

CHAPTER 38

PHYSICAL EDUCATION  
&  
SPORTS SCIENCES

Doctoral Theses

01. AGGARWAL (Rajesh)  
**Comparative Study on Implementation of Health and Physical Education as a Compulsory Subject in Government, Government Aided and Public Schools of Delhi.**

Supervisor: Prof. J.P. Sharma  
Th 26245

*Abstract*

The purpose of the Study was to assess the implementation of Health and Physical Education Subject as a compulsory subject in Delhi Schools. As per the allocation of the Directorate of Education, Government of NCT Delhi, eleven districts of Delhi were selected as centres of subjects selection. Six schools from each district (two Government Schools, two Government Aided Schools and two Public Schools) were randomly selected, further 40 students from each school (i.e. 10 students from IXth class, 10 students from Xth class, 10 students from XIth class and 10 students from XIIth class) and 66 Principals/HoS and 66 Physical Education Teachers from respective schools were selected as Subjects. The age of the Subjects- Students, Principals/HoS and Physical Education Teachers were ranged between 14-18 years, 26-59 years and 40 to 59 years respectively. The data was collected through self developed questionnaire. Further the collected data was analysed by computing descriptive analysis, mean and percentage method followed by One Way Analysis of Variance (ANOVA). In majority of the questions, a significant difference was found in the opinions of the selected students for the status of implementing Health and Physical Education Subject as a Compulsory Subject in their schools. It was also observed that Public Schools were found to be most effective in implementation of this subject in terms of facilities, infrastructure, literature availability, allocation of periods, sports participation etc. followed by Government Aided Schools and Government Schools. With the collected responses from the Physical Education Teachers and Principals/ HoS of the selected schools, it was found that the majority of the schools were adopting the syllabus of Health and Physical Education Subject as a Compulsory Subject as per the prescribed norms by CBSE, but the frequency and percentage distribution clearly shows that the Public Schools were most effective in implementation of this subject and with the availability of desired facilities and infrastructure

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1.Introduction 2. Review of the related literature 3. Procedure and methodology 4. Analysis of data, result and findings of the study 5. Summary, conclusion and recommendations 6. Bibliography. Appendices.

02. AMIT  
**Effect of yogic practices on selected psychological variables among male school-going adolescents.**

Supervisor: Dr. Tarak Nath Pramanik  
Th 26240

*Abstract*

The sound mind and sound body of the present youth is the antidote to many woes faced by the modern world. Properly guided youth can be boom to the nation and the same youth can also be curse if they go astray. Yoga aims to lead a person towards wholesome personality development by integrating the mind and body. The primary aim of the present study was to examine the 'Effect of yogic practices on selected psychological variables among male school going adolescents'. In this present study, Decision making, Physical Self-worth, Self-concept, and Global Self-esteem were selected as psychological variables. To achieve the aim of this study, 100 male school going students were randomly selected as subjects between ages 15 to 20 years from Sarvodaya Bal Vidyalaya, Tikri Khurd, Delhi, India. All the 100 students were divided into two equal groups i.e. Group A (Experimental Group) and Group B (Control Group). The study hypothesized that there will be a significant effect of 12 weeks of yogic practices on psychological variables - Decision Making, Physical Selfworth, Self-concept and Global Self-esteem among male school-going adolescents. The twelve weeks yogic training program was designed for the experimental group which consisted of Surya Namaskar, Yogasana (Sarvangasana, Matsyaasana, Halasana, Bhujangasana, Shalabhasana, Dhanurasana, Chakrasana, ArdhaMatsyendrasana, Paschimottanasana, Vajrasana, Yogamudra, Standing Katichakrasana, Tadasana, and Shavasana), Pranayama (Anulom Vilom Pranayama and Bhastrika Pranayama), and Om chanting. Research scholar has given twelve weeks yogic training from May 2018 to August 2018 to the experimental group in the playground of Sarvodaya Bal Vidyalaya, Tikri Khurd, Delhi, India from 6:00 AM to 7:00 AM every day except Saturday/Sunday and gazetted holiday. The resting period of the experimental group decreased as the training progressed 4th, 7th, and 10th weeks. The control group was asked to not participate in any training programme, during the experimental period. To analyze the progress, pre-test data was collected from both groups before yogic training and post-test data was collected after every four weeks of yogic training from both groups i.e. Group A and Group B. The effect of yogic training on the subjects was measured by using selected questionnaires. Decision making was measured by Darden, C. A., Ginter, E. J., and Gazda, G. M. manual of 2 Problem-solving/Decision making Questionnaire. Physical Self-worth was measured by Fox, K. R. & Corbin C. B., Physical Self-perception Profile (PSPP). Self-concept was measured by Dr. Raj Kumar Saraswat's Self-concept Questionnaire. Rosenberg's Self-esteem Scale was used to measure Global Self-esteem. One Way ANOVA and Repeated Measures ANOVA were employed to analyze the effect of 12 weeks yogic practices i.e. Surya Namaskar, Asanas, Pranayama, and Om chanting on selected psychological variables among school going adolescents. The Result of One Way ANOVA; The findings of the study has shown that the pre-test figures of the experimental and control group for the selected psychological variables were not significant, which indicates the homogeneity of the group. The results of Repeated Measures ANOVA; The mean score of the variable Decision Making, Physical selfworth, Self-concept, and Global Self-esteem has shown gradual improvement during data assessment of post-test 1 (after 4 weeks yogic training), post-test 2 (after 8 weeks yogic training), and post-test 3 (after 12 weeks yogic training) respectively for the experimental group. The result of the study shows that the yogic practice program significantly improved the Decision-Making ability, Physical Self-worth, Self-concept level, and Global Self-esteem of male school-going adolescents as a significant difference was obtained between the experimental and control group. The result also reveals that a significant interaction has been observed in the pre and post-test values of the experimental group. Finally, the pair-wise comparison of the pre and post-test values of the experimental group for the variables Decision-making, Physical selfworth, Self-concept, and Global Self-esteem also shows a significant difference. The results also shows that the yogic practice program had significantly improved the sub variable of self-concept, i.e. physical, social, temperamental, educational, moral, and intellectual of male school-going adolescents as a significant difference was obtained between the experimental and control group. The result also reveals the significant interaction between pre and post-test values of the experimental group. Finally, the pair-wise comparison of the pre and post-test values of the experimental group for the self-concept sub variable physical, social, temperamental, educational, moral, and intellectual also shows a significant difference due to yogic practice. The hypothesis, "There would be a significant effect of twelve weeks

yogic practice on Decision Making, Physical Self-worth, Global Self-esteem, and self-concept and its sub 3 components of male school going adolescents is not rejected". The study concluded that the regular and continual 12 weeks of yogic practice significantly improved the decision-making ability, Physical Self-worth, Level of self-concept, and Global selfesteem of male school-going students. In a nutshell we can say that practice of yogic activities plays a very important role in psychological development of an individual.

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1. Introduction 2. Review of related literature 3. Procedure & methodology 4. Result and analysis of data 5. Summary, conclusion & recommendations. Bibliography. Appendices and photos.

03. BABITA

**Assessment of Body Image, Body Shape Concern and Quality of Life in Urban and Rural College Girls.**

Supervisor: Dr. Ekta Bhushan Satsangi

Th 26248

### *Abstract*

In everyday life and academic writing both are using the term quality of life widely. Under this preservation we are getting more than we think about it. The individual may use this term differently as well as personal or professional point of view, therefore some general understanding is needed about the meaning of 'quality of life. Thus one can estimate level of variation in its perception at different age groups from different backgrounds and gender . Quality.of.life related to health (HRQoL) tell us what health effect one's ability to function in the mental, social and physical dimensions of life. The part of H R Q O L combines basic functions such as general activities as well as activities related to their work i.e. homework. It also include the limitation of interaction ability with friends and family (social functioning). Working is considered associatively objective, rather self – evaluation information may be compared with other data such as measures of performance or observations (Reuben DB, 1995). "Regular exercise has likewise been utilized as a treatment for individuals with dysfunctional behaviors and to improve the personal satisfaction for individuals with and without psychological well-being messes". (Monteiro-Peluso and Guerra 2005; refered to in Christine, 2009) "A few investigations have proposed that customary active work is viewed as quite possibly the best cycles for promotion sound personal satisfaction in any populace". (Faulkner and Taylor 2005; Guilherme et al., 2006; Miszko and Cress, 2000; Peluso and Andred, 2005). Normal active work is viewed as perhaps the best cycles to advance personal satisfaction in any populace (Miszko and Cress 2000; Peluso and Andrade, 2005). The body image means the self assessment of various variables of self esteem which aimed on different traits and appearance. "It is an aspect of identity and as such, body image evolves with personality development" (Newman, 2005). Body image disturbances can best be explained as a continuum, with a range of experiences ranging from pathological to ideal with most people imposing the middle (Thompson, 1999). In the pathological end, high levels o f incontinence and body size redundancy have been shown in people suffering from anorexia and bulimia, while at the standard end, anxiety with appearance has been widely shown 2 among average women. "Negative body image or body dissatisfaction has been associated with several adverse psychological consequences, including disorganized eating, depression, social anxiety, impaired sexual function, poor self-esteem, and low quality of life" (Cash, Jakatdar, & Williams, 2004). "The center of body image disturbance is the belief that body size defines identity and determines a person's ability. Consequently, in skeptical individuals, failure to achieve body ideal may promote body dissatisfaction, lower self-esteem, and intense guilt feelings" (Pritchard, 1997). Body-shape concern is extremely important and critical visible fact and function, the body shape of any person is defined by the body composition, fat distribution as well as muscular build. The structures of human body is having no more changed after adulthood the

most of certain and continues stages of growth. "Body shape & the standards of beauty are presently ruled by the Western world that may impact on the mental improvement of male as well as female, rather female, and adolescents are those who undergo from disagreement in the satisfaction of their body image having greater chance to relation with the improvement of troubles in eating behavior"(Francisco et.al 2011 and Thompson 2003). This may be because of the norms of "beauty and thinness" are specially rigid for them (Callaf, et, al, 2005). (Raich, 2004) Conclude in his study that beauties, health and youth is the pride among society that specially concerns with its physical appearance. Factually most of people spent very their crucial time and money to improve and maintain physical appearance of body. But overstated anxiety can be extremely annoying and still inefficient for many people. This specially associated with investigation to individual's physical, cognitive benefits and gender to help.

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1.Introduction 2. Review of literature 3. Procedure & methodology Analysis of data and discussions of findings 5. Summary, conclusion and recommendations. Bibliography and References. Appendix.

04. BAGHEL (Neha)  
**Performance Prediction of Triathletes in Comparison to Selected Cyclic Sports on Psycho-Physiological Variables.**  
 Supervisor: Prof. Pradeep Kumar  
Th 26239

### *Abstract*

In today's world scenario, where sports are the part of main field where competition between countries are at peak. This competition between countries of sports says louder in Olympics where countries prove their self as the best leading in the world. And this competition is now as neck to neck fight. Performance in any sports enhance when we get every knowledge about that specific sports so for the improvement in performance country need to do some research on that sports and then try to predict the performance for better results. Performance prediction is possible when we have some background knowledge of those sports. Talent selection allows optimizing the resources available for sporting talent to design the best strategy to achieve top-level sporting results. But in a country like India, this process is adopted by conducting national competition, without considering those physical, physiological, anthropometrical, and psychological variables which are most important for predicting performance for the international field which is due to the lack of knowledge about this event or a lack of research funds. In this thesis triathlon is the sport of what we are trying to predict performance, and of swimming, cycling and running to. We also correlate the performance with all selected variables of each sport and for assessing the difference we compare all the sports all together. Predicting performance of athletes is an important factor for enhancement of the sports performance. Many developed and developing countries are giving more importance in talent identification, so that their athletes make their countrymen proud. So many sports associations give more stress on development of model for talent identification. This identification and the capacity to promote talent assume the important and fundamental role in order to achieve significant results in an international field. As triathlon is the endurance event and the combination of three sports, it have great scope of performance enhancement due to various factors and 2 swimming, cycling and running all were endurance cyclic sports, which have some common factors therefore in this study, I do this prediction research on triathletes, swimmers, cyclists and runners on some selected physiological and psychological variables. There is some variables, which really influence the performance of particular sports. As, we do in this study, we assess from select psycho-physiological variables that which are those variables and how much they affect the sports performance. As human physiology have great area for improvement so, we took vital capacity, fat percentage, BMI and oxygen saturation as the

physiological variables to see the best predicting variable to the athletes performance and help to improve the timing of performance same, psychological variables taken achievement motivation, goal setting, anxiety control, maintaining confidence, concentration and mental rehearsal for assessing athlete's psychological abilities in predicting the performance. Effective psychological training plays a prominent role in solving and preventing mental problems, and enhances the level of sports performance. Therefore, the research scholar after having gleaned the literature and series of discussion with the experts in the field of physical education and sports psychologists' scholar undertook the present research to analyze the performance prediction of athletes. The objectives of the study based on the assessment of the selected parameters to predict the performance time of the triathletes, swimmers, cyclists and runners by developing prediction equation of performance time through regression also assess the relationship between performance time and selected variables of triathletes, swimmers, cyclists and runners. We assess the psycho-physiological variables of triathletes, swimmers, cyclists and runners. And that which variables play major role among all these selected sports. The null hypothesis of the study were taken that there will be no significant differences in selected psychological and physiological variables among triathlon, swimming, running and both male and female. There will be no significant coefficient of correlation in selected variables and sports performance time among triathlon, swimming, cycling and runners in both male and female. And the scholar was able to predict the performance time of the triathletes, swimmers, cyclists and runners in terms of their physiological and psychological variables.

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05. BAJAJ (Garima)  
**Indian Olympian Gymnast Dipa Karmakar - A Case Study.**  
 Supervisor: Dr. Ekta Bhushan Satsangi  
Th 26238

#### *Abstract*

A status study entitled an assessment of Body image, Body Shape Concern and Quality of life in Urban and Rural college girls. The objectives of the study were to assess the Relationship of body image with body shape concern and quality of life among Urban and Rural college girl and comparing mean body image and body shape concern and quality of life between Urban and Rural college girls. The study was delimited to 500 Urban and 500 Rural College girls (N=1000 of Age range 18-24Years) of Delhi and Uttar Pradesh. The descriptive statistics and Z-test was applied for comparing mean Body Image, Body Shape and Quality of life concerns difference between group and Pearson product moment correlation was applied for assessment of relationship of body image, body shape and quality of life concerns among urban and rural college girls. Findings of the study revealed that the mean body image of Rural College Girls is significantly greater (7.654608%), than the mean body Image of Urban College Girls. Whereas the mean body shape of Urban College girls is significantly greater (16.1874%), than the mean body shape of Rural College Girls and the researcher conclude that the mean quality of life of Urban College girls is significantly greater (2.4874%), than the mean quality of life of Rural College Girls. Correlation was calculated by Pearson product moment Correlation revealed that Body Image of Urban and Rural College Girls were negatively correlated with the Body Shape of Urban and Rural College Girls. The Body Image Body Image of Urban and Rural College Girls was positively correlated with the Quality of life of Urban and Rural College Girls. Body shape of Urban and Rural College Girls was Negatively Correlated with the Quality of life of Urban and Rural College Girls.

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06. GOYAL (Abhishek)  
**Role of Team Sports and Individual Sports on the Selected Psychological Attributes of Athletes.**

Supervisor: Prof. J.P. Sharma

Th 26239

*Abstract*

Many studies have already been conducted on so many psychological variables of the Players of Individual Sports and Team Sports. According to these studies, it was found that some variables improve the performance of Players and played a positive role in their success in particular sports. Out of which maximum studies did compare the Players of Individual Sports and Team Sports related to some Psychological Variables. An athlete was good in particular psychological attributes which are helpful to handle the psychological aspects related to performance. This quality of player's makes him success. After knowing that which psychological variable's role is important in improving the performance so athlete can concentrate on that variable to improve his/her overall performance. Also, the type of sports affects the athlete's psychological status. Players of Individual Sports and Players of Team Sports both type of sports affects the psychology of an athlete because of the nature of the sports and the requirement of the sports. Different types of games and sports need different type of psychological attributes in the athletes to achieve the success and gain mastery on the skill. The purpose of the present study was to explore the role of Individual Sports and Team Sports related to selected Psychological Variables of Athletes. For the present study total 500 subjects were selected out of which 250 subjects were from Individual Sports and 250 subjects were from Team Sports. The selected subjects were from both sexes (Male and Female). 250 subjects were belongs to Team Sports such as Hockey, Football, Cricket, Volleyball, and Basketball and another 250 subjects were belongs to Individual Sports such as Track & Field, Yoga, Badminton, Table-Tennis, and Swimming. All subjects were form college level athletes and their age was ranged between 17-25 years.

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1. Introduction 2. Review of related literature 3. Methodology 4. Analysis of data and result of the study 5. Summary, conclusion and recommendations. Bibliography. Appendices.

07. KHARE (Pritish)  
**Ease of Doing Business in Sports Service Sector through Proposed Working Start-Up Model.**

Supervisor: Prof. Samiran Chakraborty

Th 26249

*Abstract*

Start-up firms are a driver of economic growth, innovation and employment opportunities. Unfortunately, upto 8 out of 10 start-ups fall in the failure traps in the current start-up ecosystem. This figure is even worse when we talk about Start-ups in sports Service sector. As in India, out of every 1000 start-ups opened, less than 5 belong to sports sector. In addition, there are very few researches in the area of Business Model, specifically in respect to Sports sector. Hence, the thrust of this research was to provide our budding entrepreneurs with a framework and a system by providing a

Working start-up model especially in Sports service sector. To accomplish this goal, the scholar adopted following Research Strategy. Research Strategy The research strategy used by the scholar was divided in three phases: In the Phase – 1, the scholar undertook two primary case studies in which he selected two start-ups in the field of Sports service sector which were running successfully. The scholar studied the company's model and also took the Interviews from their Founder or top-level management people. The scholar made a self-structured questionnaire with open ending questions based on their start-up's journey, with the help of the experts, covering all the major points to be known in order to establish an appropriate Start-up model. Also, the scholar undertook three of the existing case studies of start-ups in the sports service sector too. Used Business Model Canvas (Osterwalder 2010) to pinpoint the learning from the case study's business models. After processing and assessing all the information, the scholar proposed a theoretical start-up model in sports service sector. In the Phase – 2, the scholar tested the theoretical start-up model to ensure workability of the model. To test the start-up model, scholar established a start-up named "Novozion Sports", and also established the Business Model components proposed in the theoretical model. The scholar took the customer's feedback of the services provided to them and found a rating of overall 4.48 out of 5. This indicated that each component was structured/constructed appropriately to ensure the customer's feedback rating of 4.48/5. The results of the feedback are of great significance as it shows that the model was successful at ensuring the approval of the customers, the model was successful at creating "Customer Value" and customers will be now returning to you which will directly reflect in the continuous flow of revenue and thus will promote "Sustainability" BM component as well. This also indicates that the "Mission" BM component's major goal and objective was met, and "RID" and "Organisation Structure" BM components contributions were also significant in this success. In the Phase – 3, the proposed "Working Start-up Model" was then accounted for a face validity from 10 experts (experts from the Sports Management subject and CEO's/Founders/Chairmen of the existing start-ups). Face validity was ensured on the selected Business model components and on the overall proposed working Start-up Model. On overall "Working Start-up Model" the average rating received was '9.05'. And all the BM components also received average rating above '8.5'. Conclusion and Findings These points are the outcome of this research and a budding entrepreneur may keep these points in mind before entering a startup or boosting an existing startup. On the basis of all the case studies or from the customer's feedbacks along with the scholar's experience of opening a start-up, running it and sustaining it, the conclusion is drawn for the working model proposed by the scholar. Scholar summarises the conclusion in following ways: 1. If one wishes to open a start-up in sports service sector, he/she must be passionate about sports. Passion is the pre-requisite for a successful business in sports. 2. A thorough market analysis should be done to answer the following questions: Is there a need of a service/solution that you are offering? What is actually needed by the customers? What are the gaps in the market? Are the solutions to customer's needs provided? What are the solutions that are provided in the market? How satisfied are customers from the services that are provided and what improvements can be done in order to improve customer value? All this investigation goes a really long way and gives you several advantages before opening up the start-up. 3. Laying out all the objectives and goals of the organisation is the next step. Finding the "Mission" BM component of model helps you to be aware of your goals and helps you align your actions along with it. After this, one needs to develop business strategy according to the nature and plan of the business. Determining the nature of your business helps you design the strategy accordingly. 4. Almost all the start-ups do have financial struggles in the beginning and hence managing the resources can be of utmost importance, hence prioritizing of the objectives should be done in order to avoid the state of confusion and also minimize the risk of making a wrong decision, because in a start-up, wrong decisions are highly taxing on the budget and can be terminal for the start-ups too. 5. Building a strong team of experts from all the sectors that are required in the start-up. One needs to build a strong organizational structure that will help allocate a department for each sector of the startup and lay down the responsibilities of each department and positions in it. This will help in achieving operational efficiency too. This is looked under the "Organisation Structure" BM component. 6. Rule of specialization. Do the work that fits in your area of expertise (Reum and Reum 2018). Also, assign the work to employees keeping this rule in mind as with this rule the processes become very efficient and

effective (Curt Roberts 2021). It saves a lot of time too which can be used towards improving upon the services that are provided, improving “customer value” or the saved time can be utilized to counter other numerous loop holes that a start-up has to overcome. This rule also helps you to avoid many mistakes that are not intentional but still majority entrepreneurs commit it due to lack of experience or expertise in a particular area. Also, these mistakes can be terminal or can be taxing on the financial resources of the start-up. 7. Knowing all of your “Unfair Advantages” against your competitors is the next step. And once you are aware of this then you should build your business around your unfair advantages (Reum and Reum 2018). 8. Nowadays, in the start-up ecosystem, Partnerships, Associations and Collaborations are indispensable in determining business success, by establishing a business partnership both parties can further expand their respective businesses. Using the resources available at your disposal to provide a service to another company in lieu of services that are required for the growth of your start-up in no or negligible cost. These partnerships eventually ensure and strengthens the sustainability of a firm. 9. Start-ups are never easy. They are full of hustle and hardships. There will be unseen situations or exigencies in the start-up all the time and one should be mentally prepared for it. Studies have also found that anticipation and reaction to sequences of voluntary and emergent change lead to sustainability of the firm. 10. Start-ups require patience. There is no magical formula for overnight success or getting rich quick. A certain amount of time is needed for a business to establish itself, define and discover effective processes, reduce unintended losses, comprehend market demand, work together to find solutions, build a team, and create an organisational structure. Establishing a strong business structure takes three to five years and is a gradual process overall (Chris Kolmar 2022). 11. One has to keep re-investing the revenue generated back into the company to improve the services or to better itself, otherwise the competition in the market will get better of you and you will eventually end up failing. If the entrepreneur properly reinvests an adequate proportion of profits into the business, the longer-term debt will be converted into equity in an orderly fashion (P Dunn et.al. 1993). 12. One has to be flexible in the goals or strategies that are set for the start-up. As there will be situations where your set strategy will not work and you will need to be flexible enough to change the course a little to stay in the market and keep the revenue and the process flowing and going. 13. Leveraging social media to boost the business. Social Media in today’s startup ecosystem plays a significant role in building the customer base. Majority of people today are present on social media, they love to socialise there, spend time on social media handles and it hence becomes a place to showcase about the services or products that they consume through advertisements. The advertisements alter the user’s attitude toward the product as well as how the product is consumed by them (Naveen Rai 2013). 14. A start-up must refine the services that it is providing in a small population or in a smaller demographic group before scaling it big (Reum and Reum 2018). This becomes important in a way that a product/service can be made fit to the needs of market (Product/Service Market Fit) and as the population is small to which the services are offered, process of refining of service becomes easy. 15. Acquiring more and more customers and retaining the existing customers are always the prime objectives of any start-up. An emotional connect with customers through value-based advertisements goes a long way in sufficing both the objectives. Adding a sense of value or social significance in the advertisements (Online or offline) gives a boost in the emotional connect and drives the audience to use the products/service even more. Furthermore, when companies connect with customers’ emotions, the payoff can be huge (S. Magids et.al. 2015). 16. Always thriving to improve the services provided to the customers. This cannot be done without the genuine feedback of the customers. This process always helps to know the loop holes or the area of improvement and thus makes the product/service even better (Product Market Fit). Also, it helps to generate a sense of accountability in the eyes of the customer and they tend to develop a perception of the start-up as responsible and someone who value their point of view too. It helps immensely in retention of the already existing customers and develops a great image of the company in the eye of the customers. Educational and Practical Implications 1. This study will provide budding entrepreneurs with a framework and a system to open up their enterprise. 2. The students or the budding entrepreneurs will know what points should be kept in mind before opening or running a start-up. 3. This study will assist in developing entrepreneurial skills as they would learn to understand the importance of business model and how it is constructed. 4. This study has also



highlighted the importance of Sustainability component in the business model and also incorporated different ways to ensure it. 5. Also, this study will provide a base for more studies to be taken on such topics and it will eventually strengthen the structure of our Institutions that are teaching Physical Education and sports. 6. When the students of our field will start opening more and more start-up in the sports sector, it will then be providing lots of employment to the disciples of Physical Education and Sports. 7. When there will be multiple sports service providing companies, it will contribute towards improving the sports culture in the city and eventually the nation. As sometimes there is the market need that is to be sufficed and sometimes the market need is to be created by educating and advertising, so when these companies will act towards creating a business for themselves it will contribute in improving the sports culture in the country. 8. Also, when the number of start-ups would be competing with one another, the quality of services would also be improved. 9. And ultimately, after some time when the sports culture would be better established and quality of services would be developed too, it would then simultaneously improve the health status of the people consuming and engaging in sports activities. This will eventually help in increasing the base of sportsperson to work on and build them for Olympics and other significant national and international competitions.

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1.Introduction 2. Review of related literature 3. Presentation analysis of data and interpretation of the data 5. Testing the model 6. Summary, conclusion and recommendations. Bibliography. Appendices.

08. MISHRA (Jyoti)

**Assessment of Functional Fitness and Psychological Well Being in Relation to Physical Activity: A Study on Elderly Women.**

Supervisor: Prof. Sandhya Tiwari

Th 26247

### *Abstract*

“Ageing in India is exponentially increasing due to the impressive gains that society has made in terms of increased life expectancy. With the rise in the elderly population, the demand for holistic care tends to grow. By 2025, the geriatric population is expected to be 840 million in developing countries .Physical Activity and Older Adults It is very important for older people to remain physically active as this can help in decreasing the risk of many age-related conditions. A study found an association between physical inactivity and depression, and that such an association was independent of pre-existing physical or psychological health status ( Bherer, L.et al 2013) STATEMENT OF THE PROBLEM The purpose of the present study was: “ An Assessment of Functional Fitness And Psychological Well Being in Relation to Physical Activity : A Study On Elderly Women ” OBJECTIVES OF THE STUDY The following were the objectives of the study based on the assessment of the selected parameters and on the basis of age classification done in the study (60 - 64 and 65-70 years old women). 1. To assess the physical activity participation in 60 to 64 years and 65 to 70 years old women. 2. To assess the functional fitness using the senior fitness test for the functional fitness component 3. To assess the psychological well-being of 60 - 64 years and 65 - 70 years old women. 4. To assess the relationship between physical activity participation and functional 3 fitness in 60 - 64 years old women. 5. To assess the relationship between physical activity participation and functional fitness in 65 - 70 years old women. 6. To assess the relationship between physical activity participation and psychological wellbeing in 60 - 64 years old women. 7. To assess the relationship between physical activity participation and psychological wellbeing in 65 to 70 years old women. 8. To compare the functional fitness between the two age groups (60 to 64 years and 65 to 70 years). 9. To compare the psychological wellbeing of the two age groups (60 to 64 years and 65 to 70 years). HYPOTHESIS The following were the hypothesis framed for the present study: Hypothesis 1: There will be no significant relationship obtained between physical activity participation and functional fitness parameters in 60 to 64 years and 65 to 70 year age groups in women. Hypothesis 2: There will be no

significant relationship obtained between physical activity participation and psychological well-being in 60 to 64 years and 65 to 70 year age groups in women. Hypothesis 3: There will be no significant difference obtained in the functional fitness 60 to 64 years and 65 to 70 year age groups in women. Hypothesis 4: There will be no significant difference obtained in psychological well-being in 60 to 64 years and 65 to 70 year age groups in women. 4 DELIMITATION The study was delimited to the following: 1. The study was delimited to the women in the age group 60 to 70 years old of Delhi region. The classification of the age group selected was 60 to 64 years and 65 to 70 years. 2. The subject selected for the study were those who were independently living, not requiring cane or other assistive device to walk and with no medical conditions that would prohibit their participation in fitness testing. 3. The study was delimited to the assessment of the following parameters: a. Physical activity participation levels b. Functional fitness components; Lower body strength, Upper body strength, Lower body flexibility, Upper body flexibility, Agility and Aerobic endurance. c. Psychological well-being PROCEDURE AND METHODOLOGY The subjects selected for the study were community residing independently living without regular use of assistive device and without any medication condition that prohibited the subject from participation in the test. A total of three hundred (N=300) women, 150 each in the age category of 60 - 64 years and 65 - 70 years from Delhi region, were selected as the subject of the study. DISCUSSION OF FINDINGS The data about participation in physical activity, functional fitness and psychological well-being revealed that the participation in strength and flexibility activities declines as the age increases. Whereas, the women in later old age shows more interest in aerobic activity. The participation in the type of physical activity have immense contribution in the related functional fitness variables also. As far as psychological well-being is concern, the women in early old age are more in the positive state of psychological well-being than the women with late old age. The phenomena of aging is multi-dimensional, which affects all the physical and mental parameters of women. As the age advances, all the parameters of human body begins to decline which results in decline in functional fitness and well-being aspect. But, the involvement in physical activity slows down the rate of ageing with positive and supportive changes in quantity and quality of physical and mental aspect of body. The loss in bone mineral density results in decline in strength and flexibility. Hyperplasia due to ageing results loss of skeletal muscle that causes muscle weakness and disability in the aging population. "The gradual decline in the upper and lower body strength from the 60 years to 70 years in our study is slightly consistent with the findings of Milanović et al., (2013) that reported an equal reduction in physical activity level and functional fitness of women due to the aging process, which can be restored by participation in regular physical activity". This is probably due to the reduction of muscle strength in both upper and lower limbs and changes in body-fat percentage, flexibility, agility, and endurance. The decline in agility is may be due to stress and fatigue associated with slower walking speed in older women, which suggest that muscle strength is one of the underlying factors explaining this association (Manty et al., 2012). Aging affects all lower body parts too, but femoral muscle mass is the mainly associated with physical function in older women (Buford et al., 2012). In later age, physical limitations do not occur because of obesity or over weight rather physical fitness is associated with physical activity and inactive lifestyle (Riebe & et al., 2009). The study by (Gouveia et al., 2013) showed a decline in functional fitness with age, better performance of women, and increased proficiency in active participants but only if they are involved in some physical activity. Active participants scored better in functional-fitness tests than their average and non-active group. Aging is associated with changes in body composition and muscle strength. According to Raguso et al., (2006) healthy elderly women undergo body composition changes over a period of time even though body weight also remains unstable. As people age they have an increase in their percentage body fat and a decrease in fat free body mass and bone mass (ACSM. 2010; Dewan & Wilding, 2003).

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09. NARAYAN (Tribhuvan Ram)  
**Development of A Psychological Intervention Program for Athletes Problem: An Experimental Study.**  
 Supervisor: Prof. Lalit Sharma  
Th 26235

*Abstract*

"A healthy mind resides in a healthy body" is a popular saying since time old and is appropriate since sports, games and physical activity contribute a lot to make an individual healthy and fit. A healthy is considered to be the pillar of a strong society. An individual who is himself physically fit can only contribute to the nation and society. Or else he will be a liability to the nation and the society. According to (WHO), "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." In other words, it is the mind and the body where the individual lives most and serves best. Academic studies though important but still have a limited scope as they only serve the purpose of nourishing the mind but physical activities keep one mentally as well as physically healthy. Sports is a remarkable setting in which the psychophysical capabilities are put to test under highly demanding conditions. The competitive athletic activity tests both mind and the body of the individual. The success in athletic activities implies the development of specific physical qualities and psychological attributes. The process of training particularly helps in development and modification of both these are the aspects of human behaviour. It could be safely stipulated that the training imparted to the athletes will have definite consequences on their psychological attributes in addition to their physical capacities and psychomotor skills. This is the very focus of the present investigation. Now a day the importance of Psychology in sports is increasing day by day. Many psychologists and coaches say that in a competition "physical is ten percent and ninety percent mental". Usually in a competition situation, the probability is that both team posses nearly the same physical skills and fitness level. But beyond that, the winner is determined by mental preparation. 1. The study was further delimited to athlete's age ranging from 14 years to 25 years. 2. The study was delimited to active athletes of team and individual games. 3. The data was collected from colleges, institutions, sports clubs and sports academies of Delhi NCR. 2 4. The study was further delimited to selected athletes problem, which are as follows: A. Coach related problem B. Field related problem C. Anxiety prone D. Trainability Development of training program for selected athlete problem On the basis of literature and in consultation with the focus group. Training program for each related athlete's problem (Coach related problem, Field related problem, Anxiety prone, Trainability) in consultation with supervisor and other experts was developed. This study is useful for athletes as : ∞ It will be helpful to find out the dominate problem among athletes. ∞ Assessment of the problems among the athletes will help to develop the need based program. ∞ It will be helpful to design sound training program ensuring the mental-physical development. ∞ Psychological training program can be incorporated in psychological periodization. ∞ Timely intervention in athlete's problem will prevent the athletes from drop out. The study is for Effective psychological training which plays a prominent role in solving and preventing mental problems, and enhances the level of sports performance. As, Based on the identified problems, an individual's psychological training program is an essence if rendered in a systematic manner to achieve better mental health. The Psychological Training Program and its intervention have been 3 commonly applied in developed countries, by successful sports teams and individuals. Since psychological intervention has beneficial effects on mental capacities of the athletes, hence it becomes important and necessary to give Psychological Training for successful sports performances and to resolve the athlete's problem. Keeping in mind aim scholar has set following objectives for the present study. Based on the assessment of the selected parameters following objectives were set for the study 1. To revalidate the athletes problem questionnaire for evaluating athletes problem by computing exploratory factor analysis. 2. To develop the norms for interpreting the data. 3. To assess the dominant problem among athletes. 4. To find out the training effect of self developed psychological training intervention program on coach related problem. 5. To find out the training effect of self developed psychological training intervention program on field related problems. 6. To find out the training effect of self developed psychological training

intervention program on anxiety prone. 7. To find out the training effect of self developed psychological training intervention program on trainability. To achieve the above set objectives for the purpose Selections of the subject for the purpose of the study were carried out in two phases. In first phase, a total of 719 athletes (589 males and 130 females) selected through convenient sampling were administered athlete's problem questionnaire and the age group of subjects is 14 to 25 years. On the basis of the data collected by administering the questionnaires. This data used for questionnaire development (re-structuring). 4 In The second phase, total of 50 athletes (15 males and 35 females) were selected for experimental part of the study. Age Group of Subject is 14 to 25 years. In the study the Athletes' problem questionnaire developed by Sharma, Tiwari, and Meenakshi (2007) questionnaire was modified and revalidated by Tribhuvan, Sharma & Meenakshi (2020) and was used as criterion measure for the collection of data. Following Statistics application were computed: Descriptive statistics, Skewness, Kurtosis, Mean, Standard deviation Exploratory Factor Analysis: Exploratory Factor Analysis was used to extract problems of athletes which can hamper the performance in sports. To determine the adequacy of extraction and number of factors, the following criteria were used: a) Polychoric correlation – polychoric correlation is suggested instead of Pearson correlation for correlation analysis as the items level of measurement was bivariate and skewness and kurtosis values were more than one. b) PA-MRFA – Parallel Analysis (PA) Based on Minimum Rank Factor Analysis in which 95th percentile criteria was used to retain the factors. c) Percentage of variance accounted for by each factor, d) Cumulative percentage of variance accounted for by the derived factors, and e) ULS- Robust Unweighted Least Squares method was used for factor extraction. f) Oblique rotation-for oblique factor rotation, promin rotation was executed factor rotation. Item analysis was undertaken to eliminate any unnecessary items. Items were retained for factors if rotated component were greater than .30, and no cross –loadings were greater than .25. For establishing reliability of the questionnaire, Alpha coefficient to test inter-item correlation was employed. Paired t-test was applied to study the effect of treatment on athletes problem namely coach related problem, field related problem, anxiety and trainability. One way repeated measure ANOVA was computed to measure the dependent variables which were measured more than two times from the same set of the individuals. One way repeated measure (within subject) analysis was computed.

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10. SHARMA (Alok)  
**Nutritional, Kinanthropometric and Motor Component Assessments of Boys and Girls Belonging to Different Socio-Economic Groups.**  
 Supervisor: Prof. Sarita Tyagi  
Th 26236

#### *Abstract*

Nutrition today is considered as an important science that ensures and maintains the food necessary for health and growth as well as for physical performance. In case an individual consumes more calories than what the body needs causes increase in body fat and eating less than what the body needs has harmful effect on performance and may also lead to injury and illness. Proper as well as diet with balanced nutrients can support in the development of different motor components that affect performance in different games and sports and also contribute to enjoyment of life. There are scientific evidences that overall health and well-being of people has been linked good nutrition. Proper and balanced nutrition reveals that diet which we consume is supplying all the essential nutrients to guarantee our normal tissue growth, repair and maintenance. A diet that has been well-designed can provide the following benefits to a sports1person: 1. Better preparation to participate in

a sport. 2. During training as well as in competition the pace of recovery is improved. 3. In terms of performance enhancement, the contribution is optimum. 4. Chances of injury and illness are reduced. 5. High sports performance level can be consolidation and stabilization. 6. Satisfaction and enjoyment. Kin-anthropometry as a scientific discipline contributes to the study of measurement of body form, size and shape. It has been considered as an important tool in the identification of talented children at a relative younger age so that they could be rightly directed to a sport or an event. For example, individuals who have tall stature, long legs and shorter trunks are a good talent for events like jumping, hurdling and pole vaulting. Individual who have average stature, narrow shoulders and short legs are most suited for long distance running and on the other hand heavy muscled individual who are tall and have long legs and broad shoulders in relation to hip breadth are considered ideal talents for 400 meters running. Similarly those who are tall and have greater arm reach and longer legs have significant advantages in sports and events like basketball, volleyball, pole vault, long and triple jumps. On the other hand, the high jumpers are tall athletes having the longest legs in comparison to their trunk, as compared to other athletes. Benefits of kin-anthropometry: 1. The nutritional status of an individual can be evaluated with the help of this sports science (Nutritional anthropometry). 2. Aids in assessing the pattern of growth and development of children. 3. Physical structure of an individual is given due importance in one's motor performance. Champion long distance runners having long and thin legs, boxers and gymnasts with well proportional physique, huge structure of excellent basketball and volleyball players and strong build of great shot putters, hammer and discus throwers are some of the examples. 4. Helps in comparing one person from another. 5. Aids in finding out growth disorders in children and youngsters. 6. Significant in sizing the clothing and manufacturing of personal protective equipments in different games and sports. 7. Helps in identification of talented sports persons. The objective of the study was to carry out nutritional, kin-anthropometric and motor component assessments of boys and girls belonging to different socio-economic groups. The subjects for the study were 500 boys and 500 girls studying in the following Schools of Delhi. 1. Kamal Model Public School, Mohan Garden, Delhi 2. Angel Public School Delhi, Vasundhara Enclave, Delhi 3. Rajkiya Pratibha Vikas Vidhyalaya, GKSVM Nangloi, Delhi 4. Government Boys Seniors Secondary School, Mangolpuri Delhi 5. Government Boys Seniors Secondary School, Najafghar Delhi Socio-economic Questionnaire developed and standardized by Kuppu Swami was first administered in their respective schools in order to classify the selected subjects into different socio-economic groups which were as follows: 1. High Socio-economic Status 2. Middle Socio-economic Status 3. Low Socio-economic Status The classification of the subjects was done in different socio-economic groups as per the procedure suggested in the questionnaire.

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1. Introduction 2. Review of the related literature 3. Research procedure and methodology 4. Analysis of data and results of the study 5. Summary, conclusion and recommendations. Bibliography. Appendices.

11. SHARMA (Rekha)  
**Effect of Twelve Weeks Yogic Training on Selected Psychological Variables Among Male College Going Students.**  
 Supervisor: Prof. Ashok Kumar Singh  
Th 26246

#### *Abstract*

The objective of the presented study was to assess the effect of twelve weeks of Yogic training on selected psychological variables i.e. Emotional Intelligence, Anxiety, Positive Mental Health, Concentration and Stress among college going students. For the purpose of the research a total number of 50 male college going students from the Satyawati college (morning), University of Delhi was randomly selected as subjects. The age of the subjects was ranged from 17 to 25 years. Following variables was been selected for the purpose of the research: Independent Variable – Yogic Training

and Dependent Variable - Emotional Intelligence, Anxiety, Positive Mental Health, Concentration and Stress. Training was imparted to the experimental group for a period of twelve weeks. The training was one hour long daily for five days in a week. It consisted selected Asanas as following: Surya Namaskar, Shavasana, Halasana, Sarvangasana, Matsyaasna, Chakrasana, Shalabhasana, Bhujangasana, Dhanurasana, Paschimottanasana, Ardha-matsyendrasana, Vajrasna, Yogamudra, Standing Kati-chakrasana and Tadasana, Pranayamas: AnulomVilom, Bhramari Pranayama, Bhastrika Pranayama and Om chanting. The data was collected before the commencement of training program known as Pre-test. Thereafter, data was collected at each 4 weeks' time interval i.e. after 4 weeks, after 8 weeks and after 12 weeks of commencement of training program. Following statistical procedures were employed to analyze data using SPSS software (Version 16): Descriptive statistics (Mean, Standard Deviation) and Repeated Measure MANOVA. In all the cases 0.05 level of significance was fixed to test the hypothesis. The obtained result shows the significant result of analysis of various groups on selected variables. Though, sphericity was violated but fixed after making required adjustment in degree of freedom. The obtained F-value was also significant ( $p < 0.05$ ) with significant difference confirming in post-hoc analysis. On the basis of results, it was concluded that 12 weeks yogic training have significant effect on emotional intelligence, Anxiety, Positive Mental Health, Concentration and Stress.

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1. Introduction 2. Review of related literature 3. Procedure and methodology 4. Result of the study and discussion on findings 5. Summary, conclusion and recommendations. Bibliography.

#### 12. SHRI BHAGWAN

#### **Explanatory Study on Factors Promoting Participation among Pro -Kabaddi and National Level Kabaddi Players of India.**

Supervisor: Prof. J.P. Sharma

Th 26233

#### *Abstract*

Kabaddi is a combative game, played on a rectangular court, either in outdoor field or indoor field with seven playing members in a team. Each team takes substitute risks of offense and defence. The fundamental idea of the game is to score points by raiding into the opponent's court and touching however many defend players as could reasonably be expected without getting captured on a solitary breath. During play, the players on each side are designated "Antis" while the player of the offense side is known as the "Raider". Kabaddi is maybe the lone confrontational game in which assault is an individual attempt while defence is a collective endeavour. The attack in Kabaddi is known as a 'Raid'. The Antis contacted by the plunderer during the assault are announced 'out' on the off chance that they don't prevail with regards to get in, the Raider before he gets back to his/her ground. These players can continue play just when their side scores focuses against the opponent side during their attacking turn or if the leftover players remain with regards to get in the rival's Raider. Origin of Kabaddi The game has a long history tracing all the way back to pre-historic times. It was likely developed to avoid croup attacks by people and the other way around. The game was main-stream in the southern piece of Asia played in its a range of structures under different names. A sensationalized variation of the unparalleled Indian epic which is known as, the "Mahabharata" has made an example of the game to a firm circumstances faced by Abhimaneu, the heir of ' the Pandava kings when he is delimited from all sides by the enemies. According to Buddhist literature, the Gautam 2 Buddha also played Kabaddi in leisure time. History also reveals that princes of yore played Kabaddi to display their strength and win their brides! The Kabaddi game also known as Hu-Tu-Tu in Western India, Ha-Do-Do in Eastern India & Bangladesh, Chedugudu in Southern India and Kaunbada in Northern India. It has undergone a sea change through the ages. Present Kabaddi is a combination of the game played in its

various types under changed names. History of Pro-Kabaddi Pro-Kabaddi could be a talented kabaddi league upheld in 2014. It was created by an Associate in Nursing eight-city alliance contend in an incredibly "caravan format," heading out along to all or any eight venues to play a total of sixty Matches. It's Associate in Nursing an activity of Mashal Sports, a company that was Kabaddi world cup spectator sport Kotak Mahindra Group helped to establish by the man Anand Mahindra, Chairman, Mahindra Group and Mr. Charu Sharma, United Nations agency is moreover an overseer of Mashal Sports. The Present Day Scenario The disrepute of Kabaddi has expanded throughout the spending years, from being a famous game in the rustic India to a game perceived at the public level. Various titles, both at the public and worldwide level, have been coordinated for Kabaddi, wherein the Indian public Kabaddi crew has conveyed momentous exhibitions. The presentation of Federation Cup Kabaddi matches in India in 1981 is an achievement throughout the entire existence of Kabaddi in India. India got another achievement in 2004, when it is facilitated the first historically speaking Kabaddi World Cup, in Mumbai. India won the World Cup. This Word Cup also has delivered 3 various capable Kabaddi Players and have acquired global acknowledgment and carried shrubs to the country. The aim of the present study was to compare the Socio-Economic Status of Pro-Kabaddi and National Kabaddi players of India. On the basis of the available literature, research finding, discussion held with the Guide, experts in the field and the scholar's own understanding about the problem, it was hypothesised that the Pro-Kabaddi Players Would have been having higher Socio-Economic Status than National Kabaddi Players. In this study, total One Hundred Fifty (N = 150) Male Kabaddi Players out of which 75 Pro-Kabaddi Players and 75 National Kabaddi Players were selected as subjects and the nature of sampling was purposive random sampling. The age of the subjects was ranged between 18 - 25 years. On the basis of available literature, reviews and keeping in mind the feasibility criteria, the researcher selected the following three variables namely Personal Profile, Socio Economical Status and Professional Profile. Self-Made Proforma which was containing questions of Modified Socio-Economic Status (SES) by Kuppuswamy's updated Questionnaire (2019), other questions related to Personal Profile and Professional Profile was used. This scale was administered on the selected subjects during different tournaments. Such as International, National, Zonal Inter-University and All India Inter-University. The authorization was taken from the concerned Games Federation of India to gather the information from the subjects.

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13. SINGH (Madhusudan)  
**Assessment of functional fitness and psychological wellbeing in relation to life satisfaction and happiness (A study on older men).**  
 Supervisor: Prof. Pardeep Kumar  
Th 26244

### *Abstract*

In a World Health Organization study of 23 low-to-Centre-pay economies, three non-transferable strokes to diabetes disorders were investigated for cash associated problems, representing US\$ 83 billion of 2006 and 2015. Reducing true illness from tribulation and blooming diseases is one of the keys to maintaining social and stable prices. Performance and financial vulnerability may be further enhanced or promoted by brand characteristics that can be selected, While an obviously established individual may remain, free to pay less attention to physical controls. The more ideas are worked up, the cheaper the prices for the full support for families and communities become, the more adaptable it becomes. Since numerous grown-up and more established age, medical issues were established. In early educational encounters and living conditions, guaranteeing great kid wellbeing can yield benefits for more seasoned individuals. Meanwhile, ages of youngsters and youthful grown-ups who

experienced childhood in neediness and sick wellbeing in creating nations will enter mature age in coming decades, possibly expanding the wellbeing weight of more seasoned populaces in those nations. As increasingly developed persons witnessing declines in mortality levels, the age of 80 or more people is progressively growing and more people are surviving over 100. There is growing confirmation from crossborder intelligence that people will remain stable, safe and established once they become established, and can start contributing to their networks and communities, thanks to effective approaches and initiatives. One of the overriding and perhaps exorbitant effects of an increasingly long prospective is that the opportunity for a workable, sound creating age to offset by an increase of people with dementia, particularly Alzheimer's disease. Many people with dementia eventually continue to be cared about and that supported with the most critical activities, which are linked to financial and social weight. Dementia predominance grows dramatically with age. An additional 25 to 30% of people aged 85 or older have dementia. Even in situations when modern and extremely effective mediations is used to cure or predict the pathology of Alzheimer, the commonness of the populace in the United States and across the world would continue to increase dramatically. Maturing is occurring close by other wide social patterns to will influence the live of more seasoned individuals. Economy is globalizing, individuals and bound toward live in urban communities, and innovation is developing quickly. Statistic and family changes mean there will be less more seasoned individuals with families to think about them. Individuals today have less youngsters, are more reluctant to be hits and more reluctant to survive in a better generation.

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14. SINGH (Neetu)  
**Effect of tax suspension training on selected physical physiological and biochemical variables among college going females.**  
 Supervisor: Dr. Dinesh P. Sharma  
Th 26234

#### *Abstract*

Regular exercise and physical activity are extremely important and beneficial for long term health and well- being of the society. General fitness training works on broad goals of overall health and wellbeing, rather than narrow goals of sport competition, larger muscles or concerns over appearance. A regular workout regimen and healthy diet can improve general appearance markers of good health such as muscle tone healthy skin, healthy hair and healthy nails, regular physical activity prevent premature ageing or life style related problems which effect healthy and also prevent series of heart related problems and organ failures that occurs due to inactivity and poor diet. The research work was conducted with the objectives to find out the effect of suspension training on physical, physiological and biochemical variable on college going female. Suspension training was a type of resistance training that include bodyweight exercise in which a variety of multi planner, compound exercise performed. Suspension training involves high intensity exercise with the help of single equipment and less space required. Equipment use for suspension training was known as suspension trainer. Suspension training develops strength by using functional movement and dynamics positions.



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15. SOKHI (Sandeep Singh)  
**Food pressure distribution of boys walking gait with varying backpack load duration: an analytical study.**  
 Supervisor: Prof. Dhananjoy Shaw  
Th 26241

*Abstract*

The study undertaken with following objectives: (1) To investigate the effect of selected backpack loads on left and right foot magnitude of pressure and magnitude of force variables of walking gait of boys age ranging from 10 to 12 years.(2)To investigate the effect of selected backpack carrying duration on left and right foot.(3)To study the interaction effect of backpack loads and carrying durations on left and right foot magnitude of pressure and magnitude of force of walking gait of boys age ranging from 10 to 12 years. The study was delimited to 20 school boys from Delhi NCR in India (age ranging from 10 to 12 years). The criterion measure was foot pressure measuring plate with compatible software and statistics. Following conclusions have been extracted. (1) The increasing bag weight (backpack load) is strongly significant in regard to the variable namely on magnitude of pressure of the left foot of the subjects during walking. (2) Time (duration of walk) on magnitude of pressure of the left foot of the subjects during walking is slightly significant. (3) The increasing bag weight (backpack load) at T1[Different Levels of Bag Loads in Regard To 1st Level of Time (Recording At 0 Minutes)] on magnitude of pressure on the left foot of subjects during walking slightly significant. (4) The increasing bag weight (backpack load) at T2 [Different Levels of Bag Loads in Regard To 2nd Level of Time (Recording At 5 Minutes)] on magnitude of pressure of the left foot of subjects during walking is moderately / averagely significant. (5) The increasing bag weight (backpack load) at T3 [different levels of bag loads in regard to 3 rd level of time (recording at 10 minutes)] on magnitude of pressure of the left foot of the subjects during walking is moderately/ averagely significant. (6) The increasing bag weight (backpack load) at T4 [different levels of bag loads in regard to 4th level of time (recording at 15 minutes)] on magnitude of pressure of the left foot of the subjects during walking is slightly significant. (7) The increasing bag weight 2 (backpack load) at T5 [different levels of bag loads in regard to 5th level of time (recording at 20 minutes)] on magnitude of pressure of the left foot of the subjects during walking is strongly significant. (8) Different of levels of time (duration of walk) at B1 [different levels of recording time in regard to 1 st level of bag (with 0% of body weight)] on magnitude of pressure of the left foot of the subjects during walking is very slightly significant. (9) Different of levels of time (duration of walk) at B2 [different levels of recording time in regard to 2nd level of bag (with 8% of body weight)] on magnitude of pressure of the left foot of the subjects during walking is very slightly significant. (10) Different levels of time (duration of walk) at B5 [different levels of recording time in regard to 5th level of bag (with 20% of body weight)] on magnitude of pressure of the left foot of the subjects during walking is very slightly significant. (11) Different levels of time (duration of walk) at B3[different levels of recording time in regard to 3 rd level of bag (with 12% of body weight)] and B4 [different levels of recording time in regard to 4 th level of bag (with 16% of body weight)] on magnitude of pressure of the left foot of the subjects during walking not at all significant. (12) The increasing bag weight (backpack load) on magnitude of pressure of the right foot of the subjects during walking is strongly significant. (13) The increasing of time on magnitude of pressure of the right foot of subjects during walking is not significant. (14) The increasing bag weight (backpack load) at T1 [different levels of bag loads in regard to 1st level of time (recording at 0 minutes)] on magnitude of pressure of the right foot of the subjects during walking is strongly significant. (15) The increasing bag weight (backpack load) at T2 [different levels of bag loads in regard

to 2nd level of time (recording at 5 minutes)] on magnitude of pressure on the left foot of subjects during walking is strongly significant. (16) The increasing bag weight (backpack load) at T3 [different levels of bag loads in regard to 3rd level of time (recording at 10 minutes)] on magnitude of pressure on the right foot of subjects during walking is moderately / averagely significant. (17) The increasing bag weight (backpack load) at T4 [different levels of bag loads in regard to 4th level of time (recording at 15 minutes)] on magnitude of pressure on the right foot of subjects during walking is moderately / averagely significant. (18) The increasing bag weight (backpack load) at T5 [different levels of bag loads in regard to 5th level of time (recording at 20 minutes)] on magnitude of 3 pressure on the right foot of subjects during walking is strongly significant. (19) Different levels of time at B1 [different levels of recording time in regard to 1st level of bag (with at 0% of body weight)] on magnitude of pressure on the right foot of subjects during walking is very slightly significant. (20) Different levels of time (duration of walk) at B3 [different levels of recording time in regard to 3rd level of bag (with 12% of body weight)] on magnitude of pressure of the right foot of the subjects during walking is very slightly significant. (21) Different levels of time (duration of walk) at B4 [different levels of recording time in regard to 4th level of bag (with 16% of body weight)] on magnitude of pressure of the left foot of the subjects during walking is very slightly significant. (22) Different levels of time (duration of walk) at B2 [different levels of recording time in regard to 2 nd level of bag (with 8% of body weight)] and B5 [different levels of recording time in regard to 5 th level of bag (with 20% of body weight)] on magnitude of pressure of the right foot of the subjects during walking not at all significant. (23) The increasing bag weight (backpack load) is extremely significant in regard to magnitude of force of the left foot of the subjects during walking. (24) Time (duration of walk) on magnitude of force of the left foot of the subjects during walking is not significant. (25) The interaction between Bag and Time was insignificant in regard to left foot magnitude of force. (26) The increasing bag weight (backpack load) is extremely significant in regard to magnitude of force of the right foot of the subjects during walking. (27) Time (duration of walk) on magnitude of force of the right foot of the subjects during walking is not significant at all. (28) The interaction between Bag and Time was insignificant in regard to right foot magnitude of force. (29) The comparison between right and left foot in regard to the selected Magnitude of Pressure variables are not significant except magnitude of pressure of Bag 2 (recording at 8% of the body weight) at T2 (recording at 5 minutes) (P\_B2\_T2 ) was found significant, hence concluded that there was no asymmetry between right and left foot in regard to magnitude of pressure variables. (30) The comparison between right and left foot in regard to the selected Magnitude of force variables are not significant, hence concluded that there was no asymmetry between right and left foot in regard to magnitude of force variables.

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16. TOMAR (Amit)  
**Predicting Swimming Performance on the Basis of Selected Variables.**  
 Supervisor: Dr. Tarak Nath Pramanik  
Th 26232

### *Abstract*

The purpose of the study will be to establish a relationship of selected anthropometric, psychological, and physical fitness variables to the Swimming performance of national-level swimmers. It was delimited that The study was delimited to 100 National level Swimmers. It was further delimited to Swimmers of 18-30 years age group. It was further delimited to selected anthropometric, psychological, and physical fitness variables. It was limited to mindset and the mood of the players will be considered mood of the study and it was delimited to It was hypothesized that there would be a

significant relationship of selected anthropometric variables with the swimming performance. It was hypothesized that there would be a significant relationship of selected psychological variables with swimming performance. It was hypothesized that there would be a significant relationship of selected physical variables with the swimming performance. For the purpose of the study 100 subjects were purposively selected from different swimming pools in India. All the subjects will belong to the 18-30 years of age group. All care was taken to see that the subjects who agreed to participate have no medical condition of any kind that will have adverse effects. The study was taken to pinpoint the Anthropometric characteristics, Psychological, and physical variables. Therefore, based on literary evidence and scholar's own understanding the following variables were selected for the purpose of this study: The dependent variable was swimming performance scores calculated from the timing in 50 meters freestyle swimming was the dependent variable. Independent variables were Height, Arm span, Leg length, Torso length, Hand length, Hand breadth, Foot length, Foot breadth, Fat percentage, Physical variables were Leg explosive strength, Shoulder strength, Abdominal strength, Shoulder flexibility, Trunk-Hip Flexibility, Ankle Flexibility, and Psychological variables were sports achievements motivation, coping skill. Swimming performance scores calculated from the timing in 50 meters freestyle swimming was the dependent variable. The researcher developed a regression equation.

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17. TOMER (Vikas)

#### **Interactive Relationship among Psycho-Physiological Parameters to Sports Performance and Academic Achievements.**

Supervisor: Prof. Pardeep Kumar

Th 26242

### *Abstract*

Performance is prime factor in any sports. Every sportsperson want to increase their performance. There are various factors, which influence the sports performance. In the terms of research analysis, performance is a latent variable which cannot be measured directly. It is determined through various observed variables or factors for instance, physical factors, physiological factors, and psychological factors and so on. In simple words, we can say that performance of any sports might be affects by various factors and there is a relationship exists between performance and various related factors. Many researches have been done on this phenomenon in previous decade and identified various factors, which have a significant relationship with the performance. Therefore, with this point of view and after studied a lot of literature the present study has been designed to investigate the significant relationship between performance and physical, physiological and psychological parameters. A unique point like academic achievement is also kept in mind during finalized the present problem. The researcher wants to study the relationship between academic achievement and sports performance. Therefore, with the performance of sports as well as academic achievement was also considered for the present study. STATEMENT OF THE PROBLEM The psychological and physiological factors are determined the sports performance along with the type of personality. So, the certain related variables have been taken for the present research work. To considering the purpose of the study it is formally stated as- "Interactive Relationship among Psycho-Physiological Parameters to Sports Performance and Academic Achievements." OBJECTIVES OF THE STUDY As the purpose of this study the following objectives were examine in current research study- 2 1. To assess the types of personality more dominant in the selected sports such as Athletic (Track and Field), Volleyball, Kabaddi and Kho-Kho. 2. To assess the types and level of Psychological Wellbeing and find out the more dominant in the selected sports such as Athletic (Track and Field), Volleyball, Kabaddi and Kho-Kho. 3. To assess the sports anxiety level of the selected sports such as Athletic (Track and Field),

Volleyball, Kabaddi and Kho-Kho. 4. To assess the physiological variables such as Heart Rate, Breathing Rate and Blood Pressure of the selected sports such as Athletic (Track and Field), Volleyball, Kabaddi and Kho-Kho. 5. To find out the relationship among the selected Psycho-Physiological Variables for Athletes in different Sports and Sports Performance and Academic Achievement. 6. To compare all the selected parameters of different competitive sports such as Athletic (Track and Field), Volleyball, Kabaddi and Kho-Kho. 7. To assess the interactive relationship among the Emotional Intelligence, Sports Performance and Academic Achievement. DELIMITATIONS The following were the delimitations of the present study: 1. The study was delimited to the Athletes of selected sports such as Athletic (Track and Field, Volleyball, Kabaddi and Kho-Kho. 2. The study was delimited to the minimum of 50 Athletes from each competitive sports discipline. 3. The study was delimited to the players' age 18 years and above. 4. The study was delimited to the All India Inter University level categories of Athletes 3 5. Relationship and comparative design of the study as- • The various competitive sports were compared on selected variables. • The relationships were found out among the sports team and among the various competitive sports. 6. Further the study was delimited to the following standardized questionnaire asA. Psychological toolsa. Big 5 personality questionnaires- sub variables are Extraversion, Agreeableness, Conscientiousness- Neuroticism, Psychoticism or Openness to experience b. Psychological Wellbeing questionnaire c. Sports Anxiety Scale d. Group Environment questionnaire e. Sports Motivation Scale. f. Emotional Intelligence Scale B. Physiological equipmenta. Heart rate monitor for Heart Rate b. BP apparatus for Blood Pressure c. Breathing Rate (taking manually) C. Sports Performance D. Academic Achievement HYPOTHESIS On the basis, the review of the related literature and discussion with the experts the following null hypothesis has been drawn- 4 1. There would be no significance difference among the selected Psychological parameters for the selected four competitive sports. 2. There would be no significance difference among the selected Physiological parameters for the selected four competitive sports. 3. There would be no significance difference among the selected Physical parameters for the selected four competitive sports. 4. There would be no significance relationship among the selected Psychological parameters for the selected four competitive sports. 5. There would be no significance relationship among the selected Physiological parameters for the selected four competitive sports. 6. There would be no significance difference among the selected Physiological parameters for the selected four competitive sports. 7. There would be no significance differences and relationship among the selected Psycho-Physiological parameters, Sports Performance and Academic Achievement for the selected four competitive sports. DESIGN OF THE STUDY Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, when, where, and how questions, but not why questions. A descriptive research design can use a wide variety of quantitative and qualitative methods to investigate one or more variables. Descriptive research is an appropriate choice when the research aim is to identify characteristics, frequencies, trends, correlations, and categories. The present study adopted intercorrelational research design.

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