy at 0.05 level of certainty. The F-proportion required for noteworthiness at fig 0.05 level of certainty was 2.60.

Figure -4.4



	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares xy	Sum of Squares yx	MSS yx
Between groups	2	10.4	35.46666667	18.8	18.342518	9.171258998
(influence factor)						
Within groups	26	34.4	24.7	12.2	20.37325581	0.783586762
(other fluctuations)						
Total	28	44.8	60.16666667	31	38.71577381	

Table- 4.4.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Negative Energy control.

The obtained F-value is significant at 0.05 level of confidence in case of Negative Energy Control (11.7042036). Therefore Level of Significant Difference was resorted to find out the significance of ordered adjusted final means (LSD), which is shown in Table – 4.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Negative Energy control	0.212790698	-0.28372093		0.62
		-0.28372093	17.58372093	0.62
	0.212790698		17.58372093	0.62

*significant at 0.05 level

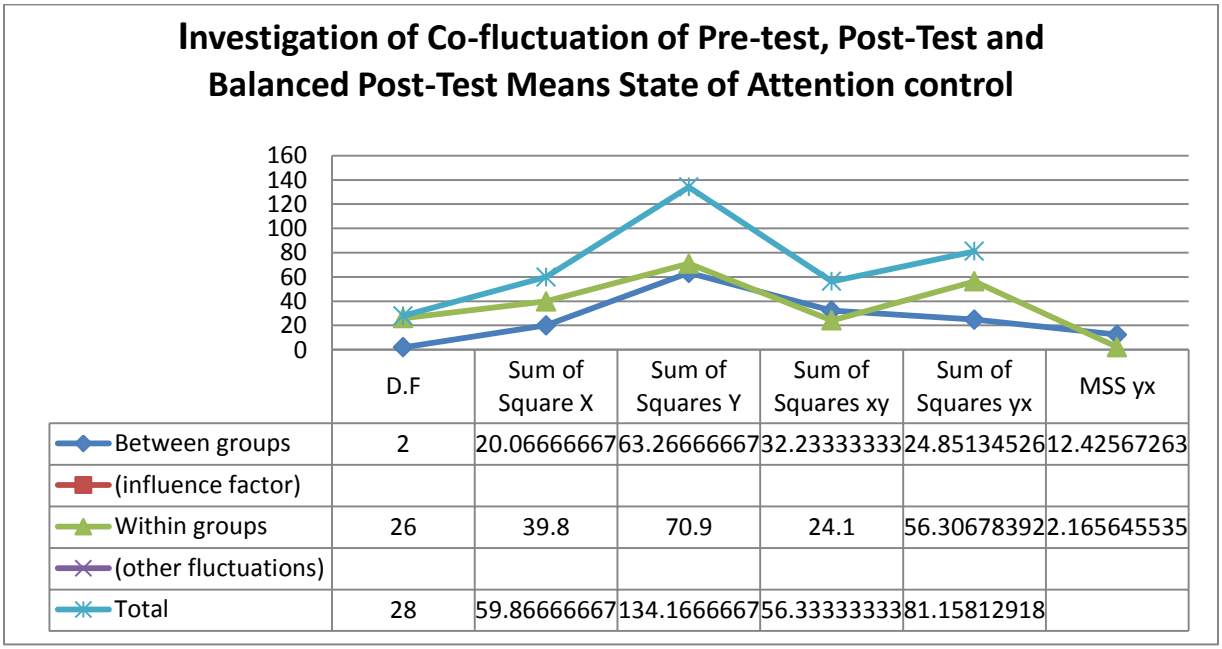
Table – 4.5

Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on Attention Control of Badminton, Boxing and Control Group

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Attention Control	Between groups	2	20.066666667	63.26666667	32.23333333	24.851345	12.425667	5.737629924*
	(influence factor)							
	Within groups	26	39.8	70.9	24.1	56.306788	2.165646	
	(other fluctuations)							
	Total	28	59.86666667	134.1666667	56.33333333	81.158123		

***Significant at 0.05 level of Confidence** **TAB. F.05 (2, 26) = 3.37**

The examination of co-change for Attention Control was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f proportion 5.737629924 of which were likewise noteworthy at 0.05 level of certainty. The F- proportion required for noteworthiness at fig 0.05 level of certainty was 2.60



	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares xy	Sum of Squares yx	MSS yx
Between groups	2	20.06666667	63.26666667	32.23333333	24.85134526	12.42567263
(influence factor)						
Within groups	26	39.8	70.9	24.1	56.30678392	2.165645535
(other fluctuations)						
Total	28	59.86666667	134.1666667	56.33333333	81.15812918	

Table- 4.5.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Attention control.

The obtained F-value is significant at 0.05 level of confidence in case of Attention control (5.737629924). Therefore Level of Significant Difference was resorted to find out the significance of ordered adjusted final means (LSD), which is shown in Table – 5.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Attention Control	0.625711893	-0.585343384		0.62
		-0.585343384	18.38534338	0.62
	0.625711893		18.38534338	0.62

*significant at 0.05 leve

Table -4.6

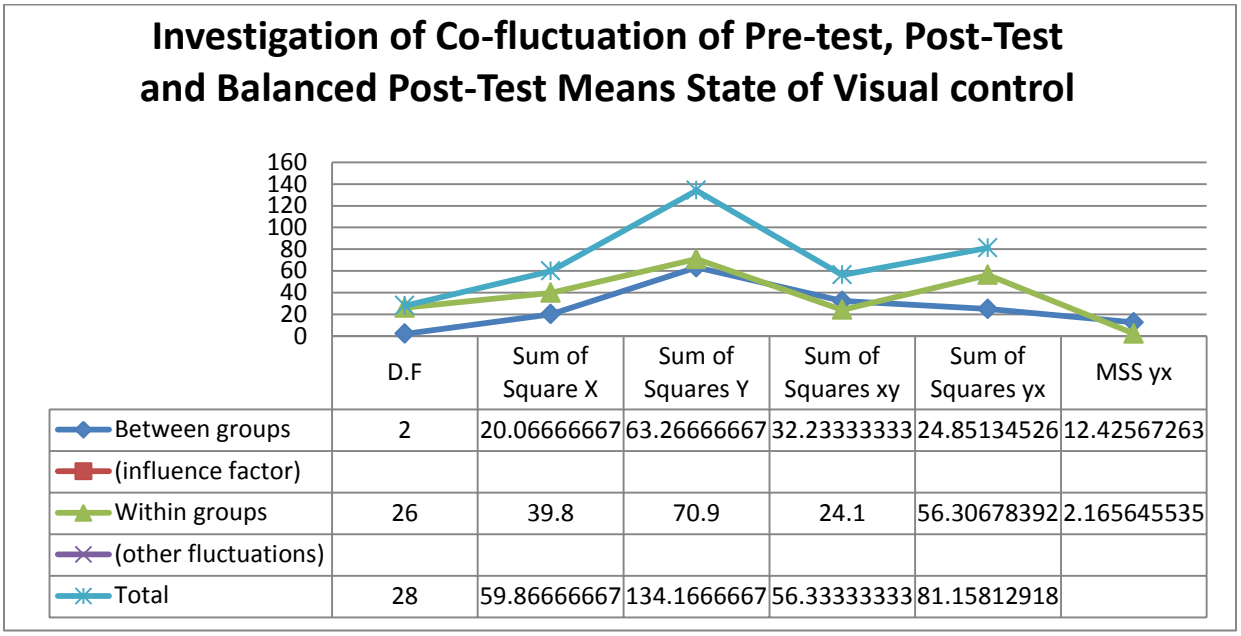
Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on Visual/Imagery Control of Badminton, Boxing and Control Group

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Visual/ Imagery Control	Between groups	2	7.8	30.2	14.1	13.97175	6.985877	4.440195932*
	(influence factor)							
	Within groups	26	69.4	71	45.7	40.90648	1.573326	
	(other fluctuations)							
	Total	28	77.2	101.2	59.8	54.87824		

***Significant at 0.05 level of Confidence TAB. F.05 (2, 26) = 3.37**

The examination of co-change for Imagery Control was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f 4.440195932 of which were likewise noteworthy at 0.05 level of certainty. The F- proportion required for noteworthiness at fig 0.05 level of certainty was 2.60.

Figure- 4.6



	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares xy	Sum of Squares yx	MSS yx
Between groups	2	20.06666667	63.26666667	32.23333333	24.85134526	12.42567263
(influence factor)						
Within groups	26	39.8	70.9	24.1	56.30678392	2.165645535
(other fluctuations)						
Total	28	59.86666667	134.1666667	56.33333333	81.15812918	

Table- 4.6.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Visual/Imagery Control.

The obtained F-value is significant at 0.05 level of confidence in case of Visual/Imagery Control (4.440195932). Therefore Level of Significant Difference was resorted to find out the significance of ordered adjusted final means (LSD), which is shown in Table – 6.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Visual/Imagery Control	0.32925072	-0.460951009		0.62
		-0.460951009	18.46095101	0.62
	0.32925072		18.46095101	0.62

*significant at 0.05 level

Table -4.7

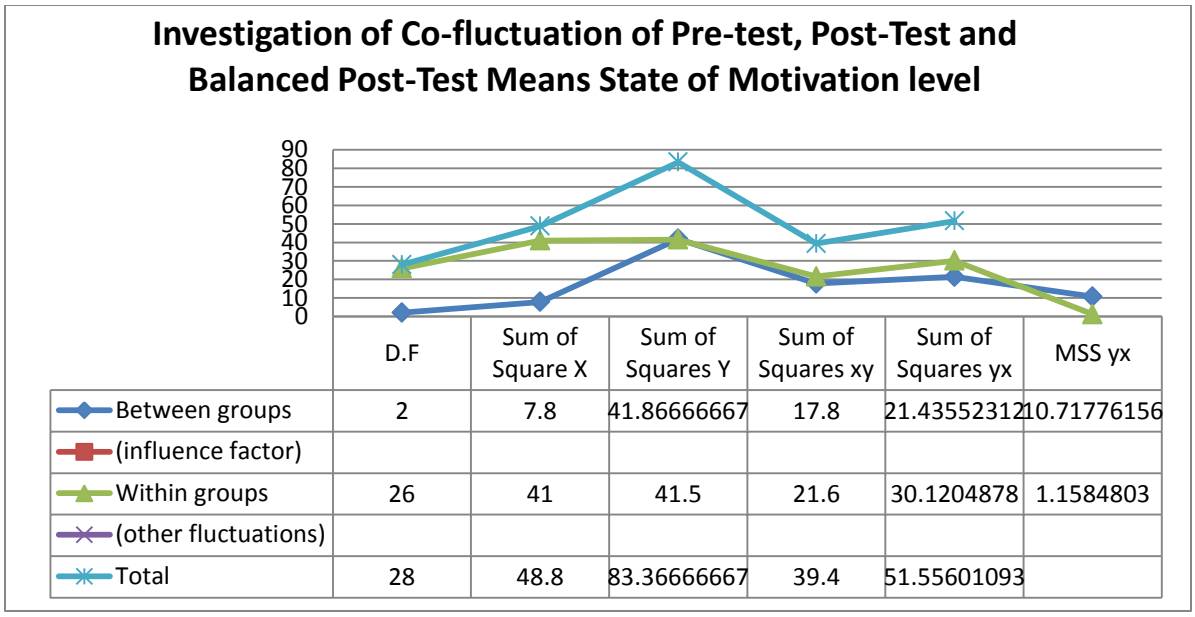
Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on Motivation level of Badminton, Boxing and Control Group

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Motivation level	Between groups (influence factor)	2	7.8	41.86666667	17.8	21.43552	10.71776	9.251569975*
	Within groups (other fluctuations)	26	41	41.5	21.6	30.12049	1.15848	
	Total	28	48.8	83.36666667	39.4	51.556011		

***Significant at 0.05 level of Confidence** **TAB. F.05 (2, 26) = 3.37**

The examination of co-change for Motivation level was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f proportion 9.251569975 of which were likewise noteworthy at 0.05 level of certainty. The F- proportion required for noteworthiness at fig 0.05 level of certainty was 2.60.

Figure-4.7



	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares xy	Sum of Squares yx	MSS yx
Between groups	2	7.8	41.86666667	17.8	21.43552312	10.71776156
(influence factor)						
Within groups	26	41	41.5	21.6	30.1204878	1.1584803
(other fluctuations)						
Total	28	48.8	83.36666667	39.4	51.55601093	

Table- 4.7.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Motivation Level.

The obtained F-value is significant at 0.05 level of confidence in case of Motivation Level (9.251569975). Therefore Level of Significant Difference was resorted to find out the significance of ordered adjusted final means (LSD), which is shown in Table – 7.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Motivation Level	0.263414634	-0.368780488		0.62
		-0.368780488	18.46095101	0.62
	0.263414634		18.46095101	0.62

*significant at 0.05 level

Table -4.8

Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on Positive Energy Control of Badminton, Boxing and Control Group

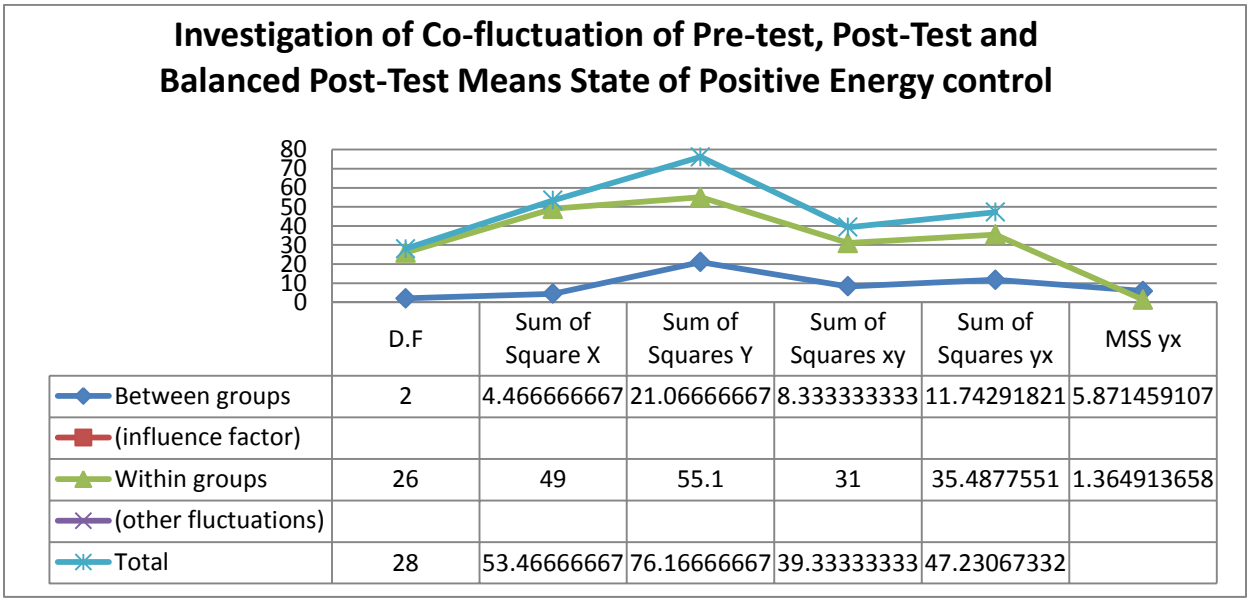
Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Positive Energy Control	Between groups	2	4.466666667	21.06666667	8.333333333	11.74292	5.871459	4.301707345*
	(influence factor)							
	Within groups	26	49	55.1	31	35.48776	1.364914	
	(other fluctuations)							
	Total	28	53.46666667	76.16666667	39.33333333	47.23067		

***Significant at 0.05 level of Confidence** **TAB. F.05 (2, 26) = 3.37**

The examination of co-change for Positive Energy Control was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f

proportion 4.301707345 of which were likewise noteworthy at 0.05 level of certainty. The F-proportion required for noteworthiness at fig 0.05 level of certainty was 2.60.

Figure -4.8



	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares xy	Sum of Squares yx	MSS yx
Between groups	2	4.466666667	21.06666667	8.333333333	11.74291821	5.871459107
(influence factor)						
Within groups	26	49	55.1	31	35.4877551	1.364913658
(other fluctuations)						
Total	28	53.46666667	76.16666667	39.33333333	47.23067332	

Table- 4.8.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Positive Energy Control.

The obtained F-value is significant at 0.05 level of confidence in case of Positive Energy Control (4.301707345). Therefore Level of Significant Difference was resorted to find out the significance of ordered adjusted final means (LSD), which is shown in Table – 8.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Positive Energy Control	-0.105442177	-0.231972789		0.62
		-0.231972789	18.46095101	0.62
	-0.105442177		18.46095101	0.62

*significant at 0.05 level

Table -4.9

Analysis of Covariance of Pre-Test, Post-Test and Adjusted Post Test on Attitude Control of Badminton, Boxing and Control Group

Variables	Source of variation	D.F	Sum of Square X	Sum of Squares Y	Sum of Squares XY	Sum of Squares YX	MSS YX	F-value
Attitude Control	Between groups	2	9.26666667	43.4	19.7	14.5896	7.294801	7.227802355*
	(influence factor)							
	Within groups	26	41.7	53.8	33.9	26.24101	1.00927	
	(other fluctuations)							
	Total	28	50.96666667	97.2	53.6	40.83061		

***Significant at 0.05 level of Confidence** **TAB. F.05 (2, 26) = 3.37**

The examination of co-change for Attitude Control was huge in the event of pretest means from which it is pass that the post-test means is vary essentially and that the arbitrary task of subjects to the two exploratory gatherings was very fruitful. The post-test means yielded an f proportion 7.227802355 of which were likewise noteworthy at 0.05 level of certainty. The F- proportion required for noteworthiness at fig 0.05 level of certainty was 2.60.

Figure -4.9

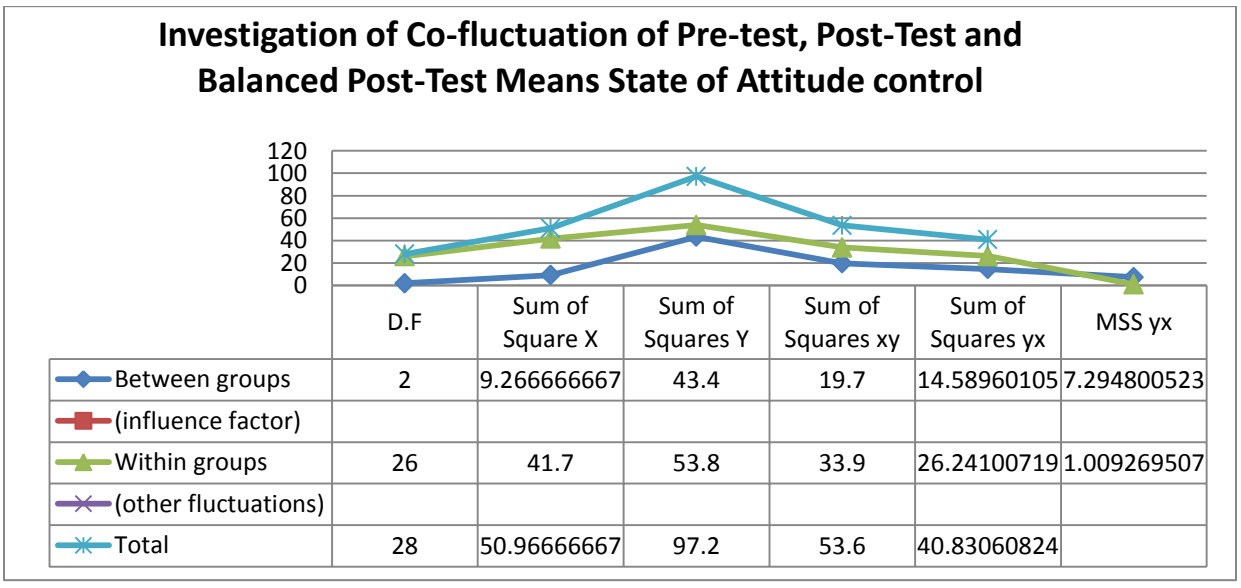


Table- 4.9.1

Testing Significance of Difference among Adjusted Post Means of Badminton group, boxing group and Control group on Attitude Control.

The obtained F-value is significant at 0.05 level of confidence in case of Attitude Control (7.227802355). Therefore Level of Significant Difference was resorted to find out the significance of ordered adjusted final means (LSD), which is shown in Table – 9.1.

VARIABLE	Badminton	Boxing	Control Group	CD AT 5% LEVEL
Attitude Control	0.433573141	-0.623261391		0.62
		-0.623261391	18.46095101	0.62
	0.433573141		18.46095101	0.62

*significant at 0.05 level

Chapter -V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of the present study is to investigate mental toughness variables among sports persons in relation to goal setting ability belonging to various individual sports such as Badminton and Boxing.

The subordinate purpose of the study is to find out (a) the difference in the mental toughness of sports persons at various stages of goal setting over a period of three months (b) To find out the difference in their individual skill performance score at various stages of goal set (c) general performance profiling of the athletes at various stages of goal setting.

The subjects for the study were 30 male sports person (10) for 2 major sports discipline like:- Badminton and Boxing in the age group of 18-28 years, further divided into two experimental groups and control group were selected by using non-probability and judgmental sampling technique having a playing experience of participating in All India Universities competition from Lovely Professional University Phagwara, Punjab. The player's goal was set with the help of the coach.

The first section was demographic information sheet consisting of several questions describing the sample's age, and number of years they had participated in their sport and respectively the second section was Identification of Strength and Weaknesses of each of the sports persons prior to start the goal setting process.

The test items selected for psychological parameters for assessing in this study were as under:

1. Psychological Performance Inventory measuring Mental Toughness by James E. Loehr (1982).
2. Goal Setting (Mark Spargo, AIS 2000)
3. General Performance Profiling by Butler & Hardy (1992).

The test items selected as performance variables for assessing in this study were as under:

Badminton:

1. French Short Service Test (Scott et.al. 1941)
2. Poole Forehand Clear Test (Poole, James and Nelson 1970)
3. Fox Long Serve Test (Scott, Gladys and French 1959)

Boxing:

1. Quick Feet Test
2. Hand Eye Coordination Test (Beashel and Taylor 1997)
3. Punching Speed

Primarily the researcher has tried to make the subjects understand the importance of goal setting in relation to their sport performance in the presence of their coach/s. The research scholar has started with identification of strength and weaknesses of the athletes in relation to their sports performance along with demographic and background characteristics and personal goal setting contract, which was a series of long term goals that covers physical, mental and technical aspects of sports person's performance in the presence of their coach/s. Further all the subjects were exposed to the Psychological and Psycho-Physiological Inventories along with the evaluation of their performance standards.

The research scholar has repeated the implementation of psychological treatment pertaining to goal setting and mental toughness, psych-physiological treatment pertaining to general performance profile and evaluation of performance related to skill continuously over a period of time in an interval of one month to gather the data of every sports person for a period of three months. The whole procedure was repeated for three times with a gap of one month to collect a set of data that pretends the influence of goal setting on some selected psycho-physical variables of sports person's i.e. mental toughness, skill performance. The coach in charge was constantly in touch with the investigator and the guide for recording of their score and personal discussion were held from time to time.

In order to understand the rate of progression in all the dependent variables throughout the training, descriptive statistics such as mean and standard deviation has been applied in the present study. Further to examine the goal setting program on mental toughness, actual performance variables ANCOVA and Post-hoc Test (wherever applicable) has been applied. The level of significance was fixed at 0.05.

CONCLUSION

As far as the psycho-physiological capabilities are concerned, all the athletes have shown a periodic and progressive improvement over a period of time. Howsoever it was seen that prior to the implementation of goal setting treatment the athlete's psycho-physiological parameters need massive improvement to cope up with their performance standards. Major of the athletes' response was periodic and continuous up to the month of December and in the final observation the performance was comparatively better than the initial measurement.

In case of the athletes in the present study, it was observed that they have improved upon their mental toughness score over a period of time. Howsoever it was seen that towards the end of major events and when the major competitions were over, there has been a decline in a few parameters of mental toughness such as attitude control and negative energy control. This may be owing to the reason that they have a feeling that this performance of mine may not be of much importance. Psychological Performance Inventory's scores that indicate mental toughness factors

highlighted that the athletes have scope for improvement and need for special attention in different parameters and the ability could be improved.

The obtained value in adjusted post- test mean of 3.37 is lower than the required value for the selected degree of freedom; hence it indicates that among the groups they do not differ in their mental toughness factor after goal setting.

Post hoc comparison of adjusted post test mean scores revealed no significant difference between the GPP of the Badminton Players and Boxers (2.885307622<50.49288338). Whereas in self-confidence, a significant difference was found between badminton players & Boxers (0.032104455>-0.834715822).

The entire sports person's s in the present study has shown significant and continuous improvement in their performance, over a period of time. The study indicates a progressive pattern of improvement in the performance standard of all the athletes with respect to time.

On the premise of the discoveries of the study, the accompanying conclusions are drawn:

1. Goal setting enhances sports specific performance, skill performance and fitness performance of individual athletes irrespective of their sports discipline.

2. Goal setting program is useful to improve the general performance inventory.

The hypothesis stated:

1. **Hypothesis$_1$**: There would be significant difference in the mental toughness scores of the sports person's owing to goal setting at various interval of time is accepted.

2. **Hypothesis$_2$**: There would be a significant difference in the general performance profiles of sports person's at various interval of time owing to Goal setting is accepted.

3. **Hypothesis$_3$**: There would be a significant difference in the performance of sports person's at various interval of time owing to Goal setting is also accepted.

Recommendations

On the premise of the discoveries of the study and conclusions drawn, the accompanying suggestions are made:

1. Goal setting as a method may be effectively used for improving the performance of sports persons of various sport groups.

2. The study may be conducted on subjects of different age groups and sex.

2. The study may be done for sports persons of different level and with larger sample.

4. The study may be conducted by using different designs other than those employed in this study.

Appendix-A

DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS

Name: Age: Sex: M / F

Education:

Sport Achievement:

1. For how many years have you been participating in your Sport? ……..Years
2. How much time do you devote to training and related activities (such as reading, watching videos in your sport etc)…….. Hours. The average number of hours per week during the year.
3. Based on your experiences how important are psychological or mental factors in determining success at National / International Levels of Competition.

Not at all Important	somewhat important	Extremely important	
1 2 3	45 6 7 8	9 10	National (circle any one)
1 2 3	45 6 7 8	9 10	International (circle any one)

Marital Status: Married Single

Address: (Local)

(Home)

E-mail Id if Any:

THANK YOU FOR YOUR COOPERATION

Appendix – B

PSYCHOLOGICAL PERFORMANCE INVENTORY (PPI)

Instructions: To help you get a clearer idea of your mental strengths relative to the seven variables of mental toughness, place an (√) in one of the five spaces for each item in the following list. Place only one check for each item. Your choices are Almost Always, Often, Sometimes, Seldom and Almost Never. Select whichever one best fits your interpretation of the item. Your response is simply as estimate. Be as open as you can with yourself and respond to each item as it pertains to you in the right here-and-now context.

	ITEMS	Almost Always	Often	Some-times	Seldom	Almost never
1	I see myself as more of a loser than a winner in competition.	1	2	3	4	5
2	I am angry and frustrated during competition.					
3	I become distracted and lose my focus during competition.					
4	Before competition, I picture myself performing perfectly.					
5	I am highly motivated to play my best.					
6	I can keep strong positive emotion flowing during competition.					
7	I am positive thinker during competition.					
8	I believe in myself as a player.					
9	I get nervous or afraid in competition.					
10	It seems my mind starts racing 100mph during critical moments of competition.					
11	I mentally practice my physical skills.					
12	The goals I've set for myself as a player keep me working hard.					
13	I am able to enjoy competition even when I face lots of difficult problems.					
14	My self-talk during competition is -ve.					
15	I lose my confidence very quickly.					
16	Mistakes get me feeling and thinking negatively.					
17	I can clear interfering emotion quickly and regain my focus.					
18	Thinking in pictures about my sport comes easy for me.					
19	I don't have to be pushed to play or practice hard. I am my own best igniter.					
20	I tend to get emotionally flat when things turn against me during play.					
21	I give 100 percent effort during play, no matter what.					
22	I can perform toward the upper range of my talent and skill.					
23	My muscles be tight during competition.					

		Almost Always	**Often**	**Some-times**	**Seldom**	**Almost never**
24	I get spacey during competition.					
25	I visualize working through tough situations prior to competition.					
26	I'm willing to give whatever it takes to reach my full potential as a player.					
27	I practice with high positive intensity.					
28	I can change negative moods into positive ones by controlling my thinking.					
29	I'm a mentally tough competitor.					
30	Uncontrollable events like the wind, cheating opponents, and bad referees get me very upset.					
31	I find myself thinking of past mistakes or missed opportunities as I play.					
32	I use images during play that help me perform better.					
33	I get bored and burned out.					
34	I get challenged and inspired in tough situations.					
35	My coaches would say I have a good attitude.					
36	I project the outward image of a confident fighter.					
37	I can remain calm during competition when confused by problems.					
38	My concentration is easily broken.					
39	When I visualize myself playing, I can see and feel things vividly.					
40	I wake up in the morning and am really excited about playing and practicing.					
41	Playing this sport gives me a genuine sense of joy and fulfillment.					
42	I can turn crisis into opportunity.					

Appendix – C

GOALSETTING

MEDIUM-TERM GOALS

More specifically what areas do you need to improve in order to achieve your goal?

PHYSICAL _____

_____

_____

_____

MENTAL _____

_____

_____

_____

TECHNICAL_____

_____

_____

_____

*Each of these attributes in now a short-term goal which if achieved will help achieve the long-term goal.

PERSONAL GOALSETTING CONTRACT

I, _____ do hereby commit myself to the following goals and activities for this year.

This agreement with me should be in effect from _____

The goals I set for myself are:

Technical

1: _____

2: _____

3: _____

4: _____

Physical:

1. _____

2: _____

Mental:

1: _____

2: _____

I realize I may sabotage my plan by: _____

_____

So I will avoid this by: _____

_____

The short and long term benefits which I will realize by fulfilling my goals are:_____

_____

I agree to make a commitment to give my best effort to achieve my goals.

Signed_____Date_____

Witness_____

Appendix – D

GOAL SETTING

IDENITIFICATION OF STRENGTH AND WEAKNESSES

NAME:- AGE:-

SPORT ACHIEVEMET (SPECIFY THE EVENT):-

Answer all the questions. Take your time. Reflect on what occurs most of the time not on just one or two occasions.

SL NO	GOAL SETTING	YES	NO
1	Do you have a long-term sport goal?		
2	Is your long-term goal a specific one?		
3	Have you set a time when you aim to achieve this goal?		
4	Can your goal be achieved independent of the team's or other Athlete's performance? (i.e., is your goal dependent only on Your personal performance?)		
5	Do you have written goal programme?		
6	Do you have a means for measuring and recording your improvement?		
7	Does your programme consist of intermediate and short-term goals?		
8	Is your goal the outcome of your performance? (i.e., a win, a medal, a team position)		

Appendix – E

GENERAL PERFORMANCE PROFILE
RATING SCALE
PERFORMERS IDEAL
TRAINER IDEAL
0-10 SCALE

Taking various aspects of the training a rating scale can be prepared and both the coach and the athlete can be asked to rate how close they are to the ideal and again after training they can be asked again to rate to see the improvement. This will give an idea regarding RIGHT NOW situation and the IDEAL SITUATION.

SL NO	CHARACTERISTICS	**Not At all** 1 2 3 4 5 6 7 8 9 10 **Very Much so**
1	Confidence in Competition	
2	Relaxation skill	
3	Aerobic fitness	
4	Anaerobic Power	
5	Anaerobic endurance	
6	Imagination	
7	Determination	
8	Concentration	
9	Motivation	
10	Enjoyment	
11	Technical Ability	
12	Originality	
13	Will to win	
14	Flexibility	

APENDIX-1

Raw data of male sports person's

Var▶: S.no: ↓	NAME OF THE SPORTS PERSON'S	NAME OF GAME	GPP		Self Confidnce		Neg.Energy		Attention Control		Visual Control		Motivation level		Positv eng Control		Attitude Control	
			DEc	FEB	DEc	FEB	DEc	FEB	DEc	FEB	DEc	FEB	DEC	FEB	DEC	FEB	DEC	FEB
1	Rakesh	BADMINTON	85	98	16	18	15	19	18	22	17	20	18	21	16	19	18	23
2	Abhishek		89	102	14	15	17	20	19	21	18	20	16	20	17	22	15	18
3	Sarthak Singh		85	94	16	19	18	19	19	20	17	19	17	22	19	22	18	20
4	O Ravi kant		86	97	18	19	16	18	17	20	19	23	15	17	16	18	17	19
5	Abhishikth		87	98	14	19	17	20	16	19	15	18	19	22	18	23	16	20
6	Deepak kumar		89	96	17	21	18	21	15	18	16	19	18	20	17	21	15	20
7	Satninder Singh		90	99	15	19	15	18	16	20	18	22	15	21	19	21	16	22
8	Gursahib singh		92	95	16	18	17	19	17	21	16	20	17	20	16	20	18	20
9	Sarbjeet singh		88	94	18	22	16	20	15	24	17	23	18	21	17	20	15	19
10	Sukhchain Singh		90	93	17	20	15	21	18	21	15	19	17	19	19	21	18	21
11	Dheeraj Kumar	BOXING	87	93	15	18	18	21	19	24	17	21	17	20	18	22	15	19
12	Mahipal		85	96	14	16	18	20	16	19	17	20	18	22	18	20	17	19
13	Sahil Jangra		87	92	16	19	18	20	19	21	15	18	18	21	19	22	17	20
14	Jugal Kishore		88	99	15	18	16	19	18	22	18	20	17	22	15	20	16	19
15	Sahil Sharma		86	95	16	18	17	20	18	21	19	21	15	19	16	18	18	22
16	Pardeep		85	90	15	21	16	19	17	19	20	21	16	19	17	20	15	18
17	Varun		89	96	17	20	18	20	19	20	19	20	17	20	15	21	18	21
18	Ajay		87	94	15	18	16	21	18	22	15	19	18	22	17	20	16	20
19	Rakesh		86	93	16	19	15	18	19	23	16	22	18	20	15	17	19	22
20	Vickey		88	97	14	19	16	19	18	20	15	17	19	20	17	21	18	23
21	Swadesh Raj	CONTROLED	85	89	14	15	17	18	16	18	15	19	18	19	15	19	16	18
22	Robert		86	90	15	15	16	18	18	21	17	20	15	18	19	20	17	19
23	Paramjit Singh		86	88	13	14	15	18	16	17	15	17	16	18	17	18	14	16
24	Rohit Kumar		85	91	14	15	16	16	15	16	14	15	15	19	15	16	16	18
25	Mohinder Singh		84	89	13	14	15	16	16	16	17	18	15	17	18	19	15	16
26	Harpreet singh		85	90	14	16	17	18	15	17	19	20	16	16	17	20	15	18
27	Mohit		87	90	16	18	14	17	16	19	14	17	17	18	16	19	15	17
28	Daman		86	88	13	14	15	18	16	18	15	19	18	19	15	19	16	18
29	K.Gopal		87	89	15	16	14	17	15	17	16	17	15	17	16	18	17	19
30	Antarjot singh		86	90	17	19	15	17	18	19	17	18	16	18	17	19	15	18

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