Effect of Mixed Martial Arts Training on The Physical Fitness, Motor Skills Assimilation and Emotional Stability of Children With Intellectual Disabilities

Thesis submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

In

(Physical Education)

By

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Lovely Professional University

LOVELY PROFESSIONAL UNIVERSITY

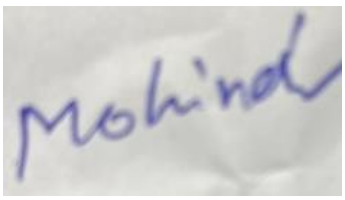
PUNJAB

2022

DECLARATION

I declare that the thesis entitled "***Effect of Mixed Martial Arts training on physical fitness, motor skill assimilation and emotional stability among children with intellectual disability***" is my own work conducted under the supervision of Dr. V. Koul Professor/Dy Director Department of Physical Education and Sports, Lovely Professional University, Phagwara.

I further declare that to the best of my knowledge, the thesis does not contain any part of any work which has been submitted for award of any degree either in this University or any other University/Deemed University without proper citation.



Date: **30 October 2022**
Place: Phagwara

INVESTIGATOR
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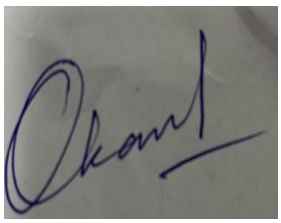
CERTIFICATE

This is to certify that the work entitled "***Effect of Mixed Martial Arts training on physical fitness, motor skill assimilation and emotional stability among children with intellectual disability***", is a piece of research work done by **Mrs. Mohinderpal Kaur** under my guidance and supervision for the degree of Doctor of Philosophy in Lovely Professional University, Phagwara (Pb) India. I am satisfied with the work and feel that she has reasonable chance of getting the PhD Degree.

The thesis submitted by the candidate is the result of her own original work in the field of physical Education and is sufficiently highly standard to warrant its presentation for examination.



Date: 30 October 2022
Place: Phagwara (Punjab)

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ACKNOWLEDGEMENT

The completion of this study would have been impossible without the support and assistance offered by many individuals. I extend my special acknowledgement and sincere gratitude to my guide **Dr.V.Koul**, Professor/ Deputy Director of physical education and Sports, Lovely Professional University, Phagwara, for his enduring patience, guidance and supportive encouragement.

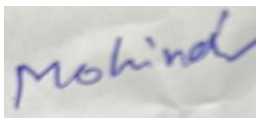
I express my deepest regard and gratitude to **Sh. Ashok Mittal,** The Chancellor and **Smt. Rashmi Mittal**, The Pro Chancellor, Lovely Professional University for providing research infrastructure and encouraging scholars for quality research work. Special thanks is being extended to **Prof, Sorabh Lakanpal, Prof. P.P Singh** and **Dr Neelam Sharma,** whose enthusiasm and energy transformed my vision of this study into reality.

I am also highly indebted to my husband **Dr. Jagdeep Singh Sodhi** for his warm support and willingness in helping, supporting, motivating and inspired me always. Words would fail to mention the greatness of my parents and in-laws, who have nurtured me with great care and love. I believe my good ethics and moral values is just a reflection of their sound character. The words are inadequate to express my gratitude to my loving daughter and son for providing full cooperating to accomplish my project.

I am highly thankful to **Dr. Gurdeep Kaur Randhawa** Director sports Punjabi University, Patiala, for her support, motivation and encouragement and I am equally thankful to all the others members of the Department of sports Punjab University Patiala.

"Everything can not be mentioned but nothing is forgotten".

"To forget is human urge fail to mention all"



Dated: 30 October 2022 INVESTIGATOR

Place: Phagwara (Punjab)

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CHAPTER -I

INTRODUCTION

The most valuable gift of all is the ability to understand and perceive items in order to make them suitable for use and use for the successful life of human beings on earth. Using this ability, human beings have evolved over the millions of years to the point that modern technology has made their lives much simpler and more competitive, which could not even be imagined thousand years ago. The human beings underwent continuous change during their evolution, and they adapted with ever evolving circumstances. Though human beings have taken strides over the moon and may be on the road to discovering the planet to make life on earth simpler. Yet a majority of the human race is already robbed of developments from the main stream. A significant proportion of the population is also far from using this gift of nature and coping with the disorder of developmental disability that includes a wide variety of disabilities. Mental health has been hidden behind a curtain of stigma and discrimination for too long. It is time to bring it out into the open. The magnitude, suffering and burden in terms of disability and costs for individuals, families and societies are staggering. In the last few years, the world has become more aware of this enormous burden and the potential for mental health gains. We can make a difference using existing knowledge ready to be applied. We need to enhance our investment in mental health substantially and we need to do it now. **(Lee Jong Wook 2003)** World Health organization 2003.

Various statistical surveys shows that the prevalence of stress and health disorders among the human beings have been causing alarming impact on society. Generally it is found that human beings commit suicide. Growing health related problems and stress level resulting in mental illness, attempt to suicide, heart attack and other ailed complications. The excessive pressures and demands on mild intellectual disable humans create adverse reaction on their health and mind. Health and mental stress may produce harmful psychological and physiological effects on MID. All these factors have made the MID and their parents victims negative thinking which leads to the stress related disease like blood pressure, Diabetic, stress, hypertension. and heart related disease etc. They need proper attention special schooling, special care, adequate curriculum, proper infrastructure, skilled and trained

faculty, proper sports and physical education program.

Concept of disability: Disability or a variation of these may be physical, neurological, behavioral, auditory, social, and developmental. A disability is a paragliding concept that encompasses impairments, limits on movement and constraints on competition. Impairment is an obstacle with the role or form of the body; operation impairment is a challenge that and person faces in the performing ofa task or action; and a lack of involvement is a concern that an individual feels while participating in life circumstances. In this way, disability is a dynamic condition, representing a relationship between the characteristics of the body of an individual and the characteristics of the community in which an individual exists (World Health Organization). An individual can be identify as disabled if he / she had disability in the past or is deemed to be disabled on the basis of a criterion or practice for personal or community. This may involve physical, visual, cognitive or developmental impairments. Mental conditions and different forms of chronic condition can also be called illnesses. Impairment may occur over the lifespan of a person, or may occur from birth.

Types of disability, It is caused by deterioration to various assorted components of the body - these are mentioned into the following categories-

1. Physical Disability- It is an disorder that affects the physical functions/ utility of the limbs or the fine or motor skill capacity. Other physical handicaps include impairments that affect other aspects of everyday life and are caused by intellectual disability or chronic disease.
2. Sensory Deficiency-Sensory Disorder refers to a visual impairments. The word is generally used to refer to vision and partial deafness but it may also affect other senses.
3. Visual disability — Is vision loss (vision deficiency) of a person to the extent that it counts as a need for additional assistance by substantially reducing the visual capacity arising from any illness , accident, or congenital or degenerative conditions that cannot be resolved by traditional means, such as refractive correction, medication or activity. Usually, this practical loss of vision is expected to occur with- 1. Best corrected visual acuity less than 20/60, or major central field loss, 2. Important peripheral field defect like homonymous or heteronymous visual, field defect, or widespread contraction or field constriction, or 3. Reduced sensitivity to peak contrast with any of the

conditions set out above.

4. Hearing disability- It refers to disorders in which an individual is totally or partly unable to sense or interpret at least those levels of sound that other people normally can hear. A minor hearing loss cannot be considered an illness at times.
5. Olfactory and Gustatory Deficiency-It Impairment/deficiency of sense of smell and taste is generally associated with aging but may also arise in younger people due to a wide range of reasons. Different olfactory conditions exist: anosmia – failure to detect Dysosmia – objects scent better than they are to detect Hyperosmia – an abnormally acute scent Hyposmia – reduced odour capacity Olfactory Perception Syndrome – neurological condition that leads the patient to feel he has a heavy body odour Parosmia – objects smell worse than they should Phantosmia – "hallucinated odour," frequently obnoxious in nature Total lack of sense of taste is known as ageusia, while dysgeusia is continuous regular taste sensation.
6. Somatosensory deficiency-Insensitivity to sensations,(not able to feel) contact, fire, cold, and pain is often an alternative to a more general physical disability affecting neural pathways, and is more frequently associated with paralysis (in which motor neural networks are often affected).
7. Balance Disorder-An equilibrium instability is a disruption that causes a person to feel uncomfortable, such as while walking and standing. It can be followed by signs of being dizzy, or experiencing a wave, rotate or floating feeling. Balance is the product of the involvement of multiple body systems. It is an interaction and coordination of eyes, ears and the body's conceptualization. Brain that accumulate this knowledge inevitably require efficient functioning.

   a. Intellectual Impairment-Intellectual Impairment is a vast term, ranging from intellectual disability to developmental disabilities that are either too mild or too severe to count as intellectual disability. Any age may present intellectual disabilities. Intellectual disability is a geno-type of intellectual disability, and mental retardation is now preferred term.
   b. Mental Health and Emotional Disabilities-Mental ill health or intellectual sickness is a psychological or behavioral sample usually related with an individual's subjective misery or incapacity that is now not phase of regular

improvement or culture. The focus and appreciation of intellectual fitness stipulations has modified do to passage of time, and there are nevertheless variants in the explanation, evaluation and classification of intellectual disorders, though popular preparation standards are extensively accepted.

c. Developmental Disability -Developmental inability is any incapacity that generally effects the process of increase and development. Although the time period is frequently used as a synonym for mental disability, the time period additionally encompasses many congenital scientific stipulations that have no intellectual or mental components, for instance spina bifida.

d. Learning Disability- Learning Disabilities advert to a quantity of issues which may additionally have an effect on the learning, structure, retention, appreciation or use of information. These problems have an effect on getting to know in people who in any other case reveal at least common capabilities necessary for questioning and/or reasoning. These are however not restrained to: phonological processing; language processing; processing speed; memory and attention; visible spatial processing; and government features (e.g. decision-making and planning). Learning Disability can be of different types; Dyslexia – a language–based incapacity in which an individual has bother appreciation sentences, paragraphs and words, sentences. Dyscalculia – a numerical incapacity in which a man or woman has a hard time eight fixing arithmetic issues and greedy math concepts; Dysgraphia – a writing incapacity in which an individual finds it difficult to shape numbers or write between described space;

A huge vary of healing procedures have been devised to come across the trouble of incapacity and a lot of success has been gained. Apart from medical intervention the researchers have tried to discover the potentiality of many different capacity and strategies which can aid in the therapists and mother and father to deal in a higher way with such adolescents and additionally assist these extraordinary teenagers to stay most and serve best.

The toddler in order to get outfitted with all these colleges of lifestyles should have applicable boom and improvement which suits at par with his counter parts.

Children gain their developmental milestones at various ages, therefore small, quick time period delays may also be regarded ordinary as they do now not have a lengthy time period effect. But if the trouble of extend in improvement stays

persistent, then it may also lead to issues later in life. The more than one delays in improvement ay strike the system of the boom in factors of physical, mental, social or even may additionally abate the activities of events life.

The existing find out about issues with the trouble of mental disability. In this class the improvement of talent is perfect in children. The Genius does no longer collect everyday vary in mental and adaptive functioning. In preceding times, this circumstance used to be termed as intellectual retardation by way of clinical practitioners. In denotes a sub-average functioning of Genius in mental terms. It leads to a slower tempo of mastering as in contrast to regular friends in the intellectually disabled children. They face difficulties in the lecturers and all different ventures which require summary wondering and complicated mastering strategies. The youngsters additionally face issues in improvement of language and easy co-ordination in motor skills.

The intellectual capability of person is measured with I.Q. (Intelligent quotient), which would be termed as one very own rating of a Genius test. The common persons rating in these sort of checksis ninety to hundred however in case of intellectually challenged folks the ratings are typically under seventy and similarly decreases relying upon severity of retardation. It ranks a lot beneath as in contrast to that of common individual. Creating a state of affairs which compels them to operate simple matters with other's help. They are much less unbiased and want distinctive care.

Intellectual incapacity may want to be organized in 4 degrees i.e. mild, moderate, extreme and profound. Adjustments in everyday life, low IQ, gaining knowledge of speech, social and bodily disabilities are seen in such people. Intellectual incapacity no longer solely impacts the character who is impacted, however in addition it additionally has a vest social impact. It influences the household and society together. The dominance of this situation is cited to have one to three percentage in complete populace of a country.

In India, there was once a lack of statistical proof on this unique problem earlier than the worldwide yr of disabled (1981) though small scale survey's had been carried out in India however commonly an actual determine was once no longer per chance ought to be traced. Later when the series of statistics involving people struggling from mental incapacity used to be collected, it used to be printed that three percentage of Indian populace used to be in clutches of this incapacity

and 1 percentage populace out of this had extreme disability. But if the instances amongst infant populace is only located , out of 6 million children, nearly two million are falling in the class of intellectually disabled which makes It 33% whilst solely three percentage of whole populace is struggling from the disability, the teenagers are most affected category.

Out of complete populace struggling from mental incapacity 70% of population lives in rural areas.

Diagnosing mental disability

A thorough assessment usually includes the following.

1. Comprehensive medical exam.
2. Possible genetic and neurological testing.
3. Social and family history.
4. Psychological testing to assess intellectual functioning.
5. Testing of adaptive functioning
6. Interview with primary caregivers.
7. Social and behavioral observations of the child in natural environments.
8. As mentioned intellectual and adaptive functioning are the primary diagnostic criteria. Testing of Intellectual functioning IQ TestingTests of intellectual functioning test is designed to measure various mental abilities. This test is called IQ test. IQ test measure various mental abilities such as the mention below:
    1. Reasoning
    2. Abstract thinking
    3. Problem Solving
    4. Judgment
    5. Experimental learning
    6. Academic learning

Previously an IQ rating of 70 or beneath was once advocate reduce of score. The DSM-5 (APA,2013) has reemphasized precise IQ Scores. None the much less an evaluation of Intellectual functioning stays central to diagnoses. Thus IQ rating are nonetheless very essential considerations. Therefore it is beneficial to apprehend what IQ rating mean.

Intellectual Disability. At one factor IQ used to be extra heavily relied upon when diagnosing anintellectual incapacity and deciding it's severely. While the DSM-5 nonetheless acknowledges these categories, extra emphasis in positioned on the capabilities related with every stage alternatively then their IQ.

1. **Mild.** Those with moderate mental incapacity may additionally have an IQ between 50-70. 85 current of mental disabled humans are at this level, and they can frequently stay of their very own with minimal guide from others.
2. **Moderate**. The IQ for an average incapacity can vary from 36-49. Those with an average mental incapacity make up roughly 10% of instances on this spectrum. These folks can also want extra assist in day to day lifestyles and can also stay in a team home.
3. **Sever.** Making up about 3.5% of these with mental disability, these persons may additionally fall into the 20-35 IQ range. They generally want each day supervision to preserve them wholesome and protected and can also want assist with simple self-care tests.
4. **Profound**. Individuals with a profound mental incapacity may also have an IQ underneath 20 and make up solely 1.5% of mental incapacity cases. They may additionally want consistent care and supervision to meet their simple needs.

Causes of Intellectual Disability, All reasons of ID are no longer known. In about 75% of all instances diagnosed, docs are no longer in a position to discover a unique motive for the disability. Some recognized reasons include.

1. Lack of oxygen at birth, infections or different troubles all through labour and birth.
2. Fatal infections or fatal developmental issues.
3. Exposure to toxins such a lead, mercury and drugs. Fatal alcohol syndrome, which outcomes from interfering publicity to alcohol can additionally purpose mental disability.
4. Diseases such as whooping cough, and measles.
5. Chromosomal abnormalities. Down syndrome and fragile X syndrome each end result from inherited atypical genes.
6. Iodine deficiency and malnutrition.
7. Trauma to be creating foetus.
8. Trauma sustained in infancy or childhood. While there is no remedy for mental disability, they can be efficiently managed.

Clinical Characteristics of Intellectual Disabilities, Intelligence in the generic intellectual capability that entails reasoning, planning, fixing problems, questioning abstractly, comprehending complicated ideas, gaining knowledge of correctly and gaining knowledge of from experience(ADIDD,2010). Historically mental disability(previously termed "Mental retardation") has been described with the aid of size able cognitive defects which has been set up via a standardized measure of intelligence, in particular, with an IQ rating of under 10(two general deviation beneath the suggest of one hundred in the population) and additionally via good sized deficits in purposeful and adaptive skills. Adaptive abilities contain the capability to lift out age fantastic every day existence activities. Two special gadget of classifying mental incapacity (ID) used in the different countries including united states are that of the (AAIDD) American Affiliation on Intellectual and Developmental Incapacity and the diagnostic, identifying and statistical guide of intellectual illness/disorders. It is the fifth version (DSM-5), that is posted by means of the American Psychiatric Association each of these machine classify severity of ID in accordance to the ranges of help wished to attain an individual's foremost non-public functioning.

Role of physical activities, Physical endeavor along with exercises, video games and sports activities make contributions in the enhancement of fitness of humans of each and every age. It permits a being to stay wholesome serve most in ever altering conditions. The position of bodily recreation is exhibited in psychological, physiological and sociological components of life. It helps in improvement of character, limit in hard behavior and serve as underlying thing for crew team spirit and diversity. It inculcated the behavior of group work, self-discipline, sportsmanship, management and socialization among younger people.

According to medical professional established of it is quintessential to take part in bodily recreation to getting full fitness advantage as sedentary way of life has been correlated with coronary heart problems, obesity, hypertension and diabetes mellitus. Five necessary materials of bodily health i.e. Endurance, Flexibility, speed, energy and coordinative abilities are of utmost significance and they may also be developed thru everyday participation in bodily activity.

Various lookup evaluations and Meta evaluation has printed that continuous participation in bodily workout is associated to 20%- 40% limit in hazard of all motives of mortality. (Kodma et.al.) And additionally the persistent stipulations grew to be much less prominent.

The observational researches additionally aid the idea that the bodily workout routines improvesproceed features (colcombe and craners 2003).

A bodily energetic existence fashion influences intellectual fitness also. It reduces the chance of cognitive impairment; dementia and Alzheimer's decrease. (Kramer and Erickson 2006). It prevents melancholy (Conny 2011) and may additionally play as essential function as antidepressants. Active humans may additionally cope with the environmental adjustments that threaten steadiness in life, pose a threat to emotional stability to different detrimental conditions.

A variety of research have examined the outcomes of exercising in broad scale of populations. They have additionally been investigating the results of exercising on a variety of areas of man such as hippocampus, ganglia, cerebrum etc. which has resulted in the higher perception of the unique practical outcomes of workout on a quantity of areas together with neuro-biology of gaining knowledge of and memory. But nevertheless the feature of workout routines on areas which manipulate circadian function, meals consumption, cardiovascular features etc. extra over the researches as published thatthe metabolic features of talent which are every so often disturbed such as central insulin resistance are worried in the pathogenesis of Alzheimer's disease.

The physiological features in the physique such as coronary heart charge and blood strain whichare involuntary in nature are managed with the aid of frightened device recognized as autonomic anxious system. Regular exercising reduces the undertaking stage in the will increase endeavor in any other phase of autonomic worried device which is regarded as parasympathetic system.

Physical exercise for mentally challenged. Physical recreation has an outstanding price in the existence of human being and several researches have given a scientific historical past at the back of this assumption. But, nonetheless the photo is now not clear as some distance as humans with mental incapacity are concerned. People with mental incapacity might also additionally face troubles inperforming the workouts due to lack of understanding, however in no way the significance of workout can be overruled.

The regulation degree of bodily activity, muscle quality, parity and adaptability in humans with and besides mental incapacity would possibly contrarily impact day to day existence things to do and conventional working.

These research have proven to have an incredible exchange in the popular of dwelling of intellectually challenged persons, however earlier than incorporating bodily exercising the sample and stage of mental incapacity have to be taken care of. But in fact, two 1/3 of humans with incapacity don't have get entry to even primary degree of bodily activity.

Robertson et. al. (2000) have printed in their research that these who have grown up with mental incapacity are advantaged with the aid of participation in bodily activity.

The fearful machine is comprised of Genius and spinal cord. The peripheral anxious gadget exerts backyard the talent and spinal cord. This connects the CNS to different sensory organs such as eyes, ears, muscles, glands, vessels etc.

Studies in Franklin institute recommend that on foot and strolling enhances blood circulation and greater O2 and glucose reaches to brain. The elevated glide of blood helps the expanded elimination of toxins from Genius and attention additionally improves, mastering capacity and reminiscence additionally receives enhanced. The repetitive workout routines enhance the neurological device of brain. Quicker reaction, right stability and co-ordination are additionally developed. Exercises additionally deal with important depressive sickness and interest deficit hyperactivity. It additionally helps the rehabilitation of neuron-degenerative disorders.

Trey et.al. (2005) in a learn about has caused out a few troubles in a learn about performed on the twelve grown-ups with mental disability, which show the significance of bodily undertaking in this population.

Individuals having mental incapacity showcase the want of ideas and a whole lot sorted out associates who has an enthusiastic strategy for bodily training programs.

Persons with mental incapacity specific equal variety of impediments that individual besides ID.

In the study, it has been marked that a giant quantity of intellectually disable populace includes itself in bodily things to do solely these engages in unique Olympics are taking it seriously.

The document of fitness human beings 2010 has printed that 56% of the adults have been suggested to have no amusement time bodily activity, which solely 36% have get entry to to it. Their information is associated with humans with disabilities.

In 2002 in a survey carried out by way of country wide fitness interview solely a 22% of adults with disabilities are worried n average tomoderate bodily undertaking whilst solely 14% have the get right of entry to to systematic bodily activity.

The want for bodily exercise aggravates as human beings with disabilities are additionally risked for secondary troubles pertaining to medical, social or emotional. Participation in ordinary bodily recreation may additionally assist the intellectually disabled to achieve immunity to such conditions. The power and stamina won via these things to do may also assist the man or woman to preserve greater degrees of independence.

In the suggestions supplied via U.S. branch of fitness and human offerings related to the bodily recreation of disabled have been referred to here:-

1. Adults having disabilities need to get a probability to take part in average depth bodily undertaking for one hundred fifty minutes per week or a complete of seventy five minutes per week of energetic bodily activity. The exercise shall be carried out for 10 minutes per day during the week.

2. Muscle-strengthening things to do of reasonable to excessive depth for a team of two muscular tissues ought to be imparted for two or greater days per week.

3. A fitness care issuer have to be consulted to figure out upon the nature and kind of the bodily pastime perfect to the want of individual.

Mix Martial Arts, Martial arts is been used for self-discovery and combat. It is an ancient method of combat sports used by china and other countries of world. Kung Fu was originated and discovered in 520 A.D., It were once established in a Shaolin M. as a procedure to attain knowledge in relation with mind, body, and spirit (Lewis, 1996). acclaimed that the present form of Martial arts is Karate and was developed as mechanism to help farmers to defend and protect their and use Karate to protect the boundaries of their country against the enemies. The weapons used in karate, such as the kama and tonfa have been at first equipment of agriculture (Lewis, 1996).The time period retardation capacity gradual decrease. So via the time period ‘intellectual disabilities’ we intended that price of increase and improvement of one’s mental powers get diminished. It does now not select the ordinary velocity predicted from the adolescents of that very chronological age. Such affected youngsters lag at the back of and come to be handicapped in performing predicted everyday intellectual behavior. Much of the exchange in mind-set has come from modifications in the

definition of mental disabilities. There are many definitions of mental disabilities. Page (1976), "mental deficiency is a circumstance of subnormal intellectual development, existing at start or early childhood and characterized by using confined brain and social inadequacy." Trudged (1970), "a nation of arrested or incomplete improvement of thought so extreme that the affected person is incapable of main an unbiased lifestyles or of guarding himself in opposition to serious exploitation in the case of a child, that he will be so incapable when an adult.

Mixed Martial Arts: - (MMA), Hybrid fight recreation incorporating strategies from Boxing, Wrestling, Judo, Jujitsu, Karate, Muay Thai (Thai Boxing), and different disciplines. Although it was once at the beginning decried by using critics as a brutal blood activity barring rules, MMA regularly shed its no holds barred picture and emerged as one of the world's quickest developing spectator sports activities in the early twenty first century MMA occasions are sanctioned in many countries. The records of MMA dates again to the Olympics of historical Greece. Mixed martial arts fights originated as hand to hand fight carried out as a recreation referred to as pankration from the Greek phrases pan and krator which means 'All Porvers".In 393 C.E Roman sovereign Theodosius-I , forbid the Olympic Games, destroyed the cease of pankration as a popular recreation however, the curiosity of MMA later reappeared once again in the twentieth century in Brazil with the aid of a fight game recognized as vale tudo ("anything goes").

North America developed tremendous interest for MMA and after this Brazilian and Gracie show off its trade mark and started practicing MMA in these countries and have regular fights to entertain audience and develop warriors for their country to protect.' Helio' s son Royce Gracie to part in competition and presented the household in a 1993 match in Denver, Colarado who was introducedto as UFC-1. The last struggle championship was referred as (UFC), The UFC first tournament was so popular and the promoters efforts and popularity of the event attracted majority of people to witness theevent 86000 viewers witnessed the event. That range viewers accelerated to 300000 through 0.33 event. In 2001 UFC administration constituted guidelines in order to keep check on the so that it becomes more recreational and less less dangerous. In the united states the game rules were modified and the board was established to and made it equivalent to the bodies that ruled the recreation of boxing,

Martial arts was practiced by people through centuries. Socialists have determined Murals and symbols in pyramid that dated to 3500B.C. which show the ancient style of close contact fight performed with the aid of the Egyptians (Lewis, 1996). Ancient types of MMA is pankration. This specific style of fight, kicks ,punches which reflect or resemble to skills of Greek Boxing and Wrestling, and it expand to be a recreation in the Olympic picture of games in 684 B.C. (Lewis, 1996).Martial arts was first identified then formed and proficient for the usefulness of self-discovery and self-defense and used in battle against enemies. . Kung Fu, was develop in China in 520 A.D., developed and formed in a Shaolin Monastery as a process to achieve educate by using Karate to prepared and develop the mind, body, mind, and spirit (Lewis, 1996). Describe that the another popular shape of martial arts is Karate. Karate was used in Okinawa by farmers to protect their and defend their country territory from enemies. (Lewis, 1996). Tonfa and Kama instruments were introduced and used by farmers, it was said to be first equipment's to be used for agriculture. (Lewis, 1996).

The historical development of Karate and the abilities had been developed and tailored to tackle the useful requirement of life and success in combat patterns. The conquer warriors wear protection combined of bamboo, The Okinawa inhabitants used Bamboo to attack their enemies and hurt them and cause pain to their enemies with the instruments made with bamboo. (Lewis, 1996). Since the villagers position themselves to smash through timber and bamboo orderly profitable in fight they commenced preparing their knuckles through punching bundle of straws and matured to punching stay driftwood (Lewis, 1996). The islanders grew to become knowledgeable by being in a spot to strike with the bamboo Armour to attack opponent's that the offensive troops understood that they ought to assault the usage of different methods; accordingly, they invaded to use horseback for their troopers during attacking their opponent's (Lewis, 1996). The Okinawa islanders had to strengthen themselves driving on horseback to charge their enemies and keep them away from their territories. That is the way how the flying Sidekick came into existence and is being performed now a days in modern martial art. Through daily practice and self-determination, this method of side kicking grew tremendously throughout the islanders. As this helped them to maintained their position on the horseback without any discomfort and however the opponent's killed him in the techniques. (Lewis, 1996). That is why the different placing structures of martial arts

came into existence , it has emerge as a subculture for professionals martial art and function of flying sidekicks over boundaries has improved their ranks. Martial arts have improved , from being method of combat, to enhance and shape of bodily workout and physique. As the martial arts, combat have changed due to passage of time, so have the motives humans find out about them.

The Martial is related with Asian nations due to the fact the Asian international locations retain their combat extra than the western countries. Martial Art used to be forwarded from technology to technology successfully. The hand to hand fight was once changed with firearms by way of western countries. All the nations have had Mix Martial Art in some structure or the other. The international locations like Thailand, Greece, Egypt, The Philippines, Brazil, Japan and United states have records of although most cultures have had MMA in some structure or another.

The Pyramids in Egyptians depict hieroglyphic inscriptions of struggle and working towards Martial Arts that date back to 3,000 B.C. Paintings in the Nile exhibit the same as it depicts on Mural art work in the tombs. There are reviews of blank hand war tactics that had been skilled by using the troopers of Mesopotamia and Sumer (3,000 B.C. to 2,300 B.C.). The Documents reflect that MartialArt was initially performed in China as some way back in 200 B.C. Martial Art contests turn out to be phase of neighborhood pageant to entertain the target market and the King. It is now identified as MuayThai (Country known as Thailand). Japan has a long way of life of Mix Martial Arts that back date way earlier than any of these modern-day Martial Arts events. however. In the early 1900's, Mix Martial Arts warriors, featuring jujutsu practice versus boxing skills, for example, was once very famous for the duration of various countries such as Brazil, Japan and Europe. The Japanese use to shift their good fighting parties to remote places to contend in several events. The USA being a "melting pot" of moral cultures and ethical couture has a well-established past of Mix Martial Arts and combat sports activities culture courting lower back to its origin, beginning. The president George Washington of united states America, used to be concerned with Elbow Wrestling and combative sports. Abraham Lincoln and Teddy Roosevelt both the presidents of United States of American introduced other forms of wrestling and which where commonly practiced by the peoples of America. Brazil is nicely Brazil nicely and acknowledged for being its birthplace. In the primal 1900's M. Maeda, was a Judo competitors who migrated

from to Brazil to set up a Japanese settlement in Brazil.

There is a considerable confusion about the term ‘health’ it is regarded by some eminent scholars as the absence of disease. Health is viewed by various people differently. A common individual may consider health nothing more than not to be sick. Health is the standard of life that enables a human being to live better and serve others best. According to WHO Health is the condition of absolute physical fitness, mental fitness and social well-being and not merely absence of disease.

There are different feature of health- Physical health, social health, mental health and spiritual health and all the three aspects are interdependent.

Physical Health means that all the vital organs function at its maximal, it enables and individual to work, live and enjoy its best. It is the means to achieve success in life .

Good mental health is related to the state of mind and body.

Social health is expressed as being social. A healthy person is optimistic, confident and adventurous. He faces all calamities cheerfully with courage and confidence.

Spiritual health is something that transcends physiology and psychology i.e. “the spirit of man”.It becomes our responsibility to regulate our behavior and provide opportunities which help an individual to stability his emotions to ensure spiritual health.

Factors influencing Health. Health is matter of commonsense. Health consciousness is boom. Important factors influencing Health. 1.Heredity, Heredity plays a vital role in defining and shaping once personality. It includes potency and health of the egg cells of parents. 2.Mental Attitude, Positive mental attitude adds zeal to life and influences both health, adjustment, Strength and lead wonderful life. 3.Environment, It includes, surroundings, climate, religious, socio-cultural and emotional well- being in which an individual lives better life . It is further divided into two categories: such as Internal environment and external environment.4. Social cultural influence. Social culture is very essential part of life. It influence our social and culture patterns. Superstitions play a vital role in our life, Food habits, traditions, working culture, neighborhood, customs, religions, beliefs economic standards exert profound influence on one’s life. 5. Personal habits, life style, habits, diet, workout, personal hygiene, environmental hygiene, attitude, use of leisure time, emotional maturity, religious beliefs etc. enable anindividual to live better life.

Health is the state of body which is defined differently by different people at different times but the term makes very individual inherently interested. It is no wonder if the health is regarded as the foremost blessing of Almighty. However there are different feature of health, physical, mental, social and spiritual. Heredity, mental attitude, environment, community's customs, traditions, economic statusand personal habits exert a profound influence on health. Health is man's most valuable possession thatserves as foundation of the whole community.

State of complete physical mental and social well-being is health. Mental health is result of communication among individual and community he lives in . It determines ones way of life working, use of leisure and earning. It also develops how views happiness, stability and security. Therefore mental health is as essential as physical health. A healthy person makes a realistic appraisal of his potentialities and drawbacks, feels interested in others and meets the demand of daily life calmly. Psychosis is the state of height of excitement or depression wherein the person shuts himself in fromthe reality of life. Psychopathic condition of a person makes him a delinquent sex pervert and criminal. In Neurosis a person exhibits eccentric behavior as a result of failure to face reality. The causes of mental illness are organic condition of brain, heredity, social and pathological causes. Toxic compounds nutritional deficiency, infection, accident and radiation are capable of producing abnormal human behavior. Mental health of the children is generally disturbed by strained relations of parents, poverty, faulty methods of teaching undesirable behavior of the teacher, unfavorable school atmosphere, lack of vocational guidance, and faulty system of evaluation. Mental illness can be avoided by adopting sympathetic and friendly attitude towards a child. His instincts and emotions should be helped to find suitable channels for stability. Opportunities for self-expression and creative activities should be provided. He should be helped to make adjustments in life situations and grow. He should be enabled torealize that other's personality should be respected. The school should provide programs which contribute to mental health. Organization pf sports and recreation activity, social functions, vocational guidance and psychiatric services help in mental health opportunities for self-expression. Creativity and adventure development

Self-confidence. Mental health services in a community can early diagnosis of illness making rehabilitation easy.

During the last five decades, various books have been published on the subjects related to stress, intellectual disability and mental disorders. Research in the field of psychology, physiology health fitness, intellectual disability and mental disorders are being done vigorously at different levels at National and International level. Number of strategies, procedures and guidelines has been established by American association of medical and health science related to stress, intellectual disability and mental disorders children. WHO too has provided instructions and guidelines to deal with stress, intellectual disability and mental disorders children. To manage stress, intellectual disability and mental disorders there are different approaches or techniques like physical, social , emotional, behavioral, cognitive, organizational, religious, spiritual approaches and scientific approaches bases on research and advised by American association of medical and health science and WHO. It has been recognized that sports plays a vital role to achieve the objectives of education. Therefore more stress is being laid on learning by doing. Sports has become essential part of life. All round personality of an individual can be developed through the medium of sports and physical education. The concept of sports has undergone a tremendous change because of change in societies and outlook of society has totally changed towards sports. Sports offer ample opportunities to individuals to develop, mentally, physically, socially and emotionally. Various institutes such as AAMHS, WHO, UNESCO, UN and other international organizations endorse the statement that sports plays essential role in all round personalityof an individual.

It is being observed that children who perform several physical activities such as jogging, walking, carrying, running, writing throwing and other sports activities and performing daily activities of life, at school, home are likely to develop all types Motor ability. It is acknowledged that the children not participating in physical activities e.g jogging , walking, carrying, running, writing throwing and other sports activities and performing daily activities of life, at school, home are likely to lacking behind. Very few studies have been conducted as for motor ability, physical fitness and emotional stability on intellectual disabled students and it has been claimed that physical education and sports plays an essential, crucial role for the developing of motor ability, physical fitness and emotional stability among children. Various scholars have established various physical training programs for intellectual disabled children to enhance their motor ability, physical fitness and emotional stability. It may be concluded that sports and various physical education activities have significant influence on motor ability, physical fitness and emotional stability.

Traditional Martial artwork of Different Countries of the World.

Thailand. Thai Boxing: One of the most devastating arts ever to come out of Asia is that of MURY Thai or Thai Boxing. This deadly Martial coaching is hard, grueling and intensive; typically opening at around ten years historic and exponents are mentioned for their art. When coaching commences in may additionally Thai, the first element that is taught is footwork and leg movement. Co-ordination is fundamental due to the fact the sample of the footwork dictates the vary of the fighter's assault and defense. Throughout its 2000 years of history, this royal land has registered alltries to overcome her, which probable offers a lot of credit score to the war spirit of the people. Siam, inher geographical function of South East Asia, is bordered via Burma, Laos, Cambodia and Malaysia with warring tribes constitutionally biting at her heels. Siam had no hold an excellent will to survive.

Burma: The Bondo machine of Burma- Thailand's neighbor, Burma, has a Martial artwork referred to as Bando, which skill 'way of the disciplined'. The artwork is primarily based upon the twelve animals and practitioners typically choose attributes of one or greater of these animals and then teach in that unique system. For example, in the Cobra Style lie all the lighting-like paralyzing nerve strikes. The tiger gadget extols the ferocity and combat energy of that animal, whereas the boar structure is well-known for its difficult locking strategies and shut in war tactics. It is a whole martial system, which additionally accommodates weapons with unusual sounding names, it is possibly fascinating to be aware that some of the unarmed techniques endure similarities to Thai boxing and additionally to Muay Khmer, fashion of neighboring Cambodia. For instance, many of the kicks in bando are delivered with the shin.

Malaysian: The Malaysian artwork of Bersilat- Bersilat is an historic Malaysian artwork of self-defense, relationship returned to the early phase of the fifteenth century. Today this artwork is normally referred to actually as Silat. It consists of many various types which are additionally huge during Indonesia. The artwork developed in the Agricultural areas, the place most of its instructorslived and worked. It used to be brought to Malaysia via the legendary hero and renowned father of Bersailat, Hand Tuah of Malacca. Hang Tuah is stated to have long past into the mountains for a number of years in search of a maha-guru (a grand master) to

educate him the capabilities of this as soon as most secret martial art. The know-how he obtained via his lively coaching taught him how to face an enemy and defeat him.

Brazil: The capoiero of Brazil- one of the leading left out Martial arts in the world is that of Brazil's capoeira. This artwork used to be born out of slavery, in private defense of cruelty and persecution. Capoiera used to be invented via the Blacks of battle the vicious slave proprietors and had its most terrifying effects in the slave uprising. Many of the actions are surprisingly acrobatic as the fighter performs a cartwheel on his hands. It is believed that the origins of the artwork lie in positive African people dances and that the choreography was once altered and adopted to swimsuit thefunctions of self-defense. It used to be thru these dances that the slaves managed to cover the deadly components of this martial artwork from the landowners. In capoeira the emphasis is on muscular power mixed with joint flexibility and speedy movement.

Korea: The sulsa have been a warrior elite who can discover their equivalents amongst the Japanese ninja. The secret sect, who stemmed from the hwarang-do, had been masters of espionage andsilent killing techniques. Their coaching was once so excessive that different warriors regularly classed them as a kind of one- man army. Students eligible to study that artwork have been picked from the cream of the hwa-rangdo ranks. A current parallel is the selection from one of a kind companies such as the royal marine commandos in Britain, of entrants to the extraordinary SAS. The sulsa's guided him thru martial artwork capabilities that may want to be geared to meet each encounter. They ought to stroll on water the use of distinct boat-like shoes, scale sheer fortress partitions with ease and with cautiously tailored kites; they have been capable to jump over enemy positions taking remember oftheir fortifications. Unlike the ninja, the sulsa have been now not picked and educated from birth. The standards of sulsa coaching have been tailored by means of many of the world's armed services, most enormously the US rangers, who have been taught these competencies by using the late Mike Echanis. Echanis had been a scholar of hwarang-do underneath the grand master Joo Bang Lee. Lee taught him an awful lot of this historical expertise and echaris increased it with some of his personal ideas. Modern psychology grew to become worried and mechanics educated provider personnel in thought-control andmeditation.

Africa: In Africa in the early section of the remaining century, the magnificent Zulu ruler Shaka headquartered the first well-trained Zulu armies. Shaka developed their combative competencies as nicely as the assegai which used to be a flat iron spear with a wood shaft made from a tree of the identical name, which was once used to extremely good impact with long shield. Shaka used an advantageous secret agent network, drilled remarkably nicely disciplined troops, used nice fighting approach and had a whole gadget of martial arts. The defend was once used with a lengthy spear held factor down in the back of it, whilst the quick spear was once held in the hand for close- quarter combat. The proud zulu race used religious rituals earlier than combat to make themselves invincible and wore an amulet on the arm which they believed shield them.

Russian: Russian Sambo Wrestling- Russian sambo wrestling has developed from many sources. The most wonderful distribution has come from the country's central Asian provinces, the place activity wrestling has been very famous for lots of years. In 1938 the Soviet Union's countrywide sports activities committee formally typical sambo wrestling as a real martial artwork and section of the Russian country wide heritage and as such they distinctive it as bonafied sport. The phrase sambo in a Russian potential 'self-defense except arms'. It has about 60 simple techniques. In sambo the wrestler can grip the belt of an opponent, however this is no longer authorized judo. Another favored preserve is the returned of the jacket and belt. The ordinary objects of assault are the ankle, knee, wrist and elbow. Pressure holds are utilized to intensify ache pressure the opponent to submit, which he does by means of shouting 'yetsugi'. In opposition there ought to usually be a winner; there are no such matters as attracts or going into greater time. If each opponents have won equal factors at the stop of about, then the healthy is judged through which fighter used to be the most aggressive.

France: La Savate-kicking artwork of France- La Savate is a French martial artwork particularly involved with hostilities with the feet. The hand movements, aside from the open arms slapping the opponent throughout the face, infrequently exist. There is no floor fashioned with each fists, as in western and thai boxing. These kicks are completed from an upright position. La Savate is relatively one of a kind from La boxe franchise, which is the standard from a French boxing. La Savate was once a vicious kind of war used mainly by way of ruffians and the French foot pads. One of the biggest instructors of the artwork was once a Persian named Michel

pisseux. The gadget concentrates on going low kicks to adversary's shins, groin and knees. The few excessive kicks concerned in savate are all focused upon the head, attacking the eyes, nostril and top lip. A professional in the artwork can supply a collection of kicks, utilized with medical precision. The toes cross so fast, that even if a method had been to pass over its target, any other one would observe in simply as quickly, giving the opponent very little time to retaliate. The savate man does now not remember upon electricity in technique, due to the fact of the touchy goal areas. La Savate is the solely martial artwork with Asian origins that developed in Europe earlier than the introduction of judo, almost one hundred years later.

Japan: Weapon Arts the upward shove of Japan's Samurai- in Japan's early historic neighborhood landowners employed guys to shield their property, therefore the phrase 'Samurai' got here into being from 'Sameru' which capacity to 'serve' and used to be used to describe these warriors. During the duration of yoritomo (1185AD) army ruler of Japan grew to be a golden age for theJapanese martial arts. The warrior's grew to become acknowledged as bushi- now not samurai- and codes of ethics known as the codes of Bushido have been formulated. Unlike china, the Japanese bushi had a popularity at the pinnacle of the social scale; they had the proper to undergo arms, administer justice and even take life

The Ninja: During a length lengthy in the past there emerged in Japan splendid team ofwarriors whose abilities have been classed as being nearly magical. These had been the legendary ninja, the warriors of darkness assassins of the night. Ninja coaching used to be designed to produce the whole hostilities man. The artwork of ninjutsu wreaked dying and havoc among the enemy, instilling concern into the neighborhood community, till the very name, ninja, would ship a bloodless shiver of doom down the spying. Feared at some stage in the land, shadow warriors grew to become legends in their personal time. The ninja education started at birth. Early in a position to walk, he would analyses easy children's video games that had ulterior motives. Before the infant was once 5 years ancient he would comprehend the 5 exercises, consisting of balances, agility, strength, stamina and what was once termed as 'special skill' martial artwork coaching used to be given nearly right now with weapons such as the boo staffs, sword, kyu (the bow and arrow), shurien (a superstar fashioned throwing implement), and the different exclusive weapons recognized with Ninjutsu. The unarmed fight technique of tai-jitsu was once practiced arduously.

Kyudo: The Zen archery of Japan- As in the different arts Kyudo comes from a struggle subject skill, that of Kyujutsu, however with the introduction of furnace fingers in sixteenth century the bow, or yumi, grew to be absolute as section of the arsenal of the SAN urai. In Kyudo the archer pits himself in opposition to solely one opponent- himself. The dreams in zen archery are ordinary of zeb teachings. They are as illusive as making an attempt to seize the winds in their hands, due to the fact in the stop the archer can absolutely have no goals. The bow, arrow, and goal of an archer have to fuse collectively to end up one. Then, and solely then will the Kyudoka (one who practices Kyudo) launch the arrow. Even in this stage, with the arrow in fligat, hitting the goal is no longer important. The quintessential issues are now the capturing is done, and the archer's nation of idea when the arrow is released. Style and the technique of preparations are the vital elements in Kyudo.

Martial Arts of Various States in India.

Kerala. Kalaripayattu: Kalari is the Malayalam phrase for an extraordinary form of gymnasium, in which the martial artwork recognized as kalaripayattu is practiced.

Kalaripayattu consists of a range of methods and stages:

1. Uzhichil or the message with gingili oil (sesame) is used for imparting suppleness to the body, however one character with a thorough understanding of the anxious device and the human body,habits the Uzhichil.

2. Miapayattu or Body exercise. After utility of oil, college students begin with a sequence of physique actions regarded as maipayattu. This consists of twists and turns of the physique leaps and jumps and poses, designed to acquire manipulate over a number components of the human body. One sequence of such a workout helps make for handy motion of the body, alongside with sharp eye contact.

3. Paliyankam (Sword fight). Wielding the sword in an environment friendly manner is viewed to be the top of perfection in Kalari Payattu. Various strategies in the use of the sword as a weapon of offense and defense, are being practiced nowadays however the most one-inspiring and possibly blood-curdling of these, is the Paliyankam.

4. Kalari Payattu demonstration includes bodily workout routines and mock duels armed and unarmed combat. Kalari Payattu is no longer accompanied by way of nay track or drumming. It is silent fight the place fashion things

most. The non-secular ecosystem is continually maintained. No overall performance or fight is started out besides duly propitiating the Gods. Character, health and braveness are the needs of Kalari Payattu, which has about it a region of religious and historic association. Kalari Payattu is practiced with the aid of girls also.

Silambam in Tamil Nadu. Silambam had been used as an approach in battle in the Sancam technology of Tamil History. The beginning of Silambam is traced to divine sources, namely, Lord Murga and additionally the mythological sage Agasthya. The etymology of Silambam is raced to the whizzing sound produced in the manner of the play, from the practice of carrying anklets known as Silambu in Tamil via the athletes and the agility and clearness concerned on the working towards it.

Usually the body of workers of smooth wood, pretty uniform in pass part and of a top up to the brow of the standing participant is used. In India, staff-play is popularly acknowledged as Lathi in Maharashtra Dhal Lakadi in Gujarat, "Karrattam" in Andhra Pradesh, 'Neauvadi' in Kerala and 'Silambam' in TamilNadu. The use of lengthy personnel for self-defense or mock war used to be a particularly prepared in Tamil Nadu as early as the 1st and 2nd century AD. When Tamil kings resigned in Martial Majesty. A three-type contest.

1. Fight to the finish, when one of the fighters is dispossessed of his staff.
2. Totaling the quantity of 'touches' one makes on an opponent (indicated by means of suitable marking on the body).
3. Superior ability proven in defending pouch of cash (kept at or in between contestant's feet).The contestant who can register a mark on the brow of his opponent is hailed as a top notch victor in the contest.

Nicobar Islands, Kirip (Nicobarese Wrestling) In this wrestling, wrestlers grip every different from the rear with their hands, earlier than beginning the opposition, and the grip may additionally now not be loosened until the give up of the competition. The wrestler, the use of different components of the body, consisting of the leg, tries to put different on the ground. When the wrestler again touches the ground, he is declared the loser. Three to 5 rounds of opposition take place, between two wrestlers.

Nagaland Wrestling, Naga wrestling is very popular, particularly amongst the Angami, Chakhesang, Zeliang, Rangama, and Mao tribes. Naga wrestling these days

has obtained an all Nagaland sports activities reputation and every alternate 12 months an opposition is held each year,then again regional competitions are held in January. These bouts begin with the contestants greedy every other's waist girdles. When the go sign is given both wrestlers strive to throw every other. A quantity of leg hints and muscle strength are used to acquire victory however the use of the fingers on the opponents legs is regarded a foul, thru the arms can be used to preserve different components of the physique from the waist upwards. A wrestler is declared the winner if he succeeds in throwing his opponent and, in doing so, makes the trunk of the opponent contact the floor whilst he himself does no longer enable his very own trunk to contact the ground. He can additionally be declared a winner if he succeeds in pulling or thrusting down the opponent or forcing him into a kneeling function with each knees and one hand touching the floor simultaneously, or into a kneeling role with one knee or each arms touching the floor simultaneously, the verdict is usually adjusted out of three bouts, viz. two wins out of three.

Manipur Mukna (Manipur Wrestling), Mukna is a structure of wrestling which is as ancient as Manipuri society. The competitions are commonly in the equal weight category. Contestants put on a waist-belt and groin-belt. They keep every different belts and then the fit begins. You are now not allowed to keep your opponent's neck, hair, ear, non-public parts, and legs, with the hands. Boxing and kicking are additionally no longer permitted. The competitor who touches the floor first with his head, back, shoulders, knee, or the hand is declared the loser. The athlete of this sport use some of the ordinary equipment's and dress. This is basically to shield the integral components of a player's body.It additionally helps to perceive the pana or yak to which the wrestler belongs. The waist belt is regarded as an Ingra the winner is known as a yare. He is declared winner if he succeeds in pinning his opponent to the floor with the entire of his physique or his lower back touching the ground. The contest is referred by means of a yatra. At the stop of the contest, the winner is required to carry his opponent of the floor as a mark of strength, self-discipline and excellence

There are many techniques used in Mukna.

1.	Kaplak-Kotpi	6.	Heinbong-Kangbi
2.	Khuto- Theibi	7.	Longkhrouna-Leiba
3.	Ninggong-Langba	8.	Khudongpukhtpa
4.	ChepchingChinba	9.	Khudong-Haipu
5.	Khudong-Awangba	10.	Khuchep-Haibi,etc.

Cheibi Gad-Ga: (A sword and spear recreation of Manipur)This is one of the Manipur's most historic martial arts. The struggle tools is actually a sword and a shield, now modified to a stick encased in smooth leather-based and a protect made of leather. The contestants battle a duel, andvictory goes to the man who ratings the most points. In historic instances the sword and spear had been essential add-on to the tools of a soldier from the royal household. Victory in this martial art, relies upon extra on skill, than brawn and brute force. This opposition shall be held on a flat floor inside a circle of 7m in diameter with boundary line of 7.5cm to be marked in white colour. There shall be two traces of 1m lengths every in the circle, which shall be 7.5cm in width and marked in white coloration with an area of 2m between the lines. The cheibe stick included with gentle leather-based shall be two to two ½ ft. in size and the guard shall be 1m in diameter. The aspect of the cheibi shall have a coat of clean liquid of white colour, which shall be replenished as and when it is viewed necessary. For each and every interval stoppage, the sturdiness of the coloration shall be checked and consequently be replenished. It is the solely existing technique of counting points.

Thang-Ta and Sarit-Sarak (Armed and unarmed combat), The records of Thang-Ta and Sarit- Sarak can be traced to the seventeenth century. Thang-Ta is in most cases the approach of the use of a sword or a spear in opposition to one or extra opponents however on many activities there is a mixed method to the coaching of these martial arts. The Manipuri kings to combat in opposition to the British over a lengthy duration efficiently used these martial arts. After the British occupied this region, martialarts had been banned, however after, 1950' the speedy rejuvenation of martial arts began. Thang-Ta is practiced in three specific approaches the first in completely ritual in form, which is associated to the tantric practices. It is believed that some varieties of this ritual carry prosperity to the kingdom whilst different types carry destruction. The 2d way consists of a show of ornamental sword and spear dances. These dances can be transformed into true battle practices. The 1/3 way consists of proper struggle techniques.

MizoInchai (Wrestling), This self-discipline resembles wrestling in many approaches like the famous Indian shape of wrestling; bodily electricity and ability

are as soon as once more the most important attributes for success. Defeat can be registered in three ways.

1. When each shoulders are pinned to the floor for a be counted of six, in 5 seconds
2. When a wrestler is lifted into the air and is stored suspended for a remember of six, in 5 seconds
3. When a wrestler in pinned down on the ground, in any role for a matter of six, in 5 seconds. Today humans order in the martial arts for a range of exceptional ground. Some humans describe/ identified martial arts as a capability of protection, however it can be debated that self-defense is no longer any lead reason. Many individuals consider that martial art is a cause / reason that it is considered to be an activity of self-defense and is being practiced throughout world. In America, we have the trained forces to safeguard the country from the enemies during the war and we have a police force to take care of criminals , provide justice to the people and help the people in distrust. Anexperience is highly gripping is that the United States has end up a unhealthy society. This is dailyactivity that the human beings who practice martial arts have to use several regulations about the utility of force, Though it is being used for self-protection, not to hurt the others. Others take martial arts as an exercise to shape once body and develop physical fitness , Mental Fitness and spiritual fitness, which has definitely impressed whole community of the world and has taken the world at storm. Others advocate that is combination of three sport. These can be identified as the Tea Kwon Do and Jujitsu tournaments organized throughout the Nation . Some perform Martial Arts activities in order to expand their physiological and psychological well-being.

In the martial arts, most structures have ranks, in any other case acknowledged as belt promotions. At the decrease levels, college student's research simple skills, and as the pupil advance towards the greater ranks, different factors are delivered to develop the fundamental Motor ability in bid to developed complicated motor abilities (Frank, 2001). Go down, slow down competencies and educating capabilities in a development is additionally suitable due to the fact it

forbid the athlete from turning into overpower with too lots new records (Frank, 2001).

Physical Fitness, Physical health performs a necessary position of a regular character as nicely as in a man or woman who is there taking part in some type of sports activities events. There are numerous kind of sports activities and e-sports which are carried out throughout the world some are correlated to each other and few are totally different in many aspects. Physical health has potential and helps us to minimize injuries, helps to make proper use of leisure time, Improve life style and life span, Improves immunity and keeps free from diseases and face emergency situations and overcome odd situations, It is the country of well-being with low chance of untimely fitness troubles and energies to take part in a range of bodily activities. (Tanaka et al. 2004)

Physical health is commonly performed via ideal nutrition, exercise, and ample rest. Regular bodily things to do stop or restriction the physique weight and acquire in physique mass index (BMI). Every individual has a distinct degree of bodily health which may also alternate with time, area of work, state of affairs and there is additionally an interplay between the day by day activities, and the health of an individual. Physical health traits of the athletes are greater necessary as these have marked outcomes on the talent of athletes and the systems of the groups due to the fact ball video games require repeated most exertion such as speeding and leaping (Tsunawake, 2003) .Physical health regarded as one of the distinguished element of an athlete to excel in sports activities arena. Physical fitness, in a very huge sense, decided by means of the individual's potential for non-compulsory work and motor and game overall performance (Astrand and Rodahl, 1986). The overall performance of a sportsman in any recreation or match additionally relies upon on bodily fitness. The bodily health or circumstance is the sum complete of 5 motor competencies specifically muscular strength, muscular endurance, power,agility, speed and cardiovascular endurance. Therefore, in sports activities overall execution of an individual in any sports activity relies upon on these motor abilities. Muscular power, is considered to be as explosive power, is an aggregate of velocity and power which is essential in lively overall performance in view that it ~ 132 ~ International Journal of Yogic, Sports Sciences and human movements determines how tough a man or woman can hit, soar and push etc. Agility is the potential to trade the path of

physique or its components hastily which is based on strength, response time, pace of motion and muscular coordination. Quick begin and stops and speedy tempering in route are essential for excellent overall performance in athletics. Running pace is now not solely an athletic tournament itself, however it is an vital aspect in nearly all court docket and discipline video games it can end result the distinction in whether or not a performer is capable to acquire an gain over his/her opponent. Man's existence and efficiency/potency relies upon his fitness. Physical health impacts ones life's things to do now not solely the bodily properly being and intellectual effectiveness however additionally the non-public and social adjustment.

Motor Assimilation, There is a very small references on the motor assimilation and overall performance of teenagers with slight mental disabilities (MID) and borderline mental functioning (BIF). Adequate tiers of motor capabilities might additionally make contributions to the lifelong pleasure of bodily activity, engagement in sports activities and wholesome manner. The existing learning similitude about the motor capabilities of youth with mental incapacity (ID) to the capabilities discovered in commonly growing children. It additionally focused to decide whether or not there exist any relationship between development of Intellectual Disability and Motor performance. A complete of a hundred and seventy youth between 7 -12. 12 years with MID has been examined on (MABC) Movement Assessment Battery for Children test. Children with 81.8% with MID and 60.0% with BIF were found on the whole rating of the MABC. Both tests identified a relatively weak point. Comparison between both the tests confirmed average impact sizes on MID or BIF of the MABC. Children with ID are border lined and have motor troubles than the normal children. This find out about highlights the significance of enhancing motor talent overall performance in each youngsters with borderline and slight ID, and the outcomes reflects that the level of motor ability and cognitive operation are co-related in adolescents with ID.

Children with average to extreme ID traveling specialized day software facilities have salient low bodily health horizons. Agreements , Rules and Interventions to make bigger the bodily health for this precise crew of teens are desperately required, in which increasing bodily endeavor and Motor abilities are predicted to be advantageous element. Intimation for fixing strikingly low tiers of bodily health have been considered in youth and kids with reasonable to extreme mental disabilities. This susceptible team is in want of pleasing restoration to enlarge

their bodily health levels. Augmenting thebodily undertaking is a viable issue in these restorations. Developing motor improvement will most possibly lead to extended bodily health as well.

Children with mental issues exhibit a prolong on motor improvement with essential impairments in adaptive functioning and day by day dwelling capabilities limiting their autonomy and independence as nicely as their participation in social activities. Increasing lookup has focused thegross motor talent in Down syndrome (DS) people, a genetic syndrome characterized with the aid of mental incapacity (ID).In distinction little lookup has been produced on the state between motor and mental talent in populace with borderline intellectual functioning (BIF).

Emotional Stability, Emotional steadiness is frequently mentioned to be the means of the label for its contrary pole, particularly psychoneurosis, a shut related to the issue of nature known as poor loneliness (De Pauw, 2012; Rothbart, 2007). Negative loneliness involvement while getting to know by the way of apprising challenge to disrupt and hampering in response to worries . Emotionally secure humans have act poorly to stimuli and therefore are much little without difficulty demoralized, they are disorder and extremely extra assured in their very own capabilities (Ormel et al., 2013). Accordingly the higher emotionally secure college students are to much worried and pay very less interest to faults, Not identifying the faults result in enables educating from mistakes (Zhao, 2011). It seems partially because of the prospective of emotionally secure college students to modify center of inattention away anxiety-exhortation thereby lowering the diploma for which they seem to be crazy by using broody ideas that actively encroach with studying (Kircanski et al., 2008). Further, Individuals being to much or greater on emotional balance are greater in a position to remain targeted on gaining knowledge of things to do such as homework, and have higher educational results as an end result (Lubbers et al., 2010).

The effect of emotional consistency lengthen the condition and engagement of mastering and learning. Emotional consistency is unreliably correlated with disheartening, disagreeable as for studies are concerned, or favorite rejection of motivations in training (Komarraju 2005; and Payne 2007). It is concluded that emotional stability is unsupported correlated with interest to outer needs, These

are obligatory with the aid of educators (Zhao, 2011), per chance due to connection with anxiety of non- achievement. The tie-up between emotional steadiness and tutorial motivation is complex.

The low stage of bodily health of intellectually disabled men and women is most often the end result of a inactive way of life and the deficiency of the opportunity for these humans to take section in a range of varieties of bodily action, act and as a outcome these humans are often incapable to take phase in any construction of intended bodily activities, are incapable to properly function routine things to do and have confined skills for acting work-related duties. Regular bodily exercise can have a hindering effect, can limit fitness dangers and stop the oncoming of a variety of unwell, as decent as to encourage a lively life-style and enlarge bodily and work magnitude among the subscriber of this precise group of people. Sport can play a vital role in the existence of persons with mental disability as it symbolize a properly foundation for the betterment of bodily and cognitive abilities. Group games, which apprehend interplay amongst a big range of individuals, a decision-taking strategies in a range of conditions and the grasp of the recreation itself in its organic components can be utilized as a superb and sensible therapeutic of persons with mental disability. acta medica medianae 2012; 51(2):45-49. Key words: bodily activity, mental disability, activity "Sveti Sava" Elementary School, Pirot, Serbia Contact: ZoranStanišić "Sveti Sava" Introduction of Physical workout and therefore the degree of bodily health are each viewed applicable for the fitness of men and ladies who are intellectually disabled, whilst normal bodily pastime throughout one's lifetime is advocated for the explanation for prevention of sickness and therefore the magnify of emotional stability. Physical pastime amongst men and ladies struggling from mental incapacity contributes to their psycho-physical progress, helps their overall performance of primary everyday things to try to and can increase their motivation to measure. Taking introduce activity can assist persons with mental incapacity amplify their self-respect and recognize their social skills, as nicely as collaborate with different humans struggling from the equal disability. Regular bodily recreation are often used as a precautions , can limit the danger to one's fitness and stop the incidence of positive illnesses, as properly as promote an active way of life and extend the bodily and work capacities amongst participants of this unique population. Nevertheless, many centered research have indicated that men and ladies

with mental incapacity rating decrease effects on standardized exams of bodily health at some stage altogether the phases of their existence than the participants of the populace of everyday individuals. Due to this, persons who are intellectually disabled are regularly unable to properly function daily things to try to and have constrained skills for performing their work-related duties. One among the fashionable day research during this place has decided an immediate connection between the stages of bodily health andtherefore the time wished to function a day duties within the case of adults with mental incapacity. These findings means that bodily pastime can enhance the superb of existence of parents with mental disability. Nevertheless, some research have proven that bodily state of being inactive and weight problems amongst persons with intellectual incapacity motive terrific issues for his or her customary health. For this reason, it's endorsed that the professionals start to contain this populace into quite number applications and initiatives for the advertising of health, alongside higher participation in bodily activities.

1.1 Statement of the Problem:

Adequate statement of the research problem is one of the most important part of research. Researcher stated the problem as "The effect of Mix Martial Arts on physical fitness, Motor Skill Assimilation and emotional stability among children with intellectual disabilities ". The purpose of the present study is to examine the effects of mixed martial arts training program on the Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities. The investigator prepared a module on the Physical fitness, motor skill assimilation, and emotional stabilityamong children with intellectual disabilities.

1.2 Objectives

The present study was conducting with a view as :

1. To study the Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities.
2. To study the effect of mixed martial arts training program on Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities.
3. To compare the effect of mixed martial arts training on Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities and normal children.

1.3 Hypotheses

1. It was hypothesized that there exists a significant difference in the effects of mixed martial arts training on Physical fitness among children with intellectual disabilities as compared to normal children.
2. It was hypothesized that there exists a significant difference in the effects of mixed martial arts training on motor skill assimilation among children with intellectual disabilities as compared to normal children.
3. It was hypothesized that there exists a significant difference in the effects of mixed martial arts training on emotional stability among children with intellectual as compared to normal children.

1.4 Delimitation:

1. The study was delimited to the children with Intellectual disabilities Borderline (IQ range 50- 69) and Normal children (IQ 90-109) having age between 13 to 18 years of Patiala, Punjab.

2. The study was delimited to Senior Secondary Model School Punjabi University, Patiala, Punjab.

3. The study was delimited to physical fitness and motor skill assimilation variables and emotionalstability.

4. The training program was delimited to 12 weeks duration with a frequency of 6 days per week,with the duration of one hour per day.

1.5 Limitations of Study:

1. Certain elements like dietary habits, resting and sleeping pattern etc. were not in the hands ofthe investigator and were considered to a limitation of the study.

2. As the subjects were from unlike socio-economic groups, their diet, life style, routine was dissimilar which were considered as limitations of the study.

3. No special technique was employed to inspire the subjects during the administration of the tests.

1.6 Significance of the study

Children with intellectual disabilities are not capable to fulfill their intellectual capabilities, and mental abilities those children lag behind from their peers. Mental retardation has many different degrees, variables, elements , sources and facts. It is being identified through the process of classification than a diagnosis of a disease.

Some of them are mildly retarded but have a high learning capacity and they are not recognized as intellectually disable. They are able to learn the most basic skills. Hawkins, Eklund, James and Foose, (2003) opined that various mental retarded individuals make tremendous advancements in adaptive skills. Various individuals function independently and are not considered to be disable under any category and most if the individuals are effective throughout the life.

Martial arts training has been considered as one of the activity which results in strengthens all aspects of health and fitness, that makes an individual mentally stronger and learns how to defend oneself and protect near ones. It is the best-kept secret of strengthens all aspects of health and fitness and total body functional fitness. The present study is being conceptualized in the backdrop of very few studies conducted on the person of intellectual disabilities and the relevance of mixed martial arts training for them. In a study by Kutz and Weiser (1993) reported that Mixed Martial Arts strengthens all aspects of health and fitness and enhance self-esteem through, combative skills, Morality, Discipline through various physical activities and peer group occurrence, and the teaching of tranquilize, attentiveness, faithfulness, confidence, and sincerity in expressions and communication. It is considered to be a acceptable and best sort of therapy, for both mental disorder and few (terrible mentally) agonizing sick patients.

The study will be significant in the sense, that it will be helpful to decide the physical and emotional advantage of Mix Martial Arts training program for Intellectual disable adults.

Secondly, it will explore whether participation in Martial Arts Training lead to minimization in the mental and physical functional limitations, caused by an individual's mental disability.

Thirdly, the study will help in understanding whether participating in martial arts improve physical fitness (arms strength, flexibility, abdominal strength, speed, static balance and agility), motor skill assimilation and emotional stability, and instil confidence in people with intellectual disabilities.

Fourthly, the study will also be significant for determining the vitality of martial arts for enhance an individual's anticipated quality of life through improvement of physical and mental fitness among children with intellectual disabilities.

1.7 Operational Definitions:

Mixed martial arts training: It is an excellent full body contact combative sport that permit both grappling, catching, holding, Pushing, pulling and striking. Utilizing techniques form other combative sports sparring. It Include several fighting styles (boxing, clinch fighting, Muaythai) and several brands of grappling techniques from various arts (Judo, wrestling or ground-fighting practices).It include Boxing, catching, Wrestling, Grappling, Kickboxing and wrestling. The term 'martial art' indicate numerous things to various individuals and the statement can therefore be, somehow difficult as it not only designate to be a fighting tradition as per the Asian continent is concern and dismiss the tradition of martial art in the west countries. Such terms are enable to specify the purpose and the exercise of martial art and sports. Martial art is denoted as popular sports combat or modern by product of the original combative practices. Related literature available related to 'Martial Arts' is agitated/ flustered with nonprofessional clarification errors. The reality about MMA which has been recognized ,established by a number of authors.

Difference between motor fitness and physical fitness.

Physical fitness is used to denote only the five basic fitness components (muscular strength, muscular endurance, cardiovascular endurance, freedom from obesity and flexibility), whereas motor fitness is a more comprehensive term, which includes all the ten fitness components including additional five motor performance.

Physical fitness: Physical fitness is an ability of an individual to perform his daily routineduties of life without any undue fatigue. The components of fitness are physical fitness: muscle strength, muscle endurance, explosive strength , flexibility, cardio respiratory endurance and body composition and why are they said to be important. The physical fitness of the children assessed in terms of their arms strength, flexibility, abdominal strength, speed, static balance and agility.

Physical fitness refers to the ability of your body systems to work together efficiently to allow an individual to be healthy and perform activities of daily living. Being efficient means doing daily activities with the least effort possible**.**

Motor skill assimilation: By motor skill assimilation is meant the gross motor development of the children. It can be understood in terms of Loco motor and Object Control ability. The Loco motor sub tests include leap, horizontal and vertical

jumps, runs, hop, gallop and slide. Similarly, the Object- control sub test include nonmoving dribble, ball skills such as striking a nonmoving ball, under hand roll, kick, Pull, push, over hand throw and catch.

The neuromuscular components of fitness, which enable a person to perform successfully at a particular motor skill, game, or activity. Specific motor fitness components include agility, balance, coordination, power, reaction time, and speed. Motor fitness is sometimes referred to as skill-related fitness

Emotional stability: It is an individual's ability to stay cool, quiet, still or even rise, straightenwhen confront tension, pressure and stress. An individual who is emotionally not stable is more worried, which reflects that an individual is prone to face an increased risk of retaliate with violent or noxious behaviors when provoked.

Intellectual disability (ID): It is characterized as low, average intelligence or capacity and a lack of skills necessary to do daily routine life activities. A person with intellectual disabilities is capable of learning new skills, but at a slower pace. Different levels of intellectual disability are there characterized from mild to profound. Intellectual disability person have two major limitations. These identified areas are motor ability and Intellectual functioning .It is also identified as IQ, It reflects an individual's capacity to take decisions solve daily routine problems and perform daily activities and also reflect reasoning ability.

Adaptive behaviors: Adaptive behavior are skills required for performing day to day task such as communication , interactions with others and take care of oneself.

IQ (intelligence quotient): IQ is being measured by an IQ test. Average IQ of an individual is said to be 100, where the maximum IQ of an individual ranges between 85 –115. An individual is considered ID, if his / her level of IQ is less than 50 to 69.

CHAPTER-II

REVIEW OF RELATED LITERATURE

Currently, Mixed Martial Arts (MMA) is most favorite, famous and fastest growing/ developing sports activities in the world for participation as properly as media consumption. Scholarly lookup regarding MMA is limited, however turning into an increasing number of extra famous place of examination. A large search of peer-reviewed literature gives truly described topics of lookup interest; accidents and damage danger are the most popular, observed by using MMA history, social understanding of the sport, sports-specific training, and ultimately fan motivations for consumption. Present lookup in this area is sparse, even though the increase of MMA recognition gives proof that future lookup is warranted.

Platonova, (2019) asserted that motion education is the most essential tasks in commutable bodily education. Movement education in kids with listening to decay is decided through the special of this no sociological group, age diagnostic and practical capabilities of the body. A variety of scholars verify that listening to impaired youngster alter from their peer group in a scope of symptoms of physical improvement. Moreover, in deaf and difficulty of listening to teenagers the betterment of new kinds of act is lazy due to the restrained capacity of producing changes to the familiar shape of movements. Deficiency of listening to cut down the quantity of present day statistics that performs lively function in growing enough characterization when studying motion. The cause of this learnabout was once to examine related literature data on the betterment of psycho-emotional features in teenagers with listening to impairment, to learn about the primary traits of interest and the effect of the karate method, techniques on interest indications in teenagers with listening to impairment.

Dusan and Simo (2018) proved the significance of adoptive Karate application for enhancing motor improvement and psycho-social fame of men and women with slight intellectually disability. Study offers with the outcomes of karate things to do on motor ability and psycho-social characteristicsmake beneath the effect of adaptive Karate. A 12 week experimental treatment was applies to the pattern of the 15 young people 8male and 7 woman with Mild mental disability, a long time of 16- 91nyears old. Before the therapy psycho-physical traits of the subject was once measure. A

assimilate scale of adoptive behavior was applied to count the bodily development, self-initiative, determination and the stage of various social communication . The pleasant of precise motor competencies have been measured with the aid of numeric scale at some stage in the overall performance of karate skills. The tailored karate application had a high quality effect on the psycho-physical development of the subjects. A giant evolution of bodily enhancement, improvement, socialization and unique motor capabilities have recorded. Distinguished modifications have not been figure out solely for self- introductory act and determination. The gender of the subjects does not have a statistically massive affect with concern to some of the modifications taking place throughout the experimental period.

Revills (2017) carried out a systematic evaluate on the relationship between bodily workout and developmental coordination sickness which is characterized as a developmental condition. In this situation teens discover it typically hard to raise out easy things to do like running, on foot and jumping, which are critical for boom and development. Through the medium of this assessment the writer had tried to discover out the position of bodily pastime in merchandising the fitness of youth struggling from developmental prolong condition. These research propose that the physique composition, cardio respiratory fitness, muscular power and cardio capacity, power, bodily pastime have a fantastic correlation with motor efficiency. Hence it is proved that an enhancement in motor affectivity of teenagers may want to enhance all above cited variables.

Tappset. al. (2015) Examined the association between cardio-kickboxing and stability in humans with developmental disorder. Cardio-kickboxing is a fusion of Boxing, Judo, Taekwando , Wushu and Martial Arts. Cardio-kickboxing established it that it enhances stability among competitor.

21 adults with improvement disabilities had been randomly assigned to a manipulate group. Participants have been analyze at baseline, for 4 weeks duration and post intervention was done by using the Four Square Step Test. As for the stabilities it has shown improvement in stability (p andlt; 0.0125) at post intervention testing. Results indicate that cardio-kickboxing may be promising intervention to develop stability for subjects with DDs.

Milligen (2015) asserted that early life with getting to know disabilities (LDs) have facts clarifying challenges that vicinity them at lengthy chance for emotion regulations and often remember on coping techniques that emphasize avoidance of

difficult emotions, experiences or tasks. IntegralMix Martial arts (MMA) used to be developed to tackle and assist members contended with these challenges and extend self-awareness and focus on (MMA) . The current preliminary qualitative find out about consists of result from a post-treatment (MMA) achieved via 29 early life aged 12–17 and 20parents, and in-depth interviews with 15 childhood who participated in MMA and 5 parents.

1. Adults imaging for Mix Martial Aarts;
2. Insight of software elements and found;
3. Effects related with group action; and
4. Demanding components of software had been elaborated. Thematic evaluation of interrogation advised that the betterment of dominance and satisfaction was once a prevailing motivating element for coming into corrective . The mindfulness factor of MMA used to be recognized as useful in promotion a feel of calm, cool, tolerant and self-understanding in young person. This lookup gives preparatory guide for the Integral Mix Martial Arts software with the concept to view of participants. Forthcoming lookup instructions and scientific implementations for therapy of early life with LDs are explained and discussed.

Juliano, Monica and Takito (2015) carried out find out about on Health-related bodily health in martial arts and fight sports activities practitioners.935 adults male athletes of Brazilian of Judo, Taekwondo and Kung-fu have been evaluated the usage of the health evaluation check projected by using American University of sports activities Medical specialty. Data had been examined the use of descriptive statistics method, correspondence evaluation of variances, was the big stage of 5% in all analysis.

Kumarand Yadav (2015) explored about effectiveness of Polymeric coaching on explosive strength. Total 40 of school boys were selected age ranged from 16-18 years. 20 boys each were assigned to two groups treatment and control group. The treatment groups were exposed to 12 weeks training. The findings advocated effectiveness of polymeric to improve explosive strength.

Allah and Pouladei (2014) Investigated an effect on self- efficiency and self-motivation in relation with Martial activities and non martial athletics. This operation was once found to be off the beaten track (unconventional). The statistic analysis of this operation between the martial and non martial athletics with reference to effect on self- efficiency and self-motion. The findings confirmed that academic self-

assurance of Martial athletics used to be greater than no Martial art athletics (t= 3.04, p < 0.001). But, study reflects that there is no long variation between self-esteem of martial art and non martial athletics.

Fong et. al. (2013) asserted that Taekwondo (TKD) is a famous recreation among teen, however the possible advantages of TKD education to younger people are no longer properly interpreted. The target/ aim of this cross-sectional observations find out about had been to examine, Strength, muscular endurance, flexibility, physique composition, and easy response time between TKD- trained teenagers and controls. 20 TKD- skilled teens aged between 10 and 14 and other 20 age-matched alimentary relation had been asked to function 5 bodily health tests: leg break up test, a sit-and-reach test, skin fold measurement, and Ruler drop test response time test and one-mint curl-up test,. The outcomes printed no magnitude variant between the two establishment in sit-and-reach spacing (p = 0.690), leg break up attitude (p = 0.789), magnitude of physique fats (p = 0.342), or range of repetitions in the one-minute curl-up check (p = 0.250). Nevertheless, the TKD team had considerably quicker response instances in the ruler drop take a look at than the manage team (p = 0.005). The consequences therefore advocate that even though TKD education may additionally enhance response instances in teenage, it can also have small impact on Stability, Endurance flexibility, and body composition. TKD can be an suitable exercising for enhancing easy reaction time, however it may not be suitable for upgrade customary bodily health in adolescents.

Boguszewski et. al. (2013) asserted that Children struggling from intellectual retardation have a tendency to spend most of their time at domestic or in hospital. Therapists should, therefore, are trying to find methods for them to contact the outdoor world (animals, peers). Similarly to their healthful peers, handicapped teenagers have to have the opportunity of satisfying their hobbies. Apart from rehabilitating, non-standard varieties of remedy assist form the child's interests, advance the child's passions. Hence, the foremost cognitive purpose of the lookup was once the effectiveness of judo classes as a supplementary therapeutic approach devoted to youngsters with intellectual retardation. Materials and methods: The lookup used to be carried out on a crew of seventy three children. Their common age used to be 11.7 (SD=2.6). The circumstance of all youth used to be continuously monitored and supervised via scientific medical doctors and physiotherapists. Over 35 of them attendedjudo lessons carried out as phase of their therapies. The majority

of teens (59%) have been characterized via moderate intellectual retardation. The diagnostic ballot technique was once utilized inthe research. The lookup device used to be an authorial survey stuffed in by means of the mother and father of teenagers struggling from intellectual retardation. The survey comprised of 21 questions regarding the child's bodily fitness, locomotion lesions, self-care and visual-motor coordination from the commencing of the classes. Results: Children attending judo lessons made giant growth in their capability to talk with the environment. Improvement used to be additionally mentioned in the place of self-confidence and assertiveness. Differences between the judo crew and the manipulate team have been statistically massive $p > 0.0001$ in reference to the comparative group. Self-care as nicely self- reliance and self-independence had been graded in common in 2.5 points.

Rintal (2013) measured motor competencies in Finnish youngsters with mental disabilities. Thisinvestigated examined variations in motor talent improvement between Finish youth (12 boys, eight girls) with moderate mental inability. The crew with mental incapacity carried out at a statistically notably decrease stage on the Loco motor, Gross Motor Quotient, and Object Control sub-tests of TGMD-2, in comparing to the crew except mental disability.

Evan (2012) carried out a find out about on an Internet-based survey was once posted on a famous Mixed- Martial Arts (MMA) weblog to confirm its users' demographics and utilization trends. Data evaluation printed that customers have been predominantly White guys between a long time of 23 and 39, with some university training and an annual profits of $40,000–59,999.An exploratory aspect evaluation published 6 dimensions of gratification: evaluation, community, statistics gathering, information demonstration, argumentation and diversion. The most salient motivation statements had been associated to the velocity of facts access, the depth of data and coverage, and the availability of statistics no longer normally discovered via regular media outlets. Most customers spent 1–5 hr/week gazing MMA programming and 1–10 hr/week on MMA blogs, making 1–20 remarks per week. Findings indicated that customers used this unique weblog for each interactive and information-gathering purpose.

Fong, et. al., (2012) Evaluated the consequences of three months of Taekwondo education on the receptive corporation and erect firmness of teenagers with DCD. Randomized trials was conducted. 44 young population with DCD were selected for the study.21 youth with DCD had been randomly selected to endure

every day. TKD coaching for 3 months with duration of 1 hr per day. 23 kids with DCD and 18 commonly growing teenagers acquired no coaching as control group. perceptible enterprise and erect stability had been examined the usage of a sensory agency take a look at (SOT) and multilateral position check (UST), respectively. Repeated standard MANCOVA certify a sizable team with the aid of time interplay effect. Significant upgrades in visible ratios, vestibule ratios, SOT composite ratings and UST sway velocities had been additionally recovered in the DCD-TKD crew later coaching ($p \leq 0.01$). 3 months of each day TKD education can enhance afferent enterprise and standing stability for youngsters with DCD. Clinicians can advise TKD as a therapeutic enjoyment endeavor for this group.

Masalesa, (2012) carried out a study with prospective to set up a reciprocal between designated motor competencies and motor competencies of martial arts as efficiently as to what extent and how a crew of human beings with mental incapacity (ID) who typically exercise judo activities can attain betterment in their martial arts abilities (boxing, wushu, karate, Judo and fencing) after an eight week training program. These have been additionally involved in whether or not there have been anymodifications and enhancement in select motor abilities.

Fong et. al (2011) studied fitness of Athletes through martial arts training: Physical health and reaction time in teenage Taekwondo players, participants. The goals of this cross-sectional exploratory learn about had been to evaluate muscular endurance, physique composition, flexibility, and easy response period between Taekwondo- educated kids and control group. The effects therefore advocate that TKD may additionally be a appropriate exercising for enhancing easy response time, however it may additionally no longer be appropriate for enhancing usual bodily health in adolescents.

Westendorp et. al. (2011) in contrast the unique gross motor capabilities of one hundred fifty sixadolescent with mental disabilities (ID) ($50 \leq IQ \geq 79$) with that of Two hundred fifty five usually growing children, age group between 7–12 years. Initially, the affiliation between the unique gross motor capabilities and prepared sports activities participation was once analyze in each groups. The Test of Gross Motor Improvement-two and a self-report evaluations have been used to check youngstergross motor capabilities and sports activities participation, respectively. The adolescent with ID scores extensively drop-off on nearly all peculiar motor ability gadgets than the healthy children. Subject (children) with average ID scores drop-off

on the Locomotors competencies as compared with teens with borderline ID. Moreover, we observed in all segments that teens with greater object-control found participated other extra school curricular activities rather than adolescents with drop-off object-control scores. The present out come lead the significance of involvement for well-developed gross motor capabilities in young people with the borderline and moderate ID, especially to object-control sports skills, which may make contributions optimistic to their sports activities involvement.

Hayakawa et. al. (2011) carried out a learn about on the subject matter of effectiveness of a number of sorts of education the use of unique coaching gear on enhancing secure function and muscle electricity of folks with moderate mental inability or autism. 23 individuals (N=23,) In the present study, some of them will be constrained movement who wanted to accompany with however most operate independently in their daily life. The variables analyzed had been upright position, one-of-a- kind exercise in sitting position, on foot and jogging on health club equipment. Results of the learn about confirmed that there used to be a noticeable enhancement in bodily circumstance of the individuals in pouring, hurdle stroll and strolling on a exercise device. Moreover , knee movement escalate . In the fitness center gear overhead motivation the participants' to work out more.

Hemayattalab's, (2010) examined the impact of 5 variants of exercising on the gaining knowledge of skills amongst children with mental disabilities. The 5 editions of coaching has been as follows: bodily training, intellectual education, bodily education and intellectual training incombination, intellectual education with bodily coaching in combination, and a manage unit without education whatsoever. Forty youth aged 12 – 15 with moderate mental disabilities take part in this learn about (N=40). The operational equipment have been EMG, self-report measurement ANOVA and the mentioned variable where used to be analyze, study was once said to be free toss into a basketball game . Results of the find out about confirmed an enhancement in all of the companies that had some shape of training. The pleasant effects had been in the businesses that utilized each bodily andintellectual coaching in different collection, Combinations. The primary judgment found from this learning about is for the bodily academic instructors to use some aggregate of intellectual and bodily education to assume best possible results with the youth having slight intellectual disabilities.

Vertonghen et.al. (2010) examined the martial arts activities with the young subjects with immature years has been delineated in arguable statements. Studies related with the effects of martial arts exercise on childhood display various images. Few suggest that the better private and social possibilities for these that take part, others warn towards speed up degrees of aggression and delinquent conduct among the subjects. The purpose of the Present study is to provide, First a summary about fundamental results of research related to variation in social-psychological results of martial arts practice. Second impediment of these researches are talked about. Hence , It is summarized that the higher grasp were furnished that influence the element that are taken to account in further lookup.

Solish, (2010) in contrast the endeavor participation and friendship in commonly growing (TD) teenagers (n= 90), kids with an autism spectrum ailment (ASD; n=65), and teens with a mental incapacity (n=30) between the a while of 5 and 17 years. Parents achieved a questionnaire about their child's participation in social, leisure and enjoyment activities. The TD youngsters participated in substantially greater social and leisure things to do and had extra pals than the youth with disabilities. Notable variations emerged amongst agencies in the proportion of things to do the teenagers participated in with peers, mother and father and/or different adults. Some substantial variations have been cited between the ASD and mental incapacity groups. Research regarding recreation participation ought to proceed to take into account now not solely whether or not teens are attractive in activities, however discover extra exactly 'with whom' these things to do are occurring.

Bozanicet. al. (2010) decided the feasible correlation of imperative motor competencies and particular karate capabilities in kid's age 5 to 7. A complete of thirty one youngsters (twenty boys and ten girls) took part in this study and had been subdued into 2 checking out sessions: vital motor competencies and particular karate skills. The imperative motor abilities have been calculated with the use of the most often used check – TGMD-2. 3 qualified judges valuate the performances of six unique karate factors watched carefully the performance on videotaped material. According to the excessive values of Bernbach important coefficients (0.91-0.98), Alamogordo-Smirnov take a expression at and the result of the thing judgment we can reason that the finespun karate competencies sorting are a morganatic size for adolescent's age 5 to 7. Also, the deficiency of massive random variable between boys and women validated preceding investigations in the place of important motor

skills. They do now not move extended in the peculiar karate capabilities neither with feminine having greater numerical quantity. Karate competencies are substantially affirmative correlated with the essential motor capabilities result (0.74). This correlation permit extra appropriate declaration scheme and the novice's education scheme corporation have been the purpose is the example motor competencies high-quality betterment which establish to be the basis of precise karate method acquiring to know in future phases.

James et. al. (2009) states the trouble of lack of bodily pastime packages in the developmentally delayed young people in assessment to the required goal of 60 minutes nearly on all days of week. Most of the research undertaken for evaluations by means of researchers have claimed that the fitness chance associated to lack of bodily endeavor and weight problems pose a larger risk to teenagers with disability. Though it is less difficult to contain bodily exercise packages in medical settings however it nonetheless stays a project in the neighborhood settings. The authors have emphasized the want to advance packages designed for catering the wishes of developmentally delayed youth in neighborhood settings.

Konant, (2008) examined whether or not the achievable cognitive and psycho-social outcomes of childhood epilepsy have big involvement for a child's self-image and tutorial performs. The results about focused10-week karate training program for youth with epilepsy purpose at developing social self-concept,self-assurance, and understanding of life and remarkable decrease in parental anxiety. 11 youth between the age group of (8–16) and their parents both father and mother took part in this questionnaire survey, and whole statistics of all the Nine families has been assessed. Piers–Harris Children's Self-Concept standard scale, the level of Life in Childhood Epilepsy (QOLCE)questionnaire was used to assess the Childhood Epilepsy , and the Parental Stress Scale was used to assess the stress of parents. By parental written report, significant concentration in memory was characteristic by and large superior inclination in first-discovered of bigness on more than one sub scales have been observed. By baby report, mental self-love and social self-belief in addition built. Parental stress reduced, even though nowadays not significantly, advise a feasible reward and point out a usefulness for future involvement accumulated on family unit anxiety.

Gregory and Christophe (2007) examined variations between two enterprise of folks withmental inability, between the age group (13-17years) in expression of

social adaptability and self- esteem. Two corporations covered humans with mental inability who skilled in organizations collectively with standard individuals, In the 2nd team which used to be comprised solely of persons with mental disabilities who were skilled in a non-organized framework. Various sports activities have been involved, which were Athletics, Swimming and basketball. 48 ladies with moderate mental incapacity take part in the find out about (N=48, with an IQ of 40-78, between a long time of 13- 17).The statistics series device in use to be Harpers spp. Variables analyze about social adoption and self-esteem. Results established no changes between the expression of social adoption; however, results of the learn about valid appreciably lessening grade of self-regard among the basketball group and aggressive to the athletics group. Another engrossing discovering confirmed that an combative surroundings assistance youngsters with mental disabilities to undertake sensible expectations with respect to their bodily abilities.

Kimberley et. al. (2004) The impact of School-based Taekwando training program on self- regulatory skills was examined. A self-regulation model of Cognitive, effective and Physical of 3 spheres were utilized to be existing children (N = 207) from preschool through lass 5 had been at random allotted by means of home room categorization to both the intercession (martial arts) team and classification (traditional bodily education) group. Outcomes had been evaluate the usage of multidimensional, multi modal classification. After a 3-month intervention, outcome was that the training program of martial arts squad inveterate enhanced upgrades than the comparison portion in areas of cognitive self-regulation, effective self-regulation, prosocial behavior, and overall execution on a intellectual math test. Large Group with Gender interaction used to be placed for cognitive self- regulation and public lecture room demeanor, with boys show enhanced than their counter part girls. Possible statement of this interaction between martial arts teaching and state of self-regulation in the school going teens are discussed.

Ruiz and Hanin (2004) conducted research on overall performance of athletes. Investigating the performance of Athletes and utility of investigation of self-generation approach and emotion profiling in the illustration of overall performance of the elite karate players of Spain, they summarized that the self-satisfied karate players used to display their emotional states well-defined to previous performance, present performance and after performances. High motion readiness was once obvious in high-quality overall performance condition of karate players , whilst

decreased motion readiness was once reflecting overall worst performance in karate players in various situations. Further Studies similarly identified that the authentic metaphors had been preserved, it reflects that athletes precepts of overall performance scenario stays secure over time. Athletes experiences frequent anger after poor performance , It has been observed that Anger signs and symptoms persist constantly in athletes during their performance, It may be satisfactory or worst one . The expressions and phrases used by athletes to described their anger , as smartly , reflecting that their anger is excellent, if the performance is still low. The results suggested by the author that the self regulatory is very essential in order to keep the athletes away from these states .

Results of the learning about confirmed that each education mode had some effect on the variables. Hence, bodily schooling humans with mental disabilities can enhance their life.

Winkle (2003) carried out a study, to study the outcome self-defense instruction manual on woman cadets' bodily self-efficacy (PSE), perceived bodily capability (PPA), and bodily self-display and self-assurance (PSPC) with relation to West Point Military Academy. The subjects used for this find as self-defense groups (N-81) and 12 months trained woman cadets listed in . The subjects age forthe study was 18 years, and twenty topics (30%) have been corps and squad athletes. The Physical Self-Efficacy Scale was used to study the outcome of self defense instruction manual. The subjects were in a position to introduce their self-perceptions regarding testimony via the use of a six-point scale of Likert .The Physical Self-Efficacy scale has passable coexisting validity . The content of the self instruction manual was administered surveys on the initial and last day of their classes. The grading of the topics substantially come down from Time one to Time two on the PPA sub-scale. No distinction placed on the PSPC sub scale.

Jacqueline B.et.al. (2003) administered an academic software for 9 weeks and located its consequences on locomotors and object controlling abilities improvement of teenagers who had been recognized to be at hazard of developmental delay. The intervention was once given in the structure of workout in 35 minute session. The facts on the chosen variables used to be got after program. The consequences confirmed that the experimental crew will enhance extensively as in contrast to manage crew on chosen variables.

Christopher C. et.al. (2002) targeted on the trouble of dearth of bodily

endeavor in adults going through the problem of developmental delay. In his work he broadly speaking describes the current situation of the popularity of bodily recreation in the adults dealing with the trouble of developmental delay. In his work he generally describes the current state of affairs of fame of bodily endeavor and additionally tips of foremost corporations for most useful bodily things to do amongst developmentally delayed children. A survey of seventy six guys and seventy four girls used to be carried out and statistics was once accrued concerning their bodily endeavor habits. The researchers concluded nearly comparable proportion of men and women dwelling in neighborhood settings had been now not giving adherence to bodily activity. Through this lookup the authors have additionally endorsed capability via which bodily undertaking packages can be implemented.

Miaplass (2000) made a strive to decide the availability of proof to help that the motor talent intervention is nice for youngsters dealing with developmental coordination disorder. The researchers went in advance with three research questions i.e which theoretical strategy to motor intervention is supported (b) what is the impact of age of subjects, settings, diagram and length of intervention on the end result of learn about (c) what does the meta-analysis end result suggest. The outcomes of the find out about indicated that motor talent interventions are extra environment friendly when the age of the participant is above 5 years. Most of the research have supported the talent particular theoretical method additionally three to 5 instances administration of intervention may additionally yield higher results.

Finkenberg (1990) carried out a study about use of teakwando to improve the self concept among females. 100 females students of university level between the age group of (20-22) where used as subject of the study . It was decided that none of the subject has taken any class / topic / related to martial art. The experiment group were thought 51 topics during experiment session. The control grouphas been thought with 49 topics . Both experimental and control group attended 18 week classes separately. After 18 week of regular classes post test was conducted to verify the effects. The Tennesseeconcept scale was used find out the effect, The Scale consists of a hundred twenty (120) questions. The results of this study propose that the team enrolled in the Taekwondo had been greater self-concept ratings at the post-test.

Richman and Rehberg (1986) The Study was conducted with 60 martial art players who participated in big events of united states . The aged group of the participants for the study was 23 years . 60 martial art players were further divided

into three groups such as beginners , intermediateand advanced. 12 topics have been labeled as novices due to the fact they held white thru gold belts. 16topics tagged as intermediates with colors as purple, green, or blue belts. 12 define as superior topics having colors such as purple or brown belt, and 16 identified as professional with black belts. Four of the topics identified without any previous history or having no color. Subject's self-esteem wasmeasured with KTS (Karate tournament survey) The KTS is a self prepared questionnaire, consists of three leading aspects, such as demographic, Self-Esteem and martial arts competencies. Results suggested that the subjects with good grade in karate have greater tiers of self esteem. Further concluded of the study reflects that the subjects who receive trophies / medals during competitions considerably greater range of self esteem as compare to the subjects who do not have any trophy or medal. The KTS further establish that the trophy / medal / winners positioned extra significance on Karate in their daily lives. This finds out about located that humans with greater shallowness show higher potential in their sport.

Madenlian (1979) The studied utilized martial training to identified and enhance degrees of self esteem. The age of the subjects selected for the study were between 12 and 14 from ancient collage to have been refereed by Mental Health Department. Total 66 subjects were selected for the study and these subjects were further divided into three equal groups consisting of 22 individual in each group. The first team of 22 subject received Aikido education for a week with two hours duration of ex sessions. The second group of 22 subject obtain traditional therapeutic treatment. The third team additionally obtain six complete session with duration of two hours for a complete week. At the end of the treatment session all the three experimental groups appreciably improved their rating on the scale of Piers-Harris Children's Self-Concept Scale. The team that received Aikido education improved their ranking as compare to the "traditional therapeutic treatment". The results suggest that Aikido educationsystem and proceedings can be used to develop the self esteem among 12 to 14 year old students.

Willium (1978) performed a find out about to study the results of bodily exercise application on quite a number motor and fitness associated bodily health variables. 70 topics having IQ of 30 to 35 and age between eight to 19 years had been labelled in experimental social things to do and manage group. Before and after the application a 7 object motor capability check used to be administered on the

participants. The consequences confirmed that the experimental crew exhibited a vast enhancement as in contrast to the social endeavor and manipulate crew in the phrases of arm length, belly energy and cardio/respiratory persistence a reap and velocity was once additionally stated in experimental and social pastime crew as in contrast to manipulate group.

The short description of reviews

The investigator has collected all the review related to Mix Martial Arts related to physical fitness, motor skill Assimilation and emotional stability and Intellectual disability variables were collected from various sources, including University library and internet for the effective analysis of the present study.

The twentieth century is characterized as the transformation from a single view of mental incapacity to numerous, inherently one of a kind views. Each view implies classification, diagnosis,and different stages of retardation and approaches of understanding and working with mentally disabled people/Individuals.

Literature displays that humans with ID have terrible strength, terrible muscle mass and excessive physique fats proportion and subsequently are inclined to cardiovascular fitness issues (Pitetti and Yarmer 2002). Studies further emphasize proper Physical Activity programs emphasize on agility,physical strength, endurance, purposeful mobility, response time, speed, and bodily health (Bartlo and Klein 2011). Reviewed literature further specify that Physical Activity may want to decorate grasp of well-being and high-quality of existence in human beings with Intellectual Disability (Carmeli et al. 2005; Bartlo and Klein 2011). Studies in addition point out fine Physical Activity results on growing agility, strength, speed, motor-ability, reaction time and intention (Bartlo and Klein 2011;Jeng et al. 2017).

The purpose of this overview was to examine seriously the proof on effectiveness of physical activists/ organized sports activities with relation to involvement of adults with mental disability. Eleven scientific research met inclusion criteria. The studies reviewed covered a scope of bodily exercise modes. Review analysis further denoted/ identifies/supports that bodily recreation positively affected stability, muscular strength among the people with mental disability. The researcher additionally identified that the lookup in this place necessity needs to be converted into practice, particularly the improvement of bodily endeavor packages that are adaptable to the wishes of persons with mental disability.

CHAPTER-III
METHODOLOGY

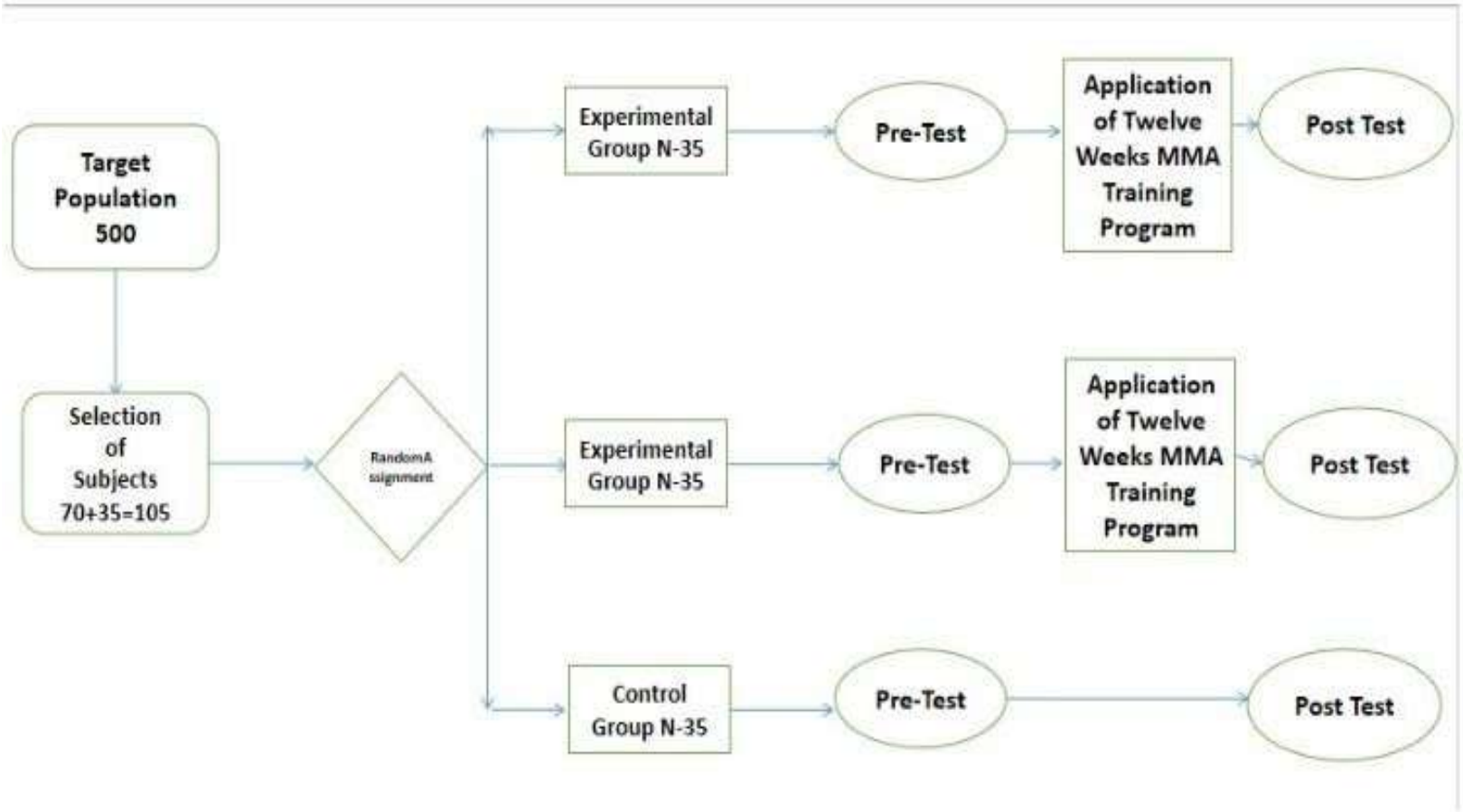
Methodology is a way to comprehensively work out the research problem. To carry out any research it is necessary to adopt a systematic methodology and procedure to collect data which further helps in testifying the hypothesis. The chapter discusses design, procedure, the selection of variables, and procedure of administering the test, training program, training schedule sample, administration of the test, gathering of the data and analyzing it statistically with information of employed tools.

3.1 Design of the Study

Research design is considered as a blue print for conducting the research work that indicates the draft for the methodology part of any study (Malhotra and Dash, 2014). An experimental method withA Solomon three Group Design was adopted for carrying out the current research work. The study was experimental in nature, designed for evaluating the impact of Mixed Martial arts training program on the physical fitness, motor skill assimilation, and emotional stability among children with intellectual disability

3.2 Sampling

Diagnosis of intellectual disability involves formal assessment. A psychologist was engaged to organize the test. G.C Ahuja Group Test of Intelligence was used to diagnose a student with intellectual disability. Test was conducted on 500 students with age groups of 13 to 18 years of Senior Secondary Model School Punjabi University, Patiala, Punjab. Out of 500 students 70 students were diagnosed withMild Intellectual disability, 70 MID students were selected using purposive sampling technique and 35 students with average (IQ 90-109) were selected for the study. To analyze the impact of the MMA training program. A Solomon three group design was used. 70 MID students and 35 students with average (IQ 90-109) were assigned to 3 equal groups; Group a) Pre-test plus treatment. Group b) Pre- test plus treatment. Group c) pre-test plus no treatment. 70 students of MID (IQ range 50-69) were assigned to two equal groups randomly, 35 MID students to the experimental group after pretest and 35MID students to the control group after pretest respectively and 35 students with Average (IQ 90-109) were assigned to the experimental group without pretest.


Target Population 500
Selection of Subjects 70+35=105
RandomA ssignment
Experimental Group N-35
Pre-Test
Application of Twelve Weeks MMA Training Program
Post Test
Experimental Group N-35
Pre-Test
Application of Twelve Weeks MMA Training Program
Post Test
Control Group N-35
Pre-Test
Post Test

The Layout of the Design is displayed below;

Assignment of Subjects to:	Pretest of dependable variables. O1= Pretest	Exposure to the Treatment (X) (independent variable)	2nd observation (measurement) of the dependent variable O2= Post-test
Exp. Group (Normal children) (IQ 90-109) N-35	Exp. group's average score on the dependent variable	XI	Exp. group's average score on the dependent variable
Exp. Group ID(IQ 50-69) N-35	Exp. group's average score on the dependent variable	X2	Exp. group's average score on the dependent variable
Control Group ID(IQ 50-69) N-35	Control group's average score on the dependent variable		Control group's average score on the dependent variable

3.3 Selection of age group

The signs and symptoms of sever intellectual disability are seen at earlier age, usually symptoms are usually visible and diagnosed before the 3 years of age. While as mild intellectual disability are identified at a later age **(Karen Gill .M.D 2019).**

Severe cases of intellectual disability may be diagnosed soon after birth. We may not realize mild intellectual disability until they fail to meet common developmental goals. It is established that at almost all cases of ID are diagnosed by the time a child reaches 13 years of age **(Roger Apple and Dilip R.Patel 2013).**

The age groups of sample was 13 to 18 years.

3.4 Method of Sampling

Purposive sampling is also known as judgment, subjective sampling or selective. In the present study Purposive sampling was used for selection of subjects. The sample was chosen by the judgment of the researcher on the basis of the result of test conducted to identify the students with Mild Intellectual Disability. Purposive sampling targets participants known to possess the characteristics required for a particular study. **Cohen (2000)** say participants are handpicked based on judgment of

their typicality. In special education research involving participants with disability, this type of sampling may be more appropriate when the sample is accessible.

Why Purposive sampling:

The nature of a disability is one of the factors that can affect sampling in disability research. There are different types of disabilities. These are not limited to persons with physical disabilities, intellectual challenges, visual impairments, hearing impairments, communication disorders, learning disabilities and those with a combination of different disabilities within an individual. Within some disabilities, there are also different types. **Muya, M. K. (2017)** Research in special education and specifically sampling requires sound knowledge of the different types of disabilities to avoid wrongful selection of respondents. With scarcity of specialized assessment facilities, tools and personnel to conduct diagnostic assessment for disabilities.

The other factor that may impact sampling is the degree of disability. The degree of disability entails the gravity or severeness of the disability. Within each disability type are different degrees of the impairment. As such, persons with disabilities should not be regarded as homogeneous because their needs are totally different from one another. Degree of disability is characterized by whether one has a **mild, moderate, severe or profound disability.**

Likewise, intellectual disability is at different degrees. When disability is measured by its degree, it means that the experiences of those with different degrees of disability are different. Sampling should therefore follow a frame that selects respondents on the basis of different degrees. However, this may be challenging. Sampling becomes problematic when a particular category of disability is generalized to portray certain behavioral qualities. It may also be problematic to find correct samples of respondents at the same degree of disability to provide similar experiences. Thus, the experiences of learners with partial loss of vision may be different with those who are blind. The degree factor suggests that qualitative methods of sampling by especially extreme case Purposive maybe appropriate in selecting samples on the basis that the researcher knows the exact degrees of impairment his or her participants have. Thus, the need for authentic assessment records that place children with disabilities in their appropriate categories would help to provide Purposive samples for qualitative study designs.

3.5 Selection of Variables

The researcher reviewed the related literature and discussed with the field experts regarding the selection of variables. On the basis of expert views and viewed literature, it was concluded that physical exercises and sports activities play vital role in developing, enhancement of physical parameters such as explosive strength, speed, flexibility, endurance etc. A regular exercise program cause reduces stress. Physical exercise builds stamina and increases the efficiency of whole body components and develops physical fitness and mind fitness. It improves the functioning of vital capacity and enhance the overall function and develops immunity. On the whole physical training can be powerful tool to enhance lifestyle and acquire better habits.. The special features of these physical training programs is to lower percentage body fat and to achieve the other metabolic benefits of fitness. The scholar analyzed the available scientific literature, journals, periodical, magazines, website, internet, university library and research papers.

1. **Physical Fitness variables: Measured through making use of the AAPHER test**

Muscular power – Pull-ups Muscular persistence – Sit-ups Agility – Shuttle Run
Explosive electricity – Standing Large JumpSpeed – 50-yard dash
Endurance – 600-yard run or walks

2. **Motor ability assimilation: Measured through making use of the Barrow's Motor AbilityTest test**

Leg electricity – Standing huge jump
Agility and pace – Zig – zag run Arm and shoulder power – Medicine ball put

3. **Emotional Stability: A.Sen Gupta ans A.K.SinghIndependent Variables**

1. Mixed Martial Arts Training

Dependent Variables

1. Pull Ups
2. Sit Ups
3. Shuttle Run
4. Standing Broad Jump
5. 50 Yard Dash
6. 600 Yard Run
7. Zig Zag
8. Medicine Ball Put

9. Emotional Stability

3.6 Criterion Measures and tools used

The tests selected for present study are relevant and ideal to evaluate and assess the selected variables and are highly standardized. After having the expert consultation in the field of sports sciences, Elite Athletes and scanning numerous literature related to physical training program the investigator selected the following variables and test items as criterion measures and are presented in Table – 3.1.

Table 3.1

Selection of Variables and Tools Used and Criterion Measures

Variables	Tools	Units	Purpose
Pull Ups	AAHPER Youth Fitness Test	Number of Completed Pull Ups	Physical Fitness
Sit Ups	AAHPER Youth Fitness Test	60 Seconds	Physical Fitness
Shuttle Run	AAHPER Youth Fitness Test	Time of better out of two trials is recorded	Physical Fitness
Standing Broad Jump	AAHPER Youth Fitness Test	Maximum Distance Covered	Physical Fitness+ Motor Ability
50 Yard Dash	AAHPER Youth Fitness Test	Time in Seconds	Physical Fitness

600 Yard Run	AAHPER Youth Fitness Test	Time in Minutes and Seconds	Physical Fitness
Zig Zag	Barrow Motor Ability Test	Time in Minutes and Seconds	Motor Ability
Medicine Ball Put	Barrow Motor Ability Test	Distance in Feet	Motor Ability
Emotional Stability	IQ TEST	A. Sen Gupta and A.K. Singh	Emotional Stability

3.7 Administration and description of test

Mixed Martial Arts Training involves the physical workout that helps an individual in getting a better shape, mentally, and physically as well. It is a hybrid combat sport incorporating techniques from boxing, Kickboxing, wrestling, judo, jujitsu, karate, Thai boxing, Jiu-Jitsu and many more disciplines. The experimental program lasted for 12 week. The examiner utilized the facilities of the Punjabi University Patiala, indoor sports complex, karate arena with karate mates, under the supervision of Mr. Rajesh Kumar (Karate,Black belt iii Dan and Sr. National Gold Medalist). Ms. Rama Sharma was consulted for selecting two Karate techniques (Kata) Mr. Navjot Singh Dhaliwal (Judo Qualified coach. Coach of Indian team in world championship, Asian Championship Asia cup.) and Ms. Renu Bala (Boxing Qualified coach Sr. National Medalist. Mr. Randhir Singh wrestling coach. Ten training sessions were conducted per month. The duration of each training session was 60 minutes with (4-5 minutes of warm-up before the training session, 4-5 minutes of shaping exercises, 30-35 minutes of learning and practicing karate, Judo and Boxing elements, and 10-15 minutes of stretching and strength exercises). The training were provided by three highly trained coaches and Mr T. L. Gupta chief Boxing coach, NIS Patiala and Mr. Kuldeep Handoo (Arjuna Awardee and Brand Ambassador forFit India Movement) was consulted for preparing of training schedule.

During the inclusive training, the experts explained each activity individually and rectified the mistakes, if any. The Mix Martial Arts training program were performed in controlled sessions. The number of repetitions was most frequently Ten. Prior to training session, the coaches had demonstrated each activity in a slower tempo and provided explanations simultaneously. During one training session, the Experimental group (MID students) learned the maximum of three new elements, while more time was devoted in assessing previous content. After each sequence, the Experimental group were given feedback, and when feasible, the coach describe the practical application of the technique. Now and then, The examines had the opportunity to perform the given exercise before their group.

Description of the Self-Defense Training Programme

		Activities		
Week 1	Day 1	General Warm-Up Specific Warm-Up	1. Stance and basic Movement. 2. Legs movement.	Cooling down and doubt clearance
	Day 2	General Warm-Up Specific Warm-Up	Punches:- Review of Day 1 1. Arm Extend 2. Turning of Shoulder. 3. Shoulder movement.	Cooling down and doubt clearance
	Day 3	General Warm-Up	Review of Day 2	Cooling down and
		Specific Warm-Up	1. Hitting the punching bag. 2. Face Punch Practice.	doubt clearance
	Day 4	General Warm-Up Specific Warm-Up	Review of Day 31.Middle Punch .2.Middle Block.	Cooling down and doubt clearance
	Day 5	General Warm-Up Specific Warm-Up	Review of Day 41.Straight Punch .2.Sudden Punch .	Cooling down and doubt clearance
	Day 6	General Warm-Up Specific Warm-Up	Review of Day 51.Front Hook	Cooling down and doubt clearance

		Activities		
	Day 1	General Warm-Up Specific Warm-Up	Review of previous Activity 1.Back Hook 2. Legs movement.	Cooling down and doubt clearance
	Day 2	General Warm-Up Specific Warm-Up	Practice of 1.Front Hook 2.Back Hook	Cooling down and doubt clearance
	Day 3	General Warm-Up Specific Warm-Up	1.Front Uppercut 2.Hip and arm Movement	Cooling down and doubt clearance
Week 2	Day 4	General Warm-Up Specific Warm-Up	Review of Day 31.Back Upper cut 2.Hip and arm movement and foot work	Cooling down and doubt clearance
	Day 5	General Warm-Up Specific Warm-Up	Practice of 1.Front Uppercut 2.Back Uppercut	Cooling down and doubt clearance
	Day 6	General Warm-Up Specific Warm-Up	With Punching Bag1.Middle Punch 2.Middle Block Head Block	Cooling down and doubt clearance

		Activities		
	Day 1	General Warm-Up Specific Warm-Up	TE Waza – Hand Techniques. 1.Holding 2.Pulling	Cooling down and doubt clearance
Week 3	Day 2	General Warm-Up Specific Warm-Up	Punches:- Review of Day 1 Koshi Waza-Hip Techniques1.Arm Grip 2.Hip throw	Cooling down and doubt clearance

	Day 3	General Warm-Up Specific Warm-Up	Review of Day 2Ashi Waza-FootTechniques 1.Foot Work 2.Gliding, 3.Leg Scissor	Cooling down and doubt clearance
	Day 4	General Warm-Up Specific Warm-Up	Review of Day 3 Sutemi Waza-Sacrify throw 1.Holding 2.Back Throw	Cooling down and doubt clearance
	Day 5	General Warm-Up Specific Warm-Up	Review of Day 4Masutemi Waza	Cooling down and doubt
			1.Holidng . 2.Side throw .	clearance
	Day 6	General Warm-Up Specific Warm-Up	Review of Day 5 Practicing of attaching by the participants and removing of cross.	Cooling down and doubt clearance

		Activities		
	Day 1	General Warm-Up Specific Warm-Up	Free Throwing Practice 1.Griping 2.Footwork	Cooling down and doubt clearance
	Day 2	General Warm-Up Specific Warm-Up	Review of Day 11.Falling 2.Foot Stepping 3.Turning Movement	Cooling down and doubt clearance
	Day 3	General Warm-Up Specific Warm-Up	Review of Day 2 1.Pulling with partiner2.Turning and Throw	Cooling down and doubt clearance

Week 4	Day 4	General Warm-Up Specific Warm-Up	Practicing of throws are by one by the participant	Cooling down and doubt clearance
	Day 5	General Warm-Up Specific Warm-Up	Randori -Free fight practice 1.Open and defense and fight with each other.	Cooling down and doubt clearance
	Day 7	General Warm-Up Specific Warm-Up	Review of Day 5 Practicing of attaching bythe participants and removing of cross.	Cooling down and doubt clearance

Week 5		**Activities**		
	Day 1	General Warm-Up Specific Warm-Up	1. Face punch 10 times. 2. Middle punch. 3. Round punch.	Cooling down and doubt clearance
	Day 2	General Warm-Up Specific Warm-Up	Review of Day 1 1.Step face punch, 2.Round elbow attack 3.Knee attack 4.Heel kick and basic kata	Cooling down and doubt clearance
	Day 3	General Warm-Up Specific Warm-Up	Review of Day 2 1.Fighting stance in step2.Head block. 3. Middle block. 4. Lower block and crossblock.	Cooling down and doubt clearance
	Day 4	General Warm-Up Specific Warm-Up	Review of Day 3 1.Step fighting stance. 2.Step front kick.3.Step face punch.4.Step side kick.	Cooling down and doubt clearance

	Day 5	General Warm-Up Specific Warm-Up	Review of Day 4 Falling technique to save head	Cooling down and doubt clearance
	Day 6	General Warm-Up Specific Warm-Up	Review of Day 5 Doubt clearance session	Cooling down and doubt clearance

		Activities		
	Day 1	General Warm-Up Specific Warm-Up	1. Practicing of Face punch 10times. 2. Practicing of Middle punch.3.Practicing of Round punch.	Cooling downand doubt clearance
	Day 2	General Warm-Up Specific Warm-Up	Review of Day 1 1.Practicing of Step face punch, 2.Practicing of Round elbow attack 3.Practicing of Knee attack 4.Practicing of Heel kick and basic kata	Cooling downand doubt clearance
	Day 3	General Warm-Up Specific Warm-Up	Review of Day 2 1.Practicing of Fighting stance in step 2.Practicing of Head block. 3.Practicing of Middle block.4.Practicing of Lower block and cross block.	Cooling downand doubt clearance

Week 6	Day 4	General Warm-Up Specific Warm-Up	Review of Day 3 1. Practicing of Step fightingstance. 2. Practicing of Step front kick. 3. Practicing of Step face punch. 4. Practicing of Step side kick.	Cooling downand doubt clearance
	Day 5	General Warm-Up Specific Warm-Up	Review of Day 4 Falling technique to save head	Cooling down and doubtclearance
	Day 6	General Warm-Up Specific Warm-Up	Review of Day 5 Doubt clearance session	Cooling downand doubt clearance

1. BoxingPunching

There are four main punches in boxing:

a) **Jab—** Jab is generally said to be a sudden punch. From boxer's stance, The front arm fully extend. (Generally it is left arm for a rightly, right arm for a lefty), The boxer turns his shoulder down as if he were pouring out a pitcher of water, hitting the bag with his first two knuckles. Quickly draws it back to start.

b) **Cross—** a straight punch. Boxer fully extends his rear arm in front of opponent; at the same time pivot on his back toe while rotating through the hips. Boxers back arm is his dominant one. Boxer uses his strength while making sure that he also draw power from the legs and core.

c) **Hook**

I.c.i) **Front Hook:** Boxer brings his elbow of his front arm 90 degrees to his shouldersimultaneously he pivot on front toes and brings hook forward in an arc and sending power through the core and the legs.

I.c.ii) **Back Hook:** Boxer uses the same pattern of movement as used in Front hook. except with the back arm. Keep his elbow high and pivot on back toes, and derive power through the core muscle and legs.

d) Cut

I.d.i) Front Uppercut: Boxer lowers his center of gravity and keeps his elbows tight against his body. Shoots his arms from the hips and drive up underneath the bag as if he is trying to punch his opponent o the chin. Follow up, Boxer Pivot off his front foot and rotate his core through the punch.

I.d.ii) Back Uppercut: Boxer follows the same movement pattern as used in t front uppercut, but leading with his back arm.

2. Judo

e) Kakari geiko (Continuous attack practice): It is also referred to as an "Uchikomi", it comprise of frequently practicing a WAZA form. These drills are generally used as Judowarm-ups.

f) Yakusoku geiko (Agreed-upon practice): participants are paired, with the mutual consent during waza. Both the participants agrees mutually to perform as thrower and to be thrown, they practice simultaneously and exchange the role . This drill helps both to learn how to apply a WAZA effectively and keep check an attack

g) Randori (Free sparring): This is considered as "Randori" (free sparring), and is said to be an actual combat with an opponent. Considered as a method for enacting an actual bout, It is the most commonly preferred drill in Judo.

3. Karate

3.8 Karate Kicks Keri Waza: Usually Karate kicks are executed, either one foot on the floor or both the feet in the air. Kick can be performed, both the ways and can come from any direction; front side, left side, right side, back side as a a thrust, a turn, snap, jump or a spin. Some creative 'kickers' have developed advance variations of Karate kicks, observed during competition and practice.

3.9 Karate Punches Tsuki Waza: tsuki or zuki are said to be Punching techniques in Karate. Contact is made with the first two knuckles (seiken). Karate punches is said to be thrust punch oi-tsuki. Athlete use the lead-hand, straight punch called choku-tsuki, reverse punch called gyaku-tsuki, are made from the opposite hand, and many different variations. The wrist must be kept in proper alignment at the time of fist strike. If the wrist bends on impact, the wrist can be be sprained, broken or dislocated.

3.10 Karate Blocks Uke Waza: In Karate **b**locking is generally considered as stopping or deflecting an opponent's attack with an intention to of prevent

injurious contact with the body of opponent. In block a player usually places his limb across the line of the attack. Types, Styles and terminology of blocking, vary widely.

3.11 Statistical Techniques

The study is based on the per-test and post-test group design with control group. The subjects chosen for the study were equally divided into two experimental groups and one control group, each group consisting of 35 subjects out of two experimental groups as group A Normal children group, B group Intellectual disable group and C group as Control group. Subjects of the control group were not allowed to participate in any of the training program except in their routine activities. The data was collected for the selected Pull Ups,Sit ups, Shuttle run, Standing Broad Jump, 50 yard dash, 600 Yard dash, Zig-Zag, Medicine Ball Put, Emotional stability of dependent variables was checked firstly at the beginning by per-test to assess the status of the subjects on selected variables and after the training schedule was implemented to the two experimental groups. Finally, after the completion of Twelve week of Mix Martial Art Training program post –test was conducted. The study was mainly aimed at to find out the effects of Mix Martial Arts training program on selected dependent variables, before that sample characteristics found by using Normality test ($p > 0.05$), also the paired t-test was used to identify any significant differences between the pre-test and post-tests means of all the groups for the dependent variables. An analysis of covariance was used to determine significant differences for dependent variables within the 3 groups. When a significant difference among the groups was observed, a pair-wise comparison of the groups was done by using the Scheffe's post-hoc test to identify direction and significant differences between the groups. The level of significance was set at 0.05 in order to test the differences to be considered significant. The data was analyzed by computer using statistical packages.

CHAPTER – IV

ANALYSIS OF DATA AND RESULTS OF STUDY

This chapter included the analysis of data, findings and discussion were presented in order with table and figures.

4.1 Analysis of Data

The statistical analysis of data pertaining to the selected dependent variables 50 Yard Dash, 600 Yard Run, Pull Ups, Sit Ups, Standing Broad Jump, Shuttle Run, Medicine Ball Put, Zig Zag and Emotional stability parameters data collected on independent variables (Mixed Martial Arts Training) among 70 students of two experimental groups (group A Normal children and group B Intellectual disable) and 35students of group C as Control group each have been presented in this chapter. To study the Mixed Martial Arts Training effects on selected dependent variables sample characteristics are found by using normal distribution test. Subsequently to assess the training effect, the pre-test and post-test means were compared by applying paired t-test. Since the study was based on A Solomon three group design the data was further subjected to the analysis of covariance (ANCOVA) to find out if there were significant differences among the groups due to the training imparted. Whereas the significance of differences between paired adjusted means where the F-ratio was found significant, Scheffe's post-hoc test was applied.

4.2 Findings

The findings and discussion of results with regard to the variables on 50 Yard Dash, 600 Yard Run, PullUps, Sit Ups, Standing Broad Jump, Shuttle Run, Medicine Ball Put, Zig Zag and Emotional stability performance in terms of significant differences, if any, between pre-test and post-test means for each group as well as among the groups (Normal children, Intellectual disable and Control) as a result of 12 weeks training have been presented separately.

Pull Ups

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.1

Normal Distribution of Data on Pull Ups among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	.105	.398	-1.634	.778
	Intellectual Disable Children	-.259	.398	-1.656	.778
	Control	-.640	.398	-.828	.778
Post	Normal Children	-1.427	.398	1.817	.778
	Intellectual Di sable Children	.327	.398	3.934	.778
	Control	-.490	.398	-1.038	.778

In Table – 4.1 concentrated that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) among pull ups by calculated the skewness and kurtosis values and their standard error, all the values were within the range of +/- 1.96, it was indicated that the data of all three groups were normally distributed. Therefore, it concluded that the data of Normal children group, Intellectual disable group and Control group in pre- test and post-test were little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the two experimental groups (Normal children group, Intellectual disable group) and Control group on pull ups were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.2
Comparison Between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Pull Ups

Groups	Pre – test	Post – test	Difference between mean	Standard error of difference	't' Ratio	P value
Normal Children	6.79	8.11	-1.322	.121	10.885	.000<0.05
Intellectual Disable Children	6.91	7.31	-.404	.105	3.825	.001<0.05
Control	8.01	7.97	.035	.108	.330	.743>0.05

* Significant at .05 level t.05 (34) =2.03

It was evident from Table – 4.2 indicated that the Normal Children group and Intellectual Disable group were significantly improved in the variable emotional stability as measured in pre-test post-test 't' ratios after participated in twelve weeks training programme 10.885 and 3.825 for two experimental groups respectively were found greater than the tabulated value 2.03 required and the p value was.000, .001 below than 0.05 level of significance. In case of control group insignificant difference found between pre-test and post-test means and obtained 't' ratio 0.330 was lesser than the tabulated value 2.03 required and the p value of control group was .743 > 0.05 higher than 0.05 level of significant. The results of Table – 4.2 were also obtainable in Figure - 4.1.

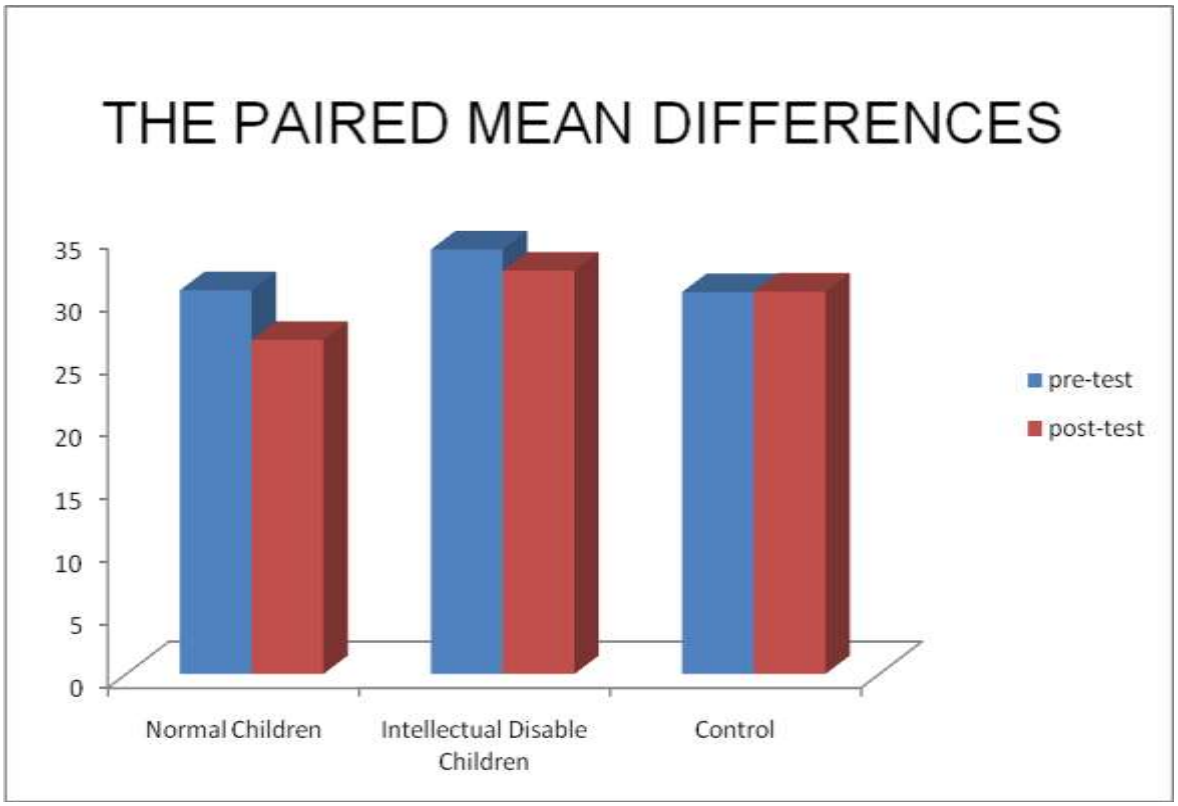


Table – 4.3

Analysis of Covariance of The Data on Pull Ups Amid Pre-Test, Post–Test and Adjusted Post-Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	6.79	6.91	8.01	B	30.456	2	15.228	65.802	.000<0.05
S. D	.476	.497	.462	W	23.374	101	.231		
Post – Test									
Mean	8.11	7.31	7.97	B	12.047	2	6.024	25.916	.000 <0.05
S. D	.515	.440	.481	W	23.476	101	.232		
Adjusted Post – Test Mean									
Mean	8.13	7.33	7.94	B	12.047	2	6.024	25.916	.000 <0.05
S. D	.093	.088	.112	W	23.476	101	.232		

*Significant at 0.05 level F.05 (2,101) 3.09

In table – 4.3 founded that pre-test, post-test and adjusted post-test p value of all the groups were .000 < 0.05 less than 0.05 level of significant on pull ups. The obtained 'F' ratio for pre-test, post-test and adjusted post-test for Normal Children group, Intellectual Disable group and control group were 65.802, 25.916, 25.916 respectively higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence. Thus, the table – 4.3 results and description of table indicate that results of analysis of covariance among all three groups with regard to pull ups were found significant after participated twelve weeks training.

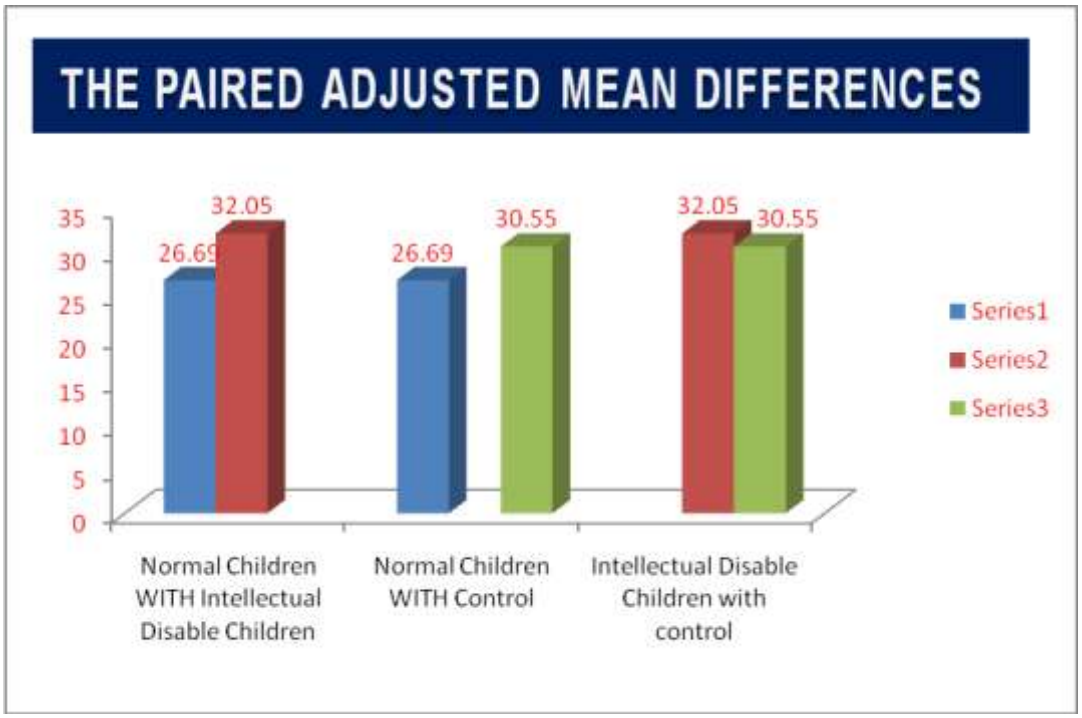
Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among all three groups on pull ups was used in this investigation were seen in Tables.

Table – 4.4
Scheffe's Test for Differences between Paired Means on Pull Ups

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
8.13	7.33	-	.805*	.000	.575	1.035
8.13	-	7.94	.197	.241	.135	.529
-	7.33	7.94	-.608*	.000	.923	.292

* Significant at .05 level

It was observed from Table – 4.4 Normal Children group and Intellectual Disable group on pull ups were significantly different in their adjusted final means after compared, the mean difference was .805 and the difference among Intellectual Disable group with control group was .608 found significant in favour of Normal Children group because the Normal Children group mean was higher than the other two groups. The adjusted final means difference among Normal Children group and control group was 0.197 obtained insignificant and the Table – 4.4 was illustrated in Figure – 4.2.



Sit Ups

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.5

Normal Distribution of Data on Sit Ups among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	1.125	.398	1.211	.778
	Intellectual Disable Children	-.468	.398	-.234	.778
	Control	-.453	.398	-.153	.778
Post	Normal Children	-.472	.398	-.930	.778
	Intellectual Di sable Children	.314	.398	-.024	.778
	Control	-.458	.398	-.282	.778

Table – 4.5 directed that all three groups (Normal children, Intellectual disable and Control) in pre-test and post-test were approximately normally distributed in the range of +/- 1.96 on sit ups by concluded the skewness and kurtosis values with their error resulted. Thus the data of all the groups in pre- test and post-test were little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the three groups (Normal children group, Intellectual disable group and Control group) on sit ups were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.6

Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Sit Ups

Groups	**Pre – test**	**Post –test**	**Difference between mean**	**Standard error of difference**	**'t' Ratio**	**P value**
Normal Children	27.79	34.02	-6.226	.612	10.164	.000<0.05
Intellectual Disable Children	23.88	27.38	-3.501	.893	3.917	.000<0.05
Control	30.83	30.96	-.126	.773	.164	.871>0.05

* Significant at .05 level t.05 (34) =2.03

It was evident from Table – 4.6 that the two experimental groups Normal Children group and Intellectual Disable group were significantly improved in the variable 50 yard dash as measured in pre – test mean scores of both the groups were 27.79, 23.88 and in post – test mean scores were 34.02,27.38. It showed the improvement in post -test mean scores after participated in twelve weeks training programme. The obtained 't' ratios 10.164 and 3.917 for two experimental groups respectively were found greater than the tabulated value 2.03 required and the p value of both experimental groups was .000 < 0.05 below than 0.05 level of significance.

Also, it can be observed from the Table – 4.6 that the control group has not shown significant difference between pre-test and post-test means were 30.83, 30.96 as obtained 't' ratio 0.164 was lesser than the tabulated value 2.145 required and the p value of control group was .871> 0.05 higher than 0.05 level of significance. The results of Table – 4.6 were also obtainable in Figure - 4.3.

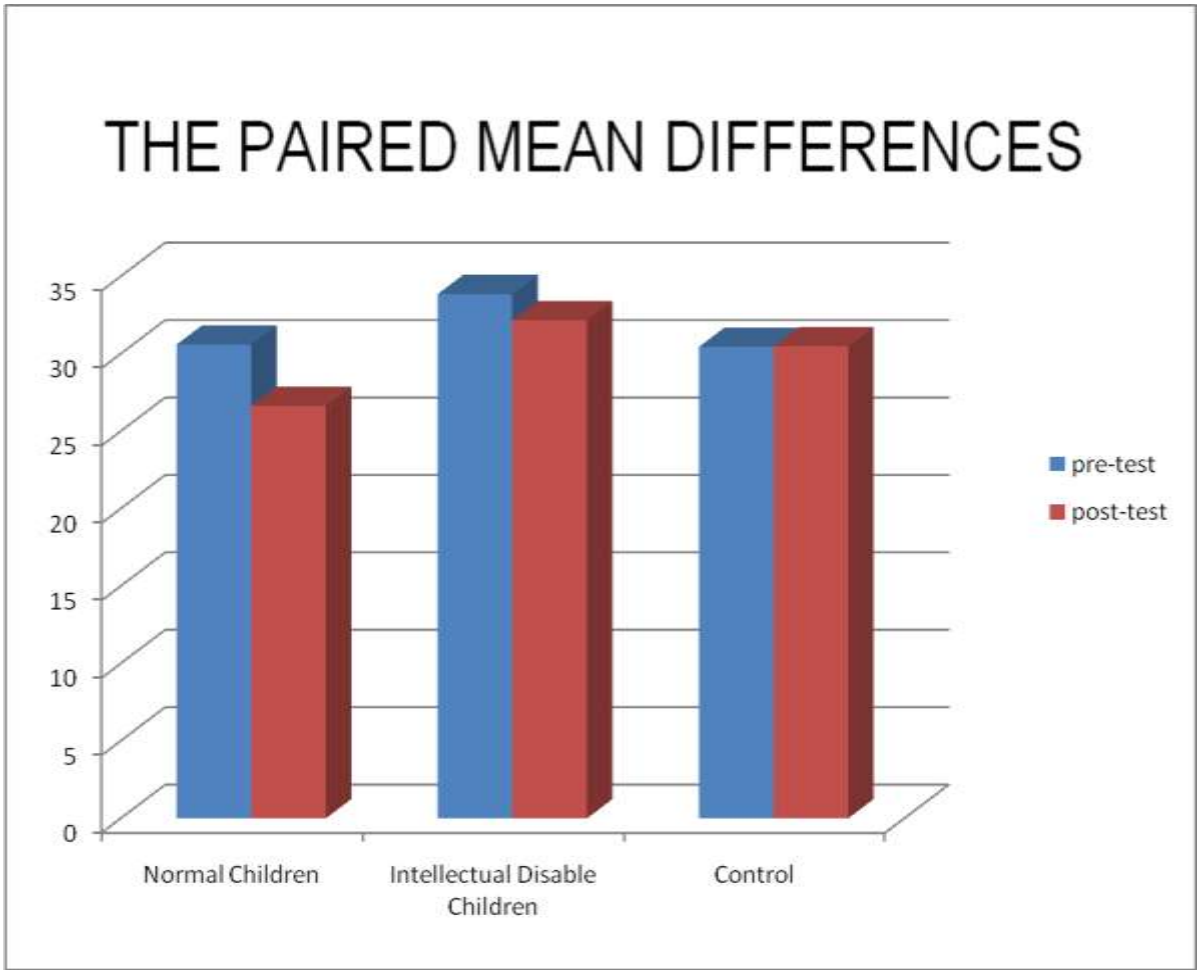


Table – 4.7

Analysis of Covariance of The Data on Sit Ups Amid Pre-Test, Post–Test and Adjusted Post-Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	27.79	23.88	30.43	B	668.80	2	334.402	22.340	.000<0.05
S. D	3.147	4.890	3.266	W	1511.84	101	14.969		
Post – Test									
Mean	34.02	27.38	30.96	B	663.35	2	331.678	52.085	.000 <0.05
S. D.	2.024	2.578	2.859	W	643.17	101	6.368		

Adjusted Post – Test Mean									
Mean	34.01	27.44	30.91	B	663.35	2	331.678	52.085	.000 <0.05
S. D	.427	.487	.478	W	643.17	101	6.368		

*Significant at 0.05 level F.05 (2,101) 3.09

Table – 4.7 showed that the pre-test means values on sit ups of Normal Children group, Intellectual Disable group and control groups were 27.79, 23.88 and 30.83 respectively as the obtained 'F' ratio for pre-test scores was 22.340 higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence on 50 yard dash. The p value of Normal Children group, Intellectual Disable group and control groups were .000 < 0.05 less than 0.05 level of significant.

In post-test and adjusted post-test means values on sit ups of Normal Children group, Intellectual Disable group and control groups were 34.02, 27.38, 30.96 and 34.01, 27.44, 30.91 respectively as the obtained 'F' ratio for pre-test scores was 52.085 higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence on sit ups. The p value of Normal Children group, Intellectual Disable group and control groups were .000 < 0.05 less than 0.05 level of significant.

Thus, the table – 4.7 results and description of table indicate that results of analysis of covariance among all three groups with regard to sit ups were found significant after participated twelve weeks training programme as the obtained p value.000 was found lower than 0.05 level of significant.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among three groups was used in this investigation. The ordered paired adjusted final means and difference between means for Normal Children group, Intellectual Disable group and control group on 50 yard dash were accessible in Tables.

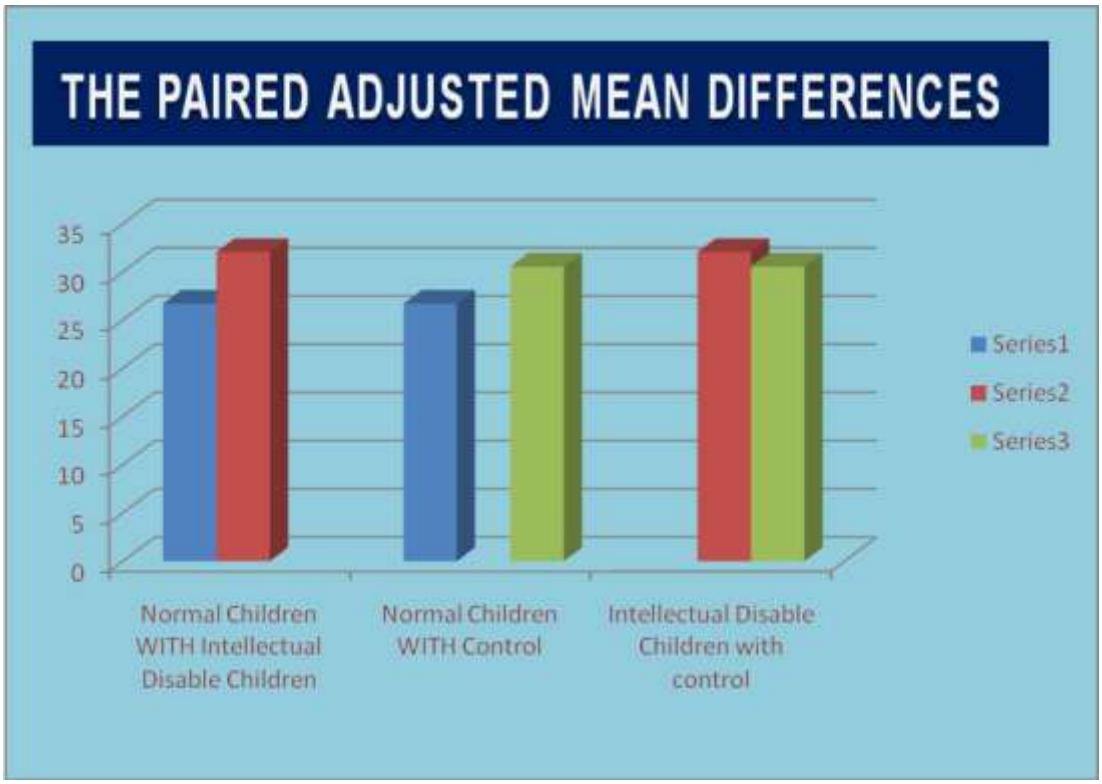
Table – 4.8

Scheffe's Test for Differences between Paired Means on Sit Ups

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
34.01	27.44	-	6.575*	.000	5.277	7.873
34.01	-	30.91	3.106*	.000	1.847	4.365
-	27.44	30.91	-6.575*	.000	7.873	5.277

* Significant at .05 level

Table – 4.8 was indicated that the experimental groups (Normal Children group and Intellectual Disable group) on sit ups were significantly different in their adjusted final means by compared, the mean difference was 6.575 and the difference amid Normal Children group with control group was 3.106 found significant in favour of Normal Children group because the Normal Children group mean was higher than the other two groups. The adjusted final means difference among Intellectual Disable group and control group was -6.575 obtained significant and the Table – 4.8 was illustrated in Figure – 4.4.



Shuttle Run

Sample Characteristics

The normally distribution test was used for three groups by inspection of

skewness and kurtosis were ranged between +/- 1.96.

Table – 4.9

Normal Distribution of Data on Shuttle Run among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	.390	.398	1.199	.778
	Intellectual Disable Children	.710	.398	.037	.778
	Control	.412	.398	-.774	.778
Post	Normal Children	-.378	.398	.901	.778
	Intellectual Di sable Children	.084	.398	-.465	.778
	Control	.290	.398	-1.197	.778

Table – 4.9 directed that all three groups (Normal children, Intellectual disable and Control) in pre-test and post-test were approximately normally distributed in the range of +/- 1.96 on shuttle run by concluded the skewness and kurtosis values with their error resulted. Thus the data of all the groups in pre- test and post-test were little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the three groups (Normal children group, Intellectual disable group and Control group) on shuttle run were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.10
Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Shuttle Run

Groups	Pre – test	Post –test	Difference between mean	Standard error of difference	't' Ratio	P value
Normal Children	19.93	18.10	1.828	.349	5.235	.000<0.05
Intellectual Disable Children	20.60	20.04	.556	.539	1.031	.310>0.05
Control	19.97	20.02	-.043	.538	.080	.937>0.05

* Significant at .05 level t.05 (34) =2.03

It was observed from Table – 4.10 that Normal Children group was significantly improved in the variable shuttle run as measured in pre-test post-test 't' ratios was 5.235 found greater than the tabulated value 2.03 required and the p value of was.000<0.05 below than 0.05 level of significance after participated in twelve weeks training programme. Table – 4.10 also indicated that Intellectual disable group and Control group found insignificant after compared pre-test and post-test means and obtained 't' ratio 1.031, .080 was lesser than the tabulated value 2.03 required and the p value was .310, .937 > 0.05 higher than 0.05 level of significant. The results of Table – 4.10 were also obtainable in Figure – 4.5.

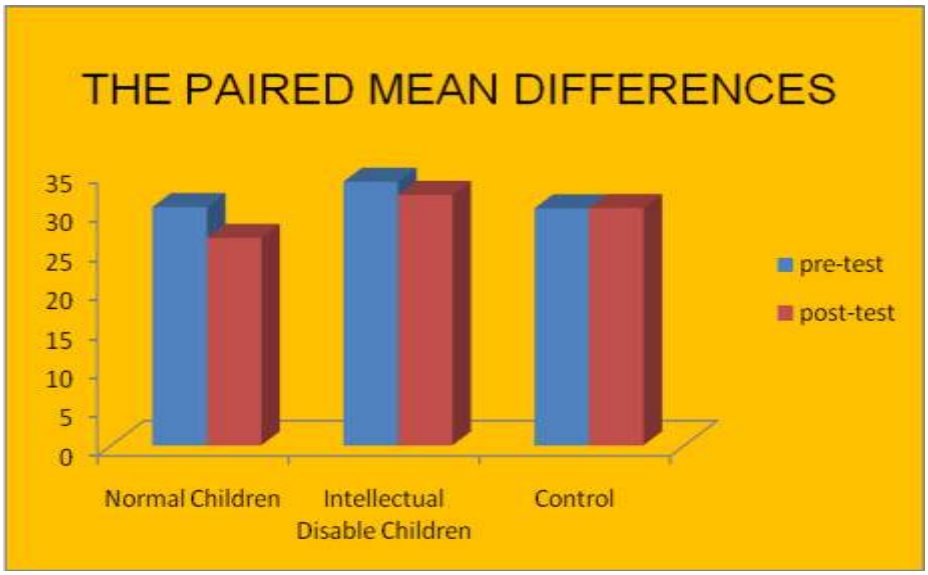


Table – 4.11
Analysis of Covariance of The Data on Shuttle Run Amid Pre-Test, Post–Test and Adjusted Post-Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	19.93	20.60	19.97	B	6.849	2	3.425	.672	.513>0.05
S. D	2.259	2.542	1.964	W	514.463	101	5.094		
Post – Test									
Mean	18.10	20.04	20.02	B	82.392	2	41.196	9.522	.000 <0.05
S. D	1.828	1.998	2.400	W	436.969	101	4.326		
Adjusted Post – Test Mean									
Mean	18.13	19.99	20.04	B	82.392	2	41.196	9.522	.000 <0.05
S. D	.352	.354	.352	W	436.969	101	4.326		

*Significant at 0.05 level F.05 (2,101) 3.09

In table – 4.11 showed that the pre-test 'F' ratio on shuttle run of Normal Children group, Intellectual Disable group and control groups was 0.672 below than the table value of 3.09 and p value of Normal Children group, Intellectual Disable group and control groups were .513 > 0.05 higher than 0.05 level of significant. In case of post-test and adjusted post-test p value on shuttle run of Normal Children group, Intellectual Disable group and control groups were.000 < 0.05 less than 0.05 level of significant. Hence, the results and description of table – 4.11 indicated that results of analysis of covariance among all three groups with regard to shuttle run were found significant after participated twelve weeks training programme as the obtained p value.000 was found lesser than 0.05 level of significant.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for

differences between the paired adjusted final means among three groups was used in this investigation on shuttle run were drawn in Tables.

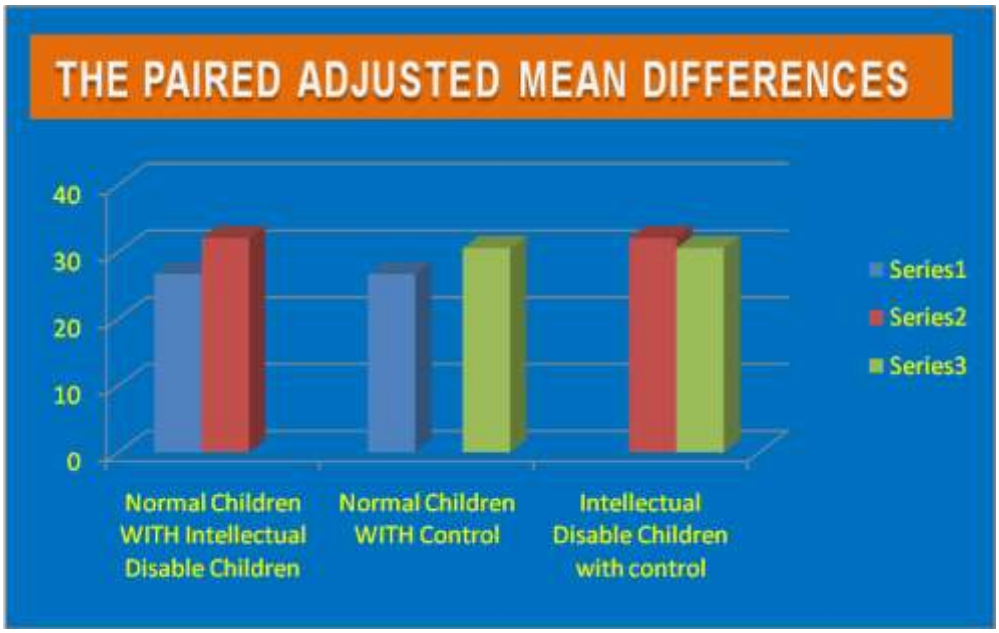
Table – 4.12

Scheffe's Test for Differences between Paired Means on Shuttle Run

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
18.13	19.99	-	-1.856*	.000	2.850	.863
18.13	-	20.04	-1.910*	.000	2.897	.924
-	19.99	20.04	1.856*	.000	1.047	.939

* Significant at .05 level

Table – 4.12 was indicated that Normal Children group and Intellectual Disable group on shuttle run were significantly different in their adjusted final means by compared, the mean difference was -1.856 and the difference amid Normal Children group with control group was 1.910 found significant in favour of Normal Children group because the Normal Children group mean was less than the other two groups. The adjusted final means difference among Intellectual Disable group and control group was 1.856 obtained significant and the Table – 4.12 was illustrated in Figure – 4.6.



Standing Broad Jump

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.13
Normal Distribution of Data on Standing Broad Jump among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	-.488	.398	-.615	.778
	Intellectual Disable Children	-.097	.398	-.914	.778
	Control	-1.007	.398	-.133	.778
Post	Normal Children	-2.128	.398	4.231	.778
	Intellectual Disable Children	-.155	.398	.704	.778
	Control	-.678	.398	-1.141	.778

In Table – 4.13 was indicated that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) on standing broad jump were normally distributed by calculated the skewness and kurtosis values and their standard error and all the values were within the range of +/- 1.96. Therefore, it concluded that the data of all the groups in pre- test and post-test were little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the two experimental groups (Normal children group, Intellectual disable group) and Control group on standing broad jump were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.14
Comparison Between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Standing Broad Jump

Groups	Pre – test	Post –test	Difference between mean	Standard error of difference	't' Ratio	P value
Normal Children	1.58	1.84	-.262	.059	4.423	.000<0.05
Intellectual Disable Children	1.36	1.42	-.061	.068	.903	.373<0.05
Control	1.78	1.74	.037	.051	.722	.475>0.05

* Significant at .05 level t.05 (34) =2.03

It was observe from Table – 4.14 that the only Normal Children group was significantly improved in the variable standing broad jump as measured in pre-test post-test 't' ratios was 4.423 found greater than the tabulated value 2.03 required and the p value of was.000<0.05 below than 0.05 level of significance after participated in twelve weeks training programme. But in case of Intellectual disable group and Control group insignificant difference found between pre-test and post-test means and obtained 't' ratio 0.903, 0.722 was lesser than the tabulated value 2.03 required and the p value was .373, .475 > 0.05 higher than 0.05 level of significant. The results of Table – 4.14 were also obtainable in Figure - 4.7.

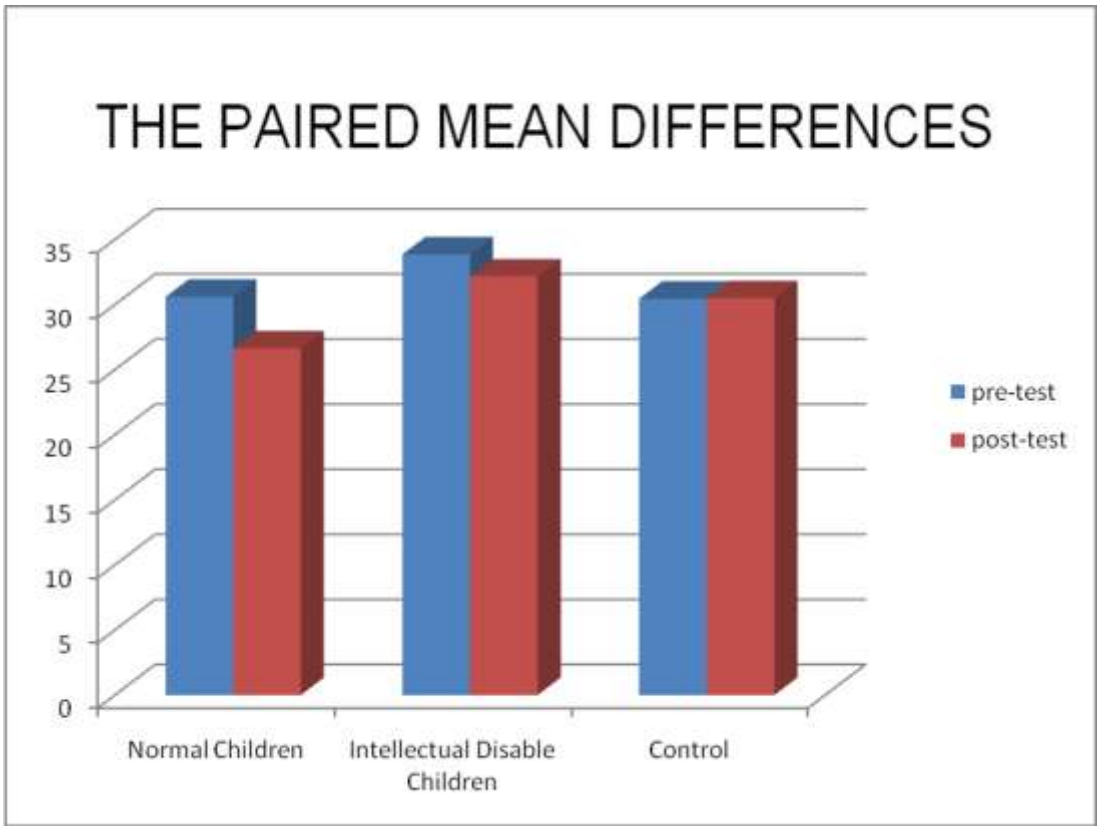


Table – 4.15

Analysis of Covariance of The Data on Standing Broad Jump Amid Pre- Test, Post – Test and Adjusted Post - Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	1.58	1.36	1.78	B	2.729	2	1.364	19.703	.000<0.05
S. D	.269	.316	.186	W	6.994	101	.069		
Post – Test									
Mean	1.84	1.42	1.74	B	3.050	2	1.525	33.703	.000 <0.05
S. D	.155	.250	.221	W	4.570	101	.045		
Adjusted Post – Test Mean									
Mean	1.84	1.40	1.76	B	3.050	2	1.525	33.703	.000 <0.05
S. D	.36	.040	.040	W	4.570	101	.045		

*Significant at 0.05 level F.05 (2,101) 3.09

Table – 4.15 showed that the pre-test, post-test and adjusted post-test p value of Normal Children group, Intellectual Disable group and control groups were .000 < 0.05 less than 0.05 level of significant on standing broad jump. The obtained 'F' ratio for pre-test, post-test and adjusted post-test for all the groups were 19.703, 33.703, 33.703 respectively higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence on standing broad jump. Thus, the table – 4.15 results and description of table indicate that results of analysis of covariance among

all three groups with regard to standing broad jump were found significant after participated twelve weeks training.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among all three groups on standing broad jump was used in this investigation were seen in Tables.

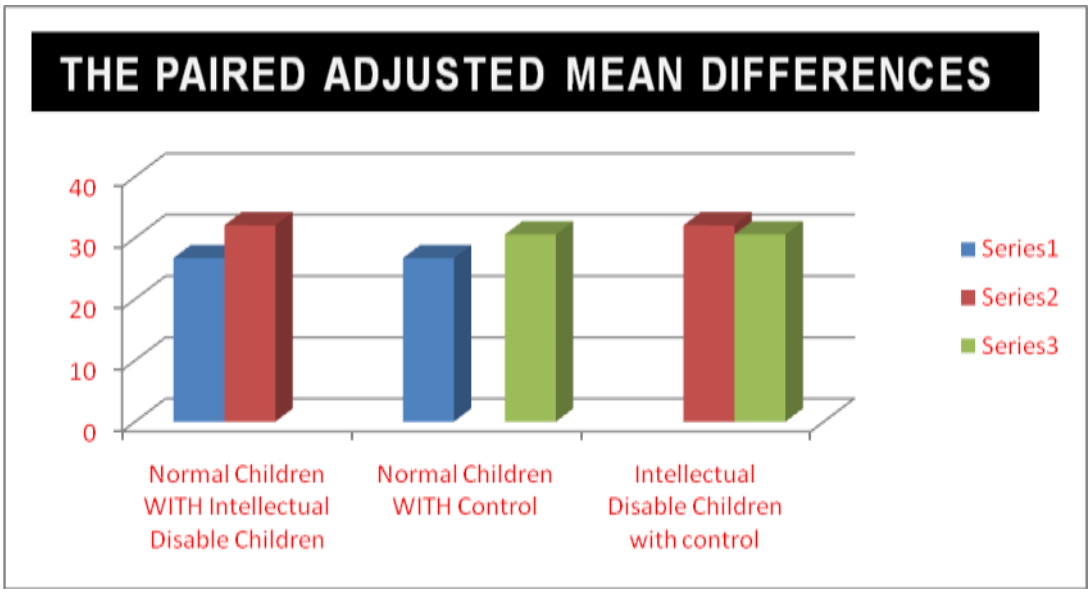
Table – 4.16

Scheffe's Test for Differences between Paired Means on Standing Broad Jump

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
1.84	1.40	-	.434*	.000	.474	.233
1.84	-	1.76	.080	.135	.025	.188
-	1.40	1.76	-.434*	.000	.327	.540

* Significant at .05 level

Table – 4.16 was indicated that both experimental groups on standing broad jump were significantly different in their adjusted final means after compared, the mean difference was .434 and the difference among Intellectual Disable group with control group was . 434 found significant in favour of Normal Children group because the Normal Children group mean was higher than the other two groups. The adjusted final means difference among Normal Children group and control group was 0.80 obtained insignificant and the Table – 4.16 was illustrated in Figure – 4.8.



50 Yard Dash

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.17

Normal Distribution of Data on 50 Yard Dash among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	-.002	.398	-1.307	.778
	Intellectual Disable Children	.048	.398	-1.334	.778
	Control	.316	.398	-1.211	.778
Post	Normal Children	.316	.398	-1.211	.778
	Intellectual Di sable Children	.196	.398	-1.081	.778
	Control	-.394	.398	-.921	.778

In Table – 4.17 directed that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) among 50 yard dash by calculated the skewness and kurtosis values and their standard error, all the values were within the range of +/- 1.96, it was indicated that the data of all three groups were normally distributed. Therefore, it concluded that the data of Normal children group, Intellectual disable group and Control group in pre- test and post-test were little

skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the two experimental groups (Normal children group, Intellectual disable group) and Control group on 50 yard dash were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.18

Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on 50 Yard Dash

Groups	Pre – test	Post –test	Difference between mean	Standard error of difference	't' Ratio	P value
Normal Children	10.14	9.07	1.075	.227	4.719	.000<0.05
Intellectual Disable Children	14.28	13.19	1.092	.268	4.068	.000<0.05
Control	10.62	10.78	-.168	.357	.472	.640>0.05

* Significant at .05 level t.05 (34) =2.03

It was evident from Table – 4.18 that the two experimental groups Normal Children group and Intellectual Disable group were significantly improved in the variable 50 yard dash as measured in pre – test mean scores of both the groups were 10.14, 14.28 and in post – test mean scores were 9.07, 13.19. It showed the improvement in post -test mean scores after participated in twelve weeks training programme. The obtained 't' ratios 4.719 and 4.068 for two experimental groups respectively were found greater than the tabulated value 2.03 required and the p value of both experimental groups was .000 < 0.05 below than 0.05 level of significance.

Also, it can be observed from the Table – 4.18 that the control group has not shown significant difference between pre-test and post-test means were 10.62, 10.72 as obtained 't' ratio 0.472 was lesser than the tabulated value 2.145 required and the p value of control group was .640 > 0.05 higher than 0.05 level of significance. The results of Table – 4.18 were also obtainable in Figure - 4.9.

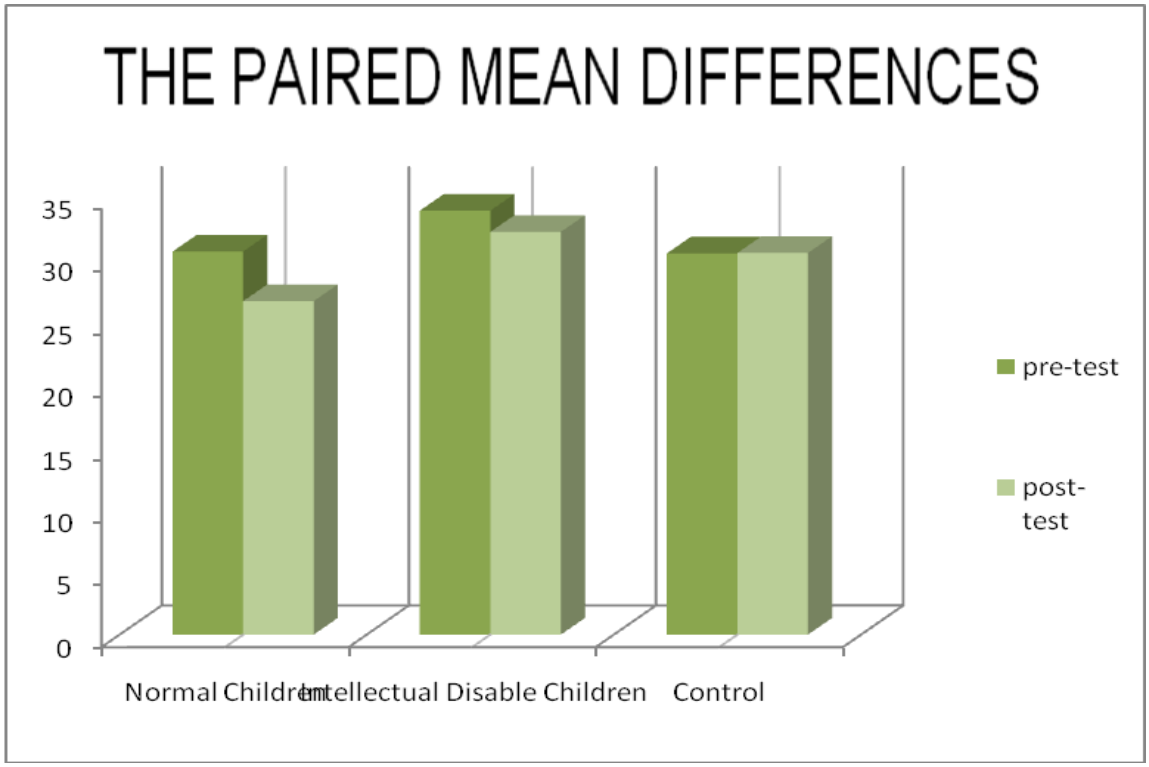


Table – 4.19

Analysis of Covariance of The Data on 50 Yard Dash Amid Pre- Test, Post – Test and Adjusted Post - Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	10.14	14.28	10.62	B	79.214	2	39.607	17.402	.000<0.05
S. D	1.976	1.528	1.517	W	229.876	101	2.276		
Post – Test									
Mean	9.07	13.19	10.78	B	60.390	2	30.195	14.779	.000 <0.05
S. D	1.475	1.862	1.422	W	206.356	101	2.043		
Adjusted Post – Test Mean									
Mean	9.73	12.06	11.25	B	60.390	2	30.195	14.779	.000 <0.05
S. D	.274	.325	.258	W	206.356	101	2.043		

*Significant at 0.05 level F.05 (2,101) 3.09

Table – 4.19 showed that the pre-test means values on 50 yard dash of Normal Children group, Intellectual Disable group and control groups were 10.14, 14.28 and 10.62 respectively as the obtained 'F' ratio for pre-test scores was 17.402 higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence on 50 yard dash. The p value of Normal Children group, Intellectual Disable group and control groups were .000 < 0.05 less than 0.05 level of significant.

In post-test and adjusted post-test means values on 50 yard dash of Normal Children group, Intellectual Disable group and control groups were 9.07, 13.19, 10.78 and 9.73,12.06, 11.25 respectively as the obtained 'F' ratio for pre-test scores was 14.779 higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence on 50 yard dash. The p value of Normal Children group, Intellectual Disable group and control groups were .000 < 0.05 less than 0.05 level of significant.

Thus, the table – 4.19 results and description of table indicate that results of analysis of covariance among all three groups with regard to 50 yard dash were found significant after participated twelve weeks training programme as the obtained p value.000 was found lower than 0.05 level of significant.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among three groups was used in this investigation. The ordered paired adjusted final means and difference between means for Normal Children group, Intellectual Disable group and control group on 50 yard dash were accessible in Tables.

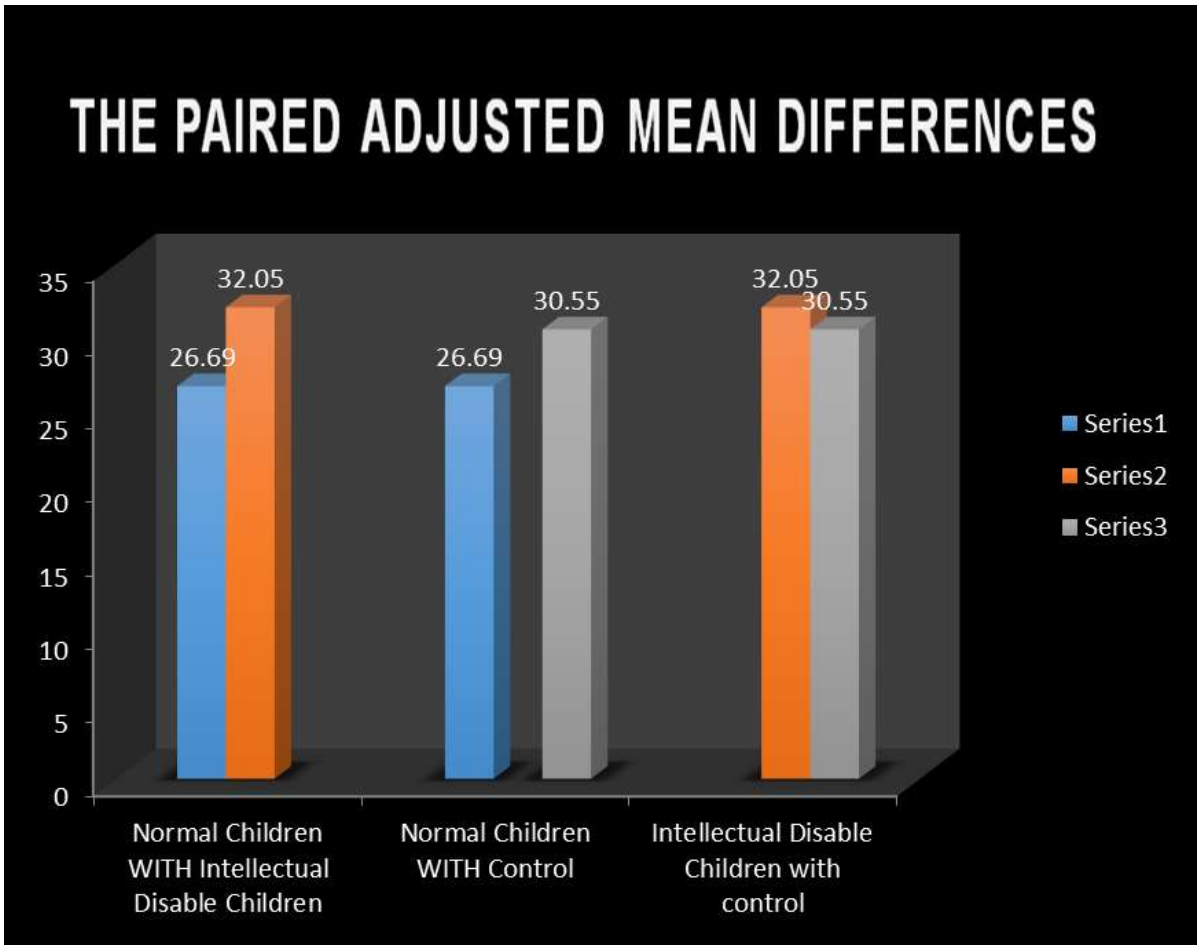
Table – 4.20

Scheffe's Test for Differences between Paired Means on 50 Yard Dash

Normal Children	**Intellectual Disable Children**	**Control Group**	**Mean Differences**	**Sig.**	**Confidence Interval Value**	
					Lower Bound	**Upper Bound**
9.73	12.06	-	-2.328*	.000	3.294	1.362
9.73	-	11.25	-1.511*	.000	2.194	.829
-	12.06	11.25	.817	.079	.095	1.728

* Significant at .05 level

Table – 4.20 was indicated that the experimental groups (Normal Children group and Intellectual Disable group) on 50 yard dash were significantly different in their adjusted final means when they were compared with each other, the mean difference was -2.328 and the difference amid Normal Children group with control group was -1.511 found significant in favour of Normal Children group because the Normal Children group mean was lesser than the other two groups. The adjusted final means difference among Intellectual Disable group and control group was 0.817 obtained insignificant and the Table – 4.20 was illustrated in Figure – 4.10.



600 Yard Run

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.21

Normal Distribution of Data on 600 Yard Run among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	.631	.398	.461	.778
	Intellectual Disable Children	2.252	.398	5.391	.778
	Control	2.502	.398	7.960	.778
Post	Normal Children	.924	.398	-.837	.778
	Intellectual Di sable Children	-.365	.398	-1.443	.778
	Control	1.180	.398	1.940	.778

In Table – 4.21 showed that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) on 600 yard run by calculated the skewness and kurtosis values and their standard error, all the values were within the range of +/- 1.96, it was indicated that the data of all three groups were normally distributed. Therefore, it concluded that the data of Normal children group, Intellectual disable group and Control group in pre- test and post-test were little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the two experimental groups (Normal children group, Intellectual disable group) and Control group on 600 yard run were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.22
Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on 600 Yard Run

Groups	Pre – test	Post –test	Difference between mean	Standard error of difference	't' Ratio	P value
Normal Children	9.88	7.89	1.989	.242	8.212	.000<0.05
Intellectual Disable Children	9.90	8.49	1.405	.302	4.653	.000<0.05
Control	9.83	9.72	.110	.313	.351	.728>0.05

* Significant at .05 level t.05 (34) =2.03

Table – 4.22 indicated that the two experimental groups Normal Children group and Intellectual Disable group were significantly improved in the variable 600 yard run as measured in pre – test post-test mean scores after participated in twelve weeks training programme by obtained 't' ratios 8.212 and 4.653 for two experimental groups respectively were found greater than the tabulated value 2.03 required and the p value of both experimental groups was .000 < 0.05 below than 0.05 level of significance, but in case of control group insignificant difference found between pre-test and post-test means. The obtained 't' ratio 0.351 was lesser than the tabulated value 2.03 required and the p value of control group was .728 > 0.05 higher than 0.05 level of significant. The results of Table – 4.22 were also obtainable in Figure - 4.11.

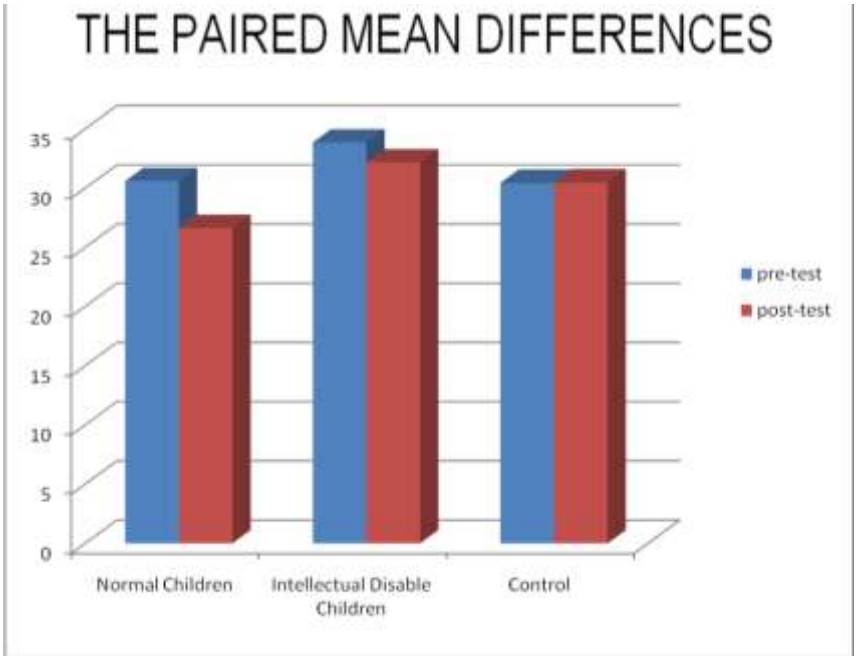


Table – 4.23
Analysis of Covariance of The Data on 600 Yard Run Amid Pre-Test, Post-Test and Adjusted Post-Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	9.88	9.90	9.83	B	2.608	2	1.304	0.531	.589>0.05
S. D	1.211	1.812	1.635	W	247.851	101	2.454		
Post – Test									
Mean	7.89	8.49	9.72	B	60.946	2	30.473	38.185	.000 <0.05
S. D	.786	.853	1.034	W	80.601	101	.798		
Adjusted Post – Test Mean									
Mean	7.89	8.49	9.72	B	60.946	2	30.473	38.185	.000 <0.05
S. D	.151	.151	.151	W	80.601	101	.798		

*Significant at 0.05 level F.05 (2,101) 3.09

Table – 4.23 showed that the pre-test 'F' ratio on 600 yard run of Normal Children group, Intellectual Disable group and control groups was 0.531 below than the table value of 3.09 and p value of Normal Children group, Intellectual Disable group and control groups were .589 > 0.05 higher than 0.05 level of significant. In case of post-test and adjusted post-test p value on 600 yard run of Normal Children group, Intellectual Disable group and control groups were.000 < 0.05 less than 0.05 level of significant.

Hence, the results and description of table – 4.23 indicated that results of analysis of covariance among all three groups with regard to 600 yard run were found significant after participated twelve weeks training programme as the obtained p value.000 was found lesser than 0.05 level of significant.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for

differences between the paired adjusted final means among three groups was used in this investigation. The ordered paired adjusted final means and difference between means for Normal Children group, Intellectual Disable group and control group on 600 yard run were drawn in Tables.

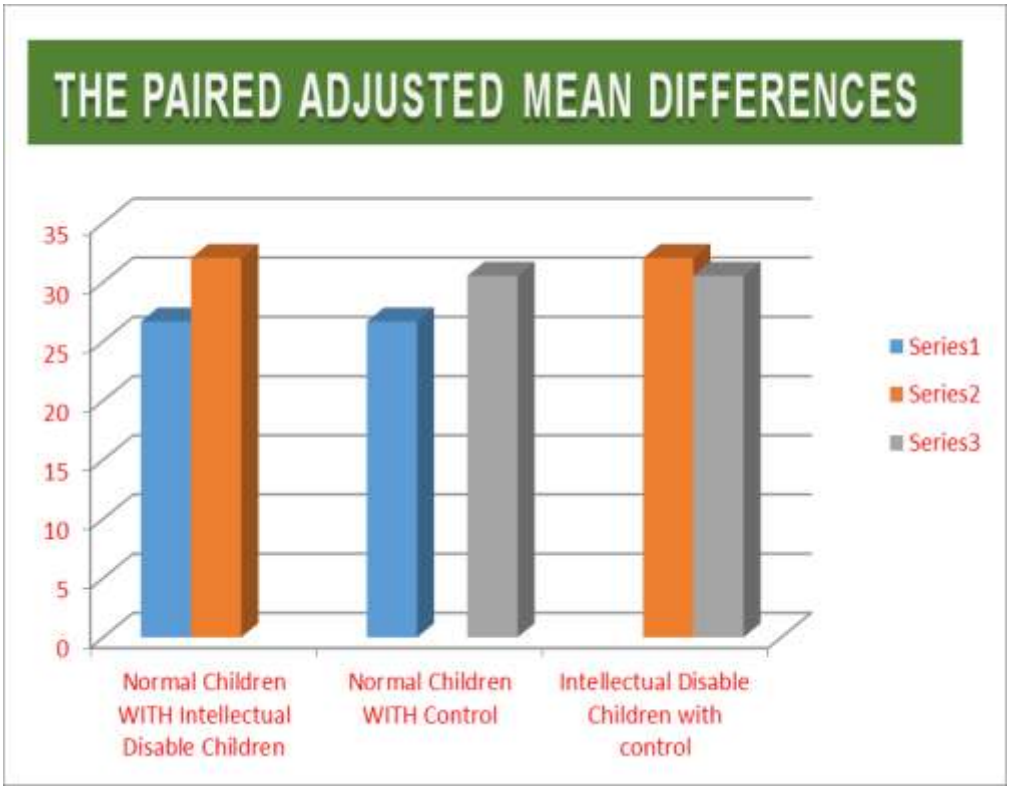
Table – 4.24

Scheffe's Test for Differences between Paired Means on 600 Yard Run

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
7.89	8.49	-	-.599*	.006	1.023	.176
7.89	-	9.72	-1.830*	.000	2.254	1.407
-	8.49	9.72	-1.231*	.000	1.655	.807

* Significant at .05 level

Table – 4.24 was indicated that both experimental groups (Normal Children group and Intellectual Disable group) on 600 yard run were significantly different in their adjusted final means when they were compared with each other, the mean difference was -0.599 and the difference amid Normal Children group with control group was -1.830 found significant in favour of Normal Children group because the Normal Children group mean was lesser than the other two groups and the Table – 4.24 was illustrated in Figure – 4.12.



Zig Zag

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.25

Normal Distribution of Data on Zig Zag among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	-.053	.398	-.311	.778
	Intellectual Disable Children	-.203	.398	-1.286	.778
	Control	-.730	.398	.577	.778
Post	Normal Children	.433	.398	-.220	.778
	Intellectual Di sable Children	.871	.398	-.142	.778
	Control	-.341	.398	-.763	.778

In Table – 4.25 directed that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) among zig zag by calculated the skewness and kurtosis values and their standard error, all the values were within the range of +/- 1.96, it was indicated that the data of all three groups were normally distributed. Therefore, it concluded that the data of Normal children group, Intellectual disable group and Control group in pre- test and post-test were little skewed and kurtotic and

approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of three (Normal children group, Intellectual disable group and Control group) on zig zag were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.26
Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Zig Zag

Groups	Pre – test	Post –test	Difference between mean	Standard error of difference	't' Ratio	P value
Normal Children	30.60	26.64	3.957	.636	6.215	.000<0.05
Intellectual Disable Children	33.86	32.17	1.688	.457	3.695	.001<0.05
Control	30.45	30.49	-.039	.614	.065	.949>0.05

* Significant at .05 level t.05 (34) =2.03

It was evident from Table – 4.26 indicated that the Normal Children group and Intellectual Disable group were significantly improved in the variable zig zag as measured in pre-test post-test 't' ratios after participated in twelve weeks training programme 6.215 and 3.695 for two experimental groups respectively were found greater than the tabulated value 2.03 required and the p value was.000, .001 below than 0.05 level of significance. In case of control group insignificant difference found between pre-test and post-test means and obtained 't' ratio 0.065 was lesser than the tabulated value 2.03 required and the p value of control group was .949 > 0.05 higher than 0.05 level of significant. The results of Table – 4.26 were also obtainable in Figure - 4.13.

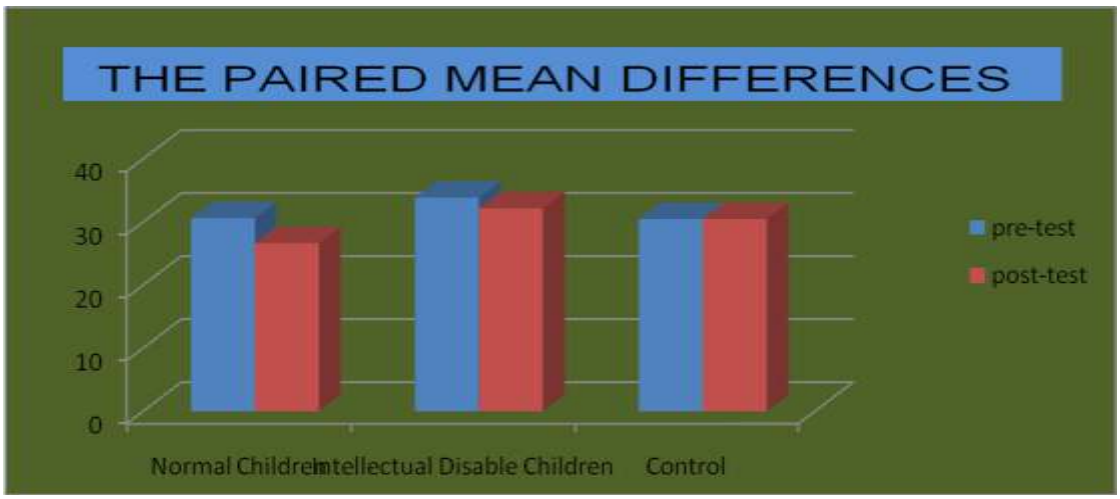


Table – 4.27
Analysis of Covariance of The Data on Zig Zag Amid Pre-Test, Post-Test and Adjusted Post-Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	30.60	33.86	30.45	B	183.695	2	91.847	14.720	.000>0.05
S. D	2.955	2.116	2.318	W	630.211	101	6.240		
Post – Test									
Mean	26.64	32.17	30.49	B	461.00	2	230.500	38.021	.000 <0.05
S. D	2.216	1.759	3.170	W	612.305	101	6.062		
Adjusted Post – Test Mean									
Mean	26.69	30.05	30.55	B	461.00	2	230.500	38.021	.000 <0.05
S. D	.428	.470	.432	W	612.305	101	6.062		

*Significant at 0.05 level F.05 (2,101) 3.09

In table – 4.27 founded that pre-test, post-test and adjusted post-test p value of all the groups were .000 < 0.05 less than 0.05 level of significant on zig zag. The obtained 'F' ratio for pre-test, post-test and adjusted post-test for Normal Children group, Intellectual Disable group and control group were 14.720, 38.021, 38.021 respectively higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence. Thus, the table – 4.27 results and description of table indicate that results of analysis of covariance among all three groups with regard to zig zag were found significant after participated twelve weeks training.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among all three groups on zig zag was used in this investigation were seen in Tables.

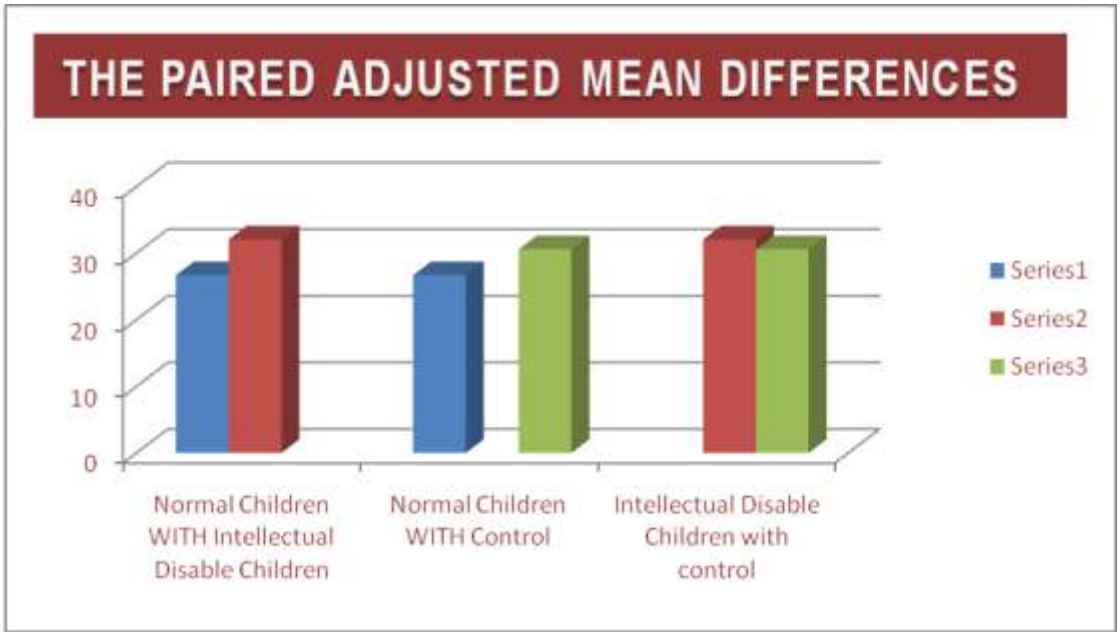
Table – 4.28

Scheffe's Test for Differences between Paired Means on Zig Zag

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
26.69	32.05	-	-5.362*	.000	6.690	4.033
26.69	-	30.55	-3.854*	.000	5.022	2.686
-	32.05	30.55	5.362*	.000	4.033	6.690

* Significant at .05 level

Table – 4.28 was indicated that Normal Children group and Intellectual Disable group on shuttle run were significantly different in their adjusted final means by compared, the mean difference was -5.362 and the difference amid Normal Children group with control group was -3.854 found significant in favour of Normal Children group because the Normal Children group mean was less than the other two groups. The adjusted final means difference among Intellectual Disable group and control group was 5.362 obtained significant and the Table – 4.28 was illustrated in Figure – 4.14.



Medicine Ball Put

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.29

Normal Distribution of Data on Medicine Ball Put among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	-.053	.398	-.311	.778
	Intellectual Disable Children	-.165	.398	-.497	.778
	Control	-.197	.398	-.086	.778
Post	Normal Children	.609	.398	1.065	.778
	Intellectual Di sable Children	-.326	.398	-.247	.778
	Control	-1.241	.398	4.043	.778

In Table – 4.29 concentrated that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) among medicine ball put by calculated the skewness and kurtosis values and their standard error, all the values were within the range of +/- 1.96, it was indicated that the data of all three groups were normally distributed. Therefore, it concluded that the data of Normal children group, Intellectual disable group and Control group in pre- test and post-test were

little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the two experimental groups (Normal children group, Intellectual disable group) and Control group on medicine ball put were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.30

Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Medicine Ball Put

Groups	**Pre – test**	**Post –test**	**Difference between mean**	**Standard error of difference**	**'t' Ratio**	**P value**
Normal Children	6.61	7.35	-.747	.141	5.293	.000<0.05
Intellectual Disable Children	6.45	6.52	-.075	.149	.507	.615>0.05
Control	7.42	7.40	.017	.125	.141	.889>0.05

* Significant at .05 level t.05 (34) =2.03

It was observed from Table – 4.30 that Normal Children group was significantly improved in the variable medicine bal put as measured in pre-test post-test 't' ratios was 5.293 found greater than the tabulated value 2.03 required and the p value of was.000<0.05 below than 0.05 level of significance after participated in twelve weeks training programme. Table – 4.30 also indicated that Intellectual disable group and Control group found insignificant after compared pre-test and post-test means and obtained 't' ratio 0.507, 0.141 was lesser than the tabulated value 2.03 required and the p value was .615, .899 > 0.05 higher than 0.05 level of significant. The results of Table – 4.30 were also obtainable in Figure - 4.15.

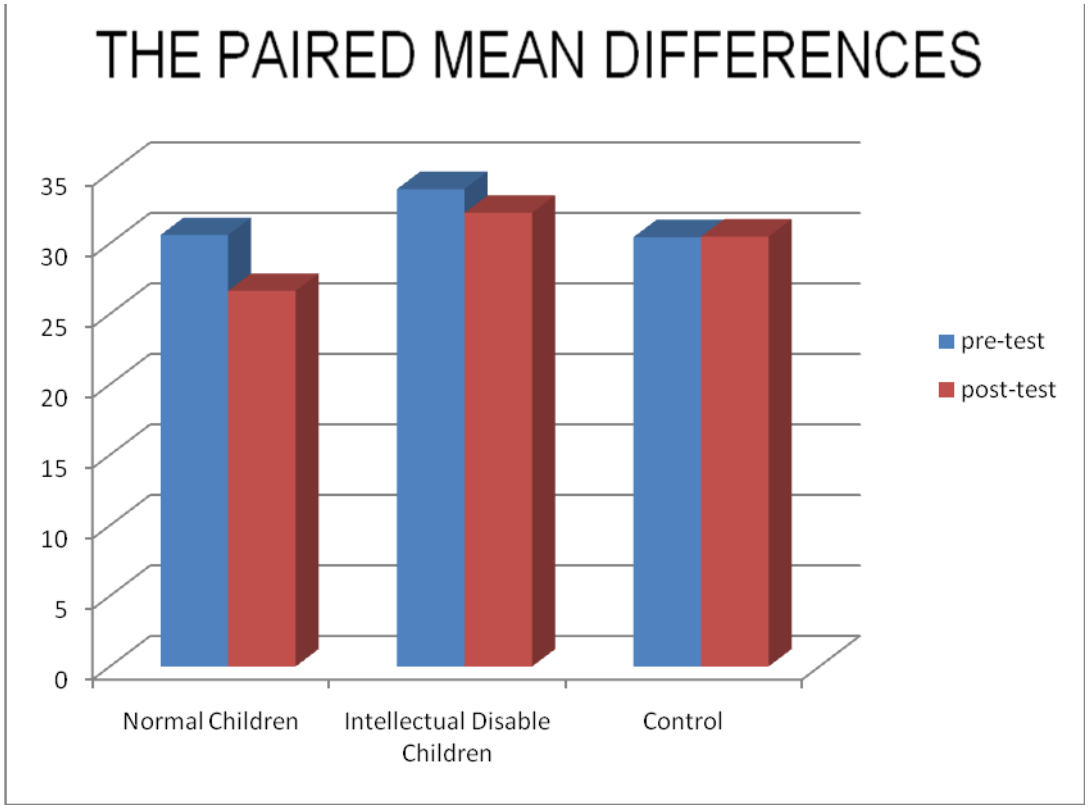


Table – 4.31

Analysis of Covariance of The Data on Medicine Ball Put Amid Pre- Test, Post – Test and Adjusted Post - Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S.V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	6.61	6.45	7.42	B	16.553	2	8.277	26.617	.000<0.05
S. D	.527	.623	.506	W	31.406	101	.311		
Post – Test									
Mean	7.35	6.52	7.40	B	14.512	2	7.256	19.999	.000 <0.05
S. D	.621	.581	.594	W	36.646	101	.363		

Adjusted Post – Test Mean									
Mean	7.35	6.52	7.41	B	14.512	2	7.256	19.999	.000 <0.05
S. D	.104	.110	.120	W	36.646	101	.363		

*Significant at 0.05 level F.05 (2,101) 3.09

In table – 4.31 founded that pre-test, post-test and adjusted post-test p value of all the groups were .000 < 0.05 less than 0.05 level of significant on medicine ball put. The obtained 'F' ratio for pre-test, post-test and adjusted post-test for Normal Children group, Intellectual Disable group and control group were 26.616, 19.999, 19.999 respectively higher than the table value of 3.09 for df 2 and 101 required for significant at .05 level of confidence. Thus, the table – 4.31 results and description of table indicate that results of analysis of covariance among all three groups with regard to medicine ball put were found significant after participated twelve weeks training.

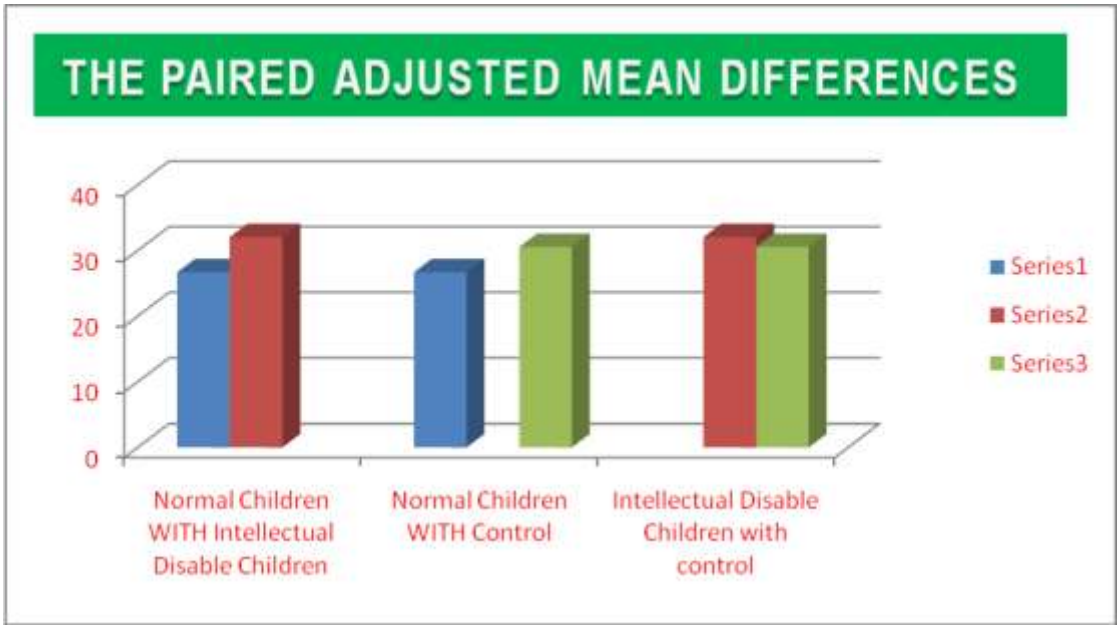
Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among all three groups on medicine ball put was used in this investigation were seen in Tables.

Table – 4.32
Scheffe's Test for Differences between Paired Means on Medicine Ball Put

Normal Children	Intellectual Disable Children	Control Group	Mean Differences	Sig.	Confidence Interval Value	
					Lower Bound	Upper Bound
7.35	6.52	-	.835*	.000	.547	1.123
7.35	-	7.19	.016	.729	.392	.275
-	6.52	7.19	-.733*	.000	1.246	.541

* Significant at .05 level

It was observed from Table – 4.32 Normal Children group and Intellectual Disable group on medicine ball put were significantly different in their adjusted final means after compared, the mean difference was .835 and the difference among Intellectual Disable group with control group was .893 found significant in favour of Normal Children group because the Normal Children group mean was higher than the other two groups. The adjusted final means difference among Normal Children group and control group was 0.16 obtained insignificant and the Table – 4.32 was illustrated in Figure – 4.16.



Emotional Stability

Sample Characteristics

The normally distribution test was used for three groups by inspection of skewness and kurtosis were ranged between +/- 1.96.

Table – 4.33
Normal Distribution of Data on Emotional Stability among Two Experimental Groups and Control Group

Group		Skewness	Std. Error	Kurtosis	Std. Error
Pre	Normal Children	-.139	.398	-1.322	.778
	Intellectual Disable Children	.169	.398	1.126	.778
	Control	-.140	.398	-1.146	.778
Post	Normal Children	.496	.398	-.233	.778
	Intellectual Disable Children	-.040	.398	-.960	.778
	Control	.218	.398	-.931	.778

In Table – 4.33 was indicated that in pre- test and post-test all three groups (Normal children, Intellectual disable and Control) on emotional stability were normally distributed by calculated the skewness and kurtosis values and their

standard error and all the values were within the range of +/- 1.96. Therefore, it concluded that the data of all the groups in pre- test and post-test were little skewed and kurtotic and approximately normally distributed in terms skewness and kurtosis.

Comparison in pre-test and post-test means scores of the two experimental groups (Normal children group, Intellectual disable group) and Control group on emotional stability were analysed by using of paired t-test, the performance was inspected and presented in Tables.

Table – 4.34

Comparison between Pre-Test and Post-Test Means of Two Experimental Groups and Control Group on Emotional Stability

Groups	**Pre – test**	**Post –test**	**Difference between mean**	**Standard error of difference**	**'t' Ratio**	**P value**
Normal Children	8.62	7.91	.712	.190	3.738	.001<0.05
Intellectual Disable Children	9.04	8.54	.507	.213	2.382	.023<0.05
Control	8.38	8.36	.020	.178	.115	.909>0.05

* Significant at .05 level t.05 (34) =2.03

It was evident from Table – 4.34 indicated that the Normal Children group and Intellectual Disable group were significantly improved in the variable emotional stability as measured in pre-test post-test 't' ratios after participated in twelve weeks training programme 3.738 and 2.382 for two experimental groups respectively were found greater than the tabulated value 2.03 required and the p value of was below than 0.05 level of significance. In case of control group insignificant difference found between pre-test and post-test means and obtained 't' ratio 0.115 was lesser than the tabulated value 2.03 required and the p value of control group was .909 > 0.05 higher than 0.05 level of significant. The results of Table – 4.34 were also obtainable in Figure - 4.17.

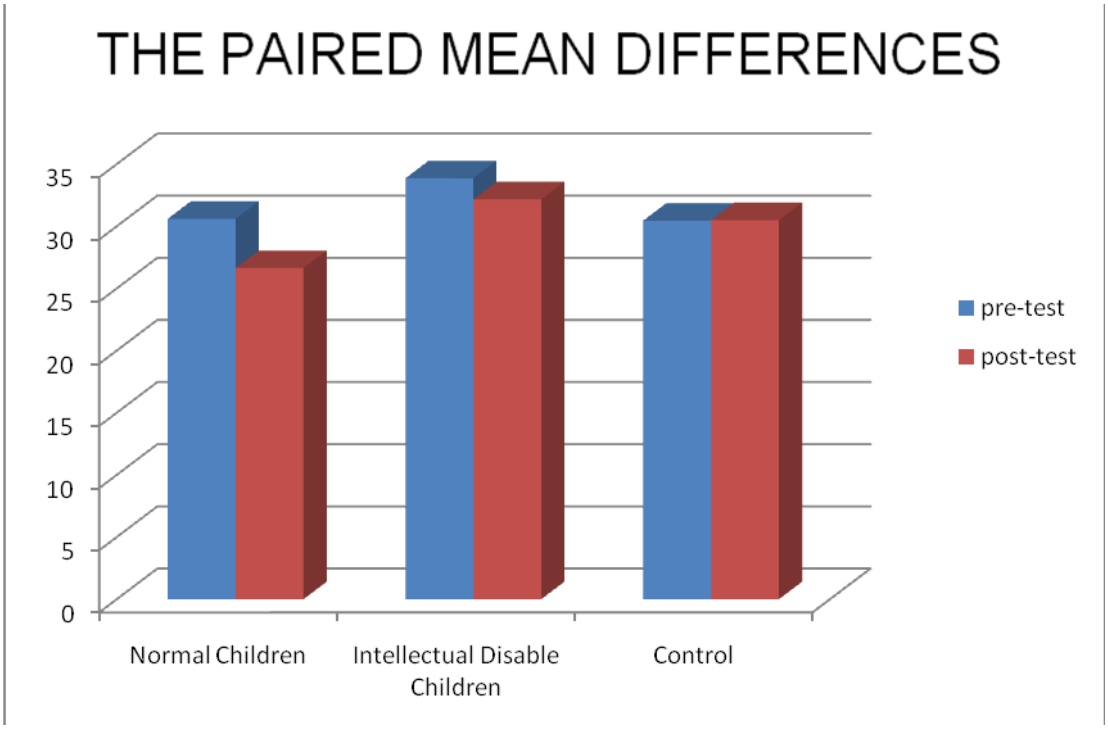


Table – 4.35
Analysis of Covariance of The Data on Emotional Stability Amid Pre- Test, Post – Test and Adjusted Post - Test of two Experimental and Control Group

Test	Normal Children	Intellectual Disable Children	Control Group	S. V	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio	P value
Pre – Test									
Mean	8.62	9.04	8.38	B	8.846	2	4.423	7.015	.001<0.05
S. D	.838	.833	.715	W	63.682	101	.631		
Post – Test									
Mean	7.91	8.54	8.36	B	8.117	2	4.059	7.751	.001 <0.05
S. D	.684	.759	.734	W	52.884	101	.524		
Adjusted Post – Test Mean									
Mean	7.90	8.58	8.32	B	8.117	2	4.059	7.751	.001 <0.05
S. D	.122	.127	.125	W	52.884	101	.524		

*Significant at 0.05 level F.05 (2,101) 3.09

In table – 4.35 Normal Children group, Intellectual Disable group and control groups pre-test 'F' ratio was 7.015 higher than the table value of 3.09 and p value of all the groups were .001 > 0.05 higher than 0.05 level of significant on emotional stability. In case of post-test and adjusted post-test p value on emotional stability of Normal Children group, Intellectual Disable group and control groups were.001 < 0.05 less than 0.05 level of significant.

Hence, the results and description of table – 4.35 showed that results of analysis of covariance among all three groups with regard to on emotional stability of were found significant after participated twelve weeks training programme as the obtained p value.001 was found lesser than 0.05 level of significant.

Since the F-ratio was found to be significant, the Scheffe's post-hoc test for differences between the paired adjusted final means among three groups was used in this investigation. The ordered paired adjusted final means and difference between means for Normal Children group, Intellectual Disable group and control group on emotional stability of were accessible in Tables.

Table – 4.36

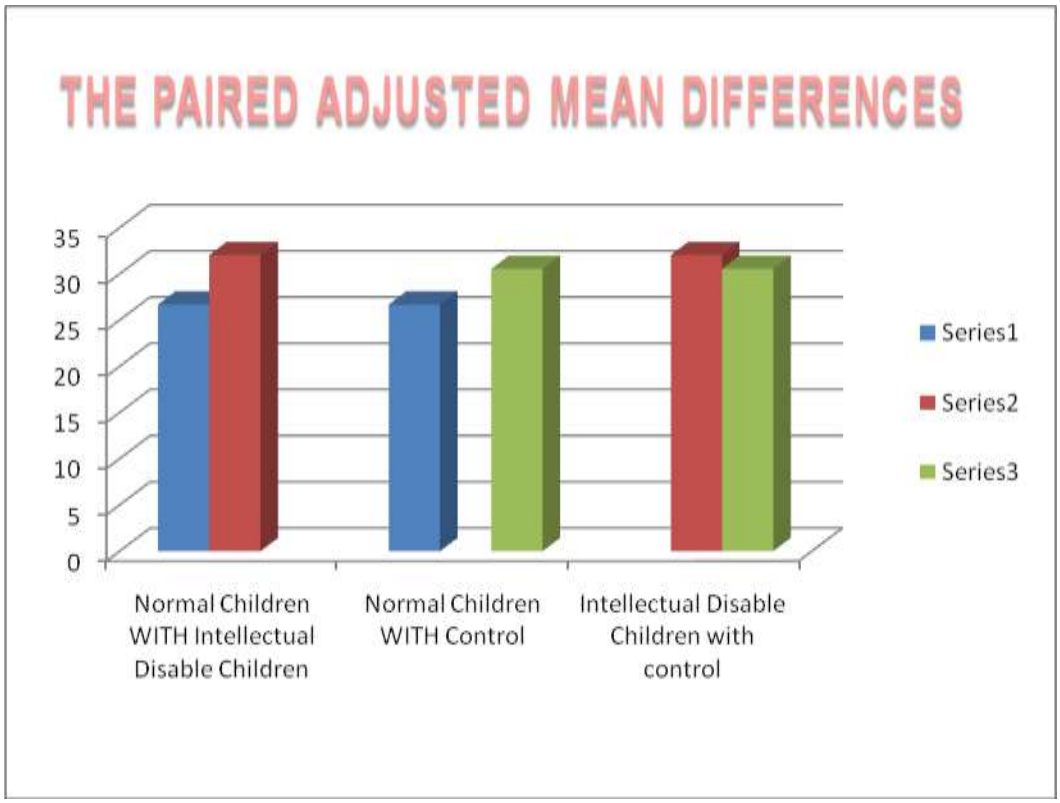
Scheffe's Test for Differences between Paired Means on Emotional Stability

Normal Children	**Intellectual Disable Children**	**Control Group**	**Mean Differences**	**Sig.**	**Confidence Interval Value**	
					Lower Bound	**Upper Bound**
7.90	8.58	-	-.686*	.000	1.037	.334
7.90	-	8.32	-.421*	.017	.767	.075
-	8.58	8.32	.264	.152	.099	.628

* Significant at .05 level

It was evident from Table – 4.36 assessable that Normal Children group and Intellectual Disable group on emotional stability were significantly different in their adjusted final, significant difference was 0.000<0.05 significant at .05 level and the difference between Normal Children group with control group was 0.017 found significant. In case of significant difference between Intellectual Disable group and control group was 0.152>0.05 higher than the 0.05 level of significant. The better performance out of three group was Normal Children group because the mean of Normal Children group was lesser than the other two groups on emotional stability

and the Table – 4.36 was illustrated in Figure – 4.18.



4.3 Discussion of Findings

The present study was designed to find out the effect of mixed martial arts training on the Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities. To achieve the purpose a psychologist was employed to organize the test. G.C Ahuja Group Test of Intelligence was used to diagnose a student with intellectual disability. Test was conducted on 500 students with age group of 13 to 18 years, of Senior Secondary Model School Punjabi University, Patiala. Out of 500 students 70 students were diagnosed with Mild Intellectual disability, 35 students were selected with purposive sampling technique and assignment subjects into 3 groups (group A Normal children group B group Intellectual disable group C Control group) randomly. To analysis the impact of the MMA program. A Solomon three group design was used, the subjects were purposive sampling technique was used to assigned subjects into three groups: group-A (N_1=35) Normal children, group-B (N_2=35) Intellectual disable group underwent twelve - weeks training protocol and group-C (N_3=35) acted as Control group who did not participated in any special training apart from the regular day to day activities. To assess the effect of twelve - weeks training protocol researcher had selected following mixed martial arts training as independent variables and Physical fitness, motor skill assimilation, and emotional stability as dependent variables:

Independent Variables

1. Mixed Martial Arts Training

Dependent Variables

1. 50 Yard Dash

2. 600 Yard Run

3. Pull Ups

4. Sit Ups

5. Standing Broad Jump

6. Shuttle Run

7. Medicine Ball Put

8. Zig Zag

9. Emotional Stability

Based on the statistical analysis of data following findings were drawn:

1. It was observed form the results of the present investigation that after the application of 12 weeks mixed martial arts training programme regarded pull ups of normal children and intellectual disabilities students, it was concluded by compared the findings of normal children and intellectual disabilities students that normal children improve more significantly than intellectual disabilities students and these findings of the study were in line with the conclusions of review

2. The results of the study were indicated that after the 12 weeks mixed martial arts training programme showed impact on sit ups amid normal children and intellectual disabilities students, it was concluded by compared the findings of normal children and intellectual disabilities students that normal children improved more significantly than intellectual disabilities students. These results of the study were also in line with the findings of review

3. The results of the study revealed that shuttle run put among normal children students was increased significantly after the application of 12 weeks mixed martial arts training programme but remained groups (intellectual disabilities and control group) students found similar after compared. These results were confirmed by the findings of review

4. The results of present investigation showed that standing broad jump of normal children students was increased significantly after the application of 12 weeks mixed martial arts training programme but intellectual disabilities

and control group students found unchanged after compared. These results were confirmed by the findings of review.

5. The results of the study revealed that 50 yard dash among children with normal children and intellectual disabilities students were increased significantly after the application of 12 weeks mixed martial arts training programme, but it was observed that both after 12 weeks there was no change in control group results amid 50 yard dash. These results of the study were confirmed the findings of review.

6. It was examined form the results of the present investigation that after the application of 12 weeks mixed martial arts training programme regarded 600 yard run of normal children and intel- lectual disabilities students were increased significantly. It was concluded that 12 weeks mixed martial arts training showed significant effect on 600 yard run of children with normal children and intellectual disabilities students and insignificant amid in control group. These results of the study also were confirmed the findings of review

7. It was examined form the results of the present investigation that after the application of 12 weeks mixed martial arts training programme regarded zig zag of normal children and intellectual disabilities students were increased significantly. It was concluded that 12 weeks mixed martial arts training showed significant effect on zig zag of children with normal children and intellectual disa- bilities students and insignificant amid in control group. These results of the study also were con- firmed the findings of review.

8. The results of the study revealed that medicine ball put among normal children students wasincreased significantly after the application of 12 weeks mixed martial arts training programme but remained groups (intellectual disabilities and control group) students found similar after compared. These results were confirmed by the findings of review.

9. The results of the study indicated that after the 12 weeks mixed martial arts training pro- gramme was showed impact on emotional stability amid normal children and intellectual disabili- ties students, it was concluded by compared the findings of normal children and intellectual disabil- ities students that normal children improve more significantly than intellectual disabilities students and these findings of the study were in line with the conclusions of review.

4.4 Testing of Hypotheses

Based on the results of the study, the hypotheses proposed for the study was accepted or rejected as follows:

1. In present investigation, Physical fitness among children with intellectual disabilities as compared to normal children was change significantly after the application of 12 weeks mixed martial arts training programme. Hence hypothesis number -1 that there would be significant effect of 12 weeks mixed martial arts training programme on Physical fitness among children with intellectual disabilities as compared to normal children was stand accepted.
2. The hypothesis number-2 predicted that there would be significant effect of mixed martial arts training programme on motor skill assimilation among children with intellectual disabilities. Results of the present study showed that after participated in 12 weeks mixed martial arts training programme on motor skill assimilation among children with intellectual disabilities students were increased significantly. Therefore, hypothesis number-2 was also accepted.
3. In present study, emotional stability of children with intellectual disabilities as compared to normal children was increased significantly after the application of 12 weeks mixed martial arts training programme. Hence hypothesis number-3 that there would be significant effect of 12 weeks mixed martial arts training programme on emotional stability of children with intellectual disabilities as compared to normal children was stands accepted.

CHAPTER – V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The purpose of current study was to examine the effect of mixed martial arts training on the Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities.

To attain this purpose a psychologist was employed to organize the test. G.C Ahuja Group Test of Intelligence was used to diagnose a student with intellectual disability. Test was conducted on 500 students with age group of 13 to 18 years, of Senior Secondary Model School Punjabi University, Patiala. Out of 500 students with age groups of 13 to 18 years of Senior Secondary Model School Punjabi University, Patiala, Punjab. Out of 500 students 70 students were diagnosed with Mild Intellectual disability, 70 MID students were selected using Purposive sampling technique and 35 students with average (IQ 90-109) were selected for the study. To analyzed the impact of the MMA training program. A Solomon three group design was used. 70 MID students and 35 students with average (IQ 90-109) were assigned to 3 equal groups: group-A (N1=35) Normal children , group-B (N2=35) Intellectual disable group underwent twelve - weeks training protocol and group-C (N3=35) acted as Control group who did not participated in any special training apart from the regular day today activities. To assess the effect of twelve - weeks training protocol researcher had selected followingmixed martial arts training as independent variables and Physical fitness, motor skill assimilation, and emotional stability as dependent variables.

5.2 Objectives

The present study was conducting with a view as :

1. To study the Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities.
2. To study the effect of mixed martial arts training program on Physical fitness, motor skill assimilation, and emotional stability among children with intellectual disabilities.
3. To compare the effect of mixed martial arts training on Physical fitness, motor

skill assimilation, and emotional stability among children with intellectual disabilities and normal children.

5.3 Hypotheses

1. It was hypothesized that there exists a significant difference in the effects of mixed martial arts training on Physical fitness among children with intellectual disabilities as compared to normal children.
2. It was hypothesized that there exists a significant difference in the effects of mixed martial arts training on motor skill assimilation among children with intellectual disabilities as compared to normal children.
3. It was hypothesized that there exists a significant difference in the effects of mixed martial arts training on emotional stability among children with intellectual as compared to normal children.

5.4 Design of the Study

Research design is considered as a blue print for conducting the research work that indicates the draft for the methodology part of any study (Malhotra and Dash, 2014). An experimental method with A Solomon three Group Design was adopted for carrying out the current research work. The study was experimental in nature, designed for evaluating the impact of Mixed Martial arts training program on the physical fitness, motor skill assimilation, and emotional stability among children with intellectual disability

5.5 Sampling

Diagnosis of intellectual disability involves formal assessment. A psychologist was engaged to organize the test. G.C Ahuja Group Test of Intelligence was used to diagnose a student with intellectual disability. Test was conducted on 500 students with age groups of 13 to 18 years of Senior Secondary Model School Punjabi University, Patiala, Punjab. Out of 500 students 70 students were diagnosed with Mild Intellectual disability, 70 MID students were selected using purposive sampling technique and 35 students with average (IQ 90-109) were selected for the study. To analyze the impact of the MMA training program. A Solomon three group design was used. 70 MID students and 35 students with average (IQ 90-109) were assigned to 3 equal groups; Group a) Pre-test plus treatment. Group b) Pre- test plus treatment. Group c) pre-test plus no treatment. 70 students of MID (IQ range 50-69) were assigned to two equal groups randomly, 35 MID students to the experimental group after pretest and 35MID students to the control group after pretest respectively and 35

students with Average (IQ 90-109) were assigned to the experimental group with pretest.

5.6 Method of Sampling

Purposive sampling is also known as judgment, subjective sampling or selective. In the present study Purposive sampling was used for selection of subjects. The sample was chosen by the judgment of the researcher on the basis of the result of test conducted to identify the students with Mild Intellectual Disability. Purposive sampling targets participants known to possess the characteristics required for a particular study. **Cohen (2000)** say participants are handpicked based on judgment of their typicality. In special education research involving participants with disability, this type of sampling may be more appropriate when the sample is accessible.

5.7 Collection of Data

The experimental program lasted for 12 week. The examiner utilized the facilities of the Punjabi University Patiala, indoor sports complex, karate arena with karate mates, under the supervision of resourceful persons. Ten training sessions were conducted per month. The duration of each training session was 60 minutes with (4-5 minutes of warm-up before the training session, 4-5 minutes of shaping exercises, 30-35 minutes of learning and practicing karate, Judo and Boxingelements, and 10-15 minutes of stretching and strength exercises).During the inclusive training, the experts explained each activity individually and rectified the mistakes, if any. The Mix Martial Arts training program were performed in controlled sessions. The number of repetitions was most frequently ten. During one training session, the Experimental group (MID students) learned the maximum of three new elements, while more time was devoted in assessing previous content. After each sequence, the Experimental group was given feedback, and when feasible, the coach describe the practical application of the technique. Now and then, The examines had the opportunity to perform the given exercise before their group.

5.8 Tools

The instruments/tools administrated in the study were finalized after a thorough review of literature. Selection of tools was done on the basis of the need for achievement of various objectives of the study. To measure dependent variables, for each criterion variable, already standardized and pre- published instruments were explored that were possibly the best for the fulfillment of the studyobjectives.

5.8.1 Instruments to measure Psychological Parameters.

1. For the measurement of emotional stability the investigator used emotional stability test developed by A.S.Gupta and A.K.Singh. The scale consists 15 items classified as positive and negative. Positive items are scored as 1 and negative item as 0.But for item 9 and 10 thescoring method is reversed.
2. Group Test of Intelligence (13 to 17+ year) by G.C. Ahuja (1976)

5.8.2 Tests to measure Physical Fitness and Motor ability Parameters.

1. AAPHER Test to measured physical fitness (1958) was used to evaluate Muscular Power, Muscular persistence, Agility, Speed, Endurance, Explosive Electricity.
2. To assess motor ability status Barrow's Motor Ability Test (1964) was used to assess the motor ability of Subject. Leg Electricity, Agility and pace, Arm and Shoulder Power.

5.9 Statistical Techniques

The study is based on the per-test and post-test group design with control group. The subjects chosen for the study were equally divided into two experimental groups and one control group, each group consisting of 35 subjects out of two experimental groups as group A Normal children group, B group Intellectual disable group and C group as Control group. Subjects of the control group were not allowed to participate in any of the training program except in their routine activities. The data was collected for the selected Pull Ups, Sit ups, Shuttle run, Standing Broad Jump, 50 yard dash, 600 Yard dash, Zig-Zag, Medicine Ball Put, Emotional stability of dependent variables was checked firstly at the beginning by per-test to assess the status of the subjects on selected variables and after the training schedule was implemented to the two experimental groups. Finally, after the completion of Twelve week of Mix Martial Art Training program post –test was conducted. The study was mainly aimed at to find out the effects of Mix Martial Arts training program on selected dependent variables, before that sample characteristics found by using Normality test ($p > 0.05$), also the paired t-test was used to identify any significant differences between the pre-test and post-tests means of all the groups for the dependent variables. An analysis of covariance was used to determine significant differences for dependent variables within the 3 groups. When a significant difference among the groups was observed, a pair-wise comparison of the groups was done by using the Scheffe's post-hoc test to identify direction and significant differences

between the groups. The level of significance was set at 0.05 in order to test the differences to be considered significant. The data was analyzed by computer using statistical packages.

5.10 Variables:

5.10.1 Independent Variables

1. Mixed Martial Arts Training

5.10.2 Dependent Variables

1. Pull Ups
2. Sit Ups
3. Shuttle Run
4. Standing Broad Jump
5. 50 Yard Dash
6. 600 Yard Run
7. Zig Zag
8. Medicine Ball Put
9. Emotional Stability

Data on the selected dependent variables was collected one day prior to the beginning of training and one day after the completion of training. After the collection of pertinent data, to know the effect of twelve - week mixed martial arts training protocol on selected Physical fitness, motor skill assimilation, and emotional stability of normal children and intellectual disabilities students, to identify any significant differences between the per-tests and post-tests means values of all the groups for the dependent variables paired t-test was employed with the help of Statistical Package for the Social Sciences (SPSS) 20.0. The level of significance was set at 0.05 percent.

5.11 Conclusions

1. It was observed form the results of the present investigation that after the application of 12 weeks mixed martial arts training program regarded pull ups of normal children and intellectual disabilities students, it was concluded by compared the findings of normal children and intellectual disabilities students that normal children improve more significantly than intellectual disabilities students.
2. The results of the study were indicated that after the 12 weeks mixed martial arts training program showed impact on sit ups amid normal children and

intellectual disabilities students, it was concluded by compared the findings of normal children and intellectual disabilities students that normal children improved more significantly than intellectual disabilities students. The results of the study revealed that shuttle run put among normal children students was increased significantly after the application of 12 weeks mixed martial arts training program but remained groups (intellectual disabilities and control group) students found similar after compared.

3. The results of the study revealed that shuttle run put among normal children students was increased significantly after the application of 12 weeks mixed martial arts training program but remained groups (intellectual disabilities and control group) students found similar after compared. These results were confirmed by the findings of review.
4. The results of present investigation showed that standing broad jump of normal children students was increased significantly after the application of 12 weeks mixed martial arts training program but intellectual disabilities and control group students found unchanged after compared. The results of the study revealed that medicine ball put among normal children students was increased significantly after the application of 12 weeks mixed martial arts training program but remained groups (intellectual disabilities and control group) students.
5. Based on the paired t test results of the study the following conclusions were drawn by the investigator: The results of the study revealed that 50 yard dash among children with normal children and intellectual disabilities students were increased significantly after the application of 12 weeks mixed martial arts training program, but it was observed that both after 12 weeks there was no change in control group results amid 50 yard dash.
6. It was examined form the results of the present investigation that after the application of 12 weeks mixed martial arts training program regarded 600 yard run of normal children and intellectual disabilities students were increased significantly. It was concluded that 12 weeks mixed martial arts training showed significant effect on 600 yard run of children with normal children and intellectual disabilities students and insignificant amid in control group.
7. It was examined form the results of the present investigation that after the application of 12 weeks mixed martial arts training program regarded zig-zag

of normal children and intellectual disabilities students were increased significantly. It was concluded that 12 weeks mixed martial arts training showed significant effect on zig-zag of children with normal children and intellectual disabilities students and insignificant amid in control group.

8. The results of the study revealed that medicine ball put among normal children students was increased significantly after the application of 12 weeks mixed martial arts training program butremained groups (intellectual disabilities and control group) students found similar after compared. These results were confirmed by the findings of review.
9. The results of the study indicated that after the 12 weeks mixed martial arts training program was showed impact on emotional stability amid normal children and intellectual disabilities students, it was concluded by compared the findings of normal children and intellectual disabilities students that normal children improve more significantly than intellectual disabilities students.

5.12 Limitations of Study:

1. Certain elements like dietary habits, resting and sleeping pattern etc. were not in the hands ofthe investigator and were considered to a limitation of the study.
2. As the subjects were from unlike socio-economic groups, their diet, life style, routine was dissimilar which were considered as limitations of the study.
3. No special technique was employed to inspire the subjects during the administration of the tests.

5.13 Recommendations for Future Research

In the light of the conclusions drawn from the study it was recommended that:

1. Similar training protocols may be carried out for longer duration.
2. The effect of present training protocol may be assessed on some other and more variables.
3. Analogous study may be undertaken with only female and only male college or universitystudents.
4. These types of training program may be beneficial for obese, diabetic patient etc.
5. Similar training protocols may be favorable for athletes of combat activities.

6. Training program may be made more effective with the help of some other additional equipment and advance training facilities.
7. With the financial support by concerned governmental organizations, similar study can by conduct on large population.
8. The results of this study will be of enormous support to the instructors, sports scientists, physician, teachers and coaches to frame a new or modify the existing schedules of physical training protocol, which will be beneficial for general health.
9. The study may act as guideline for development of new training program to cure differentdiseases in different age groups of individuals. Similar training may be carried out in the area of competitive sports.

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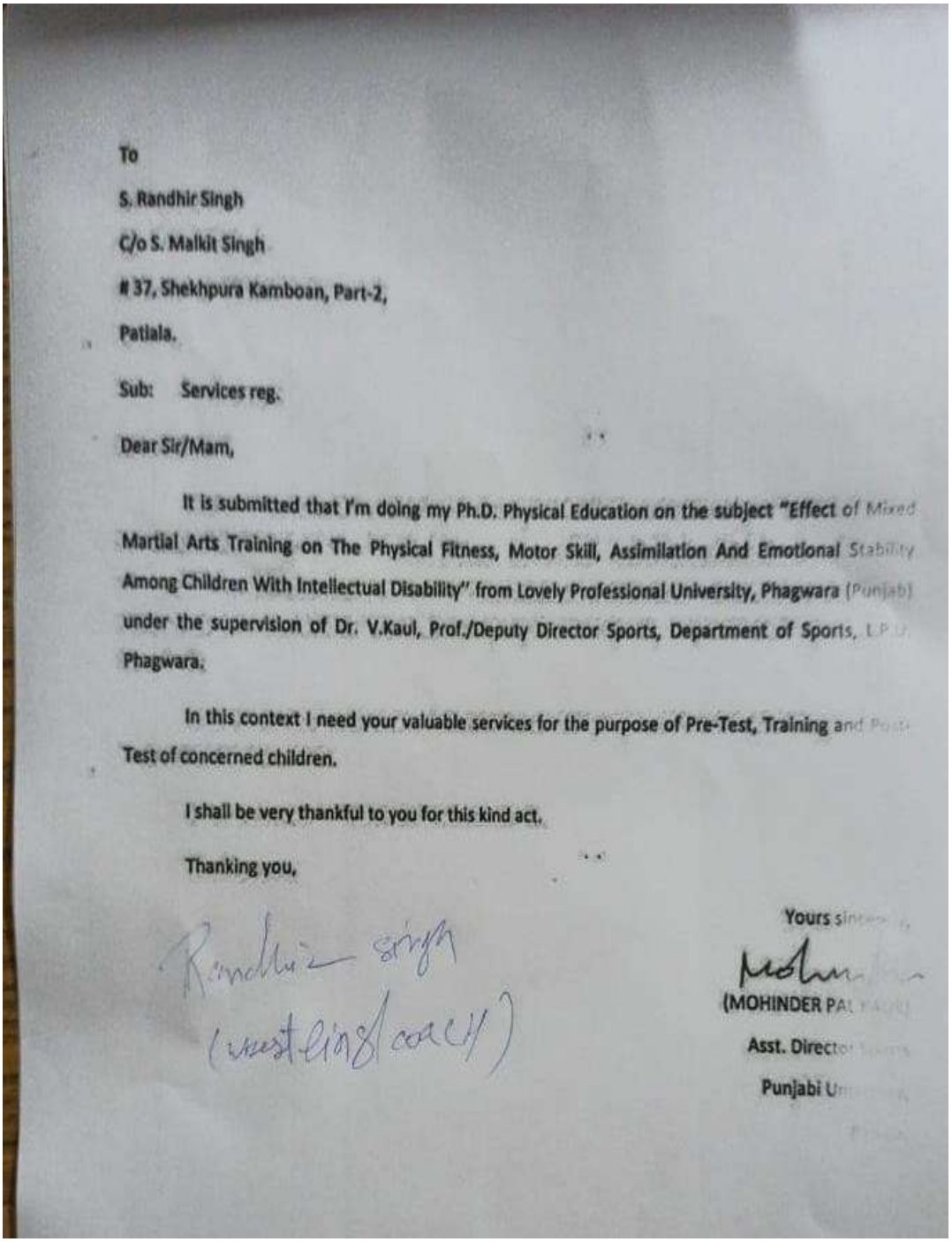

To

S. Randhir Singh

C/o S. Malkit Singh

37, Shekhpura Kamboan, Part-2,

Patiala.

Sub: Services reg.

Dear Sir/Mam,

It is submitted that I'm doing my Ph.D. Physical Education on the subject "Effect of Mixed Martial Arts Training on The Physical Fitness, Motor Skill, Assimilation And Emotional Stability Among Children With Intellectual Disability" from Lovely Professional University, Phagwara (Punjab) under the supervision of Dr. V.Kaul, Prof./Deputy Director Sports, Department of Sports, L.P.U. Phagwara.

In this context I need your valuable services for the purpose of Pre-Test, Training and Post-Test of concerned children.

I shall be very thankful to you for this kind act.

Thanking you,

Randhir singh
(wrestling coach)

Yours sincerely,

(MOHINDER PAL KAUL)
Asst. Director Sports
Punjabi University

To

Sh. Rajesh Kumar

S/o Sh. Harbhajan Singh

118, Jai Jawan Colony,

Nr. Badungar, Patiala.

Sub: Services reg.

Dear Sir/Mam,

It is submitted that I'm doing my Ph.D. Physical Education on the subject "Effect of Mixed Martial Arts Training on The Physical Fitness, Motor Skill, Assimilation And Emotional Stability Among Children With Intellectual Disability" from Lovely Professional University, Phagwara (Punjab) under the supervision of Dr. V.Kaul, Prof./Deputy Director Sports, Department of Sports, L.P.U. Phagwara.

In this context I need your valuable services for the purpose of Pre-Test, Training and Post-Test of concerned children.

I shall be very thankful to you for this kind act.

Thanking you,

Rajesh Kumar
Karate Coach

Yours sincerely,

(MOHINDER PAL KAUR)
Asst. Director Sports
Punjabi University,
Patiala.

To

Ms. Renu Bala

2683, Urban Estate, Phase-2,

Patiala.

Sub: Services reg.

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Asst. Director Sports

Punjabi University,

Patiala.

Renu Bala
Boxing Coach

To

S. Navjot Singh

S/o S. Tajinder Singh

538 A, Ranjit Nagar,

Bhadson Road, Patiala.

Sub: Services reg.

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Navjot Singh
Judo Coach

(MOHINDER PAL KAUR)
Asst. Director Sports
Punjabi University,
Patiala.

AAPHER YOUTH PHYSICAL FITNESS TEST (1958)

American Alliance for Health Education & Recreation

TEST BATTERIES {ITEMS}

1. Pull up (with flexed-arms hang for girls)
2. Flexed leg/ bent knee sit-ups
3. Shuttle Run
4. Standing Broad Jump
5. 50-Yard Dash
6. 600 Yard Run Walk or 9 min or 12 min walk

1. Pull-ups (for boys)

PURPOSE OF THE TEST:

Muscular strength & muscular endurance of arms & shoulder.

EQUIPMENTS:

A wooden or metal bar approximately 1.5 inches in diameter and stopwatches.

TEST ADMINISTRATION:

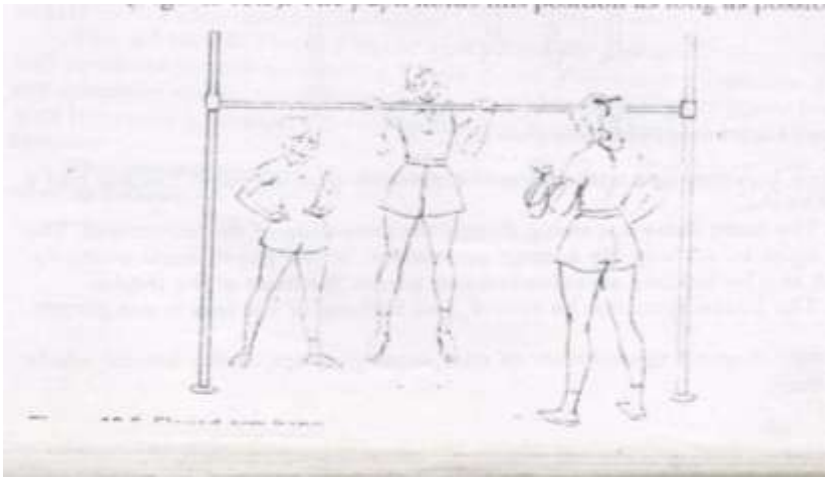
The height of the bar was such that when the subject hangs from it with fully extended arms, feet not touching the ground. From the hanging position, the subject raises the body by the arms until the chin was placed over the bar and then lowers the body to a full extension hang and repeats the pull ups as many times as possible. Only one trial was given. kicking the legs and knee raising is not allowed.

Scoring:- Recorded the number of complete pull ups plus to the nearest whole number was taken as score.

1. Flexed arm hang (for girls)

Administration: This test was almost similar to pull-ups except that the hanging bar is adjusted at a height equal almost to the height of the subject. With the help of two assistants, the participants the body off the floor to position the chin above the bar, the elbows were flexed, chest is kept close to the bar and subject hold this position as long as possible.

Scoring:- the duration of time for which the participant holds the hanging position in the correct manner, is recorded in seconds as the score of this test item.



2. ***2. Bent -knee sit-ups***:-

Purpose:

Abdominal muscular strength endurance.

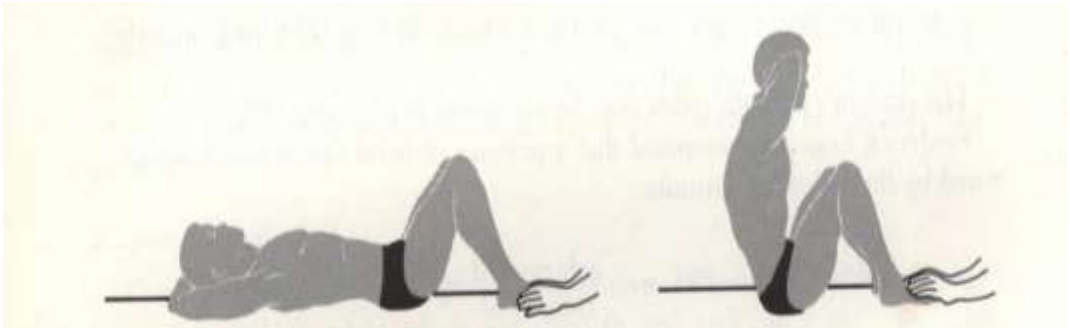
***Equipment*:**

A mat for each subject or lying area on the floor and stopwatch.

Administration: The subject was asked to lie in spine position with hands behind the neck and knee-bent. The tester hold the feet to keep the knees bent and feet down and asked the subject to perform a sit-up.

Scoring

The number of correctly performed sit-ups in 60 seconds is the score of this test.



3. **SHUTTLE RUN TEST**

PURPOSE:

To measure Speed & agility.

EQUIPMENTS:

Two blocks of wood, a stopwatch and marking Powder. The subject should wear spikes or run bare foot.

TEST ADMINISTRATION:

Two parallel lines were marked on the floor 10 yards apart or the width of the regular volleyball court was used for the test. The two wooden blocks are placed behind one of the lines. The subject was asked to start from behind the other line on the signal ready "go" the times starts the watch and the subject ran towards the blocks, picked-up one block, ran back to the starting line, places the block behind the

starting line, ran back and picked-up the second block and carried back across the starting line. As soon as the second block is placed on the ground the timer was stopped the watch and records the time.

SCORING:

Two Trials were allowed to each subject with some rest in between. The time of the better of two trials is recorded.

4. Standing Broad jump

PURPOSE:

To measure the explosive strength of legs.

EQUIPMENTS:

Mat or long jump pit may be used, measuring tape.

TEST ADMINISTRATION:

The subject was asked to stand behind the starting line with the feet parallel to each other. He is instructed to jump as far as possible by bending knees broad jump in the forward direction. The subject was given three trials.

SCORING:

The distance between the starting line and the nearest point of landing provided the score of the test. The best (maximum distance) trial is used as the final score of the test.

5. 50 yards dash (boys and girls)

Purpose:

To measure speed and explosive strength of lower extremities.

Equipment:

Stopwatches (at least two).

Test *Administration:*

Two lines were marked on the floor 50 yards apart. One line was used as a starting line and the other as the finish line on the signal ready. On the command "Go" the subjects started running at their best to reach the finish line at their earliest.

Scoring:

The interval time between the starting signal and the instant subject crossed the finish line is the score of the test.

6. 600yardrun/walk

PURPOSE :

To measure the cardio-vascular endurance.

EQUIPMENT:

Athletics track or field, stopwatches.

TEST ADMINISTRATION:

The subjects were asked to take a standing start. At the signal ready "Go" the subject started running the 600 yard distance the test is usually performed on 10-12 subjects together by pairing off before the start of the event. Walking was permitted but the performer had to cover the distance in the shortest period of time.

SCORING:

The time taken to run 600 yards recorded in minutes and seconds is the score of this test item.

Motor ability

Definition- The level to which one has developed his innate capacity to learn more skill . (Cozen)

Barrow's Motor Ability Test

INTRODUCTION

This is one of the most popular motor ability testing procedure for school boys and college men students. Harold Marion Barrow (1954) selected 29 test items for the construction of general motor ability testing battery. Later on modifying in 1960 only 6 items were left &1964 three test items.

- **Three item test battery showed a correlation coefficient of 0.92.**

1. Standing broad jump:

Purpose: **Primarily -To measure the power of legs.**

Secondarily- To measure agility, speed ,and strength.

Equipment:

A **mat 5 by 12 feet /long jump pit.**

TEST ADMINISTRATION

The subjects were asked to stand behind the starting line with the feet parallel to each other. They were instructed to jump as fastest as possible by bending knees and swinging arms to take off for the broad jump in the forward direction. The subjects were given three trials.

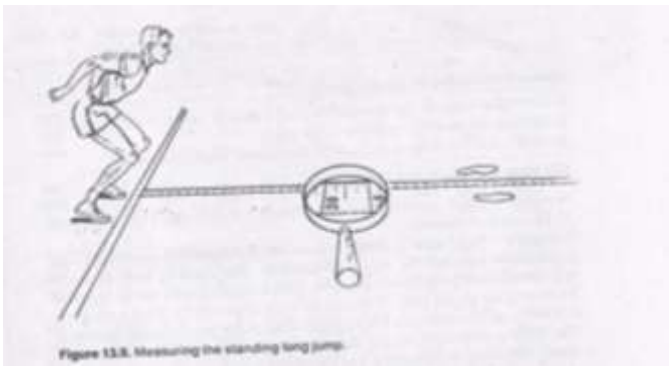


Figure 13.8. Measuring the standing long jump.

Scoring:

The distance between the starting line and the nearest point of landing provides the score of the test. The best trial is used as the final score of the test.

2. Zig - zag run:

Purpose: Primarily-measure agility and speed

Secondarily- measure speed

Equipment: stop watch, five obstacles.

Procedure:

The subject is given demonstration about the course of zig- zag running as is illustrated in figure. Then he/she is instructed to take the standing position on the signal ready and to start running on the signal 'go' and that three laps to be run.

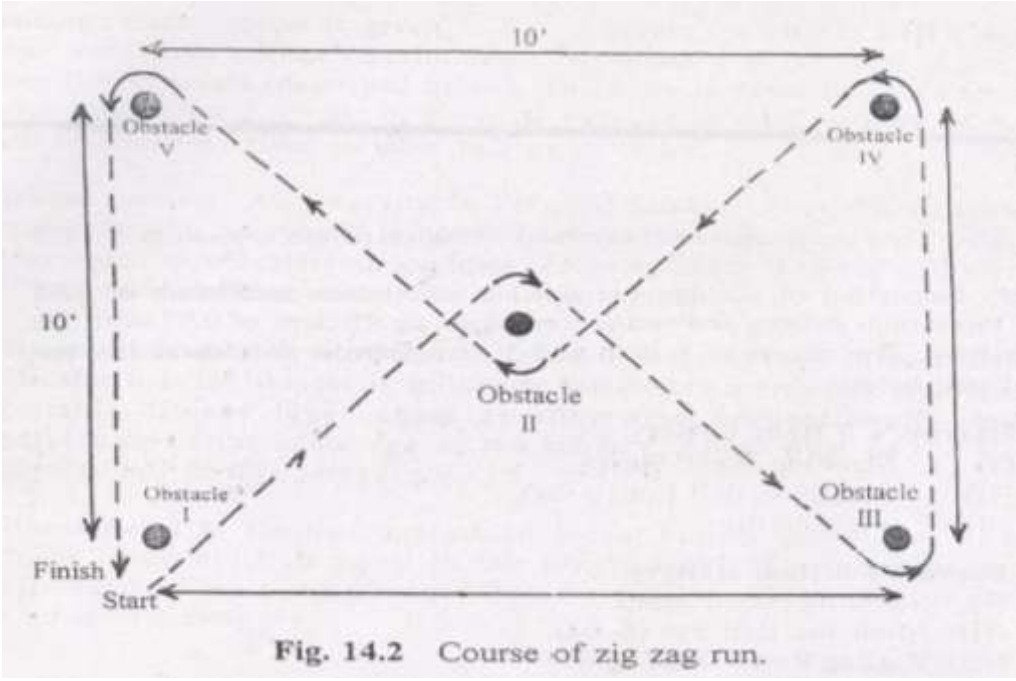


Fig. 14.2 Course of zig zag run.

Scoring:

***T*he final score is the time taken to run the three rounds of figure-of-eight.**

3. Medicine Ball Put:

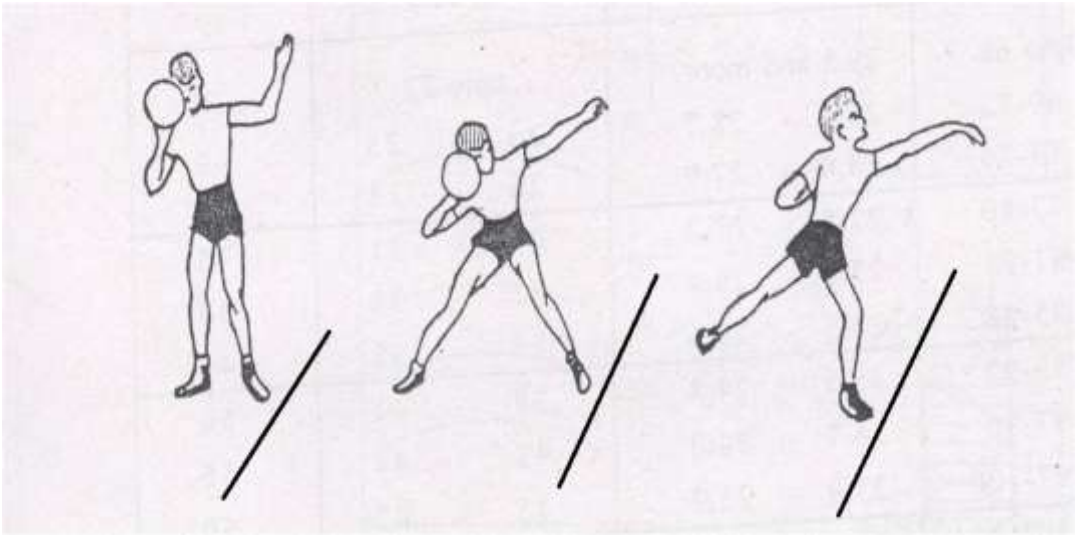
Purpose:

Primarily –To measure arm and shoulder strength.

Secondarily- to measure power, agility, speed and balance.

Equipment : space 90 by 20 feet, measuring tape, 6 pound medicine ball etc.

Test Administration -: The subject stood between two restraining lines , which were 16feet apart . They attempted proper medicine ball out as far as possible without stepping on or over the restraining line . They hold the ball at neck and shoulder and thrust it away from his body at an angle of app. 45degrees. Each participant was given three throws.



Scoring:

The maximum distance out of three trials of putting the medicine ball is the final score of the test.

Statistical Techniques:

1. Descriptive Statistics like Mean, SD was were for describing the nature of data.

2. To test the statistical significance of difference between mean values, ANCOVA was applied. Where, a significance of difference between mean values was found, LSD pairwise comparison was done.

RAW DATA

PULL UPS

GROUP	PRE	POST	INTE DIS	7.12	7.37	CONTROL	8.02	8.02
NORMAL	6.25	8.22	INTE DIS	7.45	7.26	CONTROL	7.26	7.12
NORMAL	7.25	8.1	INTE DIS	6.54	7.45	CONTROL	8.25	7.45
NORMAL	7.5	7.15	INTE DIS	6.25	7.26	CONTROL	8.06	8.54
NORMAL	6.5	7.26	INTE DIS	6.54	7.5	CONTROL	7.5	8.34
NORMAL	6.54	8.25	INTE DIS	6.25	7.15	CONTROL	8.7	8.19
NORMAL	6.25	8.06	INTE DIS	7.37	7.26	CONTROL	7.37	8.02
NORMAL	7.37	7.5	INTE DIS	6	6.25	CONTROL	7.26	7.26
NORMAL	6.41	6.5	INTE DIS	6.5	7.25	CONTROL	8.22	7.37
NORMAL	7.11	8.34	INTE DIS	7.45	7.5	CONTROL	8.33	7.26
NORMAL	6.54	8.19	INTE DIS	6.54	6.5	CONTROL	8.47	8.7
NORMAL	6.25	8.45	INTE DIS	6.25	7.32	CONTROL	8.7	8.02
NORMAL	7.37	8.61	INTE DIS	7.37	7.35	CONTROL	8.02	7.26
NORMAL	6.25	8.88	INTE DIS	6.54	7.45	CONTROL	7.26	8.25
NORMAL	6.5	8.25	INTE DIS	6.54	7.15	CONTROL	8.25	8.06
NORMAL	7.15	8.45	INTE DIS	6.25	7.26	CONTROL	8.06	8.02
NORMAL	7.26	8.54	INTE DIS	7.37	6.25	CONTROL	8.02	7.26
NORMAL	6.53	8.34	INTE DIS	6.41	7.25	CONTROL	7.26	7.37
NORMAL	6.41	8.19	INTE DIS	7.11	7.5	CONTROL	8.25	7.26
NORMAL	7.11	8.45	INTE DIS	6.54	8.7	CONTROL	8.06	8.7
NORMAL	7.12	7.26	INTE DIS	6.25	7.37	CONTROL	8.54	8.02
NORMAL	7.45	8.25	INTE DIS	7.37	7.26	CONTROL	8.34	7.26
NORMAL	6.54	8.06	INTE DIS	7.25	7.32	CONTROL	8.19	8.25
NORMAL	6.25	8.34	INTE DIS	7.5	7.35	CONTROL	8.45	8.06
NORMAL	7.37	8.19	INTE DIS	6.5	7.45	CONTROL	7.26	8.25
NORMAL	6.54	8.45	INTE DIS	7.32	7.15	CONTROL	8.25	8.06
NORMAL	6.25	7.26	INTE DIS	7.32	7.26	CONTROL	8.06	8.54
NORMAL	7.37	8.25	INTE DIS	7.35	7.37	CONTROL	8.02	8.34
NORMAL	7.11	8.06	INTE DIS	7.45	7.26	CONTROL	7.26	8.54
NORMAL	7.12	7.5	INTE DIS	7.15	8.25	CONTROL	8.25	8.34
NORMAL	7.45	8.55	INTE DIS	7.26	8.06	CONTROL	8.06	8.19
NORMAL	6.54	8.45	INTE DIS	7.37	7.26	CONTROL	8.54	8.45
NORMAL	6.25	8.22	INTE DIS	7.45	7.37	CONTROL	8.34	8.06
NORMAL	7.37	8.33	INTE DIS	7.5	7.26	CONTROL	7.26	8.25
NORMAL	6	8.47	INTE DIS	6.5	7.12	CONTROL	8.25	8.06
NORMAL	6.5	8.7						

SIT UPS

GROUP	PRE	POST
NORMAL	36.12	35.05
NORMAL	24.15	30.41
NORMAL	28.19	32.33
NORMAL	26.3	34.15
NORMAL	30.12	36.25
NORMAL	32.33	30.43
NORMAL	24.15	31.02
NORMAL	28.19	36.02
NORMAL	26.3	35.16
NORMAL	28.05	32.12
NORMAL	26.15	33.26
NORMAL	24.15	36.25
NORMAL	28.19	37.15
NORMAL	26.3	34.52
NORMAL	28.19	36.25
NORMAL	26.3	34.12
NORMAL	28.05	35
NORMAL	26.15	36.12
NORMAL	24.15	34.25
NORMAL	28.19	32.01
NORMAL	26.3	30.41
NORMAL	30.12	32.33
NORMAL	32.33	34.15
NORMAL	24.15	36.25
NORMAL	28.19	36.25
NORMAL	26.3	34.12
NORMAL	28.05	35
NORMAL	26.15	36.12
NORMAL	24.15	34.25
NORMAL	28.19	32.01
NORMAL	26.3	30.41
NORMAL	30.12	32.33
NORMAL	32.33	34.12
NORMAL	24.15	35
NORMAL	36.25	36.12
INTE DIS	23.02	28.05
INTE DIS	14.15	26.15
INTE DIS	15.37	24.15
INTE DIS	30.12	28.19
INTE DIS	32.33	26.3
INTE DIS	24.09	22.55
INTE DIS	23.25	26.31

INTE DIS	19.63	27.45
INTE DIS	21.36	30.12
INTE DIS	20.48	32.33
INTE DIS	22.65	24.15
INTE DIS	24.05	28.19
INTE DIS	15.26	26.3
INTE DIS	23.02	32.33
INTE DIS	14.15	28.19
INTE DIS	15.37	27.36
INTE DIS	30.12	24.15
INTE DIS	32.33	28.11
INTE DIS	24.15	26.3
INTE DIS	28.19	26.3
INTE DIS	26.3	22.55
INTE DIS	28.05	32.33
INTE DIS	26.15	26.31
INTE DIS	24.15	27.45
INTE DIS	28.19	30.12
INTE DIS	26.3	26.3
INTE DIS	28.05	32.33
INTE DIS	26.15	28.19
INTE DIS	24.15	26.97
INTE DIS	20.45	28.05
INTE DIS	21.52	26.15
INTE DIS	22.45	24.15
INTE DIS	28.19	28.19
INTE DIS	26.3	26.3
INTE DIS	26.45	30.12
CONTROL	28.26	26.97
CONTROL	26.31	34.25
CONTROL	30.15	32.01
CONTROL	24.45	30.41
CONTROL	32.33	32.33
CONTROL	24.15	34.12
CONTROL	28.19	35
CONTROL	30.45	36.12
CONTROL	25.6	28.05
CONTROL	28.19	26.15
CONTROL	32.12	32.01
CONTROL	30.41	30.41
CONTROL	32.33	32.33
CONTROL	34.15	34.15
CONTROL	32.16	24.15
CONTROL	30.43	28.19

CONTROL	31.02	26.3
CONTROL	36.02	30.12
CONTROL	35.16	26.97
CONTROL	32.12	34.25
CONTROL	33.26	32.01
CONTROL	36.25	30.41
CONTROL	32.01	32.33
CONTROL	30.41	30.43
CONTROL	32.33	31.02
CONTROL	34.15	30.12
CONTROL	33.26	26.97
CONTROL	36.25	34.25
CONTROL	32.01	32.01
CONTROL	30.41	30.41
CONTROL	30.12	32.33
CONTROL	32.33	30.43
CONTROL	24.15	34.25
CONTROL	28.19	32.01
CONTROL	30.12	30.41

SHUTTLE RUN

GROUP	PRE	POST
NORMAL	18.42	13.02
NORMAL	23.45	20.17
NORMAL	21.23	18.36
NORMAL	17.26	15.3
NORMAL	18.42	16.32
NORMAL	23.45	22.47
NORMAL	21.23	19.56
NORMAL	18.36	16.25
NORMAL	18.42	17.26
NORMAL	16.35	18.42
NORMAL	20.45	19.56
NORMAL	18.36	16.25
NORMAL	18	18.36
NORMAL	20.45	18.42
NORMAL	18.36	16.35
NORMAL	23.45	19.56
NORMAL	21.23	16.25
NORMAL	18.42	18.36
NORMAL	23.45	20.17
NORMAL	21.23	18.36
NORMAL	17.26	15.3
NORMAL	18.42	19.56
NORMAL	23.45	16.25
NORMAL	21.23	18.36
NORMAL	18.36	20.17
NORMAL	17.26	18.36
NORMAL	18.42	17.26
NORMAL	23.45	18.42
NORMAL	21.23	20.17
NORMAL	18.36	18.36
NORMAL	17.24	17.26
NORMAL	18.14	18.42
NORMAL	23.45	20.17
NORMAL	21.23	18.36
NORMAL	20.16	18.47
INTE DIS	21.23	18.47
INTE DIS	20.11	23.45
INTE DIS	26.15	21.23
INTE DIS	27.12	20.16
INTE DIS	23.45	21.23
INTE DIS	18.14	20.11
INTE DIS	23.45	20.17

INTE DIS	21.23	23.45
INTE DIS	20.16	21.23
INTE DIS	20.14	20.16
INTE DIS	18.36	23.45
INTE DIS	22.14	21.23
INTE DIS	18.42	20.16
INTE DIS	20.17	21.23
INTE DIS	18.36	20.16
INTE DIS	18.47	20.14
INTE DIS	18.16	18.36
INTE DIS	23.45	18.42
INTE DIS	21.23	21.23
INTE DIS	23.24	20.16
INTE DIS	18.42	19.56
INTE DIS	19.59	16.25
INTE DIS	20.17	18.36
INTE DIS	18.36	17.26
INTE DIS	18.47	18.42
INTE DIS	18.17	23.45
INTE DIS	23.45	21.23
INTE DIS	21.23	18.36
INTE DIS	17.26	19.56
INTE DIS	18.42	16.25
INTE DIS	21.25	18.36
INTE DIS	22.36	17.26
INTE DIS	24.15	18.42
INTE DIS	20.17	23.45
INTE DIS	16.45	21.23
CONTROL	23.45	16.03
CONTROL	21.23	17.26
CONTROL	18.36	18.42
CONTROL	18.42	23.45
CONTROL	16.35	21.23
CONTROL	20.45	18.36
CONTROL	18.36	19.56
CONTROL	18	16.25
CONTROL	20.45	18.36
CONTROL	18.36	17.26
CONTROL	23.45	18.42
CONTROL	21.23	23.45
CONTROL	18.36	20.45
CONTROL	18.47	18.36
CONTROL	18.16	23.45
CONTROL	23.45	21.23

CONTROL	21.23	18.36
CONTROL	23.24	18.36
CONTROL	18.42	18.47
CONTROL	19.59	18.16
CONTROL	20.17	23.45
CONTROL	18.36	21.23
CONTROL	18.47	23.24
CONTROL	18.17	18.42
CONTROL	23.45	19.59
CONTROL	21.23	20.17
CONTROL	17.26	18.36
CONTROL	18.42	22.36
CONTROL	21.25	24.25
CONTROL	22.23	23.45
CONTROL	21.45	21.23
CONTROL	20.45	17.26
CONTROL	19.6	18.42
CONTROL	19.52	21.25
CONTROL	20.15	23.15

STANDING BROAD JUMP

GROUP	PRE	POST
NORMAL	1.55	1.87
NORMAL	1.46	1.89
NORMAL	0.99	1.96
NORMAL	1.23	1.89
NORMAL	1.24	1.88
NORMAL	1.65	1.86
NORMAL	1.88	1.85
NORMAL	1.74	1.89
NORMAL	1.72	1.96
NORMAL	1.69	1.85
NORMAL	1.88	1.89
NORMAL	1.44	1.96
NORMAL	1.42	1.89
NORMAL	1.8	1.55
NORMAL	1.53	1.88
NORMAL	1.62	1.89
NORMAL	1.86	1.55
NORMAL	0.99	1.88
NORMAL	1.23	1.95
NORMAL	1.89	1.86
NORMAL	1.88	1.96
NORMAL	1.86	1.79
NORMAL	1.85	1.73
NORMAL	1.8	1.88
NORMAL	1.53	1.82
NORMAL	1.52	1.36
NORMAL	1.94	1.98
NORMAL	1.36	1.84
NORMAL	1.52	1.97
NORMAL	1.94	1.36
NORMAL	1.36	1.98
NORMAL	1.52	1.84
NORMAL	1.24	1.97
NORMAL	1.36	1.86
NORMAL	1.84	1.96
INTE DIS	1.53	0.99
INTE DIS	1.62	1.23
INTE DIS	1.86	1.24
INTE DIS	0.99	1.65
INTE DIS	1.23	1.36
INTE DIS	0.78	1.36
INTE DIS	1.12	1.24

INTE DIS	1.36	1.36
INTE DIS	1.24	0.78
INTE DIS	1.36	1.36
INTE DIS	0.78	1.52
INTE DIS	0.96	1.24
INTE DIS	1.14	1.36
INTE DIS	1.19	1.53
INTE DIS	1.45	1.62
INTE DIS	0.99	1.86
INTE DIS	1.23	0.99
INTE DIS	1.24	1.23
INTE DIS	1.65	1.52
INTE DIS	1.88	1.24
INTE DIS	1.74	1.36
INTE DIS	1.86	1.53
INTE DIS	0.99	1.62
INTE DIS	1.23	1.23
INTE DIS	1.36	1.52
INTE DIS	1.53	1.94
INTE DIS	1.62	1.36
INTE DIS	0.89	1.52
INTE DIS	1.24	1.52
INTE DIS	1.58	1.94
INTE DIS	1.78	1.36
INTE DIS	1.42	1.52
INTE DIS	1.8	1.53
INTE DIS	1.53	1.62
INTE DIS	1.62	1.7
CONTROL	1.99	1.52
CONTROL	1.7	1.94
CONTROL	1.8	1.36
CONTROL	1.42	1.53
CONTROL	1.8	1.62
CONTROL	1.53	1.86
CONTROL	1.62	1.89
CONTROL	1.86	1.55
CONTROL	1.85	1.88
CONTROL	1.89	1.95
CONTROL	1.96	1.53
CONTROL	1.89	1.62
CONTROL	1.55	1.85
CONTROL	1.88	1.89
CONTROL	1.53	1.96
CONTROL	1.62	1.52

CONTROL	1.86	1.94
CONTROL	1.96	1.36
CONTROL	1.79	1.95
CONTROL	1.73	1.88
CONTROL	1.97	1.86
CONTROL	1.91	1.36
CONTROL	1.9	1.98
CONTROL	1.82	1.84
CONTROL	1.36	1.52
CONTROL	1.98	1.94
CONTROL	1.84	1.36
CONTROL	1.97	1.95
CONTROL	1.9	1.88
CONTROL	1.52	1.86
CONTROL	1.94	1.36
CONTROL	1.36	1.98
CONTROL	1.95	1.84
CONTROL	1.88	1.97
CONTROL	1.86	1.79

50 YARD DASH

GROUP	PRE	POST
NORMAL	8.71	7.3
NORMAL	7.24	8.1
NORMAL	8.26	9.23
NORMAL	9.1	7.23
NORMAL	8.26	7.24
NORMAL	7.26	8.26
NORMAL	12.26	11.15
NORMAL	12.26	10.23
NORMAL	8.26	9.25
NORMAL	7.26	8.26
NORMAL	12.26	11.12
NORMAL	11.15	9.45
NORMAL	12.26	10.6
NORMAL	10.23	8.71
NORMAL	9.25	7.24
NORMAL	8.26	8.26
NORMAL	7.26	9.1
NORMAL	12.26	11.12
NORMAL	11.12	9.25
NORMAL	12.26	11.15
NORMAL	10.23	9.49
NORMAL	9.25	7.48
NORMAL	8.26	8.59
NORMAL	13.45	11.15
NORMAL	12.13	8.09
NORMAL	10.17	9.3
NORMAL	12.26	11.12
NORMAL	12.58	11.56
NORMAL	10.46	8.06
NORMAL	13.47	11.45
NORMAL	11.1	7.12
NORMAL	10.6	8.26
NORMAL	10.14	9.25
NORMAL	8.71	7.1
NORMAL	7.24	7.32
INTE DIS	14.8	12.26
INTE DIS	13.45	12.1
INTE DIS	12.13	11.7
INTE DIS	12.26	11.6
INTE DIS	12.58	11.54
INTE DIS	14.12	14.15
INTE DIS	15.23	15.05

INTE DIS	13.45	12.56
INTE DIS	12.13	12.5
INTE DIS	15.1	15
INTE DIS	14.32	14.2
INTE DIS	12.26	11.56
INTE DIS	16.15	16.5
INTE DIS	14.7	14.3
INTE DIS	16.56	15.26
INTE DIS	12.58	11.56
INTE DIS	14.12	13.1
INTE DIS	15.23	15.6
INTE DIS	13.45	13.35
INTE DIS	12.26	12.3
INTE DIS	16.15	15.56
INTE DIS	14.7	14.6
INTE DIS	16.56	16.6
INTE DIS	12.58	12.6
INTE DIS	15.4	15.2
INTE DIS	16.78	16.1
INTE DIS	14.11	14
INTE DIS	13.16	13.1
INTE DIS	15.7	10.46
INTE DIS	16.15	13.47
INTE DIS	14.7	11.1
INTE DIS	16.56	11.15
INTE DIS	12.58	10.23
INTE DIS	12.58	11.15
INTE DIS	15.4	10.23
CONTROL	10.46	11.15
CONTROL	13.47	10.23
CONTROL	11.1	9.25
CONTROL	10.6	8.26
CONTROL	9.25	11.12
CONTROL	8.26	9.25
CONTROL	11.12	8.26
CONTROL	11.15	11.12
CONTROL	10.23	12.26
CONTROL	9.25	8.12
CONTROL	8.26	9.14
CONTROL	11.12	12.13
CONTROL	12.26	10.17
CONTROL	11.12	12.26
CONTROL	12.26	12.58
CONTROL	10.23	10.46

CONTROL	9.25	12.26
CONTROL	8.26	12.58
CONTROL	13.45	10.46
CONTROL	12.13	10.12
CONTROL	10.17	9.25
CONTROL	12.26	8.26
CONTROL	11.12	11.12
CONTROL	11.56	12.26
CONTROL	8.06	12.26
CONTROL	11.45	12.58
CONTROL	11.12	10.46
CONTROL	12.26	11.12
CONTROL	10.23	12.26
CONTROL	9.25	10.23
CONTROL	8.26	10.23
CONTROL	8.26	12.26
CONTROL	11.12	12.58
CONTROL	11.12	10.46
CONTROL	12.26	11.12

600 YARD RUN

GROUP	PRE	POST
NORMAL	9.78	8.32
NORMAL	8.76	7.5
NORMAL	7.43	7.45
NORMAL	9.78	7.43
NORMAL	10.26	7.28
NORMAL	11.25	7.4
NORMAL	9.12	7.12
NORMAL	10.78	9.25
NORMAL	9.36	8.55
NORMAL	8.45	7.4
NORMAL	9.12	7.28
NORMAL	9.25	7.4
NORMAL	8.55	9.12
NORMAL	9.78	7.5
NORMAL	10.26	7.28
NORMAL	11.25	7.4
NORMAL	9.12	9.12
NORMAL	9.25	8.32
NORMAL	8.55	7.5
NORMAL	9.78	7.45
NORMAL	10.26	7.43
NORMAL	11.25	9.25
NORMAL	11.25	7.23
NORMAL	9.12	7.5
NORMAL	10.78	7.28
NORMAL	9.36	7.4
NORMAL	8.45	9.36
NORMAL	10.44	9.25
NORMAL	9.1	8.55
NORMAL	11.23	9.36
NORMAL	12.52	8.45
NORMAL	13.1	7.1
NORMAL	9.12	7.28
NORMAL	10.78	7.4
NORMAL	9.36	7.45
INTE DIS	10.44	9.25
INTE DIS	13.25	9.36
INTE DIS	14.52	9.25
INTE DIS	16.59	8.55
INTE DIS	9.36	9.36
INTE DIS	8.45	8.45
INTE DIS	10.44	9.25

INTE DIS	9.1	8.55
INTE DIS	11.23	9.78
INTE DIS	12.52	8.55
INTE DIS	9.25	9.36
INTE DIS	8.55	8.45
INTE DIS	9.78	9.25
INTE DIS	10.26	9.25
INTE DIS	11.25	8.55
INTE DIS	9.12	9.36
INTE DIS	9.25	8.45
INTE DIS	8.55	9.12
INTE DIS	9.36	7.5
INTE DIS	8.45	7.45
INTE DIS	9.12	7.43
INTE DIS	9.25	9.25
INTE DIS	8.55	7.23
INTE DIS	9.78	7.5
INTE DIS	9.12	7.28
INTE DIS	9.25	7.4
INTE DIS	8.55	9.36
INTE DIS	9.36	9.25
INTE DIS	8.45	8.55
INTE DIS	9.12	9.36
INTE DIS	9.25	8.45
INTE DIS	8.55	7.1
INTE DIS	9.78	7.28
INTE DIS	10.12	7.4
INTE DIS	8.6	7.45
CONTROL	16.59	10.44
CONTROL	9.36	9.1
CONTROL	8.45	11.6
CONTROL	10.44	9.25
CONTROL	9.1	10.2
CONTROL	9.12	8.45
CONTROL	9.25	10.44
CONTROL	8.55	9.1
CONTROL	8.55	8.55
CONTROL	9.78	9.36
CONTROL	9.12	8.45
CONTROL	9.25	10.44
CONTROL	8.55	10.25
CONTROL	9.25	13.1
CONTROL	8.55	9.4
CONTROL	10.44	10.44

CONTROL	10.25	9.36
CONTROL	11.3	10.44
CONTROL	9.4	8.5
CONTROL	10.44	10.25
CONTROL	9.36	11.3
CONTROL	8.45	9.4
CONTROL	10.44	10.44
CONTROL	9.1	9.36
CONTROL	11.23	9.12
CONTROL	12.52	9.12
CONTROL	13.1	9.25
CONTROL	9.12	9.12
CONTROL	9.12	9.25
CONTROL	9.25	8.55
CONTROL	8.55	9.12
CONTROL	11.23	10.12
CONTROL	9.12	11.2
CONTROL	9.25	9.36
CONTROL	8.55	8.45

ZIG ZAG

GROUP	PRE	POST
NORMAL	31.52	26.45
NORMAL	32.01	24.15
NORMAL	30.41	28.19
NORMAL	32.33	26.3
NORMAL	34.12	30.12
NORMAL	35	32.33
NORMAL	36.12	24.15
NORMAL	28.05	28.19
NORMAL	26.15	26.3
NORMAL	32.01	28.19
NORMAL	30.41	26.3
NORMAL	32.33	28.19
NORMAL	34.15	26.3
NORMAL	24.15	28.05
NORMAL	28.19	26.15
NORMAL	26.3	28.19
NORMAL	28.19	26.3
NORMAL	26.3	28.05
NORMAL	28.05	26.15
NORMAL	26.15	24.15
NORMAL	28.19	28.19
NORMAL	30.43	26.3
NORMAL	31.02	30.12
NORMAL	30.12	24.56
NORMAL	26.97	25.36
NORMAL	34.25	23.15
NORMAL	32.01	24.25
NORMAL	30.41	28.4
NORMAL	32.33	30.12
NORMAL	30.43	24.56
NORMAL	34.25	25.36
NORMAL	32.01	23.15
NORMAL	34.25	24.25
NORMAL	32.01	28.4
NORMAL	30.41	24.16
INTE DIS	36.25	33.45
INTE DIS	36.25	32.12
INTE DIS	37.15	30.41
INTE DIS	34.52	32.33
INTE DIS	36.25	34.15
INTE DIS	34.12	32.16
INTE DIS	35	30.43

INTE DIS	36.12	31.02
INTE DIS	34.25	36.02
INTE DIS	32.01	34.25
INTE DIS	30.41	32.01
INTE DIS	32.33	30.41
INTE DIS	34.15	32.33
INTE DIS	36.25	30.43
INTE DIS	36.25	34.25
INTE DIS	34.12	32.01
INTE DIS	35	30.41
INTE DIS	36.12	30.43
INTE DIS	34.25	31.02
INTE DIS	32.01	36.02
INTE DIS	32.01	34.25
INTE DIS	30.41	32.01
INTE DIS	32.33	30.41
INTE DIS	34.15	32.33
INTE DIS	36.25	32.01
INTE DIS	36.25	30.41
INTE DIS	32.12	32.33
INTE DIS	30.41	30.43
INTE DIS	32.33	34.25
INTE DIS	34.15	32.01
INTE DIS	32.16	30.41
INTE DIS	30.43	30.43
INTE DIS	31.02	31.02
INTE DIS	36.25	36.02
INTE DIS	32.12	32.12
CONTROL	32.42	32.25
CONTROL	30.12	32.33
CONTROL	26.97	34.12
CONTROL	34.25	35
CONTROL	32.01	36.12
CONTROL	30.41	28.05
CONTROL	32.33	26.15
CONTROL	30.43	32.01
CONTROL	32.01	30.41
CONTROL	30.41	32.33
CONTROL	32.33	34.15
CONTROL	34.15	24.15
CONTROL	24.15	28.19
CONTROL	28.19	26.3
CONTROL	26.3	28.19
CONTROL	30.12	26.3

CONTROL	26.97	28.05
CONTROL	34.25	34.25
CONTROL	32.01	32.01
CONTROL	30.41	30.41
CONTROL	32.33	32.33
CONTROL	30.43	30.43
CONTROL	31.02	32.01
CONTROL	30.12	30.41
CONTROL	26.97	32.33
CONTROL	32.01	34.15
CONTROL	30.41	24.15
CONTROL	32.33	28.19
CONTROL	30.43	26.3
CONTROL	31.02	30.12
CONTROL	30.12	26.97
CONTROL	26.97	34.25
CONTROL	30.15	32.01
CONTROL	31.22	30.41
CONTROL	30	32.33

MEDICINE BALL PUT

GROUP	PRE	POST
NORMAL	6.45	6.61
NORMAL	6.54	7.8
NORMAL	6.25	7.89
NORMAL	6.54	7.36
NORMAL	6.25	7.37
NORMAL	7.37	6.25
NORMAL	6	6.5
NORMAL	6.5	7.15
NORMAL	7.11	7.26
NORMAL	6.54	7.26
NORMAL	6.25	7.26
NORMAL	7.37	6.25
NORMAL	6.25	7.25
NORMAL	6.5	7.5
NORMAL	7.15	8.7
NORMAL	7.26	7.37
NORMAL	6.53	7.45
NORMAL	6.41	8.7
NORMAL	5.45	7.37
NORMAL	6.54	7.37
NORMAL	6.25	7.11
NORMAL	7.37	7.12
NORMAL	6.54	7.45
NORMAL	6.25	7.26
NORMAL	7.37	6.25
NORMAL	7.11	7.25
NORMAL	7.12	7.5
NORMAL	7.45	8.7
NORMAL	6.53	7.37
NORMAL	6.41	7.11
NORMAL	5.45	7.12
NORMAL	6.54	7.45
NORMAL	6.25	8.7
NORMAL	7.37	7.37
NORMAL	6.1	7.11
INTE DIS	6.65	7.15
INTE DIS	5.26	5.45
INTE DIS	6.5	6.54
INTE DIS	6.45	6.25
INTE DIS	6.36	7.37
INTE DIS	6.54	6.1
INTE DIS	6.25	6.65

INTE DIS	7.37	5.26
INTE DIS	7.11	6.45
INTE DIS	7.12	6.36
INTE DIS	7.45	6.54
INTE DIS	6.53	6.25
INTE DIS	6.41	7.37
INTE DIS	5.45	7.11
INTE DIS	6.54	7.12
INTE DIS	6.25	6.54
INTE DIS	7.37	6.25
INTE DIS	6.1	7.37
INTE DIS	6.65	6.1
INTE DIS	5.45	6.65
INTE DIS	6.54	5.45
INTE DIS	6.25	6.54
INTE DIS	7.37	6.25
INTE DIS	6.25	6.54
INTE DIS	7.37	6.25
INTE DIS	6.1	7.37
INTE DIS	6.65	7.11
INTE DIS	5.45	7.12
INTE DIS	6.65	6.54
INTE DIS	5.45	5.45
INTE DIS	6.54	6.54
INTE DIS	6.25	6.25
INTE DIS	7.37	7.37
INTE DIS	6.25	6.1
INTE DIS	5.46	6.65
CONTROL	7.52	5.26
CONTROL	7.37	7.26
CONTROL	7.25	8.25
CONTROL	7.5	7.37
CONTROL	6.5	7.45
CONTROL	7.32	6.5
CONTROL	7.32	8.02
CONTROL	7.35	7.26
CONTROL	7.45	7.26
CONTROL	7.15	8.25
CONTROL	7.26	7.37
CONTROL	7.37	7.45
CONTROL	7.45	7.32
CONTROL	7.5	7.32
CONTROL	6.5	7.35
CONTROL	8.02	7.45

CONTROL	7.26	7.15
CONTROL	8.25	7.26
CONTROL	7.37	7.37
CONTROL	7.45	7.45
CONTROL	7.5	7.5
CONTROL	6.5	6.5
CONTROL	8.02	8.02
CONTROL	7.26	7.26
CONTROL	8.25	8.25
CONTROL	7.5	7.37
CONTROL	6.5	7.45
CONTROL	8.02	7.5
CONTROL	7.26	6.5
CONTROL	8.25	8.02
CONTROL	7.5	7.26
CONTROL	6.5	8.25
CONTROL	8.02	7.26
CONTROL	7.26	8.25
CONTROL	8.25	7.37

EMOTIONAL STABILITY

GROUP	PRE	POST
NORMAL	8.25	7.25
NORMAL	8.26	6.45
NORMAL	9.65	8.55
NORMAL	7.45	8.3
NORMAL	7.43	7.6
NORMAL	9.12	8.62
NORMAL	9.74	7.5
NORMAL	9.26	7.45
NORMAL	7.28	7.43
NORMAL	9.56	7.28
NORMAL	7.43	7.4
NORMAL	9.12	8.62
NORMAL	9.25	8.3
NORMAL	8.55	7.8
NORMAL	8.3	7.89
NORMAL	7.8	7.36
NORMAL	9.78	8.62
NORMAL	8.76	7.28
NORMAL	7.43	9.56
NORMAL	9.12	7.43
NORMAL	9.25	9.12
NORMAL	8.55	7.43
NORMAL	8.3	8.55
NORMAL	7.8	8.3
NORMAL	9.78	7.6
NORMAL	8.76	8.62
NORMAL	8.25	7.5
NORMAL	8.26	7.45
NORMAL	9.65	7.6
NORMAL	7.45	8.1
NORMAL	7.43	8.6
NORMAL	9.12	7.45
NORMAL	9.74	7.43
NORMAL	8.26	9.12
NORMAL	9.65	7.3
INTE DIS	9.25	8.55
INTE DIS	9.12	8.76
INTE DIS	9.25	8.25
INTE DIS	8.55	8.26
INTE DIS	9.78	9.65
INTE DIS	8.26	7.45
INTE DIS	9.65	7.43

INTE DIS	9.25	9.12
INTE DIS	9.12	9.74
INTE DIS	9.25	8.26
INTE DIS	7.28	9.65
INTE DIS	9.56	8.55
INTE DIS	7.43	9.78
INTE DIS	9.12	8.55
INTE DIS	10.78	8.55
INTE DIS	9.36	8.41
INTE DIS	8.45	8.76
INTE DIS	9.12	8.25
INTE DIS	9.25	8.26
INTE DIS	8.55	9.65
INTE DIS	9.78	7.45
INTE DIS	8.55	7.43
INTE DIS	8.55	9.56
INTE DIS	8.41	7.43
INTE DIS	7.43	9.12
INTE DIS	9.12	7.43
INTE DIS	9.25	8.55
INTE DIS	9.12	8.3
INTE DIS	9.25	7.6
INTE DIS	8.55	8.76
INTE DIS	9.78	7.43
INTE DIS	8.76	9.12
INTE DIS	8.3	9.12
INTE DIS	10.26	9.25
INTE DIS	11.25	8.55
CONTROL	8.3	7.8
CONTROL	8.76	7.4
CONTROL	7.43	8.62
CONTROL	9.12	8.3
CONTROL	9.25	7.8
CONTROL	8.55	7.89
CONTROL	8.3	7.36
CONTROL	7.8	8.62
CONTROL	9.78	7.28
CONTROL	8.76	9.56
CONTROL	8.3	7.43
CONTROL	7.8	9.12
CONTROL	7.43	7.43
CONTROL	9.12	8.55
CONTROL	7.3	8.3
CONTROL	8.55	7.6

CONTROL	8.55	8.76
CONTROL	8.41	7.43
CONTROL	7.43	9.12
CONTROL	9.12	9.25
CONTROL	9.25	8.55
CONTROL	8.6	8.3
CONTROL	7.45	7.8
CONTROL	7.43	9.78
CONTROL	9.12	8.76
CONTROL	7.3	8.76
CONTROL	8.55	7.43
CONTROL	8.55	9.12
CONTROL	8.1	9.25
CONTROL	8.6	8.55
CONTROL	7.45	8.3
CONTROL	7.43	7.8
CONTROL	9.12	9.78
CONTROL	9.12	8.76
CONTROL	9.25	8.1