PSYCHO-PHYSICAL EMPOWERMENT OF WOMEN THROUGH SELF DEFENSE ACTIVITIES- AN EXPERIMENTAL STUDY

A

Thesis

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DECLARATION

I declare that the thesis entitled **"Psycho-physical Empowerment of Women through Self Defense Activities- An Experimental Study"** is exclusively my own and there are no collaborators. It has been investigated under the guidance of Capt. Dr. Satpal Kaur, Associate Professor, Shaheed Kanshi Ram College of Physical Education, Bhagoo Majra, Kharar. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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2. She has pursued the prescribed course of research.
3. The work is original contribution of the candidate.
4. The candidate has incorporated all the suggestions made by the Department Doctoral Board during Pre-Submission Seminar held on **March 30, 2019.**

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ABSTRACT

All women face the fear of rape, eve teasing and harassment which force them to decide a course of action to defend themselves in threatening situations. Residing in a society of violence against female, make the women ready to employ many defensive, tactics to avoid the same. Such type of tactics may be self-protecting but it does a little to compete female's horror of violence (Burrow2012).Sexual harassment and assault can cause women to disconnect from their own bodies, disrupting vertical integration of the mind and body that makes up a healthy individual. Repetitive and power movements which are proven to raise testosterone and lower cortisol levels, changing brain chemistry resulting in improvement in confidence, strengthened self-perception, and more chances for success. Social psychologist and Harvard professor Amy Cuddy also remark that women feel inveterately less powerful than men and this can be treated through a change in their body language during a social threat, which leads to a concrete behavioral outcome that will make them to feel stronger. It was said by Swami Vivekanand, "the best measuring device to assess the improvement of a country is its behavior of its females". So, woman has to be awaken from the deep sleep and be known to the inner strengths they have. With the objective to make the female comprehend their internal powers and significance in the social order and it is necessary to take some preventive measures through empowerment.

From the last few years, the idea of empowerment has come out as the major epitome of improvement across various political spheres (Zens, 2007). The conceptual evaluation of literature defines enablement as the revealer of both diversity and commonality. There are many definitions that emphasize on mainly achieving power and dominance decisions and resources which decide the quality living. The word empowerment is differently meant in various social orders and political spheres, and is not translated with ease one the all languages. The observations of terms related with the word empowerment include self-power, rheostat, self-dependence, choices, life of self-respect, capacity to fight for rights, freedom and decision making etc.

The study was aimed at psychological and physical empowerment of women through self-defense activities. Thus, considering the aim of the present study different objective were set up.

The objectives of the study were

- To find out the effect of self-defense activities on selected psychological parameters (self-efficacy, Emotional intelligence, and aggression of women.
- To ascertain the effect of self-defense activities on selected physical and motor fitness components (explosive strength, Flexibility, balance, reaction time (audio and visual) and agility of women.

An experimental method with two group randomized pre and post design was adopted for carrying out for empowering women psychological and physically by means of selected self-defense activities. For appropriate representation of the population, purposive random sampling technique was used, which is a probabilistic sampling technique. The age ranging from 13 to 17 for adolescents and 18 -25 years for adults was delimitated. Adolescent subjects were taken from Layalpur Sanatan Dharam Senior Secondary School, Bassi Daulat Khan, Hoshiarpur, Punjab (n=60, treatment group 30 and control group 30) and adult subjects was from Hindu Kanya College, Kapurthala, Punjab (n=70, treatment group 35 and control group 35) with purposive random sampling technique. Pretest of adolescents and adult group was conducted on Self-efficacy, Emotional Intelligence, Aggression, Explosive Strength, Balance, Flexibility, Reaction time (audio - visual), and Agility variables. Further groups were divided in to two groups i.e. treatment and controlled randomly. The treatment groups had gone through one-hour self-defense programme for twelve weeks whereas controlled group was not given any of the training. After providing intervention posttest of all the groups were taken. Collected date was examined for analysis by using descriptive analysis and paired t' test with the help of statistical package (SPSS) and level of significance was set at 0.05.

12 weeks self-defense activities have proved to be a useful mean to improve self-efficacy, and emotional intelligence positively whereas findings showed improvement of

aggression too which might be attributed to their adolescent period and intervening variables.

The self-defense programme has also proved to be beneficial for improving explosive strength, balance, flexibility, reaction time, and agility of Adolescent Female whereas it has been failed to improve visual reaction time significantly.

The self-defense activities have had a significant effect upon psychological variable of self-efficacy, emotional intelligence and aggression. Self-efficacy and emotional intelligence increased due to effect of self-defense programme whereas aggression decreased which is a good sign and an evidence that self-defense activities can prove to be a useful mean.

The physical fitness variables like explosive strength, balance, flexibility, audio and visual reaction time and agility were improved significantly with 12 weeks programme of self-defense activities.

The findings of this research can be considered by the government while framing various policies for empowering women. In this concern, self-defense training programme can be provided to uplift women in society. This study can be very useful in preventing women from risk of rape and will give them power to stay safe with their head held high. The study has highlighted the significance of 'self-defense activities to curb the weakness of women. Therefore, it can be applied in schools as well as at the college level. Findings can be used while framing curriculum and policies for schools and colleges.

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Dated:- Signature of the Researcher

TABLE OF CONTENTS

Declaration		**i**
Certificate		**ii**
Acknowledgment		**iii-iv**
Abstract		**v-vii**
Table of Contents		**vii-x**
List of Table		**xi-xiii**
List of Figures		**xiv-xv**
List of Appendices		**xvi**

Sr. No.	Chapter	Page No.
Chapter I	**Introduction**	**1-36**
	1.1. Theoretical Introduction of the Problem	1-30
	1.2. Significance of the Study	30-32
	1.3. Statement of the Problem	32
	1.4. Objectives of the Study	32
	1.5. Hypothesis	32-34
	1.6. Delimitations	34
	1.7. Limitations	35
	1.8. Operational Definitions	35-36
Chapter II	**Review of Related Literature**	**37-67**
	2.1. Reviews related to Psychological variables	37-50
	2.2. Review related to Physical and Motor Fitness Variables	50-66
Chapter III	**Research Methodology**	**68-85**
	3.1. Design of the study	68
	3.2. Sample	68
	3.3. Method of Sampling	68
	3.4. Selection of Variables	69
	3.5. Collection of Data	69
	3.6. Tools Used	70-72
	3.6.1. Instruments to measure	71
	3.6.2. Criterion Measures	71
	3.6.3. Instrument Reliability	71
	3.6.4. Tester's Competency	72
	3.7. Administration of tests	72-76
	3.7.1. Instruments to measure Psychological Parameters	72-74

	3.7.2. Instruments to measure Physical Parameter	74-76
	3.8. Description of the Self-Defense Training programme	76
	3.9. Statistical Analysis Approach	85
Chapter IV	**Results and Discussion**	**86-165**
	4.1. Analysis of Data	86
	4.2. Findings	86
	4.3. Result and Interpretation Pertaining to Adolescents Group of female	88-114
	4.4. Result and Interpretation Pertaining to Adult Group of Women	115-141
	4.5. Discussion of the Results	142-165
Chapter V	**Summary and Conclusions**	**166-181**
	5.1. Objectives of the Study	166
	5.2. Hypotheses	166-167
	5.3. Design of the Study	167
	5.4. Sample	168
	5.5. Sampling Method	168
	5.6. Selection of Variables	168
	5.7. Collection of Data	168-169
	5.8. Tools	169-170
	5.8.1. Instruments to measure Psychological Parameters	169
	5.8.2. Instruments to measure Physical Fitness Parameters	169
	5.8.3. Description of the Self-Defense Programme	170
	5.9. Statistical Analysis	170
	5.10. Results and Findings Pertaining to Adolescents	170-174
	5.11. Results and Findings Pertaining to Adult women	174-179
	5.12. Conclusions	179
	5.13. Suggestions	180
	5.14. Limitations	180
	5.15. Application/Recommendation of the Research	181
	Bibliography	**xvi-xxxv**
	Appendices	

TABLE OF CONTENTS

Declaration		**i**
Certificate		**ii**
Acknowledgment		**iii-iv**
Abstract		**v-vii**
Table of Contents		**vii-x**
List of Table		**xi-xiii**
List of Figures		**xiv-xv**
List of Appendices		**xvi**

Sr. No.	Chapter	Page No.
Chapter I	**Introduction**	**1-36**
	1.1. Theoretical Introduction of the Problem	1-30
	1.2. Significance of the Study	30-32
	1.3. Statement of the Problem	32
	1.4. Objectives of the Study	32
	1.5. Hypothesis	32-34
	1.6. Delimitations	34
	1.7. Limitations	35
	1.8. Operational Definitions	35-36
Chapter II	**Review of Related Literature**	**37-67**
	2.1. Reviews related to Psychological variables	37-50
	2.2. Review related to Physical and Motor Fitness Variables	50-66
Chapter III	**Research Methodology**	**68-85**
	3.1. Design of the study	68
	3.2. Sample	68
	3.3. Method of Sampling	68
	3.4. Selection of Variables	69
	3.5. Collection of Data	69
	3.6. Tools Used	70-72
	3.6.1. Instruments to measure	71
	3.6.2. Criterion Measures	71
	3.6.3. Instrument Reliability	71
	3.6.4. Tester's Competency	72
	3.7. Administration of tests	72-76
	3.7.1. Instruments to measure Psychological Parameters	72-74

	3.7.2. Instruments to measure Physical Parameter	74-76
	3.8. Description of the Self-Defense Training programme	76
	3.9. Statistical Analysis Approach	85
Chapter IV	**Results and Discussion**	**86-165**
	4.1. Analysis of Data	86
	4.2. Findings	86
	4.3. Result and Interpretation Pertaining to Adolescents Group of female	88-114
	4.4. Result and Interpretation Pertaining to Adult Group of Women	115-141
	4.5. Discussion of the Results	142-165
Chapter V	**Summary and Conclusions**	**166-181**
	5.1. Objectives of the Study	166
	5.2. Hypotheses	166-167
	5.3. Design of the Study	167
	5.4. Sample	168
	5.5. Sampling Method	168
	5.6. Selection of Variables	168
	5.7. Collection of Data	168-169
	5.8. Tools	169-170
	5.8.1. Instruments to measure Psychological Parameters	169
	5.8.2. Instruments to measure Physical Fitness Parameters	169
	5.8.3. Description of the Self-Defense Programme	170
	5.9. Statistical Analysis	170
	5.10. Results and Findings Pertaining to Adolescents	170-174
	5.11. Results and Findings Pertaining to Adult women	174-179
	5.12. Conclusions	179
	5.13. Suggestions	180
	5.14. Limitations	180
	5.15. Application/Recommendation of the Research	181
	Bibliography	**xvi-xxxv**
	Appendices	

LIST OF TABLES

Table No.	Title	Page No.
3.1	Sample Size During Pre And Post-Test	70
3.2	Description of The Self-Defense Training Programme	77-84
4.1	Descriptive Statistics of Demographic Information of Treatment and Control Group Of Adult Women	86-87
4.2	Descriptive Statistics of Demographic Information of Treatment and Control Group of Adult Women	87
4.3.1.	Mean and Standard Deviation Measuring Self-Efficacy of Treatment and Control Group During Pre And Post Test	88
4.3.1.1	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Self-Efficacy of Adolescent Female	89
4.3.2.	Mean and Standard Deviation Measuring Emotional Intelligence of Treatment Group During Pre and Post Test	91
4.3.2.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Emotional Intelligence of Adolescent Female	92
4.3.3.	Mean and Standard Deviation Measuring Aggression of Treatment and Control Group During Pre and Post Test	94
4.3.3.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Aggression of Adolescent Female	95
4.3.4.	Mean and Standard Deviation Measuring Explosive Strength of Treatment and Control Group During Pre and Post Test	97
4.3.4.1	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Explosive Strength of Adolescent Female	98
4.3.5.	Mean and Standard Deviation Measuring Flexibility of Treatment and Control Group During Pre and Post Test	100

4.3.5.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Flexibility of Adolescent Female	101
4.3.6.	Mean and Standard Deviation Measuring Balance of Treatment and Control Group During Pre and Post Test	103
4.3.6.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Balance of Adolescent Female	104
4.3.7.	Mean and Standard Deviation Measuring Audio Reaction Time of Treatment and Control Group During Pre and Post Test	106
4.3.7.1.	Comparison of Differences Between the Pre And Post-Tests Paired Means of Treatment Group and Control Group Measuring Audio Reaction Time of Adolescent Female	107
4.3.8.	Mean and Standard Deviation Measuring Visual Reaction Time of Treatment Group During Pre and Post Test	109
4.3.8.1.	Comparison of Differences Between the Pre And Post-Tests Paired Means of Treatment Group and Control Group Measuring Visual Reaction Time of Adolescent Female	110
4.3.9.	Mean and Standard Deviation Measuring Agility of Treatment Group During Pre and Post Test	112
4.3.9.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Agility of Adolescent Female	113
4.4.1.	Mean and Standard Deviation Measuring Self-Efficacy of Treatment and Control Group During Pre And Post Test	115
4.4.1.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Self-Efficacy of Adult Women	116
4.4.2.	Mean and Standard Deviation Measuring Emotional Intelligence of Treatment Group During Pre and Post Test	118
4.4.2.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Emotional Intelligence of Adult Women	119
4.4.3.	Mean and Standard Deviation Measuring Aggression of Treatment and Control Group During Pre and Post Test	121

4.4.3.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Aggression of Adult Women	122
4.4.4.	Mean and Standard Deviation Measuring Explosive Strength of Treatment and Control Group During Pre and Post Test	124
4.4.4.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Explosive Strength of Adult Women	125
4.4.5.	Mean and Standard Deviation Measuring Flexibility of Treatment and Control Group During Pre and Post Test	127
4.4.5.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Flexibility of Adult Women	128
4.4.6.	Mean and Standard Deviation Measuring Balance of Treatment and Control Group During Pre and Post Test	130
4.4.6.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Balance of Adult Women	131
4.4.7.	Mean and Standard Deviation Measuring Audio Reaction Time of Treatment and Control Group During Pre and Post Test	133
4.4.7.1.	Comparison of Differences Between the Pre And Post-Tests Paired Means of Treatment Group and Control Group Measuring Audio Reaction Time of Adult Women	134
4.4.8.	Mean and Standard Deviation Measuring Visual Reaction Time of Treatment Group During Pre and Post Test	136
4.4.8.1.	Comparison of Differences Between the Pre And Post-Tests Paired Means of Treatment Group and Control Group Measuring Visual Reaction Time of Adult Women	137
4.4.9.	Mean and Standard Deviation Measuring Agility of Treatment Group During Pre and Post Test	139
4.4.9.1.	Comparison of Differences Between the Pre and Post-Tests Paired Means of Treatment Group and Control Group Measuring Agility of Adult Women	140

LIST OF FIGURES

Figure No.	Title	Page No.
3.1	Description of Sample Distribution	70
4.3.1.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Self-Efficacy of Adolescent Female	90
4.3.2.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Emotional Intelligence of Adolescent Female	93
4.3.3.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Aggression of Adolescent Female	96
4.3.4.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Explosive Strength of Adolescent Female	99
4.3.5.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Flexibility of Adolescent Female	102
4.3.6.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Balance of Adolescent Female	105
4.3.7.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Audio Reaction Time of Adolescent Female	108
4.3.8.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Visual Reaction Time of Adolescent Female	111
4.3.9.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Agility of Adolescent Female	114

4.4.1.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Self-Efficacy of Adult Women	117
4.4.2.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Emotional Intelligence of Adult Women	120
4.4.3.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Aggression of Adult Women	123
4.4.4.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Explosive Strength of Adult Women	126
4.4.5.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Flexibility of Adult Women	129
4.4.6.	Graphical Presentation of Pre and Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Balance of Adult Women	132
4.4.7.	Graphical Presentation of Pre And Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Audio Reaction Time of Adult Women	135
4.4.8.	Graphical Presentation of Pre And Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Visual Reaction Time of Adult Women	138
4.4.9.	Graphical Presentation of Pre And Post-Test Means of Treatment Group and Control Group Measuring Effect of Self-Defense Activities on Agility of Adult Women	141

LIST OF APPENDICES

	Title
APPENDICES	Self-Efficacy Scale
	Emotional Intelligence scale
	Aggression Scale

CHAPTER-I

INTRODUCTION

1.1 Theoretical Orientation of the Problem

"*When Women moves forward, the family moves, the village moves and the nation moves"*. (Nehru, 1951).

The proof is evident that equality for female implies advance for all, which underscored that enabled female lift up entire society. Countries which have more sexual orientation balance have better financial development; harmony understandings that incorporate women are increasingly tough; and parliaments with more female institute more enactment on key social issues like great wellbeing, great instruction and hostile to separation.

In many countries of the world and even in India, there is a vide gap between the idealized concept and reality in which women find themselves. They face discrimination starting from womb to the tomb. Women act as mothers, sisters, daughters and wives. The role is played with high responsibilities in raising a healthful society, but hypocrisy of our well known modernized society, is such that on the one side it is taught to us that "paradise lies beneath the feet of mother and is worshipped in the temples as a 'Devi" (Mother Goddess) but still she is living in chains and is camouflaged by nasty deeds, bad thoughts and immorality (Kaur, 1999). Still she is treated like sex toys and kept like slaves. The baby born with female sex were used to bury while alive and now with the advancement in science, she is aborted in the mother's womb as the society has a conception that females will bring curse for the family as well as society. The male and female ratio in India is escalating *i.e.*, 1000:933. Nearly 1.5 lac females are victimized by many criminal activities yearly. It is estimated that near about 5 Crore women confront mental and physical violence (Smile Foundation India, 2010a). This is a well-known fact that physically, physiologically and psychologically women are not equal to men. Women are not much different on some of the aspects like the way they eat, drink, work,

sleeping, rest and speak. She is considered only to do household chores, like child bear and rear. She must also be given opportunity to try themselves in building up of a good healthy society after all she is the basic unit of society. A decent sound society doesn't naturally develop without anyone else help and stands firm yet it should be risen and for its rise female assume a crucial job and are the pivot parts who assumes real job in building and maintaining a healthy and powerful society.

Since 1960s and 1970s movements for women and studies on women have been raised in the whole world. These movements in fact lead to reconsideration of the status of female in society. Nowadays women have an active role to play in modern society. Many of them are opting the professions like as medicine, sports, journalism, engineering and law. They are the part of large population of workers in multinational companies and factories. Furthermore, they are working on the leading positions which were usually held by the men. Even there are some businesses which are completely run by women. Though there is change in the attitudes of India also took place. It has the eminence of having larger number of female professionals. If it is compared with USA, India is number one in having female doctors, female scientists and female educationists (Smile Foundation India, 2010b). India take pride of the Kalpana Chawla, P.T. Usha, Sania Mirza, Sayna Nehwal, Priyanaka Chopra, Sushmita Sen, Aishwarya Rai, Merry Com and Kiran Bedi, to name a few (Kaur, 1999). Due to globalized, progression and other financial powers have led to some reprieve to an expansive extent of the substantial populace. In any case, still there are a couple of regions on which female strengthening in this nation has need everywhere (Chopra, 2013a). Individuals may discuss about empowering female in India and will examine our great heritage and open-minded social orders of the history when treatment with female was equivalent as male. Yet, truly in the advanced India, the female has been taken and treated as second-grade subject, it doesn't make a difference whatever is said or done by its purported political pioneers (Chopra, 2013b).

It is tough to comprehend how the cultural exchange of societies is moving so slowly when it is found that there are so many areas across the nation and world where dangerous rituals of the antiquated world simultaneously exist with the new alterations. It

is not the matter of astonishment to anybody who is living or has resided in India. The logical inconsistency of the social request can undoubtedly be delineated by an old Bollywood tune “It happens just in India!” without a doubt in India the incredibly fierce and merciless assaults are going on even in states that are being led by female Chief Ministers (Chopra, 2013c). The condition of women is not that good. A woman of every age and stage is suffering from one or another kind of assault. They suffer from many kind of social pressures in comparison to males. That is becomes the reason of female feticide. Woman is not safe at home, not outside the home and not even at work place and even the marital rape is there where they are forced to do sex without their consent. Now a days women are reporting cases but the conviction rate is still not convincing as it is 1:4, it means only 1 out of 4 is convicted so far as per the data presented by National Crime Records Bureau. Unfair treatment towards the female gender is least worried about matter in India. India had been ranked fourth most unsafe country in the world for ferocity against females. There are many examples of viciousness against women which have surprising and forbidding assortment to it with acid attacks, molestation, domestic violence, rape, sexual harassment etc. In her own society and even in her home she is not safe. She goes out of the home and is totally ignorant about the ill treatment/harassment is going to be faced by her. The story does not stop here, it continues from one generation to another; sparing little possibility of taking greater leap for Indian society. It’s factual that unfair treatment towards female gender and behavior of society leads to psycho somatic harassment and violence with heights of brutality had never been scarce in women’s bucket of grieves. The evils of society start a beginning in the womb with female feticides, infanticides, sexual harassments, domestic violence, rapes, dowry related tortures and acid attacks etc. lasts at her gloom only at the grave (Smile Foundation India, 2010c). The crime against female goes against the direction of female empowerment in India. As reported through published material on all types the wrongdoings against female in India by the National Crime Records Bureau (NCRB) portrays some stunning figures :-

S. No.	Crime Head	Year 2006	Year 2007	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012	% Vari-ation in 2012 over 2011
1	Rape (Sec. 376 IPC)	19,348	20,737	21,467	21,397	22,172	24,206	24,923	3.0
2	Kidnapping & Abduction (Sec. 363 to 373 IPC)	17,414	20,416	22,939	25,741	29,795	35,565	38,262	7.6
3	Dowry Death (Sec 302/304 IPC)	7,618	8,093	8,172	8,383	8,391	8,618	8,233	-4.5
4	Torture (Sec. 498-A IPC)	63,128	75,930	81,344	89,546	94,041	99,135	1,06,527	7.5
5	Molestation (Sec. 354 IPC)	36,617	38,734	40,413	38,711	40,613	42,968	45,351	5.5
6	Sexual Harassment (Sec. 509 IPC)	9,966	10,950	12,214	11,009	9,961	8,570	9,173	7.0

S. No.	Crime Head	Year 2006	Year 2007	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012	% Vari-ation in 2012 over 2011
7	Importation of Girls (Sec. 366-B IPC)	67	61	67	48	36	80	59	-26.3
8	Sati Prevention Act, 1987	0	0	1	0	0	1	0	-100.0
9	Immoral Traffic (Prevention) Act, 1956	4,541	3,568	2,659	2,474	2,499	2,435	2,563	5.3
10	Indecent Representation of women (Prohibition) Act, 1986	1,562	1,200	1,025	845	895	453	141	-68.9
11	Dowry Prohibition Act, 1961	4,504	5,623	5,555	5,650	5,182	6,619	9,038	36.5
	Total	**1,64,765**	**1,85,312**	**1,95,856**	**2,03,804**	**2,13,585**	**2,28,650**	**2,44,270**	**6.8**

2,44,270 events altogether (referred in Indian penal code and Special Local Law) were accounted for in the country amid the year 2012 and an augmentation was recorded in contrast with insights of year 2011 for example 2,28,650 and the expansion was of 6.4% amid the year 2012. These crimes have persistently expanded amid 2008 – 2012 when the insights were 1,95,856 cases in 2008, in 2009 absolute 2,03,804 cases were recorded, 2,13,585 cases in the year 2010, in 2011 all out number of cases were 2,28,650 and 2,44,270 cases in the year 2012. West Bengal with 7.5% offer of nation's female populace has represented almost 12.7% of all out crime against female by revealing 30,942 cases amid the year 2012. But in the year 2013 total number of rape cases were reported to be 33707 out of total number of crimes 309546 against women, and in year 2014 statistics of NCRB shows 36735 rape cases out of 337922 cases against women. In the year 2015 it was 34651 out of 327394 registered crimes against women. In year 2016 the data was at alarming stage as it was 38947 rape cases out of 338954 cases of crime against women which depicts a huge increment in crime against women and rapes of women as well. Assault in India has been portrayed as a standout amongst India's most regular crimes against female and by the UN's human-rights chief as a "National issue" (Kumar 1993).

As indicated by authority sources it is clear that assault cases in India have multiplied between 1990-2008. As per the National Crime Records Bureau 24206 assault cases were enrolled in India in 2011. It is estimated that an Indian woman is raped every 22 minutes and it affects women of all classes (Ayed, 2013). Almost 106 women are raped a day in India (Chauhan, 2017) which further can be estimated to a rape every 13 minutes in India. Many of the women are suffering with sexual assault not only in India but all over the world. Although most governments have publicly condemned violence against women but they have failed to fully address the issue of violence and meet women’s need of safety (Peterson, 1979).It’s not only in India but its worldwide issue. The occurrence of sexual violence is a common problem among USA also (Russell & Bolen, 2000a). It is projected that many women are becoming victims of sexual assault were college going and between the ages of 15 and 24, (Koss, Gidycz, & Wisniewski, 1987). It is reported

by Koss et al., (1987) that approximately half percentage of college going females are the victimized by sexual abuse or rape and about 80% of them would have some type of sexual harassment on a date. In their routine life, about 25% of female are the victims or can be the prey of some sort of assault or sexual harassment (Russell & Bolen, 2000b). It is unfortunate that sexual assault has become very usual activity with worst physical and mental health results for its sufferers.

All women face the fear of rape, eve teasing and harassment which force them to decide a course of action to defend themselves in threatening situations. Dwelling in a social circle of savagery against female, makes female prepared to utilize numerous cautious strategies to keep away from the equivalent. Such sort of strategies might act naturally ensuring yet it completes a little to contend female's repulsiveness of brutality (Burrow, 2012).

Sexual harassment and assault can be the reason for women to feel a disconnection from their own physiques, troublesome vertical amalgamation of the brain and body that prepare a healthy person. Repetitive and powerful movements which confirmed to raise testosterone and lower cortisol levels, by changing brain chemistry resulted in improvement in confidence, strengthened self-perception, and more opportunities for success. Social psychologist and Harvard professor Cuddy, A (2010) also remark that women feel inveterately less powerful than men and this can be treated through a change in their body language during a social threat, which leads to a concrete behavioral outcome that will make them to feel stronger. It was said by Swami Vivekanand, “the best measuring device to assess an improvement of a country is its behavior of its females.” People used to respect and worship women as Devi or goddess like Gauri, Lakshmi, Maha Kali, and Durga in ancient times in India. They were the personification of power. So, woman has to be awakened from the deep sleep and be known to the inner strengths they have. With the objective to make the female comprehend their internal powers and significance in the social order and it is necessary to take some preventive measures through empowerment.

From the last few years, the idea of empowerment has come out as the major epitome of improvement across various political spheres (Zens, 2007). The conceptual evaluation of literature defines enablement as the revealer of both diversity and commonality. There are many definitions that emphasize on mainly achieving power and dominance decisions and resources which decide the quality living. The word empowerment is differently meant in various social orders and political spheres, and is not translated with ease one the all languages. The observations of terms related with the word empowerment include self-power, rheostat, self-dependence, choices, life of self-respect, capacity to fight for rights, freedom and decision making etc.

Empowerment has its intrinsic and instrumental value. It may be economical, social, or political. It may be employed to describe relations inside the families or between the general populations. The term empowerment is defined as a procedure with which individuals, institutions, organizations, and societies can attain control over issues which are of apprehension to them (Rappaport, 1987). According to The Oxford English Dictionary (n.d) empowerment means to give (somebody) the specialist or capacity to accomplish something. Here power is given for a reason intends to empower some to demonstration. As indicated by SDC (2004) strengthening has been characterized as a method of freedom in which the denied are offered forces to utilize their rights, to accomplish access to assets and for dynamic support in the public arena and settling on choices of their own. It acts to enable the burdened in enhancing their self-esteem, self-acknowledgment, self-viability and ability to look at shackles or issues and give answers. In this manner the term empowerment is intended to be the upgrade of opportunity of decision and activity, predominance and order on the properties and derivations. It can likewise be characterized as the demonstration of empowering individuals to follow up on their own so as to achieve their self-characterized objectives (Zimmerman, 1995). It needs be referenced here that; strengthening could be in numerous aspects, running from financial, political, social to physical and mental.

Simply the meaning of the word empowerment is about creating an ambience where independent decisions can be made by women on their own as well as emerge as equal to

men in social order and nation. They want a fair behavior as equal to men and it should be in such a way that if a woman advances to the peak of her field, it should not be seen with raised eyebrows, it should be considered as a common occurrence. It is possible due to channelized path for women empowerment. As a result, it is not really a matter of surprise that empowerment of women in India is a hotly and on a large scale examined point with no genuine arrangement approaching in the skyline but to doubly try harder and keep on focusing on the wellsprings of all the savagery and malevolence towards female. There needs to be a profound transformation in the mentalities of the individuals in the nation. It is not only the females themselves but the males too have to be awakened and should move towards equality and equity in the world. This is grasped before as opposed to later, to our own advantage. Swami Vivekananda (1896) once stated "emerge away and stop not until the point is accomplished." India should along these lines be thrown into the skyline of strengthening of female and revel in magnificence. It is trusted that there is a long way to cross and one day it would be finished.

Oladipo (2009) quoted in his article that empowerment is tied in with building up the capacity to access and control assets. It is the development of the ability to make and influence decisions on various issues and levels (domestic, social, national and global etc.), to ensure the best possible portrayal of one's thoughts (as getting a "voice") and it empowers to pick up discernment of controlling belief systems and of the idea of control that one is responsible for finding oneself, and finally to improve the capability to decide one's choices freely. It ensures the development of the power to have confidence in self-efficacy. The procedure of empowerment is both individual and group, since it is through inclusion in gatherings that individuals should regularly start to build up their mindfulness and the capacity to compose to make a move and realize change. The procedure of strengthening includes not only an enhancement in physical and social conditions, yet in addition rise to investment in basic leadership process, power over assets and instruments for supporting these increases (Sahay, 1998). The procedure of female empowerment starts in the psyche, by changing female's cognizance. Strengthening is a functioning procedure involving several dimensions, which strengthen

female to recognize their full character and potential in all circles of life. Strength isn't an item to be executed nor would it be gifted as aid. Power must be acquired and once added; it should be drove out, maintained and protected. Female' empowerment can be seen as continuums of a few bury related and commonly fortifying segments (Doss, 2012).

Though there are many empowerment programs for women those focused on their economic, social and political empowerment but the truth even so has been that the actual empowerment is still to be attained. There is no such program of empowerment which focuses on psychological as well as physical empowerment of women. In accordance with the physical feminism gender theory there is a lot of difference between power allocation among male and female (Zimmerman, 1987) that leave female prone to violence. These inadequate power distribution views of society that females' body are feeble and they are not able of defending themselves than males. Therefore, females tend to stay in fear and give an account of more frightened by crime than males (Wilcox, Jordan and Pitchard, 2006). While there is insufficient power connection among guys and females that are dug in social requests and affirmed through male viciousness reports against female around the world, and the solution to this problem is still not clear. Women are still unequal in the domain of psycho-physical power and that is the main reason of the male violence and dominance against women. This disparity owes to the absence of mental and physical strengthening. At the point when female will be mentally engaged, there will be an enhancement in demeanor, confidence, self-viability and conduct which can lead them to mental prosperity and spare them from brutality and predators. One potential avenue for change or empowerment is self-defense. Self-defense activities are planned to improve one's own protection awareness, make females to guard Self-protection exercises are wanted to enhance one's very own assurance mindfulness, influence females to watch themselves, to advance self-control and peacefulness and makes the brain and body solid.

Mental strengthening has been characterized as one's psychological conditions qualified by a vibe of assumed control, capability, and objective disguise. Mental strengthening is

intended to be as a multi-faceted develop mirroring the distinctive elements of being mentally empowered, and is considered as a constructive incorporation of views of individual control, a practical method to manage life, and an essential understanding of the sociological and political condition, which is established immovably in a social activity system that incorporates network change, limit building, and collectivity (Oladipo, 2009b).

To begin with Self guard and self-security are an essential need for the female and battling back isn't only the need of hour, yet it is an ethical right and obligation in light of the fact that ensuring one's self is vital. Female are frequently encouraged to utilize non-forceful methodologies against rape (Storaska, 1975). Research recommends this is misinformation. As indicated by one investigation (Zoucha-Jensen and Coyne, 1993), the female when connected non-forceful verbal procedures like weeping or begging the attacker, got assaulted approximately 96% of the time. In a parallel report, female who did not do anything to protect themselves got assaulted approximately 93% of the time. Mighty verbal obstruction, comprising shouting and yelling were observed to be more successful than non-commanding verbal opposition. All these were the methodologies which were connected with culmination of assault from 44% to half (Quinsey and Upfold, 1985f). One of the intriguing examinations in light of the fact that the information was gathered from attackers in mental emergency clinics, and the outcome was discovered that appearing powerful verbal procedures can be compelling even against the fiercely crazy. Running worked far and away superior to verbal instructions guaranteed by the specialists who depended on assault emergency focus records (Zoucha-Jensen and Coyne, 1993) 55% assault fulfillment rate against the individuals who endeavored to escape were reported. Bart and O'Brien (1985) stated that 15% of female who tried to ran from the place were raped likewise connected with a lower rate of damage (Kleck and Sayles, 1990; Siegel et al., 1989; Ullman and Knight, 1991).

Powerful somatic confrontation was a convincing framework. Fulfillment of strike rate decreased from 45% and 14% when the assailant's undertaking was met with harsh physical power (Siegel et al., 1989; Kleck and Sayles, 1990; Ullman and Knight, Zoucha-

Jensen and Coyne, 1993). Quinsey and Upfold, (1985a) in like manner induced that physical impediment also emitted an impression of being progressively fruitful when trap occurred outside and strikes were more dominant than pushing or wrestling.

Self-defense preparing plans female both rationally and physically for expected attacks (Follansbee, 1982) by giving the opportunity to adapt, more perception, and to have a routine with regards to physical, social, and subjective aptitudes using pretends, discourse, and reenactment works out (Cummings, 1992; Peretz, 1991; Thompson, 1991). Result showed that female' Self-defense strategies were intended to be reasonable, basic, and compelling in some regular circumstances, so every one of the females can acquire these without considering of their ordered age, their size, prior encounters, and physically and physiologically qualitative (Burton, 1999; McDaniel, 1993; Quinsey, Marion, Upfold, and Popple, 1986; Rentschler, 1999; Schuiteman, 1990a). Self-defense exercises frequently incorporate figuring out how to make off the cuff weapons (e.g., brush, keys) and how to utilize body parts (e.g., clench hands, elbows, knees) against the wrong people especially powerless body targets (e.g., eyes, jaw, nose, crotch) in different circumstances (Cummings, 1992; Schuiteman, 1990b).

Self-defense gives individual power and aptitudes that may help counteract future brutality and misuse. Self-defense preparing gives female access to another arrangement of emphatic and aggressive reactions to different types of terrorizing and risk along the continuum of sexual brutality (Kelly, 1988; McCaughey, 1997). Self-defense preparing programs presented to the nation over for as long as 25 years to help with limiting the potential outcomes of an ambush. Such courses are running with hope to figure out how to abstain from turning into an injured individual by ways to get out or ensuring one's body (McGrath and Tegner, 1977). Self-defense programs center specifically around expanding a lady's readiness for a rough risk. Self-preservation preparing isn't, in any case, some portion of standard assault aversion programs however is educated for a charge in many networks. As indicated by reviews, and agreeing with the discoveries of Ullman (1997b), there has been no trial of the impacts of self-preservation preparing on

female' probability of being assaulted. Leland-Young and Nelson, (1987) saw that female prepared in Self-defense are multiple times more averse to be assaulted.

Training typically fuses knowledge of how to utilize different parts of body weapons, things except body as armed tool, the human voice as a tool to maintain a strategic distance from a strike to happen. However, the kinds of self-defense defense is vary from program to program in the zones training model, duration of activity, difficulties of activities, condition of preparing, mentor's involvement, and period distributed to rehearse the different skills (Cummings, 1992).

Female are some of the time encouraged to abstain from battling back it as can expand their danger of extreme wounds. There issues with this contention connected with this statement are; First, results demonstrate that physical obstruction does not make further damage the person who stand up to. While a connection amongst resistance and greater rate of physical damage was found at generally 3%. (Kleck and Sayles, 1990; Marchbanks et al., 1990; Siegel et al., 1989), Quinsey and Upfold, (1985c) concluded that the occasions observed to have damage more often than not before beginning an opposition. It was additionally seen that resisters were not harmed on the grounds that they had gone for opposition: rather, wounds propelled them to battle back. The underlying injury and compelling confrontation did not build the resister's danger of more harm. Next, this contention disregards that non-resisting female are basically prone to endure the passionate and physical damage of the assault. At the point when resisters got injured, the results were less than a accomplished rape or assault (Kleck and Sayles, 1990; Marchbanks et al., 1990; Siegel et al., 1989; Ullman and Knight, 1991). Out of 40% of female who resist powerfully only 7% got a normal injury like a tooth break. Female who fought back locate no evident shot of extra damage, however they gain a 55-86% possibility of staying away from assault inside and out (Kleck and Sayles, 1990). At the point when obstruction does not save one from assault it can in any case yield imperative advantages. Female who don't avoid may not be consider as thoughtfully nor her injury be treated as genuinely as the individuals who fought back, while their

harmlessness conduct might be comprehended by attackers as quiet submission (Galliano, Noble, Travis and Puechl, 1993).

Female who utilized blades or weapons in self-preservation were assaulted were only 1%. Guarded utilization of fringed or shot weaponries decreased the frequency of damage to measurable unimportance (Kleck and Sayles, 1990). While a large number of these systems were fruitful, a blend of abilities like hollering and battling or shouting, battling and escaping expanded the odds of maintaining a strategic distance from assault (Bart and O'Brien, 1985). Investigator referred to have utilized a broad area of research strategies and methods. It recommends that the impact of mighty opposition against assault has a powerful outcome. There are numerous advantages of Self-defense preparing related with psychology. From a healthy perspective, the perfectly clear advantage of self-preservation preparing is that it shows young female and female to utilize the best way to lessen their danger of assault and circumvent dangers to their physical and mental prosperity (Haydon and Anger, 1999).

Pava, Bateman and Glascock (1991) had an all-encompassing investigation of the impacts of Self-defense guidance on female with disability related to vision. These females had an all the more genuine impression of dangers of crimes, had enhanced physical aptitudes in zones, for example, parity and quality and were found to feel less powerless in the wake of preparing. Harding and Nelson (1985) announced that Self-defense understudies turned out to be substantially surer, progressively explanatory, and increasingly mindful. Results demonstrated that that solid counsel and abilities lead to strengthening of understudies, while obscure admonitions and dependence on evasion lead to a condition of dread. As fear progresses against functioning and solid way of life, any movement, for example, Self-defense preparing which diminishes dread and anxiety is valuable (Henderson and Bialeschki, 1993).

Self-defense activities are a mixture of martial art trainings. An audit from hand to hand fighting and mental wellbeing reasons that expanded decisiveness, more certainty, higher confidence, legitimate unwinding and fixation just as diminished tension all outcome

from self-defense training. Diminished animosity and better social dexterity were clear in two investigations of pre-adult men which were presented to generally short-term trainings of guidance (Fuller, 1988). Maybe the most intriguing and delighting results, were accounted for by Boudreau, Folman and Konzak (1995). Summaries of the guardians of more than 270 kids tried out karate classes in Toronto recommended that while young men got critical advantages from preparing guidance, the effective and positive outcomes delighted in by young female surpassed their parental and claim desire. Results uncovered a general enhancement in fearlessness and self-control. Female subjects were made to experience physical and scholarly enhancement at double time that of young men. While some examination recommends that self-preservation classes increment self-viability convictions (Weitlauf, Cervone, Smith, and Wright, 2001; Weitlauf, Smith, Cervone, 2000), investigate has been led that straightforwardly surveys the adequacy of a Self-defense class in diminishing the finish of future rapes. Individuals' decisions of their capacities impact their idea designs and passionate responses amid expectant and genuine exchanges with condition.

Investigator has discovered that the individuals who think themselves ineffective in adapting to natural requests harp on their own insufficiencies and envision potential challenges as more considerable than they truly seem to be (Bandura, 1982). Self efficacy is the conviction that one can effectively perform in a given circumstance Bandura, (1986); Gist, (1987). Higher self-viability implies higher industriousness. People make and create self-view of ability that pay instrumental to the objectives they seek after and to the control they can practice over the earth. These discernments influence their inspiration and execution; individuals with high efficacy ascribe inability to exertion and with low self-efficacy credit inability to capacity (Pethe and Dhar, 1999). People impact their own conduct through self-administrative component (Bandura, 1986). These components incorporate self-perception, self-assessment, and self-response. Self-assessment includes sub procedure of self-idea, confidence and qualities.

People are probably going to take part in assignments in which they feel they have the ability to and they can certainly win over, otherwise maintain a strategic distance from

those in which they could not be. A solid evaluation of the relationship among self-efficacy, result desire and information and expertise are critical. A result desire is the degree to which individuals trust their activity will prompt certain result. An efficacy desire is the degree to which they trust they can realize specific result. It is contrast between trusting that something can occur and trusting that one can get it going (Bandura, 1977). Self-efficacy is an amazing determiner of the decisions that singular make than either foreseen results or the genuine abilities and learning applicable to the conduct being referred to. The learning and aptitudes even the results individuals have encountered and expected might be forerunners to and makers of their self-efficacy convictions; however, the separating impact of the made conviction eventually screens, reclassifies, twists or reshapes ensuing endeavors and another data (Pajaras, 2002). Also, self-conviction help decide how much exertion individuals will develop in a movement and to what extent they will continue on. The higher the feeling of self-efficacy, the more noteworthy is the exertion consumption and industriousness. This makes a sort of inevitable outcome, as the steadiness related with high adequacy is probably going to prompt expanded execution, which raises the feeling of viability though the giving in related with viability restricts the potential for enhancing self-recognitions. The impact of viability varies for people learning an errand and for those performing built up aptitudes.

Self-convictions influence human thoughts by impacting a person's idea design and passionate responses, people with lower efficacy level may trust that things are difficult than they certainly are, a thing, which drives the pressure and limited vision of how best to approach an issue. High viability, then again, may impart the sentiments of certainty and peacefulness in drawing nearer of troublesome assignment. Nisbett and Ross (1980) presented that individual consider profoundly held convictions important and even wire them with their own personality, so it could be exceptionally hard to isolate self from conviction. The last manner by which self-conviction influences conduct is by perceiving people as makers as opposed to just foretellers of conduct. In short fearlessness breeds achievement that breeds all the more difficult execution; self-question breeds reluctance, imperfection and inability to attempt.

Self-efficacy can be worked through four kinds of intrusions (a) Performance Accomplishments (b) Vicarious Experience (c) Verbal Persuasion and (d) Emotional arousal (Frustenburg and Rounds, 1995). Among these, Performance accomplishments, or actual mastery experience, are the most influential source. Success tends to rise self-suffices and failure tends to lower it. Past experience of success is attributed to non-changing features such as own capability on manageable level of task difficulty. Another source of efficacy is vicarious experience, or exposure to the efforts, success and failure of other. Only seeing performance done by other can increase self-efficacy in many cases. Verbal or serial influence is the demonstration of verbally strengthening and empowering a person.

Self-efficacy hypothesis inspects the manner by which individuals endeavor to practice authority over how they live their lives and gives a theoretical system that tends to the inceptions of adequacy convictions, the structure and capacity of the convictions, and the procedures through which these convictions produce impacts (Bandura, 1997). A person's conviction about their own abilities and individual viability influences the exercises in which they lock in. On the off chance that an individual feel helpless to deal with a particular circumstance, the person is probably going to then dodge the experience; subsequently, endeavors are regularly made to apply power and impact over explicit circles of life trying to look after control (Bandura, 1997). Perceived self-viability alludes to the confidence in own capabilities to sort out and present the blueprints, required to generate given achievements (Bandura, 1997). Self-efficacy is the confidence in one's adequacy in performing explicit assignments. As per Bandura (1997) an entrenched indicator of individuals' conduct and execution is their self-efficacy desire, characterized as convictions in a single’s capacities to arrange and execute game-plan. Self-efficacy has been recognized as a key indicator of numerous parts of social decisions including dimension of yearning, undertaking diligence, positive or negative mindsets and believing and genuine errand execution (Bandura1997; Gist 1992). Absence of self-efficacy is far simpler for ladies on account of negative presumptions about ladies’ capacity. It’s not generally heard that a female who feels that she can guard her against

man, especially one who is bigger and more grounded than her. Such reactions assume that ladies are not so much fit for protecting themselves on account of physical shortcoming (Burrow 2012). This reasoning mirrors a sexual orientation polarity assuming quality is a space of men and shortcoming the area of ladies. In all probability this has to do with the point that effective self-protection depends on receiving explicit mindfulness and capacities that have less to do with beast quality and more to do with finessing specific strategies (Angelman et al. 2009)

Suitable dimensions of fearlessness may likewise prompt expanded exertion in the quest for triumph. At the point when individuals feel certain, they have confidence in themselves and don't stop or surrender amid an occasion when they get drained; moreover, sure individuals will advance more exertion since they realize they will be effective (Weinberg and Gould, 1999). Emotions have basic job in human life. Anger, scorn, dread, nervousness, being happy and so on are a piece of feelings and emotions which human feel involvement in explicit conditions. Passionate encounters give data about themselves and their condition to associate and alter with it (Kennedy, Eileen and Watson, 1999). Emotions make individual ready for fast responses and help him/her to show an appropriate change utilizing a reasonable psychological methodology and to show complex social practices (Salovey, 2002). Emotional intelligence is one of identity attributes (Mayer et al., 2000). Emotional intelligence decides human ability to know his inclination and others'. It propels, control feeling, and make relations. Specktor (1997) found that individual and authoritative variables impact work fulfillment (referred in Gelman, 2009, interpreted by Nasrin Parsa). Sykes (2002) extended Specktor’s model. He considered Emotional intelligence as close to home elements like sexual orientation, instruction, socioeconomics (referred to in Thomas and Tram, 2006). Identity and individual qualities, for example, passionate knowledge ought to be considered in word related inspiration. Enthusiastic insight counteracts and changes physical and clutters. Considering passionate insight impacts, it is fundamental to inspect it in family, school, association and other social dimensions. Passionate insight enhances emotional well-being. It makes discipline throughout everyday life. An individual with high emotional

intelligence encounters more positive occasions. He beats issues all the more effectively in work and life. They are all the more towards prosperity (Gelman, 2009, deciphered by Nasrin Parsa).

Passionate insight is a lot of aptitudes, gifts and non-psychological capacities which expands singular achievement capacity in opposing against stresses and ecological conditions (Bar – On, 1997). In this way, passionate knowledge is an imperative factor in progress and straightforwardly impacts factors identified with individual (e.g., self-adequacy and self-assurance) (Mayer and Salovey, 1997). Goleman (1995) expressed that people with higher passionate insight have greater capacity for sentiments, control of feelings, stirring and energizing, perceiving sentiments of others and managing relations with others. People with higher passionate knowledge can all the more likely modify with issues and difficulties of life and control their feelings successfully, so they increment and enhance self-adequacy in competitors (Goleman, 1998). Enthusiastic insight alludes to mental procedures engaged with acknowledgment, use, comprehension and the board of one's and other's passionate state required in tackling issues and managing conduct (Ciccrelli and Meyer, 2006). It is the capability to know, analyze and evaluate feelings of oneself and others to make use of it and take actions. (Mayer and Salovey, 1997; 1990). Martinez (1997-1998) clarifies emotional intelligence as non-intellectual aptitudes, dimensions and capabilities to make people solid against outer stress. Emotional intelligence incorporates interior and outer components. Interior components comprise of mindfulness, self-idea, independency, advancement limit and conclusiveness. Outer components comprise of relational connections, compassion and duty. Besides, passionate insight is singular limit with respect to tolerating truths, being adaptable, tackling enthusiastic issue, and adapting to pressure and driving forces. Emotional intelligence helps individuals to have effective profitability and great execution in collaborations and access objectives in participation. Passionate insight presents individual clever, quiet, deferential, supporter, audience, answerer, explainer, and accepter in various conditions. Passionate knowledge additionally incorporates

mindfulness, discretion, self-inspiration, sympathy, social aptitudes (Gelman, 2009, interpreted by Nasrin Parsa).

Emotional intelligence incorporates characteristics such as mindfulness, social deftness, and the capacity to defer satisfaction, to be idealistic even with misfortune, to channel forceful feelings and to indicate compassion towards others. Golman (1995) contended in his book that IQ contributes just 20% to accomplishment throughout everyday life, and different powers add to the rest. Singh and Narain (2014) referenced four primary measurements:- Understanding emotions a person's ability to distinguish feelings in one's and other's physical states, feeling and contemplations, Understanding motivation :- a high accomplishment drive together with the inclination to be hopeful and step up, Empathy :- capacity to recognize oneself rationally with others and to comprehend an individual or thing precisely and read how individuals feel, comprehend their points of view, create others, influence decent variety, read the mind-set of a gathering, perceive political substances and a propensity to appreciate the lives of others, Handling relations:- to almost certainly oversee and handle relations with others in a good way.

Emotions as a motivation towards a positive type of conduct assume a critical job in the conduct indications among individuals and it relies upon kind of data which they get from the social world. Animosity is utilized to portray furious vicious conduct with plan to hurt an individual or cause harm to property. Hostility conduct is likewise used to portray a solid and to some degree courageous exertion. In this manner an animosity salesman or competitor, for instance, might be seen as unpleasant or fierce by a few and roused and dedicated by others. Hostility for the most part characterized as all conduct expected to decimate someone else's property or to harm someone else, physically or mentally. It has been accounted for that activity needs to disregard standards and guidelines shared by society so as to be characterized as forceful. A few analyses (Tedeschi, Gaes, and Rivera, 1977) found that a hero who expects to cause damage is possibly made a decision by observers to be forceful when his conduct is additionally made a decision to be insect regulating; in other at the end of the day, when they are contradicting the social decides that apply to that specific circumstance. Judgment is similar when the activity or aim to

damage comprises a reaction to a past incitement. Assuming in any case, the activity surpasses the first deed the vengeance is seen as unreasonable and made a decision as improper and forceful.

There are two general classes of hostility. Which are unfriendly, full of feeling, or retaliatory hostility and instrumental, savage, or objective arranged animosity. Experimental research shows that there is a basic contrast between the two, both mentally and functions at physiology level. Some exploration shows that individuals with propensities toward full of feeling animosity have lower IQs than those with inclinations toward ruthless hostility. Crosswise over various human societies, men are almost are more expressive in showing aggressiveness than female to express animosity by methods for direct physical viciousness. Female are bound to rather express animosity through an assortment of circuitous or nonphysical methods. Hostility is plain, regularly unsafe, social connection with the goal of harming others violently. It is a basically common conduct among individuals. It might happen either in striking back or without provocation. In people, dissatisfaction because of blocked purposes can cause hatred. Accommodation might be seen as the inverse of forcefulness. In definitions generally utilized in the sociologies and conduct sciences, animosity is a reaction by a person that conveys something undesirable to someone else (Buss, 1961). A few definitions incorporate that the individual must mean to hurt someone else (Anderson and Bushman, 2002). Ruthless or protective conduct between individuals from various species may not be viewed as hostility in a similar sense.

Aggression can take an assortment of structures which might be communicated physically or imparted verbally or non-verbally: including against predator animosity, protective hostility (dread actuated), ruthless hostility, predominance animosity, between male hostility, occupant gatecrasher hostility, maternal hostility, species-explicit animosity, sex-related hostility, regional hostility, disconnection incited animosity, crabby hostility, and cerebrum incitement prompted animosity (nerve center). There are two subtypes of human animosity : (1) controlled-instrumental subtype (deliberate or objective situated); and (2) responsive hasty subtype (frequently evokes wild activities

that are improper or bothersome). Animosity contrasts from what is normally called emphatics, despite the fact that the terms are regularly utilized conversely among people (Akert et al. 2010). A standout amongst the most referred to contemplates in the zone of hostility and combative techniques were led by Trulson (1986). Toward the finish of the half year ponder, the understudies in the ‘customary judo’ assemble demonstrated a lessening in forcefulness and nervousness and an expansion in confidence. Conversely, the cutting-edge jujitsu gathers demonstrated an expanded inclination towards wrongdoing and an expansion in forcefulness. Understudies in the activity amass demonstrated an expansion in confidence, however no other huge changes.

It's clear from the investigations that self-defense training won't just furnish female with the physical survival procedures important to repulse assaults or ambush adequately and this kind of preparing will likewise counteract future viciousness by creating qualities, for example, decisiveness and certainty. It is obvious from concentrates that female who show such attributes are more averse to be deceived. Assaults counteractive action contemplates primarily have concentrated on the impacts of explicit opposition techniques that were utilized by female who were assaulted versus female who dodged assaults. There are blended outcomes and it appears that most of opposition procedure thinks about show that female who utilize progressively physical and verbal obstruction are bound to maintain a strategic distance from the culmination of an assault (Bart, 1981; Quinsey and Upfold, 1985d; Kleck and Sayles,1990; Ullman and Knight, 1993; Zoucha-Jensen and Coyne, 1993; Ullman and Knight, 1995; Ullman, 1997;). Aftereffects of a few examinations show that less intense kinds of opposition, for example, arguing, Requesting, crying, and thinking are either not connected or even are contrarily connected with assault exception (Ullman and Knight, 1993 and Zoucha Jensen and Coyne, 1993).

Notwithstanding analyzing whether physical opposition methodologies are compelling in getting away from an ambush it ought to be comprehended whether such strong strategies would yield increment the dimension of wounds. Discoveries show connection between the utilization of physical obstruction and encountering physical damage amid a rape.

There are numerous investigations which demonstrate that physical obstruction is related with expanded physical damage (Prentky, Burgess, and Carter, 1986; Bachman and Carmody, 1994). A considerable lot of the investigations found no connection amidst physically opposing with expanded physical damage (Kleck and Sayles, 1990; Quinsey and Upfold,1985e; Ullman and Knight, 1992; Ullman and Knight, 1995; Zoucha-Jensen and Coyne,1993). A few examinations don't consider the arrangement of occasions that lead to physical wounds, in this way different variables might be connected with dimension of physical damage looked by the unfortunate casualty other than the injured individual taking part in strong obstruction. For instance, Ullman and Knight (1992) have recommended that physical damage persevered by the unfortunate casualty is the after effect of the dimension of the assailant's brutality, with obstruction contributing little to expanded danger of damage. Successive connection between assailant's viciousness, opposition systems, and likelihood of assault consummation and ensuing physical damage in an example of 274 female who were either assaulted or stayed away from assault, was analyzed. It was discovered that in light of physical assaults the best techniques were compelling battling and shouting for diminishing the seriousness of a rape without expanding the dimension of physical damage demonstrating that strong obstruction procedures are successful in maintaining a strategic distance from assault without encountering increasingly injury.

Accomplishing self-defense instructional courses, results demonstrated an expansion in the accompanying spaces for female : decisiveness, confidence, self-control, participatory practices, self-efficacy, manliness properties like dynamic or autonomous, angers, ruling conduct, aptitudes of self-preservation, capability, and drop in nervousness, gloom, antagonistic vibe, fear, and evasion conduct (Cohn, Kidder, and Harvey, 1978; Cox, 1999; Donaldson, 1978; Finkenberg, 1990; Follansbee, 1982; Fraser and Russell, 2000; Frost, 1991; Gaddis, 1990; Guthrie, 1995; Henderson, 1997; Kidder, Boell, and Moyer, 1983; Lidsker, 1991; Mastria, 1975; McCaughey, 1997; McDaniel, 1993; S. O. Michener, 1996; T. D. Michener, 1997; Ozer and Bandura, 1990; Pava, Bateman, Appleton, and Glascock, 1991; Rowe, 1993; Sedlacek, 2000; Shim, 1998; Smith, 1983: Vaselakos,

1999; Weitlauf, Cervone, Smith, and Wright, 2001; Weitlauf, Smith, and Cervone, 2000; Wheeler, 1995).

Exercise gives a base to demonstrate limits and capacities and improves pointers such as self-assurance, confidence, amiability, and social consistency. These pointers support confidence. The inquiries demonstrate that there is a critical connection between confidence of athletic and non-athletic understudies. It implies that athletic understudies have more confidence than non-athletic understudies. Thus, exercise can be viable on positive confidence (Fox, 2000). It proved with facts that self-protecting activities does not even gives survival techniques for repelling attackers successfully and by fostering assertive and confident behavior, it also assists to prevent the further violence or attack. (Amick and Calhoun, 1987; Burnett, Templer, and Barker, 1985; Selkin, 1978), exhibiting those mental changes on account of investment in self-protection preparing might have significant ramifications for ensuing assault evasion. Expanding female's self-assuredness abilities is particularly vital in light of an ongoing forthcoming examination appearing low decisiveness explicit to circumstances with male was prescient of future exploitation in an example of 274 school ladies (Greene and Navarro, 1998). Enabling female by providing the devices to react to dangers may serve to both protect and free them (Ozer and Bandura, 1990). Empowering is a procedure of making aware and building potentials to lead for higher participation, to higher decisiveness-making powerful and controller, and to transform action. According to Pillai (1995) strengthening is a functioning with various dimensions procedure, which makes female powerful enough to understand their whole personality and potentials.

Self-protection centers around learning explicit systems of protecting themselves that are normally gotten from customary hand to hand fighting yet are arranged towards explicit kind of applying practically (Angleman et al. 2009). It has explicit arrangement of punches, strikes, kicks, takedowns, bolts, or holds and so forth. Numerous individuals see combative techniques as a type of physical movement and control for their youngsters just as an apparatus for self-protection. Self-preservation preparing normally fuses figuring out how to utilize body parts as weapons, different articles in the earth as

weapons, just as utilizing the voice as a weapon so as to maintain a strategic distance from an ambush. Be that as it may, the sorts of preparing fluctuate generally from program to program, explicitly in the regions of preparing model, length of preparing, profundity of preparing, preparing condition, involvement of mentor, and measure of time assigned to rehearse abilities (Cummings, 1992). Self-preservation preparing seems to expand fearlessness in self-assurance and self-viability. Learning self-preservation abilities cultivates certainty to identify peril and protect oneself against it (Ball and Martin 2011)

Self-defense training results in many ways which are as follows : - improvement in assert behavior, improvement in self-esteem, anxiousness comes down, improved self-regulation, improved self-efficacy, physically improved competencies in self-protection, less fear of walk alone, improvement in participation than to flee. (Brecklin, 2007)

Self-protection gives female individual power and abilities that may help avoid future brutality and misuse. Self-protection training gives female access to another arrangement of emphatic and confrontational reactions to different types of terrorizing and risk along the continuum of sexual brutality (Kelly, 1988; McCaughey, 1997). Self-protecting training programs have been offered the nation over for as long as 25 years to help with limiting the likelihood of strike. The objective of such a course is to figure out how to abstain from turning into an injured individual by ways to get out or securing one's body (McGrath and Tegner, 1977). Self-preservation programs center straightforwardly around expanding a lady's readiness for a vicious risk. Self-preservation preparing isn't, nonetheless, some portion of standard assault aversion programs yet is educated for a charge in many networks. As indicated by our writing look, and agreeing with the discoveries of Ullman (1997), there has been no trial of the impacts of self-preservation preparing on ladies' probability of being assaulted. Episodic proof proposes that ladies prepared in self-protection are multiple times less inclined to be assaulted (Leland-Young and Nelson, 1987). While some exploration recommends that self-preservation classes increment self-viability convictions (Weitlauf, Cervone, Smith, and Wright, 2001; Weitlauf, Smith, Cervone, 2000), minimal longitudinal research has been led that

straightforwardly surveys the adequacy of a self-protection class in diminishing the consummation of future rapes.

Physically fit individual assumes an essential job to have a healthy existence. Mathew's (1973) articulates that "a kid who is fit leads a healthy, strong wellbeing, good looking physical appearance, a tasteful dimension and enthusiastic alteration and a capability in fundamental abilities of development" appears to be able in this unique circumstance. All aspires for physical fitness. Wherever one stays, physical fitness is a must for being, free from ailment, adequate power, perseverance and different capacities to satisfy the needs of day by day living.

Explosive strength, a part of speed quality, alludes to quickening or rate of power advancement, or the psycho-somatic framework's capacity to create high activity speeds. Doing physical action regular adds to ideal wellbeing and personal satisfaction. Ways of life can be changed to enhance wellbeing and wellness through every day works out (Shahana et al., 2010). Physical fit individuals have a positive health and qualitative life. Everyone has some level of wellness. It might differ from one to another. Physical Fitness is a blend of different qualities. It is conceivable to accomplish any of the accompanying. Physical wellness viewpoints incorporate Cardio-vascular perseverance, Muscular continuance, quality, control, speed, spryness, balance, co-appointment, response time and stretch-ability. (Yobu, 2010).

Explosive strength is required for keeping a balanced position during attacking and defending the predator. For executing certain successful movements, explosive strength is very essential. During many fast-paced activities performance of body is enhanced by explosive strength. It can also reduce the risk of injury during the workouts or course of action that includes higher muscular outputs with fast speed. Explosive strength is an essential element for developing energy in a short span of time. The movements which are included in it are running, kicking, punching, throwing, and hopping. Explosive strength makes better arrangement of type II muscle fibers which are also known as fast twitch muscle fibers. There muscle fibers are responsible to produce higher energy

movements, resulting muscle size increase, and also permits better arrangement of muscle fibers and authority on muscular movements. These muscle fibers are very important for adolescents, adults and even for aged populace for fight against sarcopenia: a disease of losing muscle mass. Participating in self-defense activities enhances the overall power. Regular activities enhance strength, agility and coordination thus, reduces the risk of backbone injuries. Our physique contains two kinds of muscle fibers; slow twitch (Type I) and fast twitch (Type II). The former is meant for endurance and for activities which last for long time, are mainly active in short motor units, and these are used initially and easily by the physique. The latter is meant for explosive/high energy movements, are mainly energetic in bigger motor units, and need a great deal of stimulus to be used by the physique.

Flexibility, as a segment of physical wellness, is the capacity of a person to move the body and its fragments through as wide a scope of movement as conceivable without undue strain to the explanations and muscle appended. know about such terms as flexion, where the edge of body and its verbalization are diminished through development; Extension, where the point of body and its explanations are expanded through development; hyperextension, where the edges of the joint is stretched out past its typical range; twofold pointedness, a nonexistent condition, yet by and by a term utilized when alluding to an individual with irregular adaptability in specific positions; lastly muscle boundedness, an appalling term used to depict instances of firmness when an individual happens to have very much created muscles. Notwithstanding how you characterize or portray it, adaptability gives another measurement in execution that permits a higher level of opportunity and simplicity of developments combined with some essential ramifications for more noteworthy wellbeing from damage. Among grown-up gatherings who had been rehearsing for a continually three years, two times per week, thinks about found that they would be advised to in general all cardiovascular wellness, were completely more grounded in both upper and lower limits and were having more flexibility than other solid stationary grown-ups (Douris et al., 2004).

The meaning of balance is that the line of gravity falls within its base of support. Further it can be taken as the ability to maintain stability and equilibrium of human body. If further explored the equilibrium is meant to the situation where all the force acting on human body are considered to be zero as equal force is exerted which actually helps to maintain the balanced position. A correctly working balance system permits an individual to look visibly while doing movements, recognizing point of reference in regard with gravity, establish course and the speed of that particular activity and make an adjustment in the posture automatically and keep the stable position during the entire course of action. Keeping balance is not that simple it is kept by a multifaceted set of sensory motor control which involves visual inputs of senses, proprioceptive and vestibular system which includes movements, equilibrium and spatial arrangements, incorporation of the input from senses and motor output of eyes and muscular system. The Central Nervous System receive the feedback regarding the body point of reference from these 3 main sensory systems and integrate these sensory feedbacks and then generate a remedy by stabilized torque and activate the particular muscle. In usual situation, fit people depend seventy percent on somato-sensory feedback and twenty percent Vestibular and ten percent on Vision on stable surface but changes to sixty percent vestibular feedback, thirty percent Vision and ten percent somato-sensory on unbalanced surface. Many factors are there like drug, aging or any ailment which can affect the balance of human body.

Static balance might be characterized as the physical capacity which empowers a person to hold a static position for long period of time. On the contrary, dynamic balance is the capacity to keep up parity amid severe activities, as in strolling a fence or jumping from stone to stone while crossing a creek. There is proof to demonstrate that the capacity to balance effectively, regardless of whether statically or dynamic relies on the capacity of body; the kinesthetically feelings in the muscles, ligaments and joints; visual recognition when the physique is in movement and the capacity to organize these three wellsprings of improvements. Balance is a critical capacity which is utilized in regular exercises, for

example, strolling and running. It was discovered that the act of martial arts fighting expanded chest area quality as estimated through push up capacity, over all adaptability and equalization. This expansion in equalization is noteworthy in fall decrease among more seasoned populaces (Brudnak et al. 2002). The body provides a required and determined deliberative reaction to a received stimulus. It takes time to respond to a stimulus by motor unit. Various kind of stimulus gets motor response on varied rate of time. The received stimuli are converted in to an electro-chemical signal which moves along the length of sensory neuron which then moves toward the motor neuron for an action by the muscle. Motor neuron orders a muscle and it contracts and glands secret the certain hormone. Where only the receptors are included reactions are normally faster than that occur in brain. The time taken between the visual massage towards the brain and reaction of the brain through motor units is called as reaction time. A response is known as the action which a body takes in regard with the stimulus. Reaction time is very essential for many activities in general and in specific like driving, playing games, in urgencies and many routines works. It demonstrated that Tai Kwan Do practioners were found to have quicker response time in contrast with non practioners (Fong et al. 2013). Karate preparing may hinder the ordinary disintegration in engine ability that happens because of maturing (Layton 1993). Rape is, obviously, a perplexing marvel which has no basic arrangement. Legitimate change, a generational change in frames of mind, the removing of assault steady legends and much else will be required to forever decrease the occurrence of this crime. Human Reaction Time works by having a sensory system perceive the excitement. Mind receives massage from brain cells. The message at that point makes a trip from the cerebrum to the spinal settings, which at that point sent to individual's hands and fingers. Then these brain cells order the hand and fingers for certain reaction. The acknowledged figures for mean basic Reaction Times for school age people have been around 190 ms for light improvements and around 160 ms for sound stimuli. Reaction time in light of a circumstance can essentially impact our lives due it’s down to earth suggestions. Quick reaction time can deliver rewards (for example in games) though moderate Reaction time can deliver grave results (for example driving and

street wellbeing matters). components that can affect the typical individual response time including gender difference rate, sides of hand, central versus peripheral vision, practice, weakness, fasting, breathing cycle, identity types, exercise, and knowledge of the subject. Self-protection preparing alone won't take care of the issue. Nonetheless, self-preservation preparing offers an opportunity to accomplish something huge for understudies, that might be beneficial for extended period after the majority of them have finished optional or significantly advanced training (Haydon and Anger, 1999).

Hand to hand fighting has been appeared to profit physical wellness on an assortment of levels. Research has shown that in kids who practice martial art fighting normality huge enhancement in flexibility, particularly of legs, balance and lower furthest point quality were found in contrast with controlled gathering (Violan et al., 1997).

1.2 Significance of the study

Sexual violence is spreading like an epidemic in India. Assault on women is very common crime because assailants think that women will not reciprocate and not fight back. In the present era, if a female is struck, she can't expect or rely upon anybody to help or ensure her yet herself. Unfortunately, casualty conduct is common in the sufferer. Female can stop assault if she really keen to do so. They can do as such by learning mental and physical abilities adequately to battle back (Judith Fein, 1988). They are always suggested to take preventive measures like; to avoid going out at night, not to allure men by wearing uncovering attire, to keep weapons like pepper showers, firearms and some sort of applications on versatile and so forth. Indeed, even in the present, police, military craftsmen, emergency intercession specialists, analyst, and laypeople offer procedures and tips for female' wellbeing dependent on the thought that rape must be "kept away from", since once started, assault is exceptionally once in a while inescapable. Some such tips incorporate admonitions for female to "Maintain a strategic distance from the wrong sort of men", or offer strategies for female who are being pursued to go to the closest sufficiently bright home to call a companion, to record the permit number of a vehicle that is tailing them and call the police, or to shout "flame" or

blow a whistle and rushed to the closest lit spot if in threat (Creer, 1997). They are always taken to be responsible if something awkward happens with them. Though there is no such research which finds any of the relation of sexual assault with the above given. There are many issues which are commonly faced by women and men. But there are certain issues which are unique to the growth of women in the society. Girls and women nowadays are exposed to sexual violence, eve teasing, bullying and so on. The Indian government has given an estimate that an Indian woman is raped every 22 minutes affecting women of all class (Ayed, 2013). In the year 2016 total no. of case registered of rape were 38,947 which show 106 rapes per day and a rape every 13 min (Chauhan, 2017). Worry for individual wellbeing is an inescapable stressor for some female. Creating physical self-defense may enable female to connect all the more uninhibitedly in day by day exercises with less dread (Weitlauf et al. 2000). It is constantly assumed that strength is an area of men and softness the space of female. Female are utilizing other preventive estimates like firearms, pepper showers, cautions and portable applications and so forth to escape from culprits. Be that as it may, in these cases certainty is set in one's utilization of the weapon and not in oneself. On the off chance that the weapon is removed one has depended on whatever strength of the individual has to guard oneself. Subsequently, with the goal for female to be fruitful in opposing an assault, they should realize how to participate in the powerful physical aptitudes and systems, and should likewise trust themselves fit for accomplishment in the showdown. Like many countries India is also not safe for women, crime rate of violence and rapes against women has double between 1990 and 2008 (AFP 2012). Total 24206 rape cases were registered till 2011 (NCRB, 2011). Many of the cases are not even reported due to shame, fear and societal pressures. What, then, would be the number of rapes if they are all reported? These startling statistics are enough to motivate researcher to pay attention towards psycho-physical empowerment of women. It will help women to explore their inner potentials. In order to fight back and defend against violence women should feel confident. It is possible only if they think they can save themselves and most importantly if they are physically fit to execute the course of action. Physical instruction and

preparing educators ought to grant to their understudies' self-preservation abilities appropriate to battle attackers. Rape has serious physical and mental ramifications for the person in question. Along these lines, Sexual attack is a significant issue, especially for the youthful and mighty opposition can be viable in forestalling assault. Self-preservation preparing can likewise add to mental wellbeing. Instructors can have a critical job in anticipating rape through advancing Self-defense preparing (Haydon and Anger, 1999). So far studies have been conducted on women empowerment but the key focus was on political empowerment, economic empowerment and social empowerment. Few foreigner authors had taken the projects of women empowerment through self-defense but not even a single research has been found in India. This study is one kind of first study which focuses on psycho-physical empowerment of women through self-defense activities so that they can live without fear with their heads high in society.

1.3 Statement of the Problem

The purpose of the present study was to find out the contribution of self-defense activities on self-efficacy, emotional intelligence, explosive strength, balance, flexibility reaction and agility time of females. Therefore, the problem was stated as **Psycho-physical Empowerment of Women through Self-defense Activities- An Experimental Study.**

1.4 Objectives of the study

(1) To assess the effect of self-defense activities on selected psychological parameters self-efficacy, Emotional intelligence, and aggression of females.

(2) To ascertain the effect of self-defense activities on selected physical and motor fitness components i.e. explosive strength, Flexibility, balance, reaction time (audio and visual) and agility of females.

1.5 Hypotheses

(1) $\mathbf{H_{(1)}}$ **:** There exists a significant effect of self-defense activities on self-efficacy of adolescent females.

(2) $\mathbf{H_{(2)}}$ **:** There exists a significant effect of self-defense activities on emotional intelligence of adolescent females.

(3) **$H_{(3)}$:** There exists a significant effect of self-defense activities on aggression level of adolescent females.

(4) **$H_{(4)}$:** There exists a significant effect of self-defense activities on the explosive strength of adolescent females.

(5) **$H_{(5)}$:** There exists a significant effect of self-defense activities on flexibility of adolescent females.

(6) **$H_{(6)}$:** There exists a significant effect of self-defense activities on static balance of adolescent females.

(7) **$H_{(7)}$:** There exists a significant effect of self-defense activities on auditory reaction time of adolescent females.

(8) **$H_{(8)}$:** There exists a significant effect of self-defense activities on visual reaction time of adolescent females.

(9) **$H_{(9)}$:** There exists a significant effect of self-defense activities on agility of adolescent females.

(10) **$H_{(10)}$:** There exists a significant effect of self-defense activities on self-efficacy of adult women.

(11) **$H_{(11)}$:** There exists a significant effect of self-defense activities on emotional intelligence of adult women.

(12) **$H_{(12)}$:** There exists a significant effect of self-defense activities on aggression level of adult women.

(13) **$H_{(13)}$:** There exists a significant effect of self-defense activities on the explosive strength of adult women.

(14) **$H_{(14)}$:** There exists a significant effect of self-defense activities on flexibility of adult women.

(15) **$H_{(15)}$:** There exists a significant effect of self-defense activities on static balance of adult women.

(16) **$H_{(16)}$:** There exists a significant effect of self-defense activities on auditory reaction time of adult women.

(17) $\mathbf{H_{(17)}}$ **:** There exists a significant effect of self-defense activities on visual reaction time of adult women.

(18) $\mathbf{H_{(18)}}$ **:** There exists a significant effect of self-defense activities on agility of adult women.

1.6 Delimitations

(1) The study was delimited to non-sportsperson females only**.**

(2) The study was delimited to 80 females from L.S.D Sen Sec School Basis Daulat Khan, Hoshiarpur, Punjab and 80 from Hindu Kanya College, Kapurthala, Punjab.

(3) The study was delimited to adolescent females and adult women age range was be 13-17 years and 18-25 years respectively.

(4) The study was further restricted to the following selected psycho-physical parameters and tests: -

Psychological Parameters: -

a) Self-efficacy: Self-efficacy Scale by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014)

b) Emotional intelligence: Emotional Intelligence Scale by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014)

c) Aggression: Aggression Scale by Dr. R.L. Bharadwaj (2008)

Physical Fitness parameters: -

a) Explosive Strength : Standing Broad Jump by AAPHER Youth Fitness Test (1975).

b) Balance static : Stork Stand by Johnson & Nelson (1988)

c) Flexibility : Sit and Reach Test by AAPHER Youth Fitness Test (1975).

d) Audio visual reaction time : Audio visual reaction timer (Medicade made)

e) Agility : SEMO Agility Test by Johnson & Nelson (1988)

1.7 Limitations

(1) Certain elements like dietary habits, resting and sleeping pattern etc. were not in the hands of the 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.

1.8 Operational Definitions of the Terms

(1) Empowerment

Empowerment of women means to transfer power and to make them psycho-physically fit, by cultivating the resources as self-efficacy, emotional intelligence, aggression, explosive strength, static and dynamic balance, agility, reduced reaction ability and to escape from violent actions against them, by strengthen their abilities to rise up and protect themselves.

(2) Self-defense training programme:

It is a set of mixed martial arts techniques and some defensive techniques by using means of daily use.

(3) Adolescents female

"Adolescence" is a dynamism evolving theoretical concept informed through physiologic, psycho-social, and cultural aspects. The utmost frequently used chronologic description of adolescent female includes the ages of 12-18.

(4) Adult women

"Adulthood' is a dynamism evolving theoretical concept informed through physiologic, psycho-social, and cultural aspects. The utmost frequently used chronologic description of adult women includes the ages of 18 and above.

(5) Self-efficacy

It is related with the knowledge about how will women make and apply course of action successfully which is compulsory in situations that may contain ambiguous and unpredictable element.

(6) Emotional intelligence

It is the capability to recognize, analyze, evaluate self and others emotion and react accordingly.

(7) Aggression

It is a Feeling of anger resulting in violent behavior of women when facing problem.

(8) Explosive Strength

It refers to the ability of exerting a movement with maximal force and in a shortest time. It is an ability to expend energy on one or the series of strong sudden movements.

(9) Static Balance

It refers to the postural capability which enables an individual to take stationary position for a long period of time.

(10) Flexibility

It indicates the range of motion in a joint and freedom of executing a movement. It allows movement with minimum of muscle tension and internal resistance. It helps to prevent injuries and is necessary for maximum development of movement.

(11) Reaction Time

It refers to the interval time between the stimuli and response**.** It helps to respond to a particular stimulus or attack quickly.

(12) Agility

Agility is an element of physical fitness that relates to the capability to quickly change the direction of the whole body with speediness and precision. It can be stated as the capacity to change the directions quickly and control body movements.

CHAPTER-II

REVIEW OF RELATED LITERATURE

This chapter discusses about the review of existing literature on martial arts and, their impacts on selected psychology, physical fitness and benefits of practicing martial arts and getting involved in any sort of martial arts activity from books, articles, conference proceedings, dissertation and other important sources relevant to the current study, which precise a clear background on what has been explored so far on the topic. To update the need of the present study, the research gap in the previous studies were identified through a comprehensive literature review, which provides a lucid understanding of the study undertaken. Extent review of literature has been further categorized as follows:

2.1. Reviews related to Psychological variables

Harwood et al. (2017) found the effectiveness of martial arts on aggression, anger, and violence. For this a sample comprising of 507 members aged between 6 to 18 years. The study was longitudinal. Results revealed that homogeneous medium impact of 0.65 was found. The other three one-time examinations consider did not produce a homogenous impact estimate. In view of these examinations, it creates the impression that hand to hand fighting can possibly decrease externalizing practices in youth, albeit further research is expected to decide the systems of progress and determine the most applicable populace bunches for focused mediations.

Witty et al. (2016) checked impact of karate training for more old adults enhances cognition and which psychological fields are affected. Eighty-nine more old female and men (mean age: 70 years) became the part of this investigation. The members were randomized into 2 intercession gatherings (karate gathering and wellness gathering, span of mediation: 5 months) and a control gathering. All members needed to achieve a psychological test battery when the mediation. In an optional report the karate aggregate had an extra mediation for an additional 5 months. The outcomes demonstrate that there is a critical enhancement in motor reactivity, stress resilience, and separated consideration simply after the 5-month karate programme over. Moreover, the

aftereffects of the optional investigation demonstrate further upgrades following 10 months. The 5-month karate preparing can upgrade consideration, flexibility, and engine response time; however a preparation time of 10 months is considerably progressively proficient.

Dare et al. (2015) investigated on the impact of Karate training programme on self-concept of girls between age group 22-25 years. For this purpose, 28 female hostlers from the University of Pune, India with purposive sampling technique was selected as the subjects and further assigned with two equated groups of 14 each. A twelve-week training programme was given three days per week to the experimental group whereas ;control group was given no training. Pre and post experimental data were collected through the help of Self-concept scale (Dr. Rajkumar Saraswat). For examining the collected data paired sample 't' test was employed. Result showed significant improvement through Karate training programme on female students.

Kunjikannan (2014) conducted a study entitled as analysis of women, selected health related problems and its remedies under the perspective of psychological health education and with and with an experimental study – with martial art training. The aim of project was to assess the effectiveness of martial exercises on mental health, emotional intelligence of women. In order to serve this aim 120 sedentary youth females were selected and further equally assignment of treatment and control groups respectively. The treatment group had one-month martial art training programme. To analyze the data ANOVA and ANCOVA were used. Outcome showed a significant improvement in the emotional intelligence and mental health variable from pre to post test of experimental group as compare to controlled group at 0.05 level of significance.

Szabo, Attila, Urban, and Ferenc (2014) undertook a project where Emotional intelligence, neuroticism, and extroversion were studied in boxers, judokas, and non-athlete. The findings of revealed that boxers were measured higher on understanding their own emotions, controlling emotions and utilizing emotions than judoka and non-athletes. There was no difference found in boxers and judo players in appraising others' emotions

but both scored higher than non-athletes. On personality assessment boxers displayed the lowest. Boxers and judoka were found to greater on extroversion in comparison to non-athletes. Further it was concluded that boxing and judo make the emotional intelligence develop faster.

Fong, Ng and Chung (2013) stated that Tae kwon do is a famous combative game among youths, but the expected uses of this training are not interpreted properly. Comparison of body composition, flexibility, muscular endurance, and simple reaction time between tai kwon do skill mastered and controls was done. A sample of 20 tai kwon do players age ranging 10, 14, and 20 were selected and compared on the basis of physical wellness tests: one-minute curl-up test, a sit-and-reach test, skin fold measurement, leg split test, and ruler-drop reaction time test. The outcomes uncovered the significantly improved reaction time but physical fitness variables have not significant difference. It was further concluded that tai Kwan do practice can improve reaction ability but not physical fitness of adolescents.

Lotfian et al. (2011) assessed and compared outrage evaluations among pre-adult young lady competitors of various martial arts. Sample comprising 291 (karate, judo, swimmers and non-athletes) female between 11 to 19 age were surveyed on the basis of adolescents' anger rating scale of DM Burney. The findings withdrawn revealed that in instrumental and anger groups differ significantly but for anger control not significant difference was found. Thus, it was concluded that anger was higher in judo players and non-athlete in comparison to karate players and simmers.

Vencec, Brito, Antonio and Silva (2011) analyzed reaction time in karate Shotokan athletes. A sample comprising 96 Shotokan players from the Portuguese Karate Association were made taken as participants. Father they were physically categorized and evaluated. Results with drawn by Simple Reaction Time, Choice Reaction Time and Decision Time tests, revealed that female and male were significantly different from each other on age, eight, weight, experience of playing and body fat mass. Simple reaction time was not significantly found different but Choice reaction time and decision time did.

Gender based difference was also not significant but results showed that female were slower in reaction time then male. It was concluded that more experience athletes took more time to response to stimuli.

Vertonghen and Theeboom (2010) presented review to deliver, firstly, a review of the real discoveries of studies concerning the social-mental results of martial art practice. Also, the impediments of those investigations are talked about. From in excess of 350 papers, gathered amid a two-year enduring writing study, 27 papers met all criteria to be incorporated into this investigation. This survey uncovered that despite the fact that a lot of research on social-mental results of hand to hand fighting practice has been directed throughout the years, to date, it has not gotten lucidity the current duality with respect to the conceivable impacts of combative techniques association. It is recommended that a superior comprehension can be given if explicit compelling components are considered in future research (*i.e.*, members' attributes, sort of direction, social setting and auxiliary characteristics of the game).

Shin et al. (2009) inspected the effectiveness of activity-based programs on physical fitness, depression, and self-efficacy elderly women. A sample of 26 women in treatment group and 22 in control group was evaluated. The measures of physical fitness included body mass index blood pressure, heart rate, muscle strength, flexibility and balance. After an intervention of 12 weeks, self-efficacy, physical fitness variables, other than heart rate and flexibility were found significantly improved.

Harmoniejoi (2009) conducted a survey to describe the potentiality of martial arts to enhance the female safety. The conclusions withdrawn by survey with 14 male and 14 female martial art players revealed that show that, though these players were found to have normative beliefs about male and female physique. For self-defense ability generally, tit was found that training can challenge conventional views about female weakness and susceptibility to violence. Mainly female were found to become more self-confident and male were found to see female equally strong like men as result of martial art practice.

Orchowski et al. (2008) undertook a project on evaluating sexual assault risk decrease and self-defense program. The study comprised of 300 college going women. The self-defense proved to be effective in improving levels of self-defense behaviors, resister's self-efficacy against attackers. Findings also recommended decrease of occurrence of assault among participating sample.

Noorul, Pieter and Erie (2008) described the physical fitness of adolescent recreational taekwondo athletes. Eight male and nine females were taken as subjects who were members of the Kelantan State taekwondo team from Malaysia. The assessment of Flexibility, explosive leg power, muscular strength and endurance, aerobic fitness and maximum exercise heart rate showed that the boys were better in jumping. No significant difference was found in pushup and setups, though the median score of girls was better in pushups. The boys had higher aerobic endurance with small effect.

Livingston et al. (2007) conducted a study on the reciprocal relationship between sexual victimization and sexual assertiveness. For examining the association of sexual refusal, assertiveness and sexual discrimination a sample of female was chosen for the accomplishment of this endeavor. The findings withdrawn shown a support and found a reciprocal relation of sexual assertiveness with victimization. The findings also suggested that reinforcing sexual assertiveness might also help to decrease susceptibility to future victimization.

Fisher, Daigle, Cullen and Santana (2007) conducted a research on determining the efficacy of protective action. A survey was conducted on four thousand four hundred forty-six female collegiate to further investigate these topics. Findings directed that the utilization of defense action differed as per the kind of sexual victimization and the effect of these on decreasing the danger of sexual victimization. The findings suggested the requirement for sexual victimization escape and teaching programs to be including evidence related to the efficacy of defense activities in both rape and non-rape occurrences.

Downs, Rindels and Atkinson (2007) investigated the occurrences of violence by partner and strategies female used to defend themselves and study female use of violence. Four hundred forty-seven women, age between 18 to old, were chosen as sample of the study and data collected seven DV programmes and disorder treatment programmes. It was found that women had generated various self-defense strategies, use of non-physical, physical and combination of both was found. For repeated incident they were found to use different strategies.

Gidycz, Rich, Orchowski, Kingand and Miller (2006) assessed the efficacy of a sexual assault decrease program that incorporated a physical self-defense segment for school girls(N = 500). Treatment group significantly improved their defensive practices over the half year follow-up period in comparison to control group. In any case, there were no noteworthy contrasts between the two groups with respect to rates of sexual exploitation, self-assured correspondence, or sentiments of self-efficacy over the subsequent periods. Program bunch ladies who were defrauded amid the 3-month follow-up period confirm less self-fault and more prominent guilty party fault for their attacks than control group female. Given that program female proved a more noteworthy attention to rape toward the finish of the study than controlled group.

David, Cotton, Simpson and Weitlauf (2006) summarized the pilot study named as Taking Charge. For the purpose 12 female with post-traumatic stress disorder were chosen as volunteers. A programme comprising psycho education, personal safety, and self-defense training was employed. Self- defense provided the chance for exposure repeatedly which helps to teach proactively cognitive and behavioral reaction threat stimulus. Thus, it is facilitating in emotional channelization, outlet and physical practice of overcoming the trauma. Finding showed significant decrease in behavioral avoidance, PTSD hyper arousal, and depression and self-efficacy and interpersonal activity showed significant improvement. Thus, it was concluded by the investigator that therapeutic self-defense curriculum gives and enhanced exposure therapy paradigm that may be used as a potent therapeutic instrument in dealing with of PTSD.

Brecklin and Ullman (2005) assessed the association of self- defense and female's psycho-physical reaction to following rape attacks of sixteen hundred twenty-three female. The findings described victims who had pre-assault training the offender was stopped or made lesser in aggression by using resistance than the non-trained women. Female who were trained were less aggressive and less feared during the occurrence than the non-trained women. Trained women confirmed that the degree of non-consent and resistance was lesser than did non-trained, may attributed to their thinking to be of higher standard. Self-defense training and rape prevention was suggested by the investigator for further study.

Hollander (2004) investigated about the effectiveness of self-defense on the lives of women. This was a longitudinal study which offered proofs of findings drawn study of self-defense training. An increment in confidence in possible dangerous condition was reported by self-defense and with this more comfortability while interacting with outsiders, associates, and relatives; positive body image; and changed beliefs about female, male, and gender.

Hinkelman (2004) explored the effectiveness of a women's self-defense course on levels of assertiveness, hyper-femininity and three types of self-efficacy: interpersonal, activities. A sample, of 68 women in treatment group and 75 in controlled group, was selected from Midwestern University. Data was collected through Raths assertiveness scale, the hyper- femininity scale and self-efficacy scale by employing a post-test only control group design. A 10 weeks self-defense activities program was given to the treatment group. MANOVA and MANCOVA were employed and the finding described a significant increment in assertiveness, self-defense self-efficacy, and interpersonal self-efficacy. But Hyper-femininity and athletic identity were not significantly different.

David et al. (2004) checked sensitivities of susceptibility and also the need for Personal Safety/ self-defense (PS/SD) coaching among sixty-seven feminine veterans receiving casualty mental state treatment, mainly for post-traumatic stress disorder (PTSD) from sexual/physical trauma. Finding revealed that those women who had trauma trust that

PS/SD coaching would be an effective and powerful addition to more traditional treatments for PTSD. Those who took part in this project as sample believed that this type of coaching would definitely influence their sense of personal safety, encourage raised competence in uneasy future assaults; recover their vanity, confidence and assertiveness; and scale back avoidant and afraid behaviors. The findings are in line with the event of Associate in Nursing assistant involvement to reinforce current anxiety disorder dealings for female who were sexually and physically traumatized in their past.

Brecklin and Ullman (2004) explored the assault characteristics and experiences that relate to women's enrollment in post assault coaching by making use of data from a sample of 1623 college going women who were survived from sexual assault. Post assault coaching participants were marginally additional possible to own told somebody regarding their assault, confirmatory reactions from others, exhibited slightly a lesser amount of current anxiety, and stated additional post assault unsafe intellection than nonparticipants got less supportive response from rest of the females, showed slightly a lesser amount of anxiety, and testified further post assault suicidal thoughts than who did not took part. Those who survived may register to such training to take authority of their body and escape and cure the sexual assault.

Brecklin (2004) explored the impact of self-defense/assertiveness coaching in lives of female. For the purpose data from 3,187 collegiate women was used. The findings withdrawn showed that female who suffered any sexual or physical abuse in childhood were nearly double the number as seemingly to participate in self-defense/assertiveness coaching. Coaching participants conjointly rumored a lot of positive instrumental traits (e.g., independence) and less sexual political orientation than who did not take part in. Implications for future analysis evaluating self-protection programs square measure mentioned.

Clay-Warner (2002) investigated the effect of explicit protecting actions differs relying upon the setting of the assault. This study applies variable provision regression to look at

the effectiveness of physical, forceful verbal, and non-forceful verbal protecting ways mistreatment information from the National Crime Victimization Survey (subjects aged twelve yrs. previous and older). It is foreseen that unsuccessful to use corporal and forceful oral ways can end in enlarged danger of rape as situational danger will increase, whereas, non-powered spoken confrontation can diminish effectiveness in additional unsafe things. Opposing to guesses, findings revealed that the influence of protecting activities doesn't differing most of the things. Instead, among ladies United Nations agency do self-protective movements bodily confrontation is mostly prognosticative of rape exclusion, strong spoken confrontation is unsuccessful, and non-powerful spoken confrontation is prognosticative of rape accomplishment.

Chipping and Richard (2002) investigated on the longer-term effect of a self-defense coaching plan: The result of a 36 months follow-up project. The project triangulated a repetition of Ozer & Bandura's novel analysis with further qualitative features, an extended 36 months follow-up live of a community female's protection coaching plan with a twenty female subjects. The analysis showed that 36 months follow-up influential enhancements to female who took part in plan brick self-efficacies; psychological feature and emotive regulation; and participating and avoiding behaviors were extremely important. The conclusions were reinforced by chemical examination in addition particularization the various constructive life effect of the coaching involvement, as well as edges to societal unity.

Weitlauf, Smith and Cervone (2001) checked the effect of self-defense coaching for ladies on diverse features of professed self-efficacy. In compared to a roster criterion, coaching raised self-efficacy observations not just for self- defense skills however additionally through a range of spheres, together with self-defense skills, sports competencies, and brick skills. Proficient members additionally intimate a major enhancement in additional world facets of temperament, together with perceptions of bodily self-efficacy and self-assertiveness. No deviations were noticed on an attribute live of world self-efficacy; but there was a major modification on a compound score of a multi domain self-efficacy form and on many area explicit subscales, indicating that

trained participants intimate a lift in numerous areas of self-efficacy in a roundabout way a broach by the treatment. Suggestions for creating a lot of sensitive procedures of brick skills generality effects square measure are mentioned.

Fraser and Russell (2000) explored the worth of the cluster in female's attainment of skills through a Model Mugging (MM) self-protection classes. Total fifty-nine women of model Mugging course were selected as sample and data was further data were assembled throughout semi structured interviews. The finding presented that the cluster setting was influential in serving female to attain self-defense skills and foster the development of strength. Features of the cluster expertise, that was important to course success, were as enclosed cohesiveness, altruism, emotional containment, witnessing, modeling, search of limits, and new associations with rest of the female.

Hong, Li, and Robinson (2000) conducted a project on balance control, flexibility and cardio-respiratory fitness among older tai chi practioners. For the purpose sample of twenty men who practice Tai chi chuan and thirty sedentary men were selected. Findings presented that resting heart rate, flexibility, whole body rotations, and balance were significantly improved. Thus, the conclusion is that tai chi chuan practice for longitudinal period has promoted the balance, flexibility and cardiovascular fitness of older adults.

Weitlauf, Smith and Cervone (2000) ascertained the effectiveness of self-defense training on several facets of female's professed self-efficacy and rest of the features of personality. Powerful training of self-defense efficacy improved physical and global efficacy too. Assertiveness were improved by training and aggression and hostility were found reduced through coaching of self-defense activities. During follow up it was found that impact was sustaining.

Anderson (1999) undertook an investigation on curing the fighting spirit: mixing self-defense training and cluster remedy for female who have had gone through incest. They were given psychotherapy teaching and with that self-defense training was mixed for female who survived from juvenile incest. After completion thoughts of group were taken. The results described that there was promotion in healing through the self-defense.

An emotional intensity was added by decreasing anger and fear. It also gave chance to reduce anger and fear. An increment in self-protection confidence, self-esteem, and self-care was also found.

Moore and Waterman (1999) explored on three objectives: (1) to make a standardized test that checks self-defense behavior during events of dating; (2) to file the occurrence of sexual assault in dates among heterosexual persons, gay persons, lesbians, and bisexuals' persons; and (3) to examine predictors of self-defense behavior during dates. Results showed heterosexuals female described engagement in the maximum self-protective behavior during dates. A straight association was reveled between rape-awareness education and self-protective behavior during dates.

Thompson, Simon, Saltzman and Mercy (1999) investigated if there is any effectiveness of self-protective behaviors varied as a purpose of victim-offender association level. Study was conducted on three thousand two hundred and six occurrences in which physically assault with women held by single male without weapon. Findings presented that female who applied self-defense remedies were less expected to be hurt than were female without using self-protection remedy. Finding revealed an inverse connection between self-protective behaviors and damage risk.

Heller et al. (1998) assessed physiological profile of male and female taekwondo black belt holder. A sample of eleven men and twelve women best tai Kwan do players were measured on physiological parameters and anthropometric parameters aerobic and anaerobic ability, strength, visual reaction times, respiratory functioning, flexibility and the explosive strength of lower part of body. Findings about men and women subjects revealed low obesity, normal reaction time and breathing function, good muscular strength and aerobic power and a greater flexibility and anaerobic act.

Shim and David (1998) took an investigation on the effectiveness of a self-defense training program upon bodily self-efficacy of female, + and - perceptions about physical appearance, and fright-motivated avoidance behavior in a cluster of females who took part in a Model Mugging. Outcome of the pre and post-test analysis showed significantly

positive improvements in female's physical self-efficacy and body image. Decrease in fear-motivated avoidance behavior was also showed. Findings directed significantly reducing in signs of anxiety, depression, and phobic behaviors and increment of self-efficacy after taking part in self-defense training and 6 months after.

Cox and Margit (1997) examined women's self-defense training within the setting of Bandura's (1977) self-efficacy theory. The project was organized throughout four female self-defense workshops. A type of practice understanding was 42 women control group was given practice of self-defense with lifeless target and treatment group was given practice against lifeless target and a padded mock attacker. Findings revealed an increment in self-efficacy and self-defense skill performance in treatment group in comparison with controlled group.

Easton, Summers, Tribble, Wallace and Lock (1997) examined collegiate female's views concerning confrontation, their efficacy prospects, their intent for resistance, and their thought toward resistance in situation of being attacked with or without weapon by another person. Twenty one percent female reported that they modified their way of living after receiving sexual attacks to refrain from it in future. Females gave their opinion on being attacked with or without weapon. On twenty two percent state to resist in case attacker has weapon and fifty two percent said they will resist if the attacker is without weapon. Result withdrawn suggested that there should be an increment female self-defense training and it should there to change their perception.

Cox et al. (1994) carried out project to see the elongated effect of self-defense training Total fifty-one female took part in this study. An increment in female's confidence after fundamental IMPACT course; a moderate maintenance of level of confidence was shown after five years.

Cox and Margit (1993) assessed participants' observations of the IMPACT course and its effectiveness. Post completion those who took part in course reported a confidence in handling verbal and physical attacks, positivity in life, and the more realistic simulated scenarios.

Ullman and Knight (1992) conducted a survey study resisting strategies of female to avoid rape. Reporting of police and court testimonies of two hundred seventy-four female (who escaped from raped or were raped), were investigated. The conclusions showed that eighty five percent the female who fought with physical power did so in reply to the criminal's started violence and the rest of the fifteen percent responded in same manner to the criminal's verbal aggression. Furthermore, those females who replied with physical aggression to the criminal's fierce physical attack were more seemingly to avoid rape without harm than others who did not.

Finkberg (1990) examined about tai Kwando as a tool of augmenting female self-concept. A total of hundred collegiate women were taken as sample of approximately 22 years each. Fifty-one students of tai Kwando course were considered as treatment group and forty-nine of general health. Pretest and post-test with eighteen weeks training were conducted. The findings exposed an improvement in self-concept of treatment group in comparison to control.

Ozer and Bandura (1990) ascertained the effectiveness of a self-defense course. A sample of forty-three members who took part in learning and mastering skills to protect themselves from someone sexually attacking without weapon. Many skills were trained until mastery to tackle the attacker without weapon. Simulated attack situation was practiced and the trainees were made to disable the attacker with full power. Training improved self-efficacy status of and the level of protecting themselves from attacker

Richman and Rehberg (1986) studied to evaluate the expansion of self-esteem by training through martial arts. The sample comprised of sixty martial art practitioners age ranged 23 years. The samples were graded in to 4 groups comprising of novice, middle, progressive and proficient in accord with their ranking in Karate. It was concluded through findings that greater the rank more the self-esteem.

Madenlien (1979) used martial art coaching to visualize an improvement of the self-concept of the scholars concerned within the experiment. A sample comprising sixty-six subjects in total further assigned three groups of twenty-two. One group assign Aikido

training, 2nd group traditional therapeutic treatment and the 3rd one was control group. Pre-intervention test was taken. After accomplishment of course, post-treatment test was held. Findings of the results were favoring Aikido training as an important instrument to enhance self-concept.

Jersild (1967) defined adolescents to be in a stage of fears through which boys and girls are transferred from childhood to adulthood psychological, emotional, social and physical basis. Adolescence is a stage which is very complex that giving description of this stage is very difficult mainly in relation to their age. The standard age-wise classification for Adolescence is between 11 to 18 years for girls and between 12 to 18 years for boys.

2.2. Reviews related with Physical and Motor Fitness variables

Gutierrez et al. (2018) carried a systematic review to find the evidence on the physical, physiological parameters and socio-psychological effects of judo involvement in children. The review was conducted according to the PRISMA-P protocol. The Cochrane Library, PubMed, PsycINFO, Scopus, Sport Discus, Web of Science, DOAJ, LILACS and SCIELO databases were consulted for document retrieval by using the terms “judo” and “child” and other related terms, and the snowballing technique was also used. The Newcastle-Ottawa Scale was used to assess the quality of the selected studies. The studied variables were study type and aims, sample, interventions and procedures, measurements and outcomes. Nine studies, all cohort studies, were selected for inclusion. Judo participation improved participants' arms bone mineral and fitness in variables such as flexibility, muscular endurance or agility, and also avoided the increase of their subcutaneous fat levels, but did not prove to be superior to participation in other sports. On the contrary, judo participants showed higher levels of anger that their peers.

Grothe, Maxand Ghai (2017) included clinical controlled trials and randomized controlled trials. It was included that martial art training techniques brings improvement in elder people and acts as a fall prevention strategy.

Abrahm and Ashokan (2015) conducted a study to find relation between the lower back and hamstring flexibility with high and medium intensity aerobic dance. For the aim of the study forty-five high school boys were chosen randomly. Subjects were having age from 13 to 15 years. Three groups of 15 subjects were made out of one is controlled and rest two are training group with high and medium intensities. Two aerobic training groups were given coaching for over twelve weeks with three sessions in a week. Flexibility was parameter to assess and assessed with sit and reach test. The pre-intervention and post-intervention data were collected. As a statistical analysis ANCOVA was used. As a result of this study it was concluded that aerobic training increases flexibility for both lower back and hamstring.

Bharti and Parmar (2015) undertook an investigated muscular strength performance in upper and lower extremities muscular strength when using the resistance exercise training methods. Thirty (n=30) male Handball players volunteered to take part in the project. The subjects were randomly assigned to a treatment group, and control group. Assessments for 1RM bench press and 1RM half squat were performed before and after 8 weeks in season training programme. The two groups continued their regular Handball practice; to add in it all the groups performed 3 classes per week of a respective programme. The findings showed that training made significant ($p<0.05$) improvement in muscular strength for the two groups : 22.48 % for resistance exercise training group, and 1.01% for control group. The treatment group had significantly greater averaged adjusted values than the control groups ($p<0.05$). Muscular strength was also found to be significantly improved for the two groups : 22.48 % for resistance exercise training group, and 1.01% for control group. It was concluded that contrast training functions as important instrument for trainers.

Bhatacharya, Ghosh and Byabartta (2015) conducted a comparative study on static balance, dynamic balance and kinesthetic perception between deaf & dumb and normal school children of West Bengal. Total seventy-nine (N=79) Subjects were randomly chosen for this project of which thirty-seven (N=37) deaf and dumb and rest forty-two (N=42) normal school children. Among thirty-seven deaf and dumb children twenty-two

(22) were male and fifteen (15) were female. In the same way among forty-two normal school children twenty (20) were male and twenty-two (22) were female. The age of the subjects ranged between 12 to 20 years. They were selected from two separate districts of West Bengal, Burdwan and Hooghly. For the present study following variables and respective tests were adopted–(a) Static Balance–Stork Stand Test. (b) Dynamic Balance–Modified Bass Test of Dynamic Balance. (c) Kinesthetic Perception–Distance Perception. Mean and standard deviation for each parameter were calculated. The means of particular parameter were compared by using t-test. Statistical significance was tested at 0.05 level of confidence. For statistical calculations Excel Spread Sheet of windows version 7 was used. The results of the study showed that (1) In Static Balance and Dynamic balance the normal boys and girls were significantly better than the deaf & dumb boys and girls respectively. (2) In Kinesthetic perception the deaf & dumb boys were significantly better than the normal boys. (3) No significant difference was observed in Kinesthetic perception between the deaf & dumb girls and normal girls.

Bisvas, Majumdar and Das (2015) examined speed and reaction time among school going children. The subject was collected from K M R school of North 24 parganas district of West Bengal. The present study was conducted on Twenty-five (N=25) class VII students. They were selected randomly. The age group of the subjects were ranged from (12-13) years. In this study, speed was measured by 50 yards dash in seconds and reaction time was measured by nelson hand reaction timer. Mean and standard deviation of different variables were calculated. The data of the selected variables were analyzed by applying coefficient correlation. Statistical significance was tested at 0.05 level. The result of the study showed that there was no significant difference in speed and reaction time among school going children.

Biswas and Ghosh (2015) took an investigation on the effect of regular Yoga practice on selected physical fitness components and academic achievement of school children. 30 male regular yoga practitioner students and 30 male non-yoga practitioner students of K.M.R. High School and Gopalpur High School were subject of this study. The selected physical fitness components are flexibility, agility and strength. The Academic

achievement was obtained in their last final examination record from school. The obtained data were then processed and statistically treated mean and sd of all the scores were computed and found out the significant difference between two group employing the statistic of 't' ratio and level of significance was set at 0.05 level of significance for testing hypothesis. It was observed that there was significant difference between regular Yoga practitioner group and non-Yoga practitioner group in respect physical fitness components, in Academic Achievement significant difference was found between regular yoga practitioner group and non-yoga practitioner group of school children.

Borman and Chaudhery (2015) investigated whether only yogic asana practices with progressive training load can improve the hand grip strength. Total 48 residential male students (12 + 1 years) were randomly selected for participation in the project. Again, random assignment twenty-four each in two groups, one treatment and other controlled, was done. The treatment group was given selected yogic practices for 12 week and 6 days a week. The measurements were done at the baseline, after 6 and also after 12 weeks. The left and right-hand grip strength were measured by hand grip dynamometer (Grip Dynamometer, Takei Scientific Instrument Co. Ltd. Japan, Product Code T.K.K 540).A repeated measure of ANOVA with Boferoni adjustment, Greenhouse-Geisser was the main statistical tools to examine the data. Significant improvement in left hand grip strength (16.28%) and right-hand grip strength (14.10%) were observed. Asana alone may elicit a positive improvement in the hand grip strength.

Kaur (2015) conducted a study to examine the selected motor abilities among sports and non-sports girl student from a rural area's college. 60 subjects were tested. Their age was ranged between 19 to 22 years old. Speed, agility and strength were assessed. The descriptive statistics was used for analysis. To check the speed; 50 m dash was tested, for agility; shuttle run was assessed and for strength; standing broad jump was assessed. Descriptive statistics of speed, agility and strength was concluded as followed 10.65, 20.19 and 1.42 for non-sports girls and 9.25, 14.09 and 2.61 was measured for sports girls. The result shows low level of selected motor fitness in rural area's non-sports girls as compared to their counterpart.

Kaibarta (2015) explored comparative effect of three different running programmes on muscular strength of school children. Forty boys studying in standard VIII to X of Kendriya Vidyalaya, W.C.L., Chandrapur (M.S.) were chosen with random sampling technique as subject for the project. The average age of the subjects was fifteen years, and the age range was between 14 to 16 years. Their fitness was considered according to school medical report and their age was verified by the school register. The subjects were divided into four group's viz. (a) Acceleration Running Group, (b) Interval Running Group, (c) Continuous Running Group and (d) Control Group. Each group consisted of ten subjects. All groups were administered initial tests on muscular strength (abdominal) *i.e.*, bent knee sit ups. After the initial tests, the training programme was administered to the three experimental groups whereas, no training was providing to the control group. To compare the effect of three different running programmeson Muscular Strength (Abdominal) 't' ratio was employed to compare mean variation between the pre-intervention and post-intervention scores and analysis of co-variance (F-ratio) was calculated to ascertain the variation among the groups. The result of the study reveals that eight weeks of Acceleration Running, Interval Running and Continuous Running brought significant improvement in the performance of the abdominal strength of the subjects. The outcomes also reveal that in abdominal strength superior performance had been shown by Acceleration Running Group followed by Continuous Running Group than by Control Group and the least performance had been shown by the Interval Running Group.

Kaur, Kaur and Kaur (2015) investigated effectiveness of water and Land plyometric training on speed, leg explosive power and resting pulse among inter-college level men basket ballers. 45 players were selected with random sampling technique and assigned to 2 groups; one of Aquatic plyometrics and second land plyometrics and the third one were considered as controlled. After 12 weeks of training it was presented on the basis of findings that Aquatic and Land plyometric training had improved in speed, explosive power, and resting pulse rate significantly.

Kumar and Yadav (2015) explored about effectiveness of Plyometric 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 plyometric to improve explosive strength.

Kumaraguru and Sultana (2015) explored the impact of resistance training on maximal strength of 15 males of college from 18 to 21 age range level selected randomly and assigned to treatment group. 15 more of same age range were assigned to control group. 6 weeks resistance training programme was imparted to the treatment group. The results of ANCOVA, described that significant improvement was found in 1RM bench press and 1RM leg press.

Mondal and Banreji (2015) tried to determine the effect of yogasanas on speed and agility of the college students. Sixty male subjects were selected randomly from Ramkrishna Mondal Institute of Education, Howrah. Each group was consisting of thirty students. One group was as treatment and second was controlled. The training of asana (fifteen selected asanas) for three months was given to experimental group and the control group was not given any kind of exercise. To test the agility 4 × 10 yards shuttle run and speed 50 yards dash, AAHPER youth fitness battery was used. 't' – test was applied and the level of significance was set at 0.05 level. Result showed regular practice of yogasanas did not show considerable improvement in speed. Study showed that regular practice of yogasanas affect significantly on agility of the students.

Patel (2015) researched on the effect of agility training programme on the Kabaddi players' agility. For the present study 40 women Kabaddi players were selected from Saurashtra University Inter College Kabaddi (women) Competition 2013-14. Subjects were divided into two groups; an experimental group and a control group (each group consisting of 20 subjects). The experimental group was exposed to practical training. The control group was not exposed to any type of experimental treatment. Shuttle Run test was conducted on both the groups before and after six weeks of training programme. The

findings of the present study have strongly indicated that Agility training programme have significant effect on Kabaddi player's agility.

Palanisamy and Anbarasan (2015) investigated the effect of SAQ training and plyometric training on selected physical fitness variables of men Kabaddi players. Result revealed showed an improvement of physical fitness due to SAZ and plyometric training.

Paul (2015) conducted a research on effect of sports culture programme on health-related fitness. Total twenty female aged ranged 25-40 of Kapasdanga, Hooghly in West Bengal were taken as sample for the project. They were further assigned two groups namely treatment and controlled. After 9 weeks training the pre-intervention and post intervention data was analyzed. The findings showed positive incremental effects to middle aged female.

Rafiq, Sulatana and Nafih (2015) investigated upon the effectiveness of six weeks Aquatics exercises on health-related physical fitness of junior boys. A sample comprising 30 junior boys were taken further they were divided in to two groups treatment and controlled respectively. The result showed significantly improved Arm Strength, Abdominal Strength and Endurance, Flexibility, Endurance and Body Mass Index in comparison to controlled group. Thus, it was concluded that 6 week of water exercise would enhance the level of health-related fitness elements.

Raj and Chaudhery (2015) conducted a piece of research on comparative effects of mental training and ideo-motor training on "Ippon SeoiNage" in judo. Ninety male national level judokas from Madhya Pradesh were chosen as sample for this project. The samples were separated into 3 set's *i.e.*, two experimental groups and one control group. Mental training & Ideo-Motor training was selected as independent variables & Ippon SeoiNage in judo was selected as dependent variable. Performance of Ippon SeoiNage in Judo was measured by panel of three experts and score was given out of 30 points. The data were collected before the start of the experiment (pre-intervention test) and at the end of the training period (post-intervention test). For the study, pre-test – post-test randomized group design, which have one control group (n=30) and two experimental

groups (N=30 in each) was used. Equal numbers of subjects were assigned randomly to the groups. Two groups (Mental training group and Ideo motor training group) served as treatment groups on which intervention was given and the third group served as the control group. In order to find out the effect of mental training and Ideo-motor training on learning Ippon SeoiNage in Judo, Analysis of Co-Variance (ANCOVA) was employed. The level of significance was set at 0.05 level. Both the experimental treatments (Mental Training group & Ideo Motor Training Group) proved to be equally effective in learning Ippon SeoiNage. In case of treatments 78 % if the total variance can be explained by treatment effect & remaining 22 % in unexplained.

Raja (2015) directed the investigation to discover the impact of yogic practices on chosen body composition variables and flexibility of ladies who suffer with obesity. To accomplish this reason, twenty hefty ladies, with Body Mass Index of 32-40 (W/H2), were arbitrarily chosen as volunteers from different places around Chidambaram aged from 30 to 35 years. They were additionally arranged aimlessly into two equivalent groups of ten volunteers each in treatment and controlled. It was concluded that up from the consequence of the examination, that yogic practice is a great method to decrease the level of body fat and body mass index and enhance the flexibility.

Rajeshwari and Bala (2015) undertook a research work to find out the abdominal muscular strength and endurance among different age groups of rural school girls of Rajasthan. Modified sit-ups test was conducted on 1050 girls ranging ranged 14 to 16 year randomly. To ascertain the significance difference if any among the different 3 age groups of school girls, Analysis of Variance was applied. Further Scheffe's post-hoc test was used to see the path and significance of differences where 'F' ratio was found significant. The significance level was set .05. Abdominal muscular strength and endurance showed significant differences among three different age groups of rural school girls. The finding reveals that 16year age group of rural school girls demonstrated significantly better than their counterparts.

Roy, Das and Biswas (2015) conducted a study to compare on dynamic balance and explosive strength between handball and Tchoukball players of district level. Out of fifty (50) male students, twenty-five (N1=25) Hand Ball players and rest twenty-five (N2=25) Tchoukball players were selected randomly from Hatthuba high school, Habra and Itinapally Seva Samity, Ashok Nagar, north 24 parganas of West Bengal. The Age ranges of the subjects are 15-17 years. Explosive leg strength was measured standing broad jump in meters and dynamic balance was measured by Modified Bass test. in seconds. The data on dynamic balance and explosive strength were analyzed by applying mean difference and S.D. by employing statistic of 't' ratio. For statistical calculations SPSS software was employed. The findings revealed that nothing was significantly differing in dynamic balance explosive leg strength between district handball and Tchoukball players.

Sangitahalder, Biswas and Malik (2015) conducted a comparative research work the selected fitness variables between pre-pubescent boys and girls. Random assignment of total one hundred (N=100) human volunteers were done. Among them 50 were boys and 50 were girls with age range from 9 to 10 years. Cardio-respiratory endurance, abdominal muscle strength endurance, leg explosive strength, speed and agility were set as dependent variables. Results showed that the mean value of the performance of the pre-pubescent boys for selected motor abilities (CRE, AMSE, LES, speed and agility) is higher than that of the pre-pubescent girls and difference between means of pre-pubescent boys and pre-pubescent girls was also significant statistically. Findings proved that boys are significantly superior for all bio-motor abilities viz. abdominal strength endurance, explosive strength, cardio-respiratory endurance, speed and agility than the girls even in pre-pubescent stage.

Santossh and Sunita (2015) researched the connection between throwing ball speed and specific anthropometric and physical fitness qualities of cricket players (n = 20, mean ± SD age 13.75 ± 1.12 yrs and playing background 3.66 ± 1.66 yrs). throwing speed was surveyed with a radar weapon, while body mass index, arm length standing broad jump, body height 30m dash, sit and reach test were additionally estimated. The outcomes demonstrated that performance of throwing is fundamentally ($p<0.05$) associated with all

factors determined in this examination aside from body mass index. as a conclusion we can say that advanced motor abilities are requires for good performance at this age.

Singh and Saini (2015) examined the effect of exercise schedule on explosive strength and strength endurance on girls. The experimental models of the exercise schedule were realized four times in a week for eight weeks. To attain the objective of the study, thirty (N-30) girls who represent. The British Co-Ed School (ICSE), Patiala (Punjab, India) were selected randomly those who took part in the interschool competition as subject. The age of the subject was ranging12-16 years. For estimating explosive strength and strength endurance of upper and lower body, the following tests were employed :–the explosive strength of upper body was measured with medicine ball throw and lower body was measured with standing broad jump. The strength endurance of upper body was measured with pushups and lower body was measured with 12 minutes run and walk. To assess the significant difference between pre-intervention and post-intervention test of explosive strength and strength endurance of upper and lower body 't'-test was employed. Findings of the study resulted to be significantly different ($p<0.05$) between pre-training and post-training.

Singh (2015) set an investigation to determine that to find out the comparative study of selected psychological variable of national level male and female Wushu players. The study has been conducted on 100 subjects at national level. 50 male subjects and 50 female Wushu players at 22rd National level competitions held Jaipur (Rajasthan). Sports Aggression and Will to win was administered to all subjects. Paired 't' test was utilized. Finally, the Researcher concluded that men National Level Wushu Players have better Sports Aggression as compare to Female National Level wushu Players.

Tyagi (2015) compared the effectiveness of isotonic exercise on Explosive strength of female participants. To fulfill this aim, a total of twenty female players having their aged between 17 to 18 years from LNIPE, Gwalior, were taken as human volunteers for this project. The volunteers were randomly segregated into two groups *i.e.*, treatment and control group. Explosive strength as variable was selected for the study. Explosive

strength was measured with standing broad jump. The period of training program for the treatment group was 30-35 minutes, three times a week and for six weeks. As a result, a difference was found significantly amongst the control group and the experimental group.

Yasmin and Ghosh (2015) conducted a research work to determine the relationship of selected anthropometric variables with speed and acceleration ability of young Bengali college female. Forty-two (N=42) young healthy college female were selected as subjects for the present study from State Institute of Physical Education for women; Hastings House; Alipore; Kolkata-27. The age of the subjects was ranged from 21 to 27 years. Speed and acceleration ability were measured 30m dash. In the present study these two variables were compared with the following Height, Weight, Body Mass Index (BMI), Waist circumference, Hip Circumference, Waist Hip Ratio (WHR) arm girth (flexed and relaxed), Thigh girth, calf girth and upper arm girth, leg length and arm length. All the variables were measured by using standard techniques. To test the relationship between the variables Pearson's Product moment correlation co-efficient were calculated. The significance of means was tested at $p<0.05$ level of confidence. For statistical calculations Excel Spread Sheet of windows version 7 will be used. A significant positive correlation was observed between speed & acceleration ability with calf girth and leg length. There was significant negative correlation between speed & acceleration ability with body weight, thigh girth and waist hip ratio. No significant correlation was observer between the speed & acceleration ability with height, Body Mass Index, upper arm girth and arm length.

Khanna and Chittibabu (2014) checked if eight weeks of plyometrics coaching can enhance men handball players' agility. To accomplish the reason, thirty handball players were chosen as sample with random sampling technique. These players were segregated into two groups i.e. treatment group and controlled. Eight weeks plyometrics plan was executed on treatment group only. The consequence of the investigation demonstrated that balanced post-test means indicated noteworthy improvement was seen in plyometric preparing gathering. This was inferred that plyometric preparing was a compelling preparing system to improve male handball player's dexterity.

Asia and Warker (2013) conducted a study on auditory and visual reaction time of taekwondo players. The aim of the project was to find out auditory and visual reaction time in taekwondo players and compare it with non-athletes. 30 male practioners of district and state level were recruited for the study. 30 age matched students were chosen as controlled group. It was concluded that practioners respond quickly to audio and visual stimuli.

Chung et al. (2013) led a study with a reason to discover the impact of yogic practices on leg strength and flexibility among college Basket Ball players. So as to accomplish the motivation behind the investigation 24 school Basket athletes were chosen arbitrarily and they were similarly isolated in to two groups of 12 each as test and control group. The trial group and control aggregate experienced typical routine Basketball rehearses and what's more the trial assemble experienced yogic practices for one hour before morning before beginning the Basketball rehearses. The control assemble was not given any unique preparing. The time of preparing was two months in a calendar of week by week 5 days. The information was group on the chose factors when the preparation time frame. Investigation of Covariance (ANCOVA) was utilized to break down the information. To test the importance 0.05 dimension of certainty was fixed. In light of the outcomes the investigation it was inferred that the Yogic practices were essentially improved the leg strength and flexibility among school Basket competitors.

Fong et al. (2013) conducted a study on health through martial arts training: physical fitness and reaction time of adolescent Tai Kwan Do practitioners. To compare flexibility, muscular endurance, body composition and reaction time, data was collected from two groups one group was tai kwon do practitioners and one controlled. Tai Kwan Do group showed faster reaction time.

Leinonen et al. (2013) reported tai chi chuan as an instrument of enhancing balance. It was presented that all martial art activities improve balance but only few of the studies have been done the martial arts techniques. The related studies expressed that balance,

self-awareness and capabilities of the human body are improved through martial arts. Thus, it is suggested that one should keep their body fit to keep balance and enjoy life.

Satish (2012) led a study with a reason to discover the impact of yogic practices on leg strength and flexibility among college Basket Ball players. So as to accomplish the motivation behind the investigation 24 school Basket athletes were chosen arbitrarily and they were similarly isolated in to two groups of 12 each as test and control group. The trial group and control aggregate experienced typical routine Basketball rehearses and what's more the trial assemble experienced yogic practices for one hour before morning before beginning the Basketball rehearses. The control assemble was not given any unique preparing. The time of preparing was two months in a calendar of week by week 5 days. The information was group on the chose factors when the preparation time frame. Investigation of Covariance (ANCOVA) was utilized to break down the information. To test the importance 0.05 dimension of certainty was fixed. In light of the outcomes the investigation it was inferred that the Yogic practices were essentially improved the leg strength and flexibility among school Basketball competitors.

Kim, Stebbins, Chai, and Song (2011) worked on the particularity of a down recurrence taekwondo coaching program on physical fitness level in youthful girls who get less physical training guidance (i.e. 2 days in a week). Real segment of physical fitness evaluated were: skeletal muscle fitness using hand grip strength, bent arm hang, standing long jump, and isokinetic strength tests, flexibility using sit and reach test, speed and agility using 10 × 5 meter shuttle run difference in body composition additionally evaluated double with DEXA. Members were separated in to two groups, a taekwondo trained group (N=21), which get taekwondo training 50 minutes every day two days out of every week, and a control group (N=10). Taekwondo trained enhanced isokinetic quality, standing long jump and sit and reach value. Body fat% get reduced. grip strength remains same, flexed arm hand time, agility and speed or cardio-respiratory wellness were observed. The result demonstrate that low recurrence training in youths' females presents useful modification in skeletal muscle fitness and flexibility.

Vishaw (2011) decided the impacts of hatha yoga training on health-related physical fitness variables including muscular Strength, Agility, Power, Speed and Cardiovascular Endurance. For the conduct of this study a total 30 students were finalized with random sample technique aged eighteen-twenty-four years as volunteers. Assignment of 15 to treatment and 15 to control group was done. After eight weeks of hatha yoga plan. There was non-noteworthy enhancement found in test gather for cardiovascular endurance. The discoveries demonstrate that normal hatha yoga training can evoke upgrades in the health-related parts of physical fitness and may add to improve health status and health.

Shahana, Nair and Hasrani (2010) determined the impact of a twelve-week vigorous workout program on health-related physical fitness elements, like cardio-respiratory endurance, flexibility, abdominal strength endurance and body fat in moderately aged ladies. A sample of sixty average aged 35 and 45 years were chosen as participants for the examination. The cardio-respiratory continuance, adaptability, stomach quality perseverance and muscle versus fat ratio were chosen factors. Further, 30 subjects were arbitrarily relegated as trial gathering and 30 as control gathering. The exploratory gathering experienced high-impact practice preparing thrice seven days for twelve weeks. The post-tests were directed on the two gatherings to gather the information on the factors of the investigation. The information relating to wellbeing related physical wellness segments were examined by paired 't' test to decide the distinction among starting and last mean for exploratory and control gatherings. Critical contrast seen at the 0.05 dimension with 29 level of opportunity is 2.045 and at 0.01 dimension with 29 level of opportunity is 2.756 in trial gather following 12 weeks of oxygen consuming preparing program for cardio-respiratory perseverance, adaptability, strong quality continuance and skin overlap thickness (muscle to fat ratio %). On account of control assemble no noteworthy modifications were found in the chosen factors. The consequences drawn from the study showed an enhanced cardio-respiratory perseverance, adaptability, strong quality continuance and diminished skin overlay thickness (muscle to fat ratio %) among the test gathering of moderately aged ladies following 12 weeks of high-impact preparing.

Babayigit (2009) conducted a study on Pilate exercise and their effect on balance, reaction time, muscle strength, flexibility, bone density and quality of life. 30 women were selected who attended 12-week programme of Pilate exercises of one hour. Pre and post-test were conducted and a significant improvement was found on balance, reaction time, muscle strength, flexibility, and bone density and quality of life variables.

Shin, Kang, Park and Heitkemper (2009) analyzed the impacts of activity programs on physical fitness, depression, and self-adequacy in low-pay old ladies (age≥75). A pretest-post-test trial inquire about plan with a control aggregate was utilized. The example comprised of 26 ladies in the activity gathering and 22 ladies in the holdup rundown control amass in Seoul, Korea. The proportions of physical wellness included weight list, cardio-pulmonary perseverance (pulse and pulse), muscle quality (hand grasp quality), adaptability (level of twisting of the chest area), and parity (term of time for which the subject could remain on one foot). Sorrow and self-viability were estimated by the Center for Epidemiological Studies Depression scale and an adjusted type of Lee's scale, individually. All measures were gotten twice: at benchmark and toward the finishing of the activity program. The activity program comprised of about a month of training alongside about two months of physical exercise. After the mediation, huge upgrades were found in misery, self-adequacy, and all proportions of physical wellness, with the exception of pulse and adaptability, in the trial gathering.

Miller, Herniman, Ricard, Cheatham and Michael (2006) directed an examination to decide whether a month and a half of plyometric preparing can improve agility in athlete. Human volunteers were segregated into treatment and a control group. The treatment group achieved agility in a multi week treatment of plyometrics. The results showed that an enhancement agility of treatment group.

Oliver, Maria, Alison, and Paul (2006) conducted a study to examine trunk and knee strength and reaction time(SRT, MRT and CRT)in players of hard-style martial arts. 13 top status martial art players and 12 inactive members were tested. It was concluded that

coaching of martial art enhances the strength muscles which extend and flex the legs. In addition to it they were found to have quicker response to audio stimulus.

Douris, Chinan, Gomez, Steffens and Weiss (2004) compared fitness level of middle-aged practitioners of Soo Bahk Do (SBD; Korean martial arts similar to Karate) with sedentary subjects. 18 volunteer practitioners and 9 sedentary were matched for sex and age. Body composition, balance, flexibility, strength and aerobic capacity were measured. Data was analyzed by employing paired t'test. Soo Bahk Do practioners were found higher in aerobic capacity, balance, flexibility, strength, and lean body fat than sedentary.

Lohan and Rajesh (2002) carried out a research project on the effectiveness of asanas and pranayama on physical and physiological elements of boys. e group 12-16 years. 120 boys were selected as sample with random sampling age ranged from twelve-sixteen years. Subjects were further assigned in to four groups' asana, pranayama, mixture and controlled. A programme, of 10 weeks, was given and data was gathered. The findings of project revealed an enhancement in all the dependent variables were found for all the three training groups.

Reddy (2001) carried a study on effectiveness of aerobic dance and yogasana on selected health fitness variables in girls. The speed, agility, flexibility and cardio respiratory endurance were tested for controlled, yoagasana and aerobic group. The coaching was provided for twelve weeks with ten subjects in each group. The information was examined with t' test, ANCOVA and post hoc test was finished with scheffe's test. Further, outcomes inferred that the act of yogasana enhanced essentially, the speed, deftness, adaptability and cardio respiratory continuance while vigorous preparing likewise improved fundamentally on the above components. There was no distinction found between both the trainings.

Violan, Small, Zetaruk and Micheli (1997) conducted a study to check whether karate training effects muscle strength, flexibility and balance for 8-13-year-old male subjects. 6 months of training (twice weekly) was imparted to experimental group whereas,

controlled group was given no training. Pre and post-test were conducted and significant gains were found on flexibility strength and balance of experimental group.

Madanmohan et al. (1992) carried a study to check whether yoga training has an effect on respiratory endurance, reaction time and muscular strength. 12-week training was given to 27 subjects to check its effect on maximum expiratory pressure, maximum inspiratory pressure, and hand grip strength, visual and auditory reaction time. It was found that visual and auditory reaction time has significant reduction, hand grip strength and respiratory presser has significant increase as a result of twelve-week yogic practice.

Simpson (1989) studied the effect of participation in physical activity upon health-related fitness. 132 students were chosen as sample and engaged in to various physical activities. An improvement was significantly found in Pre to post test scores of body composition, flexibility and dynamic strength.

Priest (1984) checked whether significant change occur or not after participating in aerobic dancing with the following parameters flexibility, selected anthropometric measurements, body weight, heart rate, body fats and general physical condition. 92 female volunteers participated in the following pretest and post-test procedure: resting heart rate, skin fold measurements, twelve-minute run, sit and reach test and anthropometric measurements. Experimental group exercised for 50 minutes thrice a week for total six weeks. Result showed a significant improvement in flexibility and lowered height rate.

2.3. Conclusions of reviews

Total 91 reviews were quoted in this chapter. Latest review is of 2018 and oldest review is of year 1967. Though work has been done on many psychological variables like self-esteem, self-concept and self-confidence and self-efficacy too but it is done by foreign authors. Investigator could not get any of the Indian study which talks about women empowerment through self-defense activities. Influence on Emotional intelligence and aggression are the variable which are not much highlighted through self-defense

activities. A few direct studies of assessing effect of self-defense activities on self-efficacy self-concept and self-confidence were found but investigator could not get any direct related literature linked to these variables. Rest physical fitness reviews are mostly from tai Kwando and tai chu chuan, and boxing. Other reviews on same psychological and physical fitness variables are from other yogic or physical fitness trainings. Thus, the reviews provide a huge research gap. The investigator tries to fill the gap by taking new variables like self-efficacy, emotional intelligence, aggression, explosive strength, balance, flexibility, visual and audio reaction time and agility.

CHAPTER-III

METHODOLOGY

Methodology is a way to systematically solve 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, 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 & Dash, 2014). An experimental method with two group randomized pre and post design was adopted for carrying out the current research work. The study was experimental nature designed for empowering women psychological and physically by means of selected self-defence activities.

3.2 Sample

Non-sports person females were chosen as the sample for the study. Total sample was of one hundred and thirty (N=130) female in which Sixty (N=60) adolescent and Seventy (N=70) adult female was taken. The age ranging from 13 to 17 for adolescents and 18 -25 years for adults was delimitated. Adolescent subjects were taken from Layalpu Sanatan Dharam Senior Secondary School, Bassi Daulat Khan, Punjab and adult female were taken from Hindu Kanya College, Kapurthala Punjab.

3.3 Method of Sampling

For appropriate representation of the population, purposive random sampling technique was used.

3.4 Selection of Variables

The study was confined to two groups' viz psychological aspect and physical aspect. The variables chosen for psychological aspects were Self-efficacy, Emotional Intelligence, Aggression whereas, variables chosen for physical aspect were Explosive Strength, Balance, Flexibility, Reaction time (audio-visual), and Agility variables.

3.5 Collection of Data

Prior information regarding the research project was given and consent of the authorities was taken by the investigator. The selected sample was divided into two groups namely treatment/experimental group and controlled randomly with blind fold draw. The treatment groups had gone through one-hour self-defense programme for twelve weeks whereas, controlled group was not given any of the training. Before the administration of pre-test on the criterion variable, a meeting of all selected subjects and concerned authority was held with the investigator to give detailed explanation of the purpose of the study along with the testing procedure and the training programme and its progression. Pre-test was conducted on all the one hundred sixty (N=160) subjects and after pre-test, training programme of Twelve weeks was implemented to the treatment groups, whereas, control group was not exposed to any sort of training. After completion of the experiment a post-test was conducted on the criterion variables among the subjects. Post-test data was collected from those treatment group subjects that had gone through the complete training programme for a time period of 12 weeks and control group.

Qualified (black belt holder) Mixed martial artists female and male were hired for this study. The training programme was imparted in morning from 11:00 AM to 12:00 PM for Adult women and for Adolescents it was from 2:00 PM to 3:00PM as per the permission of the concerned authorities.

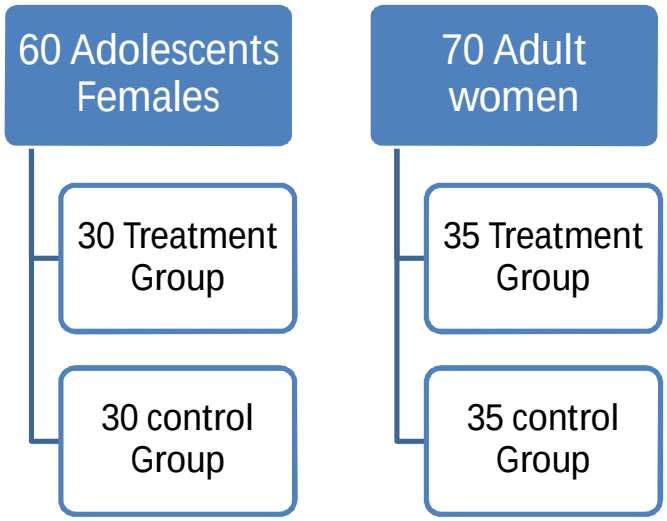
A total of 30 adolescent females and 35 adult women subjects, of treatment group out of 40 adolescents and 40 adult women, had gone through the complete training programme, and post-test of control groups was also conducted whereas,30 subjects were removed before the final compilation of the data.

TABLE 3.1

SAMPLE SIZE DURING PRE AND POST-TEST

S.No	No of Groups	Total Female of Samples (Pre-Test Data)	Duration of Self-Defense Programme	Total Female of Samples (Post-Test Data)
1	1 (Adolescent females)	80	12 Weeks	60
2	1 (Adult Women)	80	12 Weeks	70

Description of sample distribution is given in Figure -3.1



3.6 Tools Used

The instruments/tools administrated in the study were finalized after a thoroughly reviewing 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 study objectives.

3.6.1 Instruments to measure

Psychological Parameters

Self-efficacy: Self-efficacy Scale by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014)

Emotional intelligence: Emotional Intelligence Scale by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014)

Aggression: Aggression Scale by Dr. R.L. Bharadwaj (2008)

Physical Fitness parameters: -

Explosive Strength: Standing Broad Jump by AAPHER Youth Fitness Test (1975).

Balance static: Stork Stand by Johnson & Nelson (1988)

Flexibility: Sit and Reach Test by AAPHER Youth Fitness Test (1975).

Audio visual reaction time: Audio visual reaction timer(Medicate made)

Agility: SEMO Agility Test by Johnson & Nelson (1988)

3.6.2 Criterion Measures

Semo Agility and Stork stand Test were measured by Stop watch in 100^{th} Seconds, Standing Broad Jump and Modified sit and reach test was measured in inches and meter reading were taken by measuring tape. Standard and Latest questionnaires were employed to fetch the Self-efficacy, Emotional Intelligence and aggression level of the subjects.

3.6.3 Instrument Reliability

The stop watches, measuring tape, used for taking performance of subjects were all calibrated by standard Indian firms. Thus, all these were certified to be accurate and reliable.

3.6.4. Tester's Competency

To take surety about proficiency of tester with procedure and technicalities of conducting the test investigator had gone through many practice sessions repeatedly with the experts of School of Physical Education of Lovely Professional University Phagwara.

3.7 Administration of tests

3.7.1 Instruments to measure Psychological Parameters

3.7.1.1 Self-Efficacy:

Self-Efficacy Scale is developed by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014) was used to measure self-efficacy of human volunteers. Scale consists of 20 items, responses were obtained on five points LIKERT scale with scoring of positive statements of 5,4,3,2,1 from left to right end and for negative statements it was 1,2,3,4,5 from left to right end.

Scoring System

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Positive	05	04	03	02	01
Negative	01	02	03	04	05

Total number of positive items were 16 and negative items were 4.

Positive Items Item Female 1,2,3,5,6,7,8,9,11,13,14,15,16,17,19 and 20

Negative Items Item Female 4,10,12 and 18

3.7.1.2 Emotional intelligence

Emotional intelligence scale was established by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014). The scale consists of 31 items, response was to be given either in Yes or No. A score of +1 and 0 was given. The answers of those items, which tallied with answer provided in the scoring key, was awarded with a score of +1. If these were not tally, marks awarded were a zero. The response of the subjects, on each item, was scored and a total score was obtained. The test re-test reliability was calculated and found 0.86 alfa coefficient, by administering the test on the same sample with a gap of fortnight. Concurrent validity was found to be 0.86.

Total number of positive items was 27 and negative items were 4.

Item	Item Female	Total
Positive	1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,18,19,22,23,24,25,26,27,28, 29,30,31	27
Negative	13,17,20,21,	4

3.7.1.3 Aggression: Aggression Scale by Dr. R.L. Bharadwaj (2008)

Aggression scale established by Bharadwaj (2008) was employed to assess aggression among respondents. The scale is consisting of 28 items, responses were obtained on five-point Likert scale with scoring of 5,4,3,2,1 from upper to lower end. The total of all the scores calculated from each item were considered as aggression score of the subject. The reliability measured for scale was 0.79 by product movement method and 0.86 by Gutmon formula. The theoretical validity of this scale is .83 while its construct validity is .81. This tool was a self-administrated scale and can be used on the subjects above 10+ years of age among individuals as well as in group.

Categorical interpretation

Female	Percentiles	Categories
1	70 and above	Very high or saturated
2	60-69	High
3	40-59	Average
4	30-39	Low
5	5-29	Very low

3.7.2. Instruments to measure Physical Parameters

3.7.2.1 Explosive Strength

Test: - Standing Broad Jump

Procedure: Student was given a demonstration before letting her to take a trial**.** The subject was instructed to stand behind a takeoff line with her feet several inches apart at her comfort level. Before, jumping the student was to take a plunge by flexing knee joint somewhat and swing the arms in reverse. Student was instructed to jump in pit. Three trials were permitted. The marks closest to the heel of the footprint to take off line was measured.

Scoring: The score was the best of three distances recorded in centimeters and inches.

3.7.2.2 Balance

Test: -Stork Stand

Facilities and Equipment: One stopwatch, score sheet and pen.

Procedure: Subject was made to remove shoes and place her hands-on waist/hip, then fixing the non-supporting leg on inner part of the knee. The subject had to rise the heel up to make balance on ball of the foot. Stopwatch started as soon as the heel was raised. In the condition of hands moving down or away from the hip, non-supportive leg gliding or going down or if the heel was contacting floor, the stopwatch was supposed to stop there and then.

Scoring: The score was the best of three trials recorded in seconds.

3.7.2.3 Flexibility

Test: -Sit and reach test

Facilities and Equipment: Flexo-measure table, measuring tape and score sheet.

Procedure:

The subject was asked to remove shoes. The subject was made to sit on the floor with legs extended in front and sole of the feet placed against the flexo-measure table. She was further instructed to keep her knees locked and in contact with floor, tester even helped to keep the knee in same position to take the measurement. Subject will raise the arms on shoulder level in front of the body and to move forward along with the measuring tape as further as she could do. Both the hands were to be on same level before measuring. Subject was asked to hold for two seconds without any jerks and score was recorded

Scoring: Measuring was done in centimeters. In some flexo-measure measuring tape has zero from the feet others have 9 inches meter before the feet towards the body.

3.7.2.4 Audio visual reaction time

Facilities and Equipment: Electronic reaction timer.

Procedure: The electronic reaction timer specially Medicaid made was employed. Students were given a demonstration before administering the test. Electronic reaction timer had two parts one with tester and another with respondent separated with a paper sheet or board and comprising of four buttons each. There were to systems one audio and

another was light. Light and sound both had their designated switches from where the sound or light is switched off. Tester first switched the sounds and respondent was made to response and after that light reaction time was also administered like the sound only. Score was taken from electronic LCD of the reaction times in seconds.

Scoring: The shortest time recorded out of five legal trials was considered to be the score of the test.

3.7.2.5 Agility

Test: -Semo Agility Test

Facilities and Equipment: a smooth area of 12 feet broad and 19 feet length, Four cones or suitable objects, paper, pen and a stop watch

Procedure: The subject was made to stand with her back towards the area on point A, with command of "ready" "go" by the tester. After that she had to side step from point a to b, from b to c she was supposed to back pedal. The took a sprint forward from c to d and pass to the inner-side of the corner cone. Sprinting from D to A and pass out-side the corner cone.

Scoring: The score was the best of two trials recorded in seconds (1/10 second) was recorded as the score.

3.8 Description of the Self-Defense Training Programme

Twelve weeks and 1 hour per day programme for self-defense was prepared by the researcher with the help of various experts from the field of martial arts, self-defense activities and Sports Training. Researcher has taken the help of experts for execution of self-defense programme.

TABLE NO. 3.2

Week 1	**Day 1**	**Day 2**	**Day 3**
	overview of the Programme, Introduction of Self-defense activities,	General warmup, Specific Warming up	General warmup, Specific Warming up
	Awareness about intuitions, Body language, and vulnerable targets,	Review of Day 1	Review of Day 2
	General warmup, Specific Warming up	Practice of Rei and sikodachi	30 times Practice of Rey and sikodachi
	Stance and basic movements	Face punch Practice	Middle Punch Practice
	Different position of hand, making punch and punch movement	Head block	Middle Blocks
	Introduction of Punches	Middle punch	50 times Lower punch
	Legs position and its variations	Middle block	Lower block
	Cooling down and doubt clearance	Self-defense against wrist hold	Self-defense against neck press with hitting the nose
		cooling down and doubt clearance	Cooling down and doubt clearance
Week 2	**Day 4**	**Day 5**	**Day 6**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 1	Review of Day 4	Review of Day 5
	Practice of Fighting stance from left right.	Practice of ray, and Fighting stance	Face punch, Middle punch, Lower Punch, Head block, Middle block and Lower block,

			step punch step, head block, Knee attack and elbow attack.
	Face punch in fighting stance	Minimum 2 Min each for Face punch, Middle punch, Lower Punch, Head block, Middle block and Lower block, step punch step, head block and Knee attack.	Round elbow attack on four sides
	Middle punch in fighting stance	Elbow attack Left side, right side and back side	Face Punch and Round elbow attack
	Lower Punch in fighting stance		Front Kick
	Practice of Head block, Middle block and Lower block	Self-defense when both the hands are held from front.	Step Punch Cross 45 Degree
	Step and face punch	self-defense against hug from the back side	Step Punch 90 degree
	Step and head block		Step punch 180 degree
	Knee attack		Round Punch 360 degree
	Cooling down and doubt clearance	Cooling down and doubt clearance	Cooling down and doubt clearance
		Self-defense against Neck Press with Temporal attack	Self-defense against Neck Press with Temporal attack and knee hit on abdomen
	cooling down and doubt clearance	cooling down and doubt clearance	cooling down and doubt clearance
Week 3	**Day 7**	**Day 8**	**Day 9**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up

	Review of Week 2	Review of Day 7	Review of Day 8
	Rey and fighting stance	Knee attack, Front kick and side kick	step face punch and round elbow attack
	Knee attack, front Kick, face punch, Middle punch and lower punch	Face punch and front kick, Middle punch and front kick and Lower punch and front kick	basic kata
	Face, Middle and Low punch with step in one movement	Head block, face punch and front Kick	Head block, face punch and front Kick
	Head block, Middle block and Low block in single movement	Step head block step face punch and front kick, Lower block step middle punch, step front kick.	
	Step Punch and Round elbow attack	Self-defense from rear strangle	Self-defense from rear hostage with knife
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
Week 4	**Day 10**	**Day 11**	**Day 12**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 3	Review of Day 10	Review of Day 11
	ray 10 times		
	face punch 10 times, middle punch, round punch, step face punch, round elbow attack, knee attack, heel kick and basic kata	fighting stance in step, head block, middle block, lower block and cross block	step fighting stance, step front kick, step face punch, step side kick,
		Front kick side kick, back kick, heel kick and knee attack.	falling technique to save head.

		Self-defense from club	Self-defense from commando knife attack
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 5	**Day 13**	**Day 14**	**Day 15**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 4	Review of Day 13	Review of Day 14
	face punch, middle punch, lower punch and head punch, hajite, side punch, round punch, knee attack, front kick, heel kick and side kick, back spin kick	head block, middle block, lower block and cross block	face to face spiring, face punch middle punch, hajitey punch, front kick
		face punch and round punch, face punch and round elbow	Practice of blocks
		heel kick and back spin kick,	Practice of heel kick and back spin kick
		Self-defense against back hand knife attack	sweep kick and self-defense from Gun
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 6	**Day 16**	**Day 17**	**Day 18**
	15 min: General warmup, 05 min Specific Warming up,	15 min: General warmup, 05 min Specific Warming up,	15 min: General warmup, 05 min Specific Warming up,
	Review of Week 5	Review of Day 16	Review of Day 17
	On focus Pad/Target		

	step face punch, step middle punch, step front kick, double face punch and front kick, face punch, middle punch and step front kick	heel kick, round punch. Round elbow, nakate, nahenakete, back spin kick, round kick, sweep kick, head block middle block, lower block and cross block	ankle hold and throw, waist hold and throw
	back spin kick, sweep kick, heel kick, side kick	neck grab and throw, wrist hold and throw	
		self-defense by falling and rolling	Self-defense against rear bear hug
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 7	**Day 19**	**Day 20**	**Day 21**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 6	Review of Day 19	Review of Day 20
	Face punch, middle punch, lower punch, round punch, step face punch, step middle punch, round elbow attack, jump face punch, jump round elbow attack, cross punches, head punches, hajitey punch and side punch	head block, middle block, lower block, cross block, double head block, double middle block, double lower block, knee block, soto attack, sutaii attack,	Knee attack, front kick, lower kick, heel kick, side kick, back kick, back spin kick, round kick
		jump spin kick on focus target	
	Practice of knife defense and gun defense	Self-defense through Eye strike while standing	Self-defense through Eye strike from ground positions
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance

week 8	**Day 22**	**Day 23**	**Day 24**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 7	Review of Day 22	Review of Day 23
	Demo fighting with safety gears	self-defense with cloths	step face punch, step middle punch, step soto attack, step sutaii techniques, step hajitey, step head punch, step side punch, step nakate attack, step nahenakate, round punch, round elbow attack, step cross punch.
			back spin kick round kick and muashi kick.
	Review of self-defense technique	Self-defense with Open palm groin strike	Self-defense with knee strike on groin
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 9	**Day 25**	**Day 26**	**Day 27**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 8	Review of Day 25	Review of Day 26
	Practice of face punch, Practice of Middle punches, Practice of face and middle punch together	head block, middle block, side kick, step side kick, hajitey punch	knee attack, face punch and knee attack, front kick
	step face punch, step middle punch, and practice of both.	round punch, round elbow and back spin	stick attack and round punch

	front kick and step front kick		stick attack and side kick
		Self-defense with knee attack on groin and head	Self-defense with groin kick from ground level
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 10	**Day 28**	**Day 29**	**Day 30**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 9	Review of Day 28	Review of Day 29
	face to face sparring	on focus pads/target	
	self-defense with falling and sweep kick	front kick, muashi kick, side kick, back kick, heel kick, back spin kick, round kick, sweep kick, stick self defense	step face punch, middle punch, lower punch, soto attack, suttai attack, nakete attack, nahenakete attack, heart punch, head punch, side punch, hajitey punch, round punch jump round punch.
	rolling and defense		
	fighting with safety gears	Self-defense with groin and nose attack combo	Self-defense against wrist grab
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 11	**Day 31**	**Day 32**	**Day 33**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up

	Review of Week 10	Review of Day 31	Review of Day 32
	Head block, Middle block and Lower block,	self-defense from sword attack, knife attack, gun attack and stick attack.	fighting stance
	cross block, double head block, double middle block	defense with stick	punch and kicks from floor
	basic kata		
		Self-defense from sword attack	Self-defense against rear bear hug with lift
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance
week 12	**Day 34**	**Day 35**	**Day 36**
	General warmup, Specific Warming up	General warmup, Specific Warming up	General warmup, Specific Warming up
	Review of Week 11	Review of Day 34	Short Review of all the punches strikes and blocks
	punches and kicks on focus pads	punches and kicks on focus pads	Review of all the techniques
	nunchakus and stick self defense	attack on vital organs of opponent	
	cloths grab fighting		
	self-defense with handbag,	Self-defense with hair pin, car or bike key and magazine	Self-defense with heels and elbow
	Cooling down and Doubt clearance	Cooling down and Doubt clearance	Cooling down and Doubt clearance

3.9 Statistical Analysis Approach

After providing intervention post-test of all the groups were taken. Collected data was examined for analysis by using descriptive analysis and paired t' test with the help of statistical package-22 (SPSS) and level of significance was set at 0.05.

CHAPTER-IV

RESULTS AND DISCUSSION

This chapter contains statistical treatment of the data, findings and discussions of the results with regard to the Psycho-physical Empowerment of Women through Self Defense Activities–An Experimental Study.

4.1. Analysis of Data

A comparative analysis of data, taken before and after intervention, of the treatment and controlled group was statistically analyzed by applying descriptive statistics and paired sample 't' test.

4.2. Findings

Mean and standard deviation of the selected variables of treatment and controlled group was statistically computed. The results have been depicted in Table No. 4.0.1 and so on. The interpretation of the results is discussed in the later section of this chapter.

Before discussing results and finding demographic data of female volunteers of adolescent and adult group along with their experimental and control group, has been discussed in following part. Age, height and body weight of all the female volunteer participants has been considered in the table no. 4.1.

TABLE NO. 4.1.

DESCRIPTIVE STATISTICS OF DEMOGRAPHIC INFORMATION OF TREATMENT AND CONTROL GROUP OF ADULT WOMEN

Treatment Group	N	Minimum	Maximum	Mean	Std. Deviation
Age (in Years)	30	13.00	15.00	13.50	.68
Height (in CMs)	30	133.00	158.00	144.60	6.07
Weight (in KGs)	30	36.00	51.00	41.00	4.55

Control group					
Age (in Years)	30	13.00	15.00	13.43	.50
Height (in CMs)	30	136.00	155.00	147.16	6.45
Weight (in KGs)	30	37.00	67.00	45.83	5.73

Above table indicates that the mean and SD of thirty (N=30)adolescent's female of treatment group and thirty (N=30) adolescent female of control group in their age 13.50± 0.68; height 144.60 ± 6.07; weight 41 ± 4.55; and age 13.43± 0.50; height 147.16 ± 6.45; weight 45.83 ± 5.73; respectively.

TABLE NO. 4.2

DESCRIPTIVE STATISTICS OF DEMOGRAPHIC INFORMATION OF TREATMENT AND CONTROL GROUP OF ADULT WOMEN					
Treatment Group	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age (in Years)	35	19.00	23.00	20.17	1.01
Height (in CMs)	35	144.60	164.00	159.66	4.05
Weight (in KGs)	35	46.00	83.50	60.02	10.82
Control Group					
Age (in Years)	35	19.00	23.00	20.22	1.11
Height (in CMs)	35	145.00	164.00	157.98	3.95
Weight (in KGs)	35	48.00	87.00	62.63	8.96

Above table shows that the mean and SD of Thirty-five (N=35) adult female of treatment group and Thirty-five (N=35) adult female of control group in their age 20.17± 1.01; height 159.66 ± 4.05; weight 60.02 ± 10.82; and age 20.22± 1.11; height 157.98 ± 3.95; weight 62.63 ± 8.96; respectively.

4.3 RESULT AND INTERPRETATION PERTAINING TO ADOLESCENTS GROUP OF FEMALES

TABLE NO. 4.3.1

MEAN AND STANDARD DEVIATION MEASURING SELF-EFFICACY OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Self-Efficacy	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	30	72.86	5.63	1.02	77.56	5.04	0.92
Control Group	30	73.33	4.42	0.80	73.50	4.61	0.84

Table No. 4.3.1 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on self-efficacy of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of self-efficacy was 72.86 and 5.63 respectively whereas, 77.56 and 5.04 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of self-efficacy as 73.33 and 4.42 respectively whereas, 73.50 and 4.61 respectively for post intervention test.

TABLE NO. 4.3.1.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING SELF-EFFICACY OF ADOLESCENT FEMALES

Self-Efficacy	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	4.70	2.53	0.46	5.64	3.75	10.16**	29	.000**
Control group Pre–Post	0.16	3.22	0.58	1.37	1.03	0.28	29	.77

't' $_{0.05*}$ (29) =2.04*

The paired difference displays mean and standard deviation difference in treatment group as 4.70 and 2.53 whereas, the control group showed means and standard deviation difference of 0.16 and 3.22 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 10.15 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.28 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proved to be significantly accepted at 0.05 level and p value of control group was 0.77 and was higher than the 0.05 significance level which failed to be significant. Hence, it can be strongly reported that there was a positive impact of self-defense programme on treatment group who were exposed to self-defense activities for 12 weeks.

Thus, the research hypothesis $H_{(1)}$, "There exists a significant effect of self-defense activities on self efficacy of adolescent females" stands accepted.

FIGURE NO. 4.3.1

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON SELF-EFFICACY OFADOLESCENT FEMALES

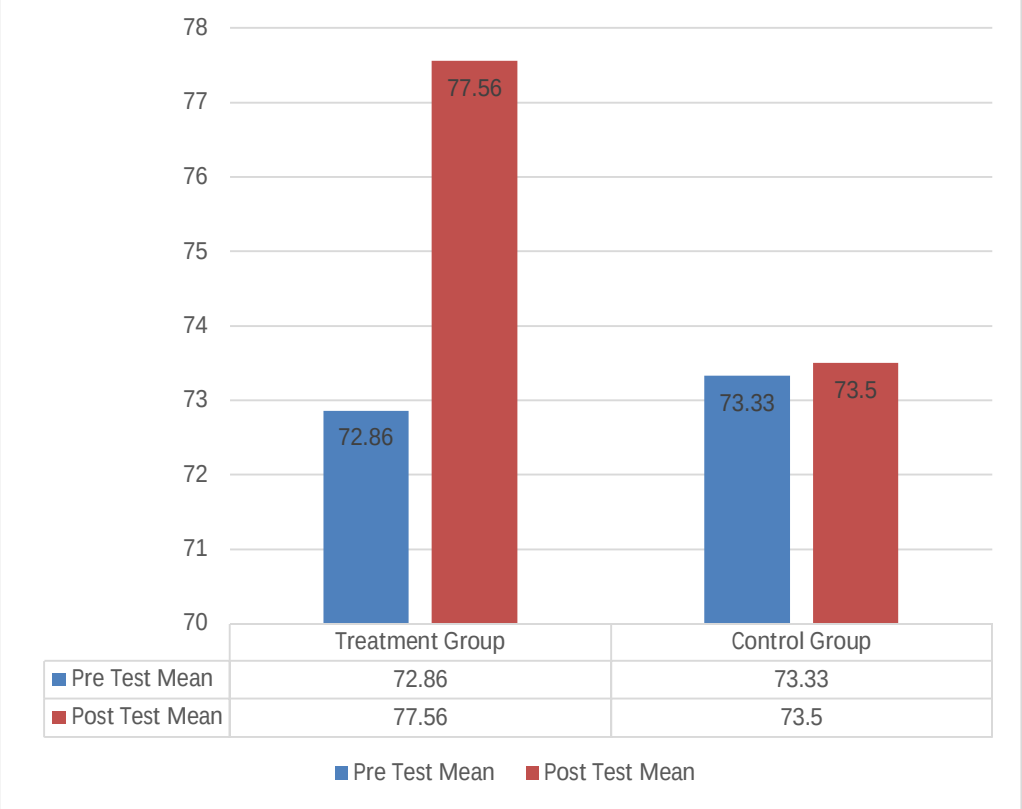


TABLE NO. 4.3.2

MEAN AND STANDARD DEVIATION MEASURING EMOTIONAL INTELLIGENCE OF TREATMENT GROUP DURING PRE AND POST TEST

Emotional Intelligence	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	30	20.36	2.78	0.50	22.60	2.55	0.46
Control Group	30	18.90	2.60	0.47	18.93	0.42	0.84

Table No. 4.3.2 depicts the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Emotional Intelligence of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of Emotional Intelligence was 20.36 and 2.78 respectively whereas, 22.60 and 2.55 respectively for post intervention test. The control group showed themean, standard deviation in regard with pre-intervention value of psychological variable of Emotional Intelligence as 18.90 and 2.60 respectively whereas, 18.93 and 0.42 respectively for post intervention test.

TABLE NO. 4.3.2.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EMOTIONAL INTELLIGENCE OF ADOLESCENT FEMALES

Emotional Intelligence	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	2.23	2.04	0.37	2.99	1.46	5.97	29	.000**
Control group Pre –Post	0.03	2.41	0.44	0.93	0.86	0.07	29	.94

't' $_{0.05*}$ (29) =2.04*

The paired difference clearly depicts the mean and standard deviation difference in treatment group as 2.23 and 2.04respectively whereas, the control group showed means and standard deviation difference of 0.33 and 2.41 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of the treatment group where the t-value determined by calculation was 5.97 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.07 which was lower than the tabulated of t' value. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group was 0.94 and was higher than the 0.05 significance level and resulting not to be significant. Hence, it can be strongly inferred that there was a significant improvement in emotional intelligence of those who were exposed to self-defense activities for 12 weeks.

Thus, the research hypothesis $H_{(2)}$ "There exists a significant effect of self-defense activities on Emotional Intelligence of adolescent females" stands accepted.

FIGURE NO. 4.3.2

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON EMOTIONAL INTELLIGENCE OF ADOLESCENT FEMALES

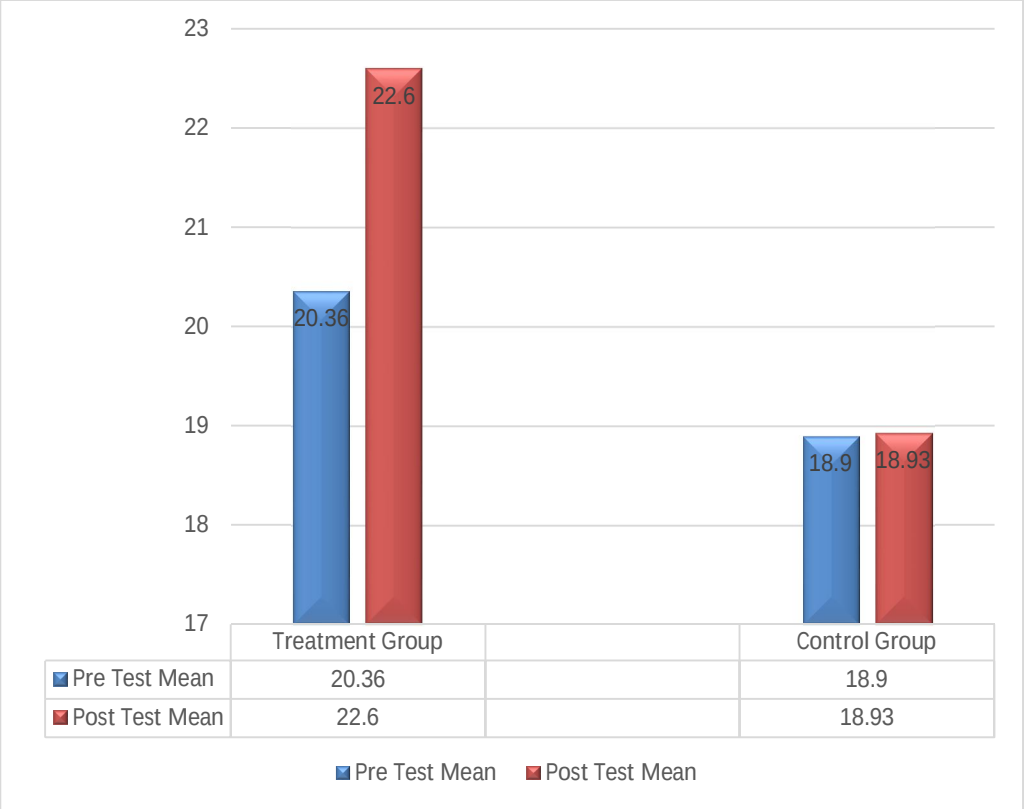


TABLE NO. 4.3.3

MEAN AND STANDARD DEVIATION MEASURING AGGRESSION OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Aggression	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	30	73.30	6.05	1.10	74.43	6.27	1.14
Control Group	30	72.30	5.33	0.97	72.36	5.57	1.01

Table No. 4.3.3 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Aggression of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of Aggression was 73.30 and 6.05 respectively whereas, 74.43 and 6.27 respectively for the post intervention test. The results of control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of Aggression as 72.30 and 5.33 respectively whereas, 72.36 and 5.57 respectively for post intervention test.

TABLE NO. 4.3.3.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING AGGRESSION OF ADOLESCENT FEMALES

Aggression	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	1.13	2.95	0.53	2.23	0.02	2.10*	29	0.04*
Control group Pre –Post	0.06	2.62	0.47	1.04	0.91	0.13	29	0.89

't' $_{0.05*}$ (29) =2.04*

In the above table, the paired difference depicts mean and standard deviation difference in treatment group as 1.13 and 2.95 whereas, control group showed mean and standard deviation difference of 0.06 and 2.62 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation 2.10 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.13 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.04 which proves to be significantly accepted at 0.05 level and p value of control group was 0.89 and was higher than the 0.05 level and resulting not significant. Hence, it can be strongly documented that 12 weeks self-defense training contribute in the increment of aggressive behavior in the subjects taken into current study.

Thus, the research hypothesis $H_{(3)}$,"There exists a significant effect of self-defense activities on Aggression of adolescent females" stands accepted.

FIGURE NO. 4.3.3

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON AGGRESSION OF ADOLESCENT FEMALES

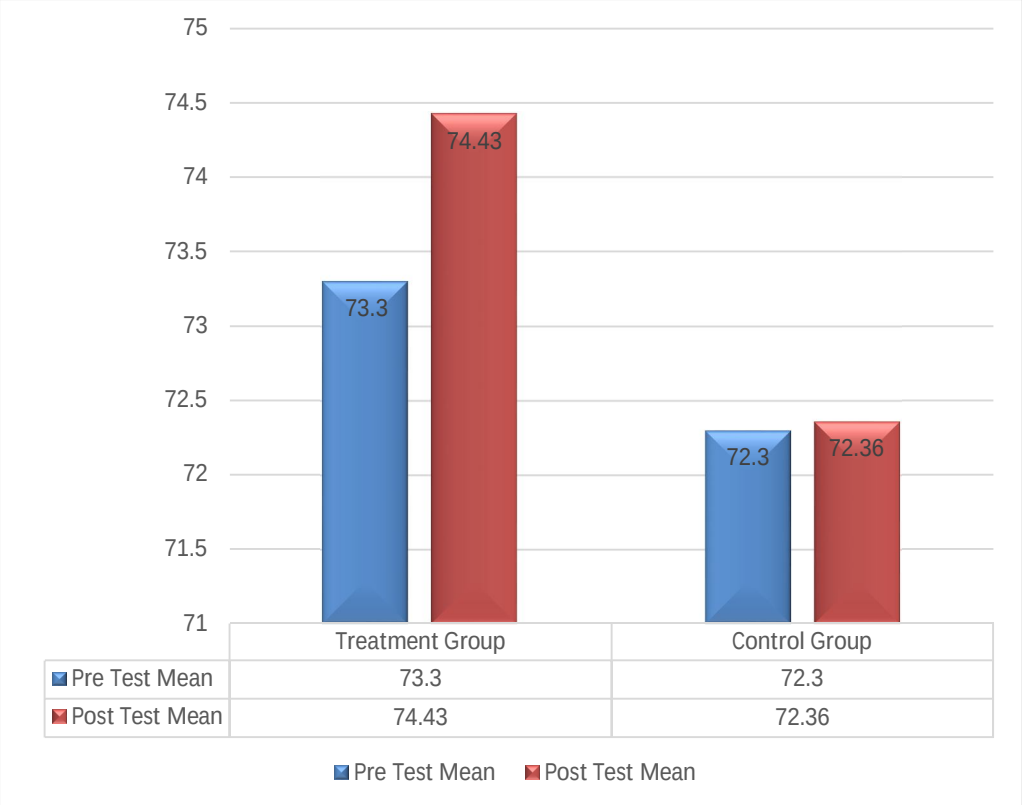


TABLE NO. 4.3.4

MEAN AND STANDARD DEVIATION MEASURING EXPLOSIVE STRENGTH OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Explosive Strength	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	30	1.15	0.12	0.02	1.40	0.19	0.03
Control Group	30	1.20	0.17	0.03	1.19	0.17	0.03

Table No 4.3.4 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on explosive strength of adolescent females. The Table depicts mean, standard deviation in regard with pre-intervention value of physical fitness variable of explosive strength is 1.15 and 0.12 respectively whereas, 1.40 and 0.19 respectively for post intervention test. The control group shows mean, standard deviation in regard with pre-intervention value of physical variable of Explosive Strength as 1.20 and 0.17 whereas, 1.19 and 0.17 respectively for post intervention test.

TABLE NO. 4.3.4.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EXPLOSIVE STRENGTH OF ADOLESCENT FEMALES

Explosive Strength	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	0.24	0.21	0.03	0.32	0.17	6.48**	29	0.00**
Control group Pre –Post	0.01	0.11	0.02	0.03	0.05	0.51	29	0.61

't' $_{0.05*}$ (29) =2.04*

The paired difference clearly displays mean and standard deviation difference in treatment group as 0.24 and 0.21whereas, control group shows mean and standard deviation difference of 0.1 and 0.11 respectively. The result proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 6.48 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.51 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which was significant at 0.05 level and p value of control group was 0.61 was higher than the significance level found to be not significant. Hence, the results indicated that there was positive impact of 12 weeks self-defense programme on explosive strength on treatment group.

Thus, the research hypothesis $H_{(4)}$, "There exists a significant effect of self-defense activities on Explosive Strength of adolescent females" stands accepted.

FIGURE NO. 4.3.4

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON EXPLOSIVE STRENGTH OF ADOLESCENT FEMALES

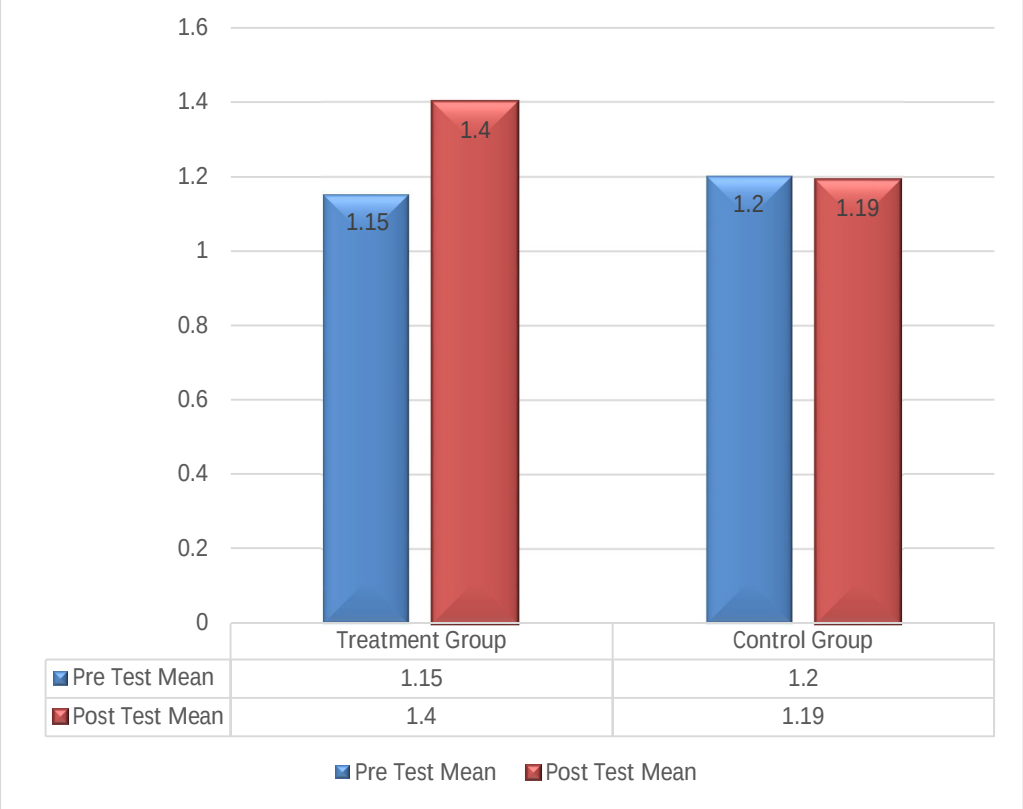


TABLE NO. 4.3.5

MEAN AND STANDARD DEVIATION MEASURING FLEXIBILITY OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Flexibility	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	30	10.01	2.30	0.42	11.45	2.36	0.43
Control Group	30	9.68	2.01	0.36	9.58	2.24	0.40

Table No. 4.3.5 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Flexibility of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of physical fitness variable of Flexibility was 10.01 and 2.30 respectively whereas, 11.45 and 2.36 respectively for post intervention test. The control group shows mean, standard deviation in regard with pre-intervention value of psychological variable of Flexibility as 9.68 and 2.01 whereas, 9.58 and 2.24 respectively for the post intervention test.

TABLE NO. 4.3.5.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING FLEXIBILITY OF ADOLESCENT FEMALES

Flexibility	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	1.43	0.93	0.17	1.78	1.08	8.45**	29	.000**
Control group Pre –Post	0.09	0.95	0.17	0.25	0.45	.56	29	.57

't' $_{0.05*}$ (29) =2.04*

The paired difference depicts the mean and standard deviation difference in treatment group as 1.43 and 0.93whereas, control group shows mean and standard deviation difference of 0.09 and 0.95 respectively. The result found to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 8.44 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.56 which was lower than the table value of t'. Since the p value for treatment group was 0.00 which proves to be significant at 0.05 level and p value of control group was 0.57, was higher than the selected significance level, resulting non-significance. Hence, it can be strongly recorded that 12 weeks self-defense activities have significant effect on flexibility component of physical fitness.

Thus, the research hypothesis $H_{(5)}$, "There exists a significant effect of self-defense activities on Flexibility of adolescent females" stands accepted.

FIGURE NO. 4.3.5

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON FLEXIBILITY OF ADOLESCENTS FEMALES

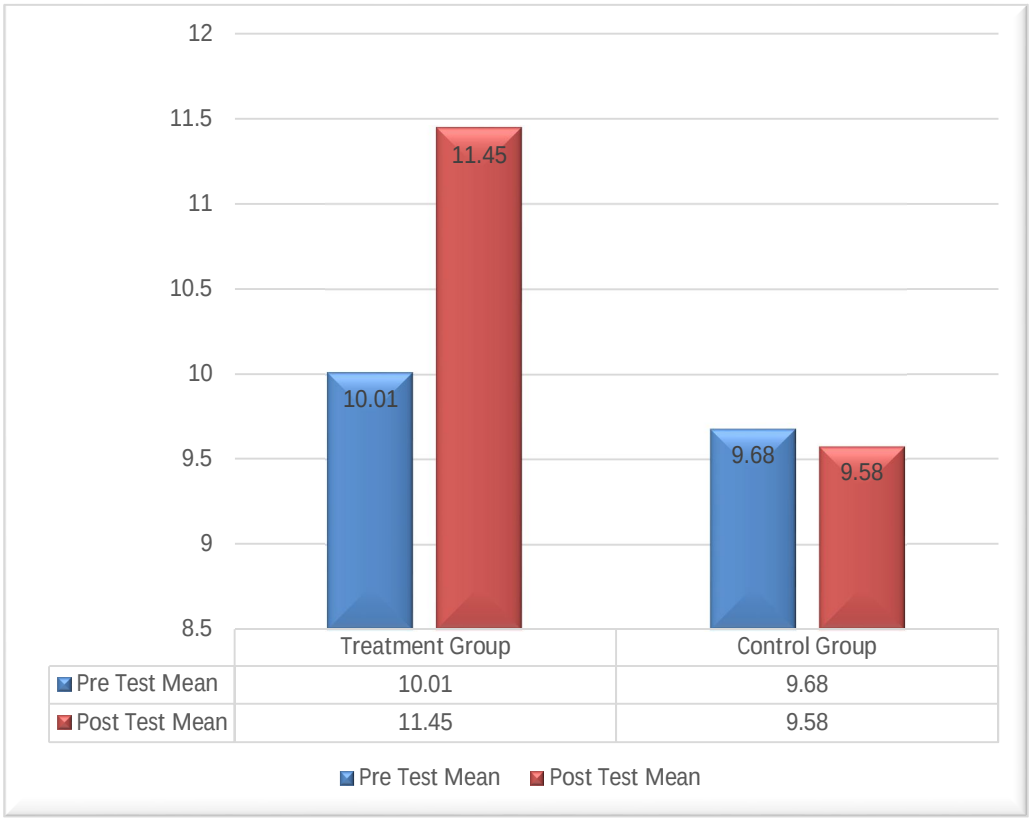


TABLE NO. 4.3.6

MEAN AND STANDARD DEVIATION MEASURING BALANCE OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Balance	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	30	5.61	3.09	0.56	7.22	2.8	0.52
Control Group	30	6.14	2.59	0.47	6.12	3.08	0.56

Table No. 4.3.6 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on motor fitness variable, Balance of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of Balance was 5.61 and 3.09 respectively whereas, 7.22 and 2.8 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of Balance as 6.14 and 2.59 whereas, 6.12 and 3.08 respectively for post intervention test.

TABLE NO. 4.3.6.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING BALANCE OF ADOLESCENT FEMALES

Balance	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	1.61	1.50	0.27	2.17	1.05	5.87**	29	0.00**
Control group Pre –Post	0.02	0.90	0.16	0.31	0.35	0.12	29	0.90

't' $_{0.05*}$ (29) =2.04*

The above table depicts the paired difference of mean and standard deviation difference in treatment group as 1.61 and 1.50 respectively whereas, control group showed mean and standard deviation difference of 0.02 and 0.90 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 5.87 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation 0.12 which was lower than the tabulated t' value. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level was 0.90 and was higher than the 0.05 significance level and resulting to be not to be significant. It can be strongly inferred from the above results that those 12-week self-defense activities improve the balance capability.

Thus, the research hypothesis H $_{(6)}$, "There exists a significant effect of self-defense activities on Balance of adolescent females" stands accepted.

FIGURE NO. 4.3.6

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON BALANCE OF ADOLESCENTS FEMALES

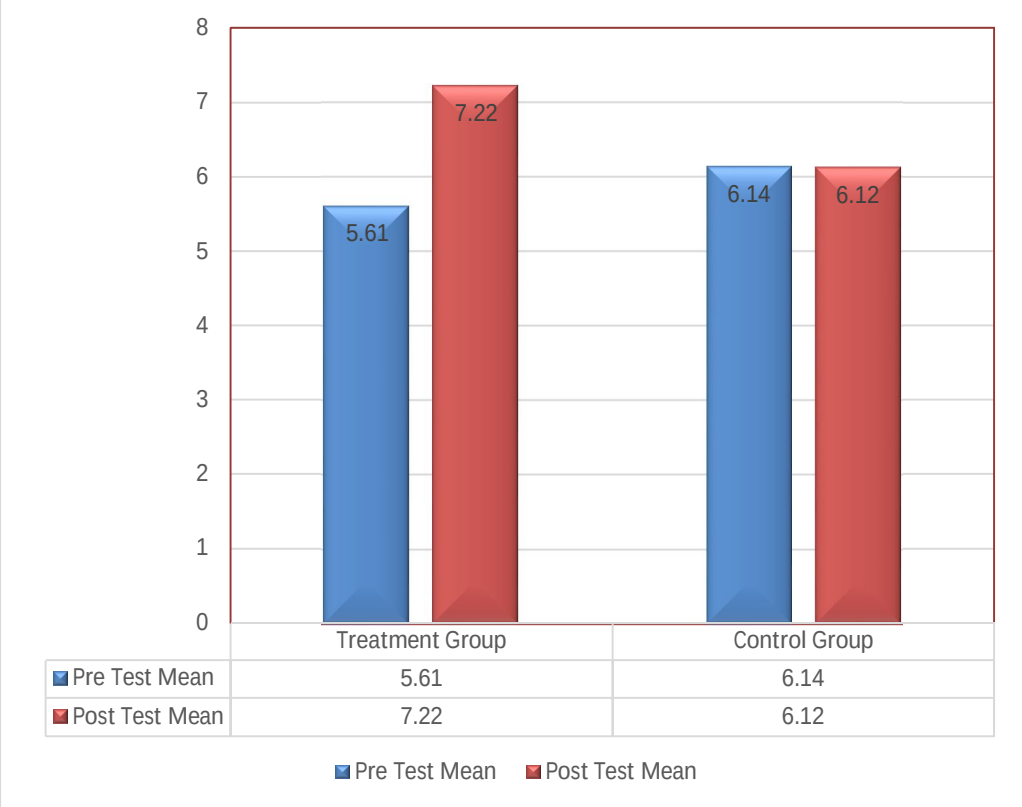


TABLE NO. 4.3.7

MEAN AND STANDARD DEVIATION MEASURING AUDIO REACTION TIME OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Audio Reaction time	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	30	1.60	0.80	0.14	1.12	0.45	0.08
Control Group	30	2.12	0.98	0.17	2.14	0.97	0.17

Table No. 4.3.7 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Audio Reaction Time of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of motor fitness variable of Audio Reaction Timewas1.60 and 0.80 respectively whereas, 1.12 and 0.45 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of Audio Reaction Time as 2.12 and 0.98 whereas, 2.14 and 0.97 respectively for post intervention test.

TABLE NO. 4.3.7.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING AUDIO REACTION TIME OF ADOLESCENT FEMALES

Audio Reaction Time	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	0.48	0.52	0.09	0.28	0.68	4.99**	29	0.00**
Control group Pre –Post	0.02	0.36	0.06	0.16	0.11	0.34	29	0.73

't' $_{0.05*}$ (29) =2.04*

The paired difference depicts mean and standard deviation difference in treatment group as 0.48 and 0.52 whereas, control group shows mean and standard deviation difference of 0.02 and 0.36 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 4.99 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.03 which was lower than the table value of t'. Since the p value for treatment group was 0.00 which proved to be significantly accepted at 0.05 level and p value of control group was 0.73 and was higher than the 0.05 significance level and resulting not significant. The results accessible in descriptive statistics showed reduced timing between auditory stimuli and reaction of those, who were exposed to self-defense activities for 12 weeks. Thus, the results revealed that self-defense activities helped in increasing reaction ability to auditory stimulus of treatment group.

Thus, the research hypothesis H $_{(7)}$, "There exists a significant effect of self-defense activities on Audio reaction Time of adolescent females" stands accepted.

FIGURE NO. 4.3.7.

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON AUDIO REACTION TIME OF ADOLESCENT FEMALES

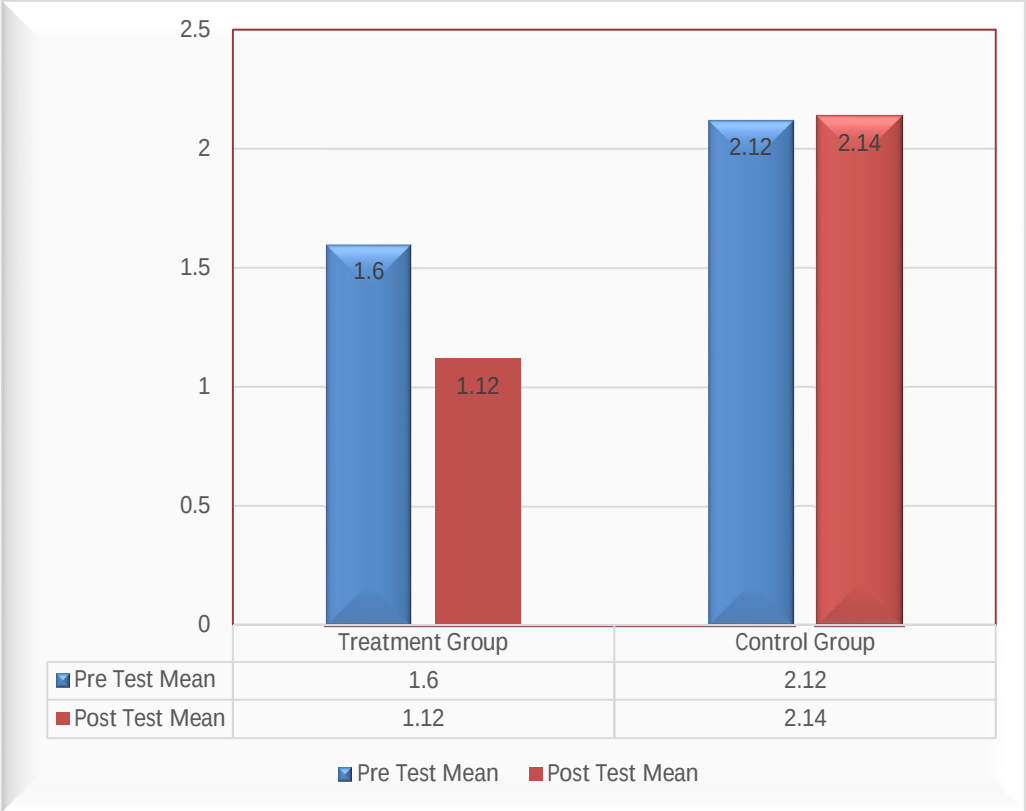


TABLE NO. 4.3.8

MEAN AND STANDARD DEVIATION MEASURING VISUAL REACTION TIME OF TREATMENT GROUP DURING PRE AND POST TEST

Visual Reaction time	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	30	0.81	0.26	0.24	0.74	0.20	0.37
Control Group	30	1.17	0.33	0.06	1.20	0.37	0.06

Table No. 4.3.8 displays the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Visual Reaction Time of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of motor fitness variable of Visual Reaction Time was 0.81 and 0.26 respectively whereas, 0.74 and 0.20 respectively for post intervention test. The control group showed the mean, standard deviation in regard with pre-intervention value of motor fitness variable of Visual Reaction Time as 1.17 and 0.33 whereas, 1.20 and 0.37 respectively for post intervention test.

TABLE NO. 4.3.8.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING VISUAL REACTION TIME OF ADOLESCENT FEMALES

Visual Reaction Time	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	0.07	0.21	0.03	0.00	0.14	1.79	29	0.08
Control group Pre –Post	0.02	0.37	0.06	0.16	0.11	0.43	29	0.66

't' $_{0.05*}$ (29) =2.04*

The paired difference clearly shows the mean and standard deviation difference in treatment group as 0.70 and 0.02 whereas, control group showed mean and standard deviation difference of 0.02 and 0.37 respectively. The result found not to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 1.79 and for controlled it was 0.43 both are lower than the tabulated value of t' i.e. 2.04. Since the p value for treatment group was 0.08 which was failed to be significant at 0.05 level of significance and p value of control group was 0.66 and was higher than the 0.05 significance level and resulting not to be significant. Though the mean difference showed a difference in visual reaction time of those who were exposed to self-defense activities for 12 weeks but it was not significantly different. Therefore, it was indicated that there was a little impact of self-defense programme on visual reaction time of treatment group.

Thus, the research hypothesis, $H_{(8)}$, "There exists a significant effect of self-defense activities on Visual reaction Time of adolescent females" stands rejected.

FIGURE NO. 4.3.8

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON VISUAL REACTION TIME OF ADOLESCENTS FEMALES

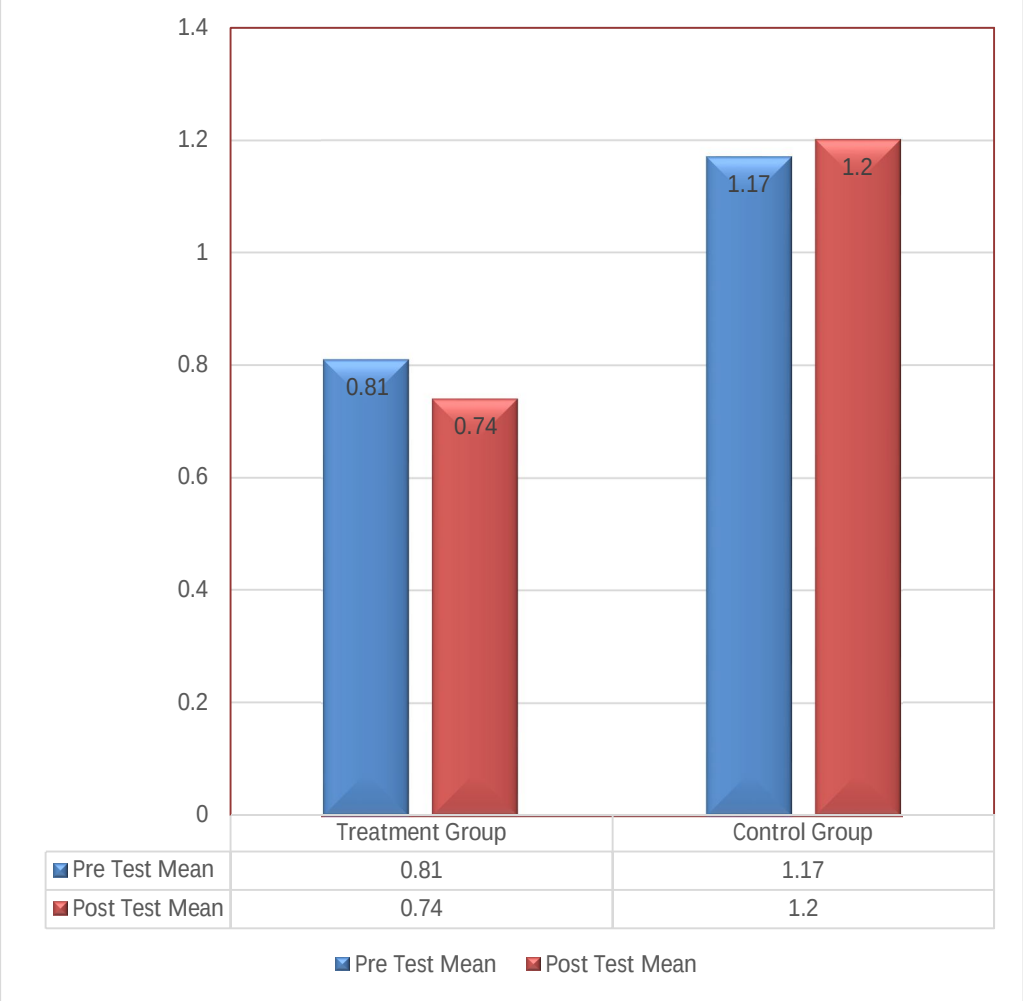


TABLE NO. 4.3.9

MEAN AND STANDARD DEVIATION MEASURING AGILITY OF TREATMENT GROUP DURING PRE AND POST TEST

Agility	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	30	17.35	2.36	0.43	14.84	2.29	0.41
Control Group	30	18.15	3.11	0.56	17.99	3.38	0.61

Table No. 4.3.9 shows the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Agility of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of physical fitness variable of Agility was 17.35 and 2.36 respectively whereas, 14.84 and 2.29 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of physical fitness variable of Agility was 18.15 and 3.11 whereas, 17.99 and 3.38 respectively for post intervention test.

TABLE NO. 4.3.9.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING AGILITY OF ADOLESCENT FEMALES

Agility	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	2.51	1.52	0.27	1.94	3.08	9.03	29	0.00**
Control group Pre –Post	0.16	1.77	0.32	0.49	0.82	0.51	29	0.61

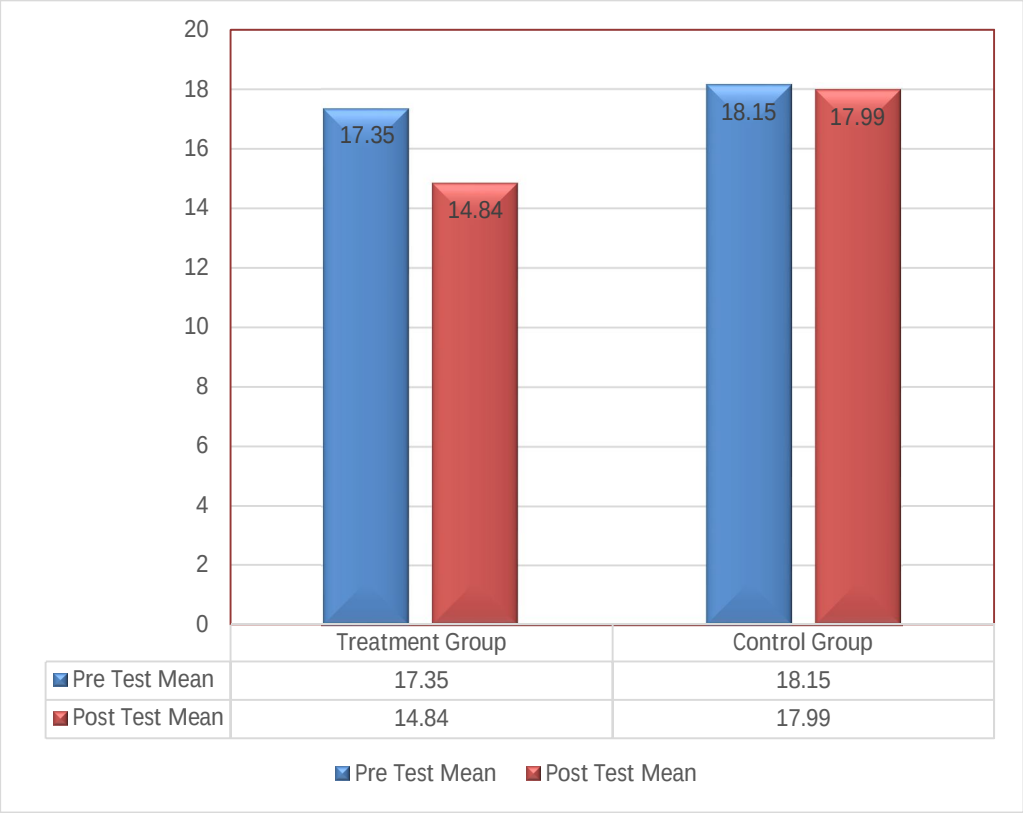
't' $_{0.05*}$ (29) =2.04*

The paired difference clearly shows mean and standard deviation difference in treatment group as 2.51 and 1.52 whereas, control group showed mean and standard deviation difference of 0.16 and 1.77 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 9.03 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.51 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group was 0.61 and was higher than the 0.05 significance level which was not found significant. The results presented in above tables depict an improvement in agility by showing less timing in post-test data of those who were exposed to self-defense activities for 12 weeks. Thus, it indicated that there was positive impact of self-defense programme on agility of treatment group.

Thus, the research hypothesis H $_{(9)}$, "There exists a significant effect of self-defense activities on agility of adolescent females" stands accepted.

FIGURE NO. 4.3.9

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON AGILITY OF ADOLESCENT FEMALES



4.4 RESULT AND INTERPRETATION PERTAINING TO ADULT GROUP OF WOMEN

TABLE NO. 4.4.1

MEAN AND STANDARD DEVIATION MEASURING SELF-EFFICACY OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Self-Efficacy	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	35	76.77	8.19	1.38	82.08	5.63	0.95
Control Group	35	79.60	9.40	1.59	79.60	9.07	1.53

Table No. 4.4.1 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Self-Efficacy of Adult women. The table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of Self-efficacy is 76.77 and 8.19 respectively whereas, 82.08 and 5.63 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of Self-Efficacy as 79.60 and 9.40whereas,79.60 and 9.07 respectively for post intervention test.

TABLE NO. 4.4.1.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING SELF-EFFICACY OF ADULT WOMEN

Self-Efficacy	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	5.31	4.54	0.76	6.87	3.75	6.91**	34	0.00**
Control group Pre –Post	0.00	9.82	1.66	3.37	3.37	0.00	34	1.00

$'t'_{0.05*}(34) = 2.03*$

The paired difference clearly shows the mean and standard deviation difference in treatment group as 5.31 and 4.54 whereas, control group shows mean and standard deviation difference of 0.00 and 9.82 respectively. The result proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 6.91 which was greater than the tabulated t' value 2.03 and in control group t-value determined by calculation was 0.00, found to be lower than the table value of t'. Since the p value for treatment group is 0.00 which proved to be statistically significant at 0.05 level of significance. The results of above-mentioned tables revealed an enhancement of self-efficacy of those who were exposed to self-defense activities for 12 weeks. Thus, it indicated that there was positive impact of self-defense programme on self-efficacy of treatment group.

Thus, the research hypothesis $H_{(10)}$, "There exists a significant effect of self-defense activities on Self-Efficacy of adult women" stands accepted.

FIGURE NO. 4.4.1

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON SELF-EFFICACY OF ADULT WOMEN

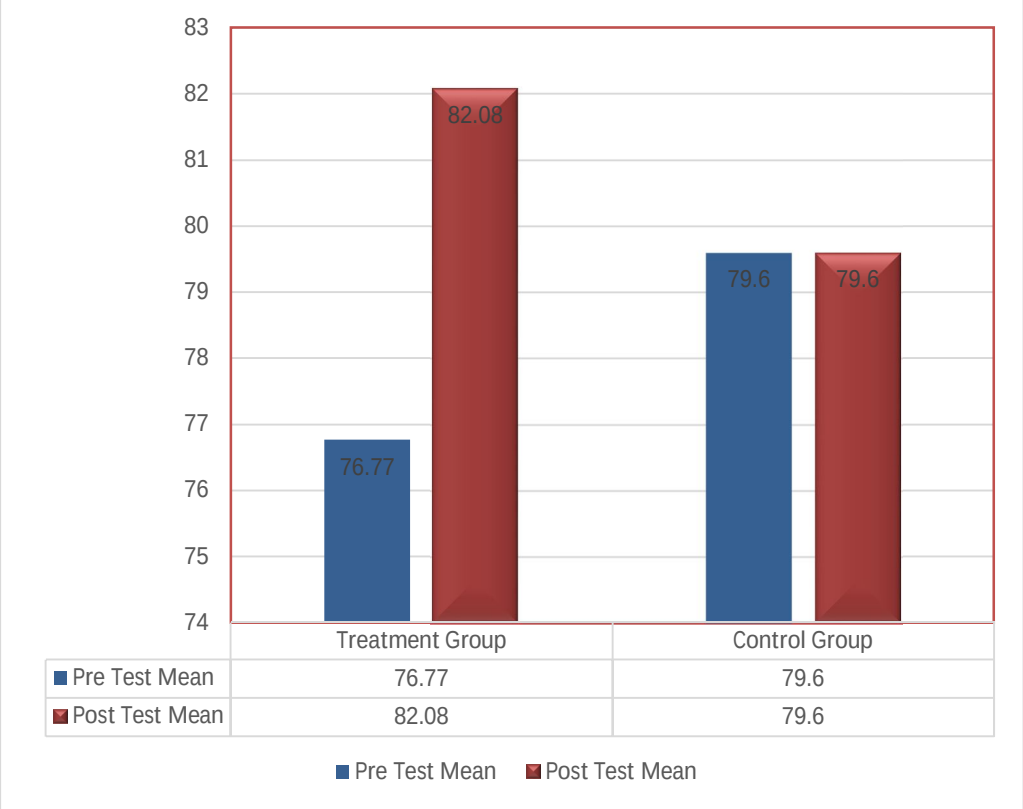


TABLE NO. 4.4.2

MEAN AND STANDARD DEVIATION MEASURING EMOTIONAL INTELLIGENCE OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Emotional Intelligence	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	35	20.97	3.72	0.62	22.91	2.91	0.49
Control Group	35	21.94	4.35	0.73	21.77	3.16	0.53

Table No. 4.4.2 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Emotional Intelligence of Adult women. The Table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of Emotional intelligence is 18.72 and 2.38 respectively whereas, 15.95 and 2.16 respectively for post intervention test. The control group shows mean, standard deviation in regard with pre-intervention value of psychological variable of emotional Intelligence as 21.94 and 4.35 whereas, 21.77 and 3.16 respectively for post intervention test.

TABLE NO. 4.4.2.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EMOTIONAL INTELLIGENCE OF ADULT WOMEN

Emotional Intelligence	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	1.94	2.33	0.39	2.74	1.13	4.92**	34	0.00**
Control group Pre –Post	0.17	1.96	0.33	0.50	0.84	0.51	34	0.60

't' $_{0.05*}$ (34) =2.03*

The paired difference clearly shows the mean and standard deviation difference in treatment group as 1.94 and 2.33whereas, control group shows mean and standard deviation difference of 0.17 and 1.96 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 4.91 which found to be greater than the tabulated t' value 2.03 and in control group t-value determined by calculation is 0.51 which is lower than the tabulated value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level and p value of control group is 0.60 and is higher than the 0.05 significance level which is not significant. The data obtained from above tables showed an improvement in emotional intelligence of those who were exposed to self-defense activities for 12 weeks. The results indicated that there is positive impact of self-defense programme on emotional intelligence of treatment group.

Thus, the research hypothesis H $_{(11)}$, "There exists a significant effect of self-defense activities on emotional intelligence of adult women" stands accepted.

FIGURE NO. 4.4.2

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON EMOTIONAL INTELLIGENCE OF ADULT WOMEN

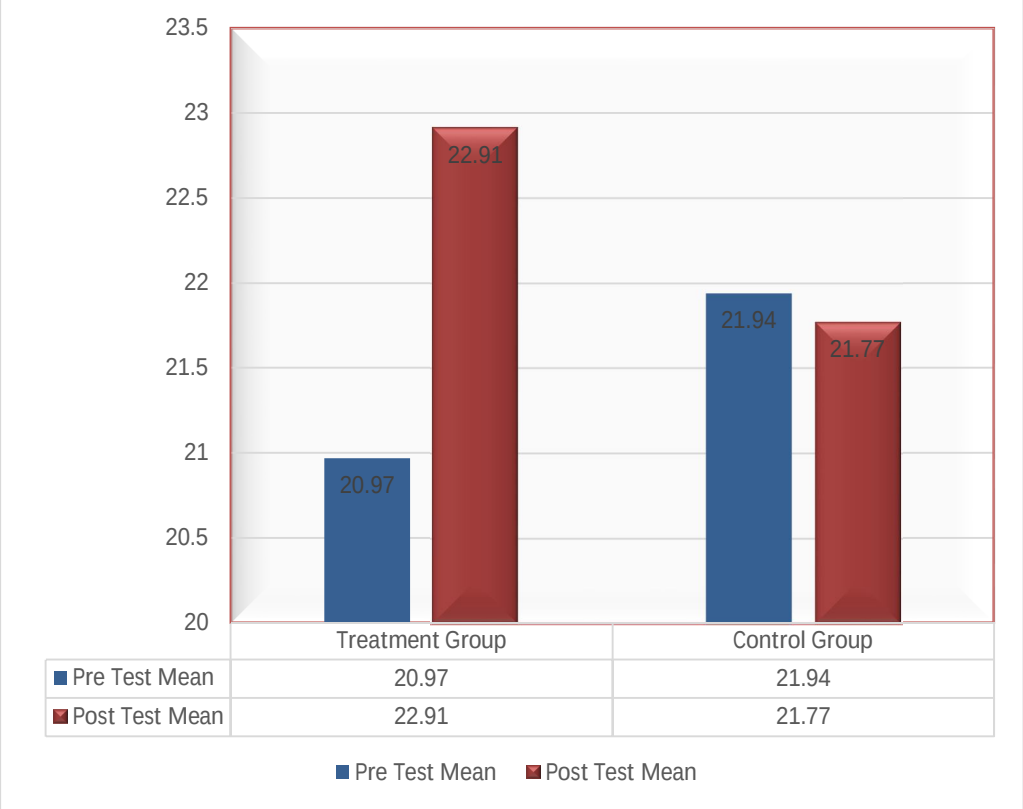


TABLE NO. 4.4.3

MEAN AND STANDARD DEVIATION MEASURING AGGRESSION OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Aggression	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	35	68.94	7.97	1.34	66.22	6.78	1.14
Control Group	35	69.02	6.47	1.09	68.97	6.26	1.05

Table No. 4.4.3 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Aggression of Adult women. The Table depicted mean, standard deviation in regard with pre-intervention value of psychological variable of Aggression is 68.94 and 7.97 respectively whereas, 66.22 and 6.78 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of Aggression as 69.02 and 6.47 respectively whereas, 68.97 and 6.26 respectively for post intervention test.

TABLE NO. 4.4.3.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING AGGRESSION OF ADULT WOMEN

Aggression	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	2.71	3.01	0.50	1.67	3.75	5.32**	34	0.00**
Control group Pre –Post	0.05	2.16	0.36	0.68	0.80	0.15	34	0.87

't' $_{0.05*}$ (34) =2.03*

The paired difference clearly depicts mean and standard deviation difference in treatment group as 2.71 and 3.01 whereas, control group shows mean and standard deviation difference of 0.05 and 2.16 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 5.32 which is greater than the tabulated t' value 2.03 and in control group t-value determined by calculation is 0.15 which is lower than the tabulated value of t'. Thus, it was failed to be significant. Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.87 and is higher than the 0.05 significance level which is not significant. The results revealed in above table depicted a decrease in aggression of those who were exposed to self-defense activities for 12 weeks. Thus, it can be concluded that 12weeks self-defense programme affected aggression of treatment group positively.

. Thus, the research hypothesis H $_{(12)}$, "There exists a significant effect of self-defense activities on aggression of adult women" stands accepted.

FIGURE NO. 4.4.3

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON AGGRESSION OF ADULT WOMEN

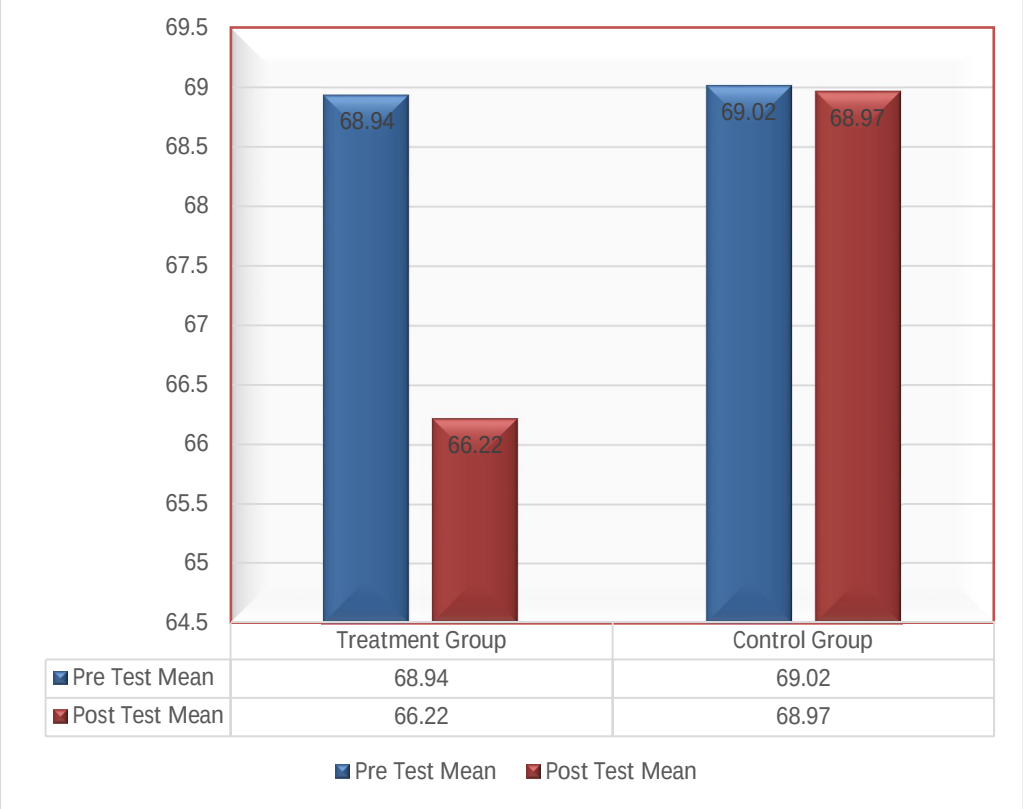


TABLE NO. 4.4.4

MEAN AND STANDARD DEVIATION MEASURING EXPLOSIVE STRENGTH OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Explosive strength	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	35	1.24	0.21	0.03	1.38	0.20	0.03
Control Group	35	1.19	0.17	0.02	1.20	0.15	0.02

Table No. 4.4.4 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Explosive Strength of Adult women. The Table depicted mean, standard deviation in regard with pre-intervention value of physical fitness variable of explosive strength was 1.24 and 0.21 respectively whereas, 1.38 and 0.20 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of Explosive Strength as 69.02 and 1.19 and 0.17 respectively whereas, 1.20 and 0.15 respectively for post intervention test.

TABLE NO. 4.4.4.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EXPLOSIVE STRENGTH OF ADULT WOMEN

Explosive Strength	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	0.13	0.11	0.01	0.17	0.09	7.12**	34	0.00**
Control group Pre –Post	0.00	0.05	0.01	0.02	0.01	0.45	34	0.65

't' $_{0.05*}$(34) =2.03*

The paired difference represents mean and standard deviation difference in treatment group as 0.13 and 0.11 whereas, control group showed the mean and standard deviation difference of 0.00 and 0.05 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 7.12 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.45 which was lower than the table value of t' Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.65 and is higher than the 0.05 significance level which is not significant. The results existing in table showed an improvement in explosive strength of treatment group. Thus, it showed that there was treatment group had a positive effect of self-defense programme on explosive strength.

Thus, the research hypothesis H $_{(13)}$, "There exists a significant effect of self-defense activities on explosive strength of adult women" stands accepted.

FIGURE NO. 4.4.4

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON EXPLOSIVE STRENGTH OF ADULT WOMEN

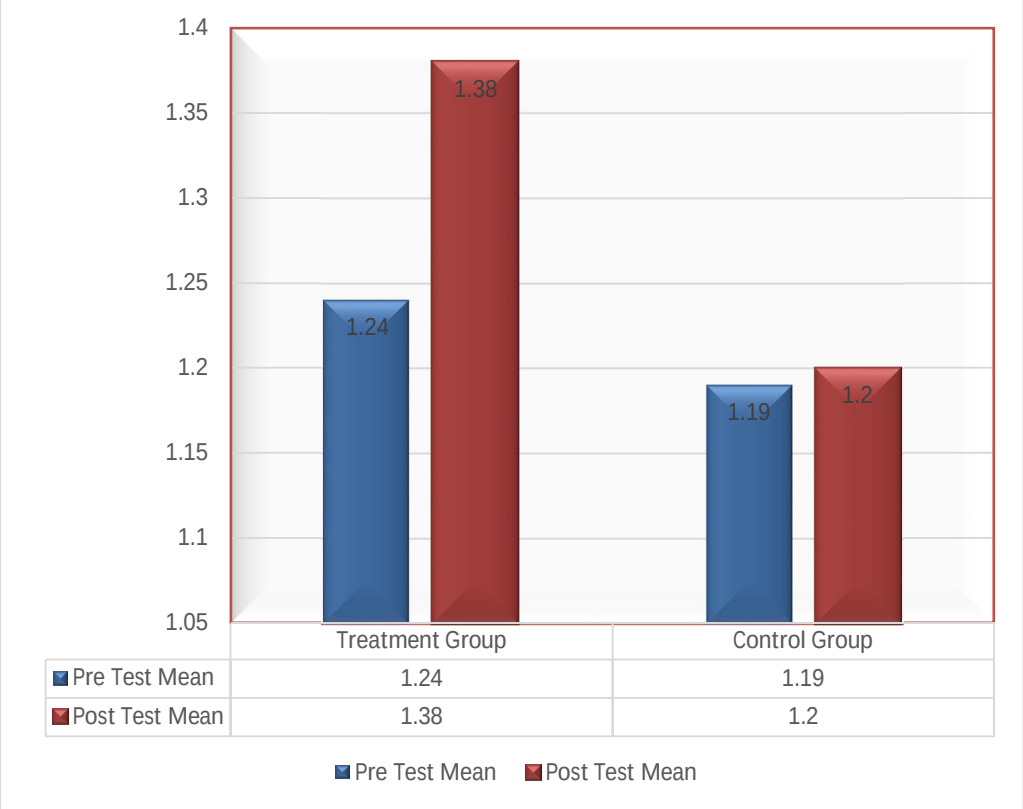


TABLE NO. 4.4.5

MEAN AND STANDARD DEVIATION MEASURING FLEXIBILITY OF TREATMENT GROUP DURING PRE AND POST TEST

Flexibility	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	35	8.67	2.83	0.47	9.90	3.24	0.54
Control Group	35	9.91	2.58	0.43	9.87	2.56	0.43

Table No. 4.4.5 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Flexibility of Adult women. The Table depicted mean, standard deviation in regard with pre-intervention value of physical fitness variable of flexibility is 8.67 and 2.83 respectively whereas, 9.90 and 3.24 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of psychological variable of flexibility is 09.91 and 2.58 respectively whereas, 09.87 and 2.56 respectively for post intervention test.

TABLE NO. 4.4.5.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING FLEXIBILITY OF ADULT WOMEN

Flexibility	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	1.23	2.28	0.38	2.01	0.44	3.19**	34	0.00**
Control group Pre –Post	0.03	0.47	0.08	0.12	0.19	0.45	34	0.65

't' $_{0.05*}$ (34) =2.03*

The paired difference depicts mean and standard deviation difference in treatment group as 1.23 and 2.28 whereas, control group showed mean and standard deviation difference of 0.03 and 0.47 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 3.19 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.45 which was lower than the table value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level and p value of control group is 0.61 and is higher than the 0.05 significance level which was not significant. Thus, results in the above table showed an improvement in flexibility of treatment group. Thus, it indicated that self-defense programme affected flexibility of treatment group positively.

Thus, the research hypothesis H $_{(14)}$, "There exists a significant effect of self-defense activities on flexibility of adult women" stands accepted.

FIGURE NO. 4.4.5

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON FLEXIBILITY OF ADULT WOMEN

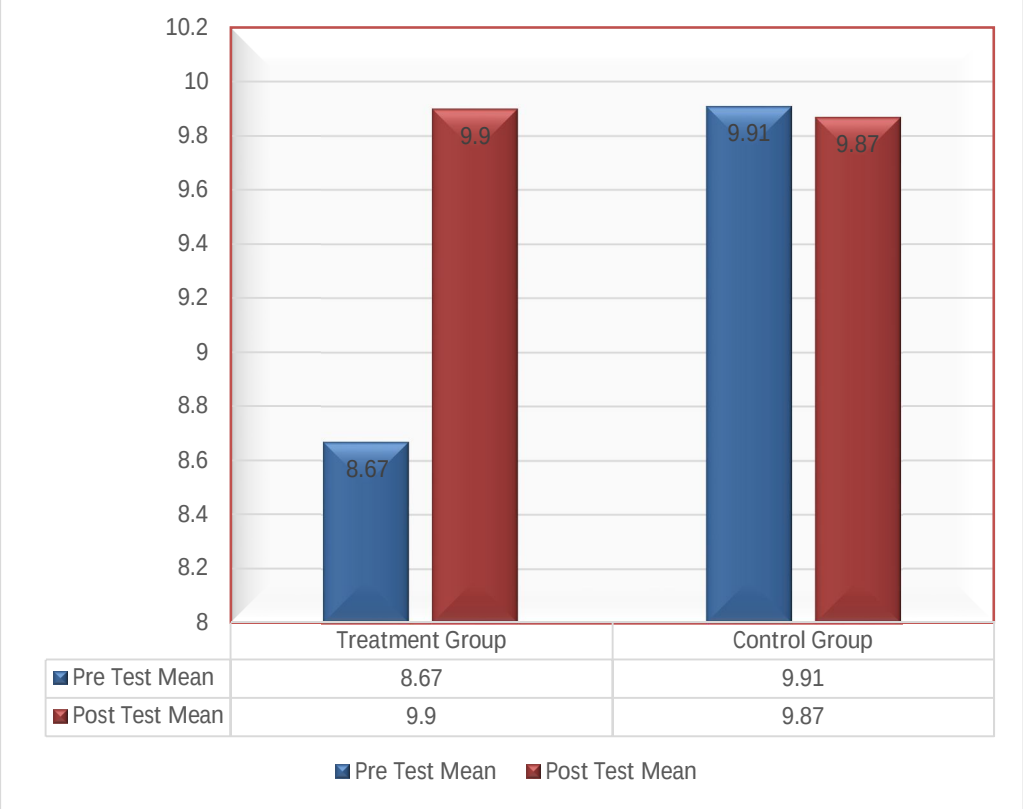


TABLE NO. 4.4.6

MEAN AND STANDARD DEVIATION MEASURING BALANCE OF TREATMENT GROUP DURING PRE AND POST TEST

Balance	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	35	5.49	3.43	0.58	7.49	2.95	0.50
Control Group	35	4.57	2.23	0.37	4.44	2.20	0.37

Table No. 4.4.6 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Balance of Adult women. The Table depicted the mean, standard deviation in regard with pre-intervention value of motor fitness variable of Balance is 5.49 and 3.43 respectively whereas, 7.49 and 2.95 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of motor fitness variable of Balance is 4.57 and 2.23 respectively whereas, 4.44 and 2.20 respectively for post intervention test.

TABLE NO. 4.4.6.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING BALANCE OF ADULT WOMEN

Balance	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	1.99	1.50	0.25	2.52	1.47	7.72**	34	0.00**
Control group Pre –Post	0.12	0.38	0.06	0.00	0.25	1.93	34	0.06

't' $_{0.05*}$ (34) =2.03*

The paired difference clearly showed mean and standard deviation difference in treatment group as 1.99 and 1.50 whereas, control group showed mean and standard deviation difference of 0.12 and 0.38 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 7.72 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 1.93 which is higher than the table value of t'. Since the p value for treatment group is 0.00 which was significant at 0.05 level of significance and p value of control group is 0.06 and is also higher than the 0.05 significance level which failed to be significant. The results presented in table depicted an improvement in balance of treatment group. Thus, it indicated that there is positive impact of self-defense programme on balance of treatment group.

Thus, the research hypothesis H $_{(15)}$, "There exists a significant effect of self-defense activities on Balance of adult women" stands accepted.

FIGURE NO. 4.4.6

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON BALANCE OF ADULT WOMEN

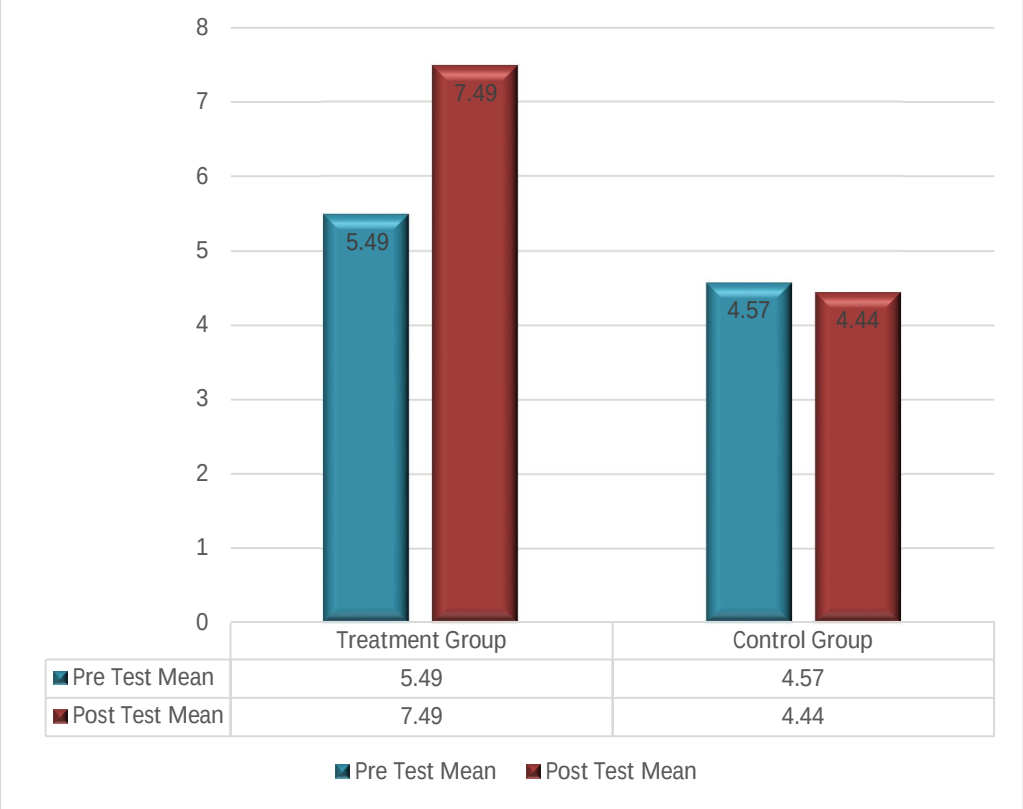


TABLE NO. 4.4.7

MEAN AND STANDARD DEVIATION MEASURING AUDIO REACTION TIME OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Audio reaction time	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	35	1.45	0.80	0.13	1.06	0.40	0.06
Control Group	35	1.54	0.63	0.10	1.54	0.59	0.10

Table No. 4.4.7 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Audio Reaction Time of Adult women. The Table depicts mean, standard deviation in regard with pre-intervention value of motor fitness variable of Audio Reaction Time is 1.45 and 0.80 respectively whereas, 1.06 and 0.40 respectively for post intervention test. The control group showed mean, standard deviation in regard with pre-intervention value of motor fitness variable of Audio Reaction Time is 1.54 and 0.63 respectively whereas, 1.54 and 0.59 respectively for post intervention test.

TABLE NO. 4.4.7.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING AUDIO REACTION TIME OF ADULT WOMEN

Audio Reaction Time	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	0.38	0.51	0.08	0.20	0.56	4.44**	34	0.00**
Control group Pre –Post	0.00	0.33	0.05	0.11	0.11	0.00	34	0.99

't' $_{0.05*}$ (34) =2.03*

The paired difference clearly shows mean and standard deviation difference in treatment group as 0.38 and 0.51 whereas, control group showed mean and standard deviation difference of 0.00 and 0.33 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 4.44 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.00 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.99 which was higher than the 0.05 significance level which is not significant. The results presented in table showed an improvement in audio reaction time of treatment group. Thus, it was clear that there is positive effect of self-defense programme on audio reaction time of treatment group.

Thus, the research hypothesis H $_{(16)}$ "There exists a significant effect of self-defense activities on audio reaction time of adult women" stands accepted.

FIGURE NO. 4.4.7

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON AUDIO REACTION TIME OF ADULT WOMEN

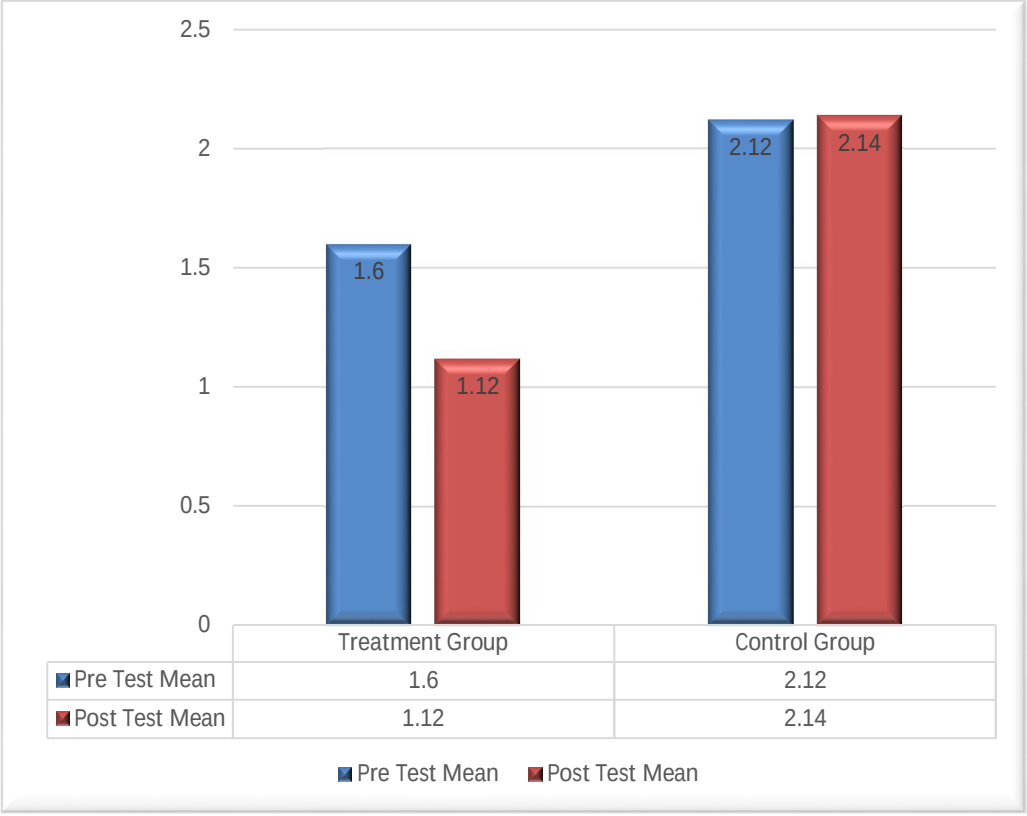


TABLE NO. 4.4.8

MEAN AND STANDARD DEVIATION MEASURING VISUAL REACTION TIME OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Visual Reaction time	**N**	**Pre-Test Mean**	**SD**	**SEM**	**Post-Test Mean**	**SD**	**SEM**
Treatment Group	35	0.90	0.31	0.05	0.84	0.28	0.04
Control Group	35	1.02	0.54	0.09	1.00	0.56	0.09

Table No. 4.4.8 represented the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Visual Reaction Time of Adult women. The Table depicted mean, standard deviation in regard with pre-intervention value of motor fitness variable of Visual Reaction Time is 0.90 and 0.31 respectively whereas, 0.84 and 0.28 respectively for post intervention test. The control group showed the mean, standard deviation in regard with pre-intervention value of motor fitness variable of Visual Reaction Time is 1.02 and 0.54 respectively whereas, 1.00 and 0.56 respectively for post intervention test.

TABLE NO. 4.4.8.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING VISUAL REACTION TIME OF ADULT WOMEN

Visual Reaction Time	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	0.05	0.12	0.02	0.01	0.09	2.81**	34	0.00**
Control group Pre –Post	0.02	0.17	0.02	0.03	0.08	.79	34	0.43

't' $_{0.05*}$ (34) =2.03*

The paired difference clearly showed the mean and standard deviation difference in treatment group as 0.05 and 0.12 whereas, control group showed the mean and standard deviation difference of 0.02 and 0.17 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 2.80 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.79 which was lower than the table value of t'. Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.43 and is higher than the 0.05 significance level which was not significant. The results shown in the table depicted a decrease in visual reaction time of treatment group. Thus, it indicated that there is positive impact of self-defense programme on visual reaction time of treatment group.

Thus, the research hypothesis H $_{(17)}$, "There exists a significant effect of self-defense activities on visual reaction time of adult women" stands accepted.

FIGURE NO. 4.4.8

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON VISUAL REACTION TIME OF ADULT WOMEN

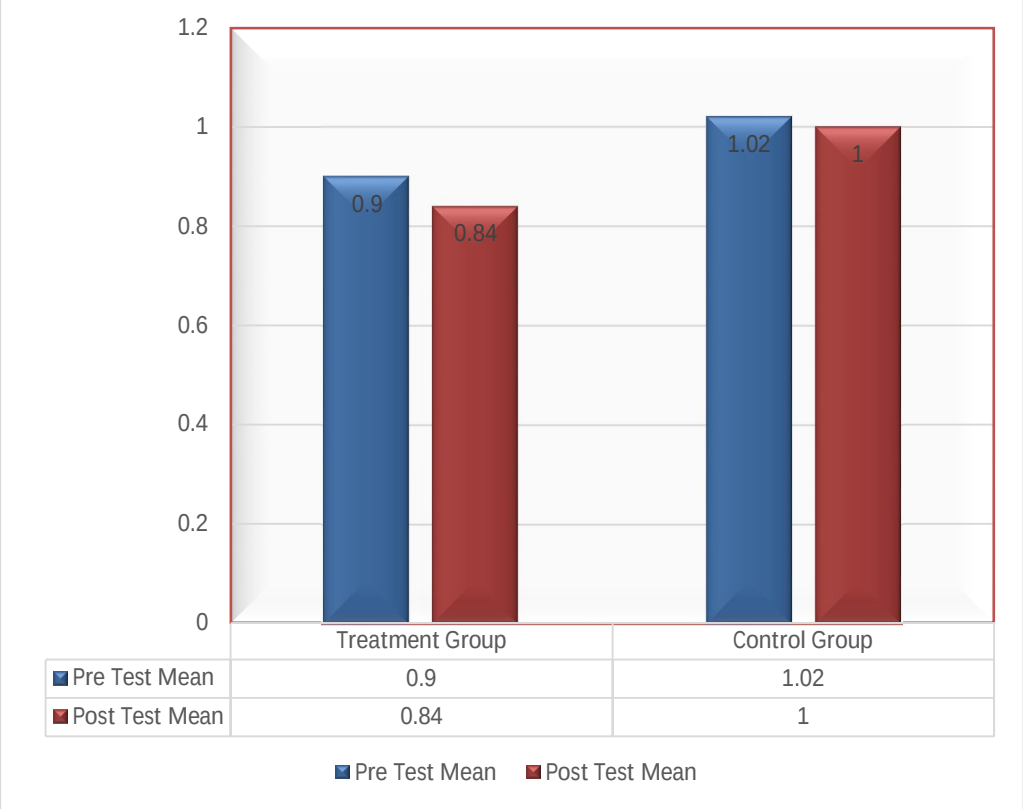


TABLE NO. 4.4.9

MEAN AND STANDARD DEVIATION MEASURING AGILITY OF TREATMENT AND CONTROL GROUP DURING PRE AND POST TEST

Agility	N	Pre-Test Mean	SD	SEM	Post-Test Mean	SD	SEM
Treatment Group	35	18.72	2.38	0.40	15.95	2.16	0.36
Control Group	35	19.07	2.92	0.49	18.85	2.22	0.37

Table No. 4.2.17 represented the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Agility of Adult women. The Table depicted mean, standard deviation in regard with pre-intervention value of psychological variable of agility is 18.72 and 2.38 respectively whereas, 15.95 and 2.16 respectively for post intervention test. The control group showed the mean, standard deviation in regard with pre-intervention value of psychological variable of agility is 19.07 and 2.92 respectively whereas, 18.85 and 2.22 respectively for post intervention test.

TABLE NO. 4.4.9.1

COMPARISON OF DIFFERENCES BETWEEN THE PRE AND POST-TESTS PAIRED MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING AGILITY OF ADULT WOMEN

Agility	Mean difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Treatment Group Pre-Post	2.76	1.37	0.23	2.29	3.23	11.88**	34	0.00**
Control group Pre –Post	0.22	1.60	0.27	0.33	0.77	0.81	34	0.42

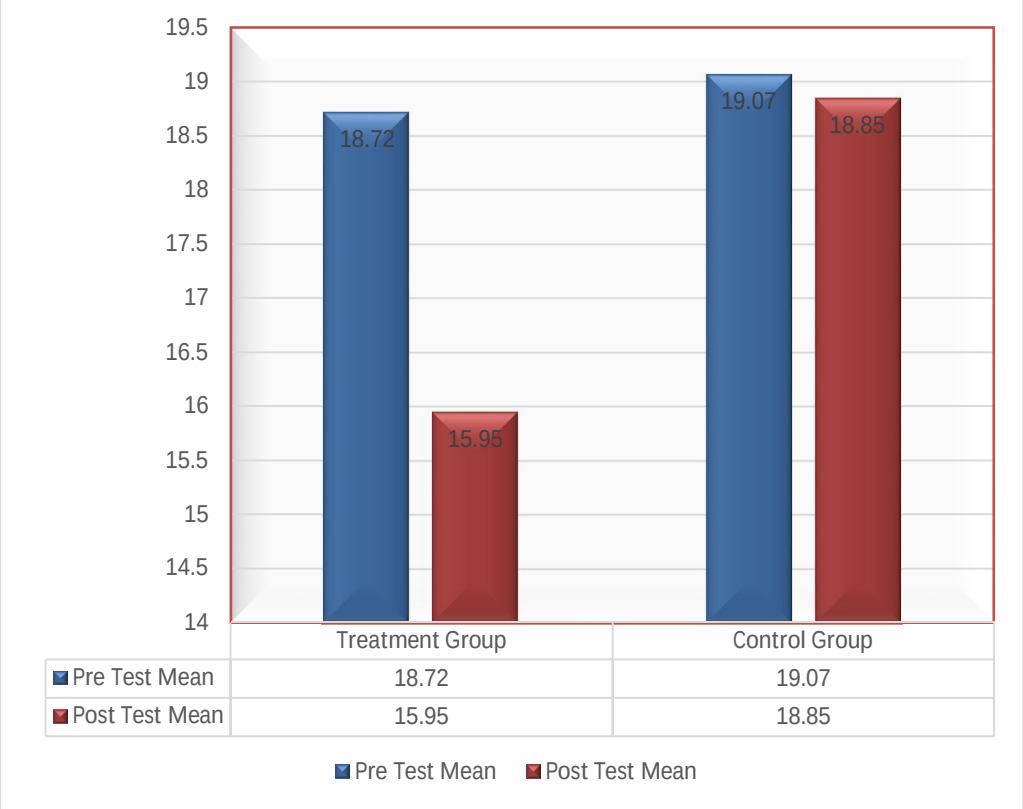
't' $_{0.05*}$ (34) =2.03*

The paired difference clearly showed mean and standard deviation difference in treatment group as 2.76 and 1.37 whereas, control group shows mean and standard deviation difference of 0.22 and 1.60 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 11.87 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.81 which was lower than the tabulated value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level of significance and p value of control group is 0.42 and is higher than the 0.05 significance level which was not significant. The results shown in table depict an improvement in agility of treatment group. Thus, the result determined that there is positive impact of self-defense programme on agility of treatment group.

Thus, the research hypothesis H $_{(18)}$ "There exists a significant effect of self-defense activities on agility of adult women" stands accepted.

FIGURE NO. 4.4.9

GRAPHICAL PRESENTATION OF PRE AND POST-TEST MEANS OF TREATMENT GROUP AND CONTROL GROUP MEASURING EFFECT OF SELF-DEFENSE ACTIVITIES ON AGILITY OF ADULT WOMEN



4.5 Discussion of the Results

4.5.1 Discussion pertaining to the impact of Self-defense activities on Self-efficacy of adolescent females

Self-efficacy is very essential element for self-confidence as it makes one realize about the effectiveness of his/her action. Self-efficacy is the confidence that individual effectively function in a given condition Bandura, (1986); Gist, (1987). Higher self-efficacy means higher persistence. Individuals inculcate and generate self-perceptions of ability that influences the aim they have and to take authority of what they can do to regulate the environment. These perceptions affect their motivation and performance; 'people with high efficacy attribute failure to effort and with low self-efficacy attribute failure to ability (Pethe and Dhar, 1999). Result obtained from the values of mean and standard deviation based on pre and post test conducted on treatment and control group to check the amount of effect of self-defense activities on self-efficacy of adolescent females. Depiction of the mean, standard deviation in regard with pre-intervention value of psychological variable of self-efficacy was found 72.86 and 5.63 respectively whereas, 77.56 and 5.04 respectively for post intervention test for treatment group whereas, in control group it was found to be 73.33 for before intervention and 73.50 for after the intervention. The paired difference clearly shown mean and standard deviation difference of 4.70 and 2.53 in treatment group but in control group it was on 0.16 and 3.22 respectively. The result found proves to be significantly different in pre-intervention and post-intervention data as the t-value determined by calculations 10.15 is higher than the table value 2.04 of t. Thus, the research $H_{(1)}$ "There exists a significant effect of self-defense activities on self-efficacy of adolescent females" stands accepted. The results of the present study are in line with the results of Ozur and Bandura (1990) where it was concluded that that trained female in defense movements improved the self-efficacy significantly related to their potential to tackle assaults or coercion. The findings of this study offered further support the findings of Cog and Margit (1997) that it facilitates efficacy expectations for real life situations. The study also replicated the results of Shin, David J (1998), Weitleuf et al. (2000), David et al. (2006) regarding positive change in

self-efficacy. By practicing the moves of self-defense women feel confident enough to handle tough situations. Bandura (1986) showed that adolescents' perception of their ability to perform a task greatly influences their success. On the basis of findings drawn through the present study, investigator suggests that a self-defense activity improves self-efficacy and self-confidence of adolescent females which is necessary for them to live with their head held higher and a feeling of physical safety.

4.5.2 Discussion pertaining to the impact of Self-defense activities on Emotional Intelligence of adolescent females

Emotional intelligence helps one to be internally strong and motivated. It also helps to achieve the goals one has targeted. Emotional intelligence is an essential feature of the human personality (Mayer et al., 2000). It ascertains the ability to recognize own feeling and feelings of another person. It assists to inspire, regulate feeling, and foster relations. It also enhances the positive mental health. It makes the life disciplined. An individual who has greater emotional intelligence faces very less adverse actions. One can overpower occupational and personal problem easily with emotional intelligence and becomes healthy (Gelman, 2009, quoted by Nasrin Parsa). The mean and standard deviation based on pre and post test conducted on treatment group to measure the effect of self-defense activities on emotional intelligence of adolescent females. The paired difference clearly showed mean and standard deviation difference in treatment group as 4.70 and 2.53 whereas, the control group showed means and standard deviation difference of 0.16 and 3.22 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 10.15 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.28 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group was 0.77 and was higher than the 0.05 significance level which fails to be significant. Hence, it can be strongly reported that there was positive impact of self-defense programme on treatment group who were exposed to self-defense activities for 12 weeks. Thus, the

research hypothesis H $_{(2)}$, "There exists a significant effect of self-defense activities on emotional intelligence of adolescent females" stands accepted. Similar conclusions, of improved emotional intelligence with martial arts, were drawn by Kunjikannan (2014) and the findings of Attila and Ference (2014) concluded that practicing boxing and judo makes an individual more emotionally intelligent than those non-athletes, which is also in consonance with the results of the present study. Emotional intelligence helps to understand and recognize the emotions of others, which ultimately helps women to react on the basis of the intuitions. Thus, self-defense plays a role in improving emotional intelligence of adolescents.

4.5.3 Discussion pertaining to the impact of Self-defense activities on Aggression of adolescent females

In explanations usually used in the sociological sciences and behavioral sciences, aggression is a reply of a person that carries something hostile to others (Buss, 1961). Many of the explanation stated that a person must have harming intention for others (Anderson and Bushman, 2002). The paired difference clearly showed mean and standard deviation difference in treatment group as 1.13 and 2.95 whereas, control group showed mean and standard deviation difference of 0.06 and 2.62 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation 2.10 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.13 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.04 which proves to be significantly accepted at 0.05 level and p value of control group was 0.89 and was higher than the 0.05 level and resulting not significant. Hence, it can be strongly documented that, 12 weeks' self-defense training contribute in the increment of aggressive behavior in the subjects taken into current study. Thus, the research hypothesis H $_{(3)}$, "There exists a significant effect of self-defense activities on Aggression of adolescent females" stands accepted. The results of the study are similar to Harwood et al. (2017) which also shows an improvement of aggression in adolescents' women as a byproduct of martial arts. Result of the present study shows an increment in

aggression level it may be due to the stage of growth and development which defines that adolescent period is a period of stress and strain and a transitional and dilemma period whereby the individual is not mature enough to handle the situations. Martial arts styles which emphasis strongly on skills of self-defense and fight enhanced aggression in the teenagers were also concluded in study of Nosanchuk & MacNeil 1989. Still the aggression helps in many situations and favors the achievements as Ulman and Knight (1992) concluded that the women who responded with aggression against physical attacks were more likely to avoid rape without getting injured. The findings, of the present study replicate the findings of Husman (1955) and Johnson and Hutton (1955), were found to be enhancing aggression in teenagers. Results were also found to be in line with findings of Harwood, Anna & Lavidor, Michal & Rassovsky, Yuri. (2017) which resulted in an improvement in aggression due to martial arts practice amongst the practicing youth. In the same manner results also show in line with Eric and Jeans (2002) which resulted that judo players were found to have higher level of aggression when compared with the control group after intervention of 12 months. The martial arts are also a form of combative sports; the findings of the investigator were found to be contrary to the results of A. H. Buss & M. Perry, 1992 where a decrease was found in hostility and aggression through self-defense training. Defensive aggression occurs when one is attacked or provoked. Thus, the effect of self-defense activities was not found to be supporting the reduction in aggression. Rather it showed an increase. A certain level of aggression is required to respond. Aggression is also taken as inspirational feature of personality, a reply for frustration, an intrinsic ambition or the accomplishment of role which is required (Harre and Lamb, 1983). The findings of these results might be due to some intervening variable which was behind the limit of the investigation.

4.5.4 Discussion pertaining to the impact of Self-defense activities on Explosive strength of adolescent females

Strength is an ability to withstand high force and energy. Strength is considered to be muscular capability to create force through muscles in a given situation (Siff, M. 2000). It is an output of actions generated and controlled by impulses in the central nervous

system. Physiologically, strength is a primary function of one of the appropriate muscles powerfully contracting by effective nervous stimulation. As a result of neuromuscular stimulation, the nervous system produces two basic adaptive and interrelated effects on the body. These effects are functional muscular action and hypertrophy (Siff, M. 2000). The paired difference clearly showed mean and standard deviation difference in treatment group as 0.24 and 0.21 whereas, control group shows mean and standard deviation difference of 0.1 and 0.11 respectively. The result proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 6.48 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.51 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which was significant at 0.05 level and p value of control group was 0.61 was higher than the significance level found to be not significant. Hence, the results indicated that there was positive impact of 12 weeks' self-defense programme on explosive strength on treatment group. Thus, the research hypothesis $H_{(4)}$, "There exists a significant effect of self-defense activities on Explosive Strength of adolescent females" stands accepted. The present research work has its result in consonance with Oliver et al. (2006) where the results concluded that practice of martial art activities enhances the strength of leg muscles which plays major role in its flexion or extensions. Training in a martial art increases the strength of both the flexors and extensors of the leg and as a result it improves the explosive strength. Similar results were found by Saini and Singh (2015), Bharti and Parmar (2015), Kali Barta N. (2015), Kumar and Yadav SK (2015), Tyagi A. (2015) and Kaur S et al. (2015) whereby physical trainings of different kind were also giving results in line with the present study. Many types of kicks are the part of the self-defense activities which have repetitive movements of leg flexor muscles and extensor muscle which enhances the ratio of type II: I. Aaggard et al., Semmeler and Enoka, (2000) concluded that a muscle without training cannot be fully activated. Thus, it can conclude that by providing training to the untrained muscles one can get the muscle activation easily which influence strength production. The human volunteers for this

study were those who were not taking part in any type of activity. With practicing different skills or kicks and body movements for a period of 12 weeks, the activation rate of muscle and synchronization increased which further helped to increase their explosive strength.

4.5.5 Discussion pertaining to the impact of Self-defense activities on Flexibility of adolescent females

Flexibility is an important element of physical fitness, is the ability of an individual to move the body and its segments through as wide a range of motion as possible without undue strain to the articulations and muscle attached. Maintenance of flexibility helps to prevent from musculoskeletal injuries. The values of mean and standard deviation based on pre and post test conducted on treatment group to measure the effect of self-defense activities on flexibility of adolescent females. The paired difference clearly showed, the mean and standard deviation difference in treatment group as 1.43 and 0.93 whereas, control group shows mean and standard deviation difference of 0.09 and 0.95 respectively. The result found to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 8.44 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.56 which was lower than the table value of t'. Since the p value for treatment group was 0.00 which proves to be significant at 0.05 level and p value of control group was 0.57, was higher than the selected significance level, resulting non-significance. Hence, it can be strongly recorded that 12 weeks' self-defense activities have significant on flexibility component of physical fitness. Thus, the research hypothesis $H_{(5)}$, "There is significant effect of self-defense activities on Flexibility of adolescent females" stands accepted. Similar kinds of results were drawn by Violan et al. (1997) which stated Martial arts to be benefitting physical fitness on a variety of levels. Finding of the study depicted that in children who practice martial arts regularly gets significant improvement in flexibility, especially quadriceps flexibility, in comparison to controlled group (Violan et al., 1997). Heller et al. (1998), Hong Y et al. (2000), Douris et al. (2004) and Kim H et al. (2011) stated a promotion in flexibility by martial art

programmes in the final result drawn from their study. Thus, during self-defense activities there are repeated use of ballistic stretches by kicking, sparring and boxing and other self-defense techniques which as a result give a change in muscle length and tension. So, it can be concluded that self-defense activities promote flexibility of adolescents which is an essential component of physical fitness.

4.5.6 Discussion pertaining to the impact of Self-defense activities on Balance of adolescent females

Static balance is considered to be as the psych-somatic ability of holding a stationary position for long period whereas, dynamic balance is considered to be holding and maintaining balance for dynamic movements. It is proven that the ability to maintain balanced position *i.e.,* Statically or dynamically largely hang on three sources of stimuli *i.e.*, the mechanical functions of semicircular canals; the kinesthetic sensations and the visual awareness while the body is in motion or static. Balance is an essential component which is required for routine movements like walking running and standing. The result represents the values of mean and standard deviation based on pre and post test conducted on treatment group to measure the effect of self-defense activities on balance of adolescent females. The above table depicted the paired difference of mean and standard deviation difference in treatment group as 1.61 and 1.50 respectively whereas, control group showed mean and standard deviation difference of 0.02 and 0.90 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 5.87 which was greater than the tabulated value of t' *i.e.,* 2.04 and in control group t-value determined by calculation 0.12 which was lower than the tabulated t' value. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level was 0.90 and was higher than the 0.05 significance level and resulting to be not to be significant. It can be strongly inferred from the above results that 12 weeks' self-defense activities improve the balance capability. The conclusions of Violan et al., (1997), Hong Y et al. (2000) and Douris et al. (2004) also supplement the results of the present study which had shown improvement in balance in comparison to controlled

group. It is important to maintain the line of gravity while performing any acting or vigorous movement. Balance plays an important role in preventing from falling and getting injured. Balancing skills can also stop injury through strengthening core muscles. Balance initiates from the core of the physique. Core is not only about abdominal area but is also related with; strength of hips, ankles and gluteus group of muscles. If an individual has week core muscle, he would more likely to falls, reduced mobility in the backbone, slower reflexes and lower back injuries. Balance also provides cognitive gains to the individual who performs balancing activities. In self-defense balancing is very important as one can protect oneself against attack by making use of any technique without fall or self-injury. Thus, it is concluded that one should practice self-defense to keep their balance.

4.5.7 Discussion pertaining to the impact of Self-defense activities on Audio reaction time of adolescent females

Reaction time is a psycho-somatic ability concerned with human performance which is explained as the time taken between the stimuli and response (Godinho, Mendes, Melo, Barreiros 1999). Psychologists consider it to be an index of speed of processing a reaction [Jensen 2006]. It also Reaction time also signifies the psycho-somatic coordination which has visual, auditory or tactile stimulus to be translated through the body by processing (physically, chemically and mechanically) Der, Deary (2006). Table no. 4.13 represents the values of mean and standard deviation based on pre and post test conducted on treatment group to measure the effect of self-defense activities on Audio Reaction Time of adolescent females. The table depicts mean, standard deviation in regard with pre-intervention value of physical fitness variable of Audio Reaction Time is 1.60 and 0.80 respectively whereas, 1.12 and 0.45 respectively for post intervention test. The paired difference clearly showed mean and standard deviation difference in treatment group as 0.48 and 0.52 whereas, control group shows mean and standard deviation difference of 0.02 and 0.36 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 4.99 which was greater than the tabulated value of t’

i.e. 2.04 and in control group t-value determined by calculation was 0.03 which was lower than the table value of t'. Since the p value for treatment group was 0.00 which proved to be significantly accepted at 0.05 level and p value of control group was 0.73 and was higher than the 0.05 significance level and resulting not significant. The results accessible in descriptive statistics showed reduced timing between auditory stimuli and reaction of those, who were exposed to self-defense activities for 12 weeks. Thus, the results revealed that self-defense activities helped in increasing reaction ability to auditory stimulus of treatment group.

Thus, the research hypothesis $H_{(7)}$, "There exists a significant effect of self-defense activities on Audio reaction Time of adolescent females" stands accepted. Lesser the time taken better the results, so reaction and counter action time should be very less as it does not allow the predator to think and react. The findings of study are in line with the conclusions drawn by Heller J. et al. (1998), Oliver et al. (2006), Fong et al. (2013), Asia and Warker et al. (2013), and Witty et al. (2016), which advocates the decreased reaction time which is a positive aspect as quick the reaction lesser the time taken. With regular practice reaction time decreases, stimulus recognition and response time decreases Ghuntla et al. (2014). According to AM Gavkare (2013) the fast response is based on the communication at cellular level, sensory insight, processing of nervous system and response of motor units. Practice conditions our reflexes which ultimately decrease response timing and improvement in quickness gained as a result. Thus, practicing Self-defense activities for 12 weeks conditions the reflexes and shows a decrease in audio reaction time of the human volunteers.

4.5.8 Discussion pertaining to the impact of Self-defense activities on Visual reaction time of adolescent females

Reaction time is a measured by time taken for a response to a stimulus. It has an essential part our lives as its application may be of great outcomes. Elements that can influence the normal Reaction Time of an individual are age, gender, side of the body, central nervous system and peripheral nervous system and vision, repetition, tiredness, fastness,

personality characteristics, and awareness of the individual. The paired difference clearly showed the mean and standard deviation difference in treatment group as 0.70 and 0.02 whereas, control group showed mean and standard deviation difference of 0.02 and 0.37 respectively. The result found not to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 1.79 and for controlled it was 0.43 both are lower than the tabulated value of t' i.e. 2.04. Since the p value for treatment group was 0.08 which was failed to be significant at 0.05 level of significance and p value of control group was 0.66 and was higher than the 0.05 significance level and resulting not to be significant. Though the mean difference showed a difference in visual reaction time of those who were exposed to self-defense activities for 12 weeks but it was not significantly different. Therefore, it was indicated that there was a little impact of self-defense programme on visual reaction time of treatment group. Thus, the research hypothesis, $H_{(8)}$, "There exists a significant effect of self-defense activities on Visual reaction Time of adolescent females" stands rejected. Though the results are not found significant but if mean value are seen there is a slight positive difference. Here the results were Nougier et al. (1989) discovered that those who do athletic activities have positive improvement of reaction time in comparison to controlled group. Those who do reactive sports activities may have higher responding ability. The results for the same study for audio reaction time was having significant difference of pre and post-test but in visual reaction time results could be improving slightly but not significantly as Shelton and Kumar (2010) has also discovered that audio reaction time is faster in comparison with visual reaction time and attributed the same to auditory motor cortex and processing time of auditory cortex. It is confirmed by the findings which discovered that sports and physical activities improve reaction time. Because exercise makes higher rates of cerebral blood flow and this improves the cognitive activities as all the essential nutrients are provided to brain. Though the visual reaction time is not found to be significant but still there is a slight positive variation seen in treatment group which is in decreasing order. Thus, the investigator can conclude that self-defense activities can affect the visual reaction time not significantly but slightly.

There are some intervening variables that effect the results of the experimental study, especially which are conducted on the field. Thus, the findings of this study might be due to the interference of the confounding variables which cannot be controlled by the investigator.

4.5.9 Discussion pertaining to the impact of Self-defense activities on agility of adolescent females

Agility is a rapid whole-body movement which results in fastness in movement and change of directions. It is also a byproduct of balance, coordination, and speed. Agility can improve the daily movements of an individual. It helps to do movement confidently and fast with more balance and less reaction time. Agility improves natural reflexes by enhancing movement skill and coordination. To be agile, one responds to what is going on around him/he, taking in that information and translating it in to body position that will remain balanced and controlled. One can move to the best position one can take such as taking a ball or facing a tackle. Elizbeth Quinn (2018)

The paired difference clearly showed mean and standard deviation difference in treatment group as 2.51 and 1.52 whereas, control group showed mean and standard deviation difference of 0.16 and 1.77 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 9.03 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.51 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group was 0.61 and was higher than the 0.05 significance level which was not found significant. The results presented in above tables depicted an improvement in agility by showing less timings in post-test data of those who were exposed to self-defense activities for 12 weeks. Thus, it indicated that there was positive impact of self-defense programme on agility of treatment group. Thus, the research hypothesis $H_{(9)}$, "There exists a significant effect of self-defense activities on agility of adolescent females" stands accepted.

Investigator was not able to find any direct literature which indicated the positive effect of any martial-arts or self-defense activity on agility variable of fitness. But the result shows co-occurrence with the results of Miller et al. (2006) which concluded that the plyometric training group showed reduction in time taken by post-intervention test in comparison to the one who did not get intervention. The results of this study determined that plyometric training proves to be the effective way of enhancing agility. In the same way study runs in line with Kumar RR (2001), Lohan and Rajesh (2002) and Vishaw G (2011) who found significant improvement in agility through practice of asanas. Study gave contrary results to the findings of Kim H et al. (2011) where no changes were found in hand-grip strength, bent- arm hang time, speed and agility or cardio-respiratory fitness were discovered. Thus, this study fills the gap by providing base to the research in future on the variable of agility.

4.5.10 Discussion pertaining to the impact of Self-defense activities on Self-efficacy of Adult women

Self-efficacy is an individual's confidence of doing a thing effectively at a specific time, achieve an aim, and face an obstacle. It is a thought about the ability to produce desired level of performance. Confidence in individuals and efficacy affects their choice of life, inspiration, workability and susceptibility to tension and sadness. (Ciccareli & Meyer, 2006; wood and Wood, 1996).

The paired difference clearly showed the mean and standard deviation difference in treatment group as 5.31 and 4.54 whereas, control group showed mean and standard deviation difference of 0.00 and 9.82 respectively. The result proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 6.91 which was greater than the tabulated t' value 2.03 and in control group t-value determined by calculation was 0.00, found to be lower than the table value of t'. Since the p value for treatment group is 0.00 which proved to be statistically significant at 0.05 level of significance. The results of above-mentioned tables revealed an enhancement of self-efficacy of those who were exposed to self-

defense activities for 12 weeks. Thus, it indicated that there was positive impact of self-defense programme on self-efficacy of treatment group. Thus, the research hypothesis $H_{(10)}$, "There exists a significant effect of self-defense activities on Self-Efficacy of adult women" stands accepted. Conclusions provided by study are in line with the conclusions withdrawn by Hinkelman (2004), Orchowski et al. (2008), Shim, David J (1998), and Weitleufet al. (2001) where they quoted an increase in self-efficacy as a result of self-defense programme. A solid sense of efficacy increases achievement and individual wellbeing in various methods (Baron,2005). Bandura (1997) said that the learners who possess greater level of self-efficacy are not intermediated and challenged by complex assignments and projects, which they see as an opportunity for growth and mastery rather than threats to be avoided. Moreover, previous research (Caldwell, et al., 2009; Taylor-Piliae, et al., (2006); Taylor-Piliae, et al., (2012); Yeh, et al., 2011) also found that tai chi practice improves exercise self-efficacy in sighted adults. Confidence has association with some negative and positive mystics. High confidence has association with positive and high adapting methodologies, high inspiration, and positive passionate mind-set (Lazarus, 1991). Notwithstanding self-assurance, self-viability additionally has association with exercise. Self-viability incorporates individual's conviction to his abilities in compose and execute essential exercises for oversee diverse conditions and circumstances. As such, self-viability is individual's conviction to his capacity to accomplishment in a particular circumstance (Bandura, 1991). As indicated by Bandura's (1991) self-adequacy hypothesis, conduct change and upkeep are capacity of assumptions regarding the result and faith in one's capacity to participate in or execute the conduct (viability). Self-efficacy convictions have been identified with the response, preserve, and revert of physical movement in free-living settings. For instance, self-adequacy diminished more than a half year in college subjects who relapsed in their activity phase of progress, yet practice self-viability was unaltered for the individuals who kept up standard exercise (Wallace and Buckworth, 2003). Hallam and Petosa (2004) discovered help for self-viability and different develops of social psychological hypothesis interceding expected increments in self-adequacy for the treatment gathering and not the

control gathering and better adherence crosswise over a year for the treatment gathering. Social subjective speculations are every now and again connected to physical action, and self-viability has the most grounded help as an associate of activity and physical action. There is proof for its job in exercise appropriation, yet blended help for consequences for adherence. Therefore, improvement in exercise self-efficacy due to martial arts practice supports previous findings. Thus, it is suggested on the basis of findings that female shout take self-defense training to enhance the effectiveness of their actions and be confident of what they do.

4.5.11 Discussion pertaining to the impact of Self-defense activities on Emotional Intelligence of Adult women

Emotional intelligence is must to know about own emotions and feelings as well as others. By understanding only one can recognize the potential of attacker. Emotional intelligence is a capacity to improve thinking and correctly receive, analyze, evaluate and generate to control and to encourage emotional and rational progress. (Mayer, Slovey and Curaos, 2004). Emotional intelligence (EI) is an ability that has capability to cope effectively with stresses and have effect on the environment burdens. Here emotion means a feeling state and intelligence denotes as capacity of reasoning validly. The paired difference clearly showed the mean and standard deviation difference in treatment group as 1.94 and 2.33 whereas, control group shows mean and standard deviation difference of 0.17 and 1.96 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 4.91 which found to be greater than the tabulated t' value 2.03 and in control group t-value determined by calculation is 0.51 which is lower than the tabulated value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level and p value of control group is 0.60 and is higher than the 0.05 significance level which is not significant. The data obtained from above tables showed an improvement in emotional intelligence of those who were exposed to self-defense activities for 12 weeks. The results indicated that there is positive impact of self-defense programme on emotional intelligence of treatment group. Thus,

the research hypothesis $H_{(11)}$, "There exists a significant effect of self-defense activities on emotional intelligence of adult women" stands accepted. The results are in line with the results of Kunjikannan, R. (2014) which showed that there was a significant development in the emotional intelligence and mental health variable from pre-intervention to post-intervention test of treatment group in comparison to controlled one. Emotional intelligence is can be used to make worthful predictions to people's life outcomes. Emotional intelligence comprises of traits like self-awareness, social deftness, and the ability to stay satisfied, to be optimistic in face of adversity, to change emotions and to display compassion towards other people. (Mayer and Salovey 1997; 1990). Acquiring emotional intelligence skills can execute an essential part in correct and proper use of strategies for tackling with difficulties and preventing malevolent deeds such as aggression. The findings show an increment in emotional intelligence through self-defense activities. Thus, the investigator concludes that self-defense activities increase the emotional intelligence significantly.

4.5.12 Discussion pertaining to the impact of Self-defense activities on Aggression of Adult women

Aggression has been defined as physical or verbal behavior (Baundra, 1993, Newman and Newman, 1997) intended to hurt someone slaps, direct insults, even gossiping digs (myers,1993) as a behavior directed towards another individual (Bushman and Andreson, 2001) in terms of violent, attacking and destructive behavior carried out with proximate intent to harm (Berkowitz, 1993; Barron and Richardson, 1994, Bushman and Andreson 2001; Geen, 2001) that result in pain. The paired difference clearly showed mean and standard deviation difference in treatment group as 2.71 and 3.01 whereas, control group shows mean and standard deviation difference of 0.05 and 2.16 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 5.32 which is greater than the tabulated t' value 2.03 and in control group t-value determined by calculation is 0.15 which is lower than the tabulated value of t' thus, failed to be significant. Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level

and p value of control group is 0.87 and is higher than the 0.05 significance level which is not significant. The results revealed in above table depicted a decrease in aggression of those who were exposed to self-defense activities for 12 weeks. Thus, it indicated a positive impact of self-defense programme on aggression of treatment group. Thus, the research hypothesis $H_{(12)}$, "There exists a significant effect of self-defense activities on aggression of adult women" stands accepted. The results withdrawn by this study are in consonance with Weitlaufet al**.** (2000) which advocate that self-defense training increases self-reported assertiveness, and post training decreases in hostility and aggression were found. Bahramiet al. (2016) concluded that anger management education has positive effect on aggression of prisoner women. Skelton DL, Glynn MA, Berta SM (1991). Although Tai Kwan Do is a combative game, long-term training is connected with a lesser aggressiveness. Thus, the results withdrawn from the present study are in consonance with the results produced by other authors too. Adults are mature than adolescent, they can perceive the situations and can act accordingly. Here, the investigator suggests giving self-defense activities to adults to reduce aggression level.

4.5.13 Discussion pertaining to the impact of Self-defense activities on Explosive strength of Adult women

Strength is considered to be the effort to resist. Explosive strength is a fat effort against maximum resistance. As a result of neuromuscular stimulation, the nervous system produces two basic adaptive and interrelated effects on the body. These effects are functional muscular action and hypertrophy (Siff, M. 2000). With regular activities muscle get hypertrophy which becomes the reason of increment in strength. The paired difference clearly showed mean and standard deviation difference in treatment group as 0.13 and 0.11 whereas, control group showed the mean and standard deviation difference of 0.00 and 0.05 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 7.12 which was greater than the table value of t' *i.e.*, 2.03 and in control group t-value determined by calculation is 0.45 which was lower than the table value of t' Since the p value for treatment group is 0.00 which proves to be significantly accepted at

0.05 level and p value of control group is 0.65 and is higher than the 0.05 significance level which is not significant. The results existing in table showed an improvement in explosive strength of treatment group. Thus, it indicated that there was positive impact of self-defense programme on explosive strength of treatment group. Thus, the research hypothesis $H_{(13)}$, "There exists a significant effect of self-defense activities on explosive strength of adult women" stands accepted. Strength develops with muscle hypertrophy and the muscle hypertrophy is the product of regular activity. Self-defense activities brought about a positive improvement in explosive strength of adult women and the results are in consonance with Pava, Bateman and Glascock (1991) who conducted a longitudinal study of the effects of self-defense activities on visually disables women. These females had a more actual awareness of risks of crime, had improvement in somatic skills like balance and strength and felt less susceptible after training. In the same way other trainings had an impact on explosive strength of women. While kicking, quick flexion extension of muscle resulted in strengthening calf, quadriceps and hamstring muscles. This increases the explosive strength as an outcome. Thus, self-defense activities included in self-defense programme are highly recommended to increase or enhance the explosive strength of female.

4.5.14 Discussion pertaining to the impact of Self-defense activities on Flexibility of Adult women

Flexibility is an important element which is essential for fitness and execution of many activities without strain and stress. It indicates the range of motion in a joint and freedom of executing a movement. It allows movement with minimum of muscle tension and internal resistance. It helps to prevent injuries and is necessary for maximum development of movement. The paired difference clearly showed mean and standard deviation difference in treatment group as 1.23 and 2.28 whereas, control group showed mean and standard deviation difference of 0.03 and 0.47 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 3.19 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation

is 0.45 which was lower than the table value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level and p value of control group is 0.61 and is higher than the 0.05 significance level which was not significant. Thus, results in the above table showed an improvement in flexibility of treatment group. Thus, it indicated that there was positive impact of self-defense programme on flexibility of treatment group. Thus, the research hypothesis $H_{(14)}$, "There exists a significant effect of self-defense activities on flexibility of adult women" stands accepted. This result was strengthened by Cromwell et al. (2007), who concluded that improved flexibility was found in comparison to control group. Due to repeated ballistic movements, the muscles and tendons lengthen and become more stretchable which improves flexibility of participants of treatment group. Results are parallel with the previous research results drawn by conducting different research on different martial art activities like Tai Kwan Do is categorized by speedy and higher kicks Pieter W, Heijmans J. (2000). various findings have showed that adult Tai Kwan Do players were found to be more flexible hamstring and lower back muscles as equated with the normal Heller J, Peric T, Dlouhá R, Kohlikova E, Melichna J, et al. (1998), Markovi, Misigoj-Durakovi, Trnini (2005) and Thompson WR, Vinueza C (1991) and non-practitioners [Cromwell RL, Meyers PM, Meyers PE, Newton RA (2007)]. Thus, it is concluded that self-defense activities have positive impact on flexibility which is essential for executing movements with full range of motion and it as a result increases productivity of human body.

4.5.15 Discussion pertaining to the impact of Self-defense activities on Balance of Adult women

It is a postural control which provides the skill to keep a base of support and achieve or restore a state of stable position with minimal deviation while executing an activity. Postural control or body balance is an important motor skill that is developed during the first year. It is important to develop all motor skills like walking, jumping and catching, Martin (2002). With respect to Tai Kwan Do training and competition, balance determines success of practitioner Pieter W, Heijmans J (2009). Thus, it's important to take this variable. The paired difference clearly showed mean and standard deviation

difference in treatment group as 1.99 and 1.50 whereas, control group showed mean and standard deviation difference of 0.12 and 0.38 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 7.72 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 1.93 which is higher than the table value of t'. Since the p value for treatment group is 0.00 which was significant at 0.05 level of significance and p value of control group is 0.06 and is also higher than the 0.05 significance level which failed to be significant. The results presented in table depicted an improvement in balance of treatment group. Thus, it indicated that there is positive impact of self-defense programme on balance of treatment group. Thus, the research hypothesis $H_{(15)}$, "There exists a significant effect of self-defense activities on Balance of adult women" stands accepted. Even control group had shown a significant difference due to decreased balance. This may be attributed to some intervening variable which the investigator was not able to handle or control. Thus, it was concluded that due to sensory system, central nervous system and musculoskeletal system involvement, central nervous system takes help of all these somato-sensory systems to learn and generate proper movement output which results in postural control. Findings are replicating the findings of. Fong, Ng GY (2012and Fong, Tsang, Ng (2013) where they concluded that tai Kwando players demonstrate a faster turn time and lesser turn sway during the step/quick turn test than the control subjects. Fong SSM, Cheung, Ip, Chiu, Lam et al. (2012) defined that Tai Kwan Do players also show a faster stabilization in the drop test, representing greater balance. Leong, Fu, Ng, Tsang (2011) stated Tai Kwan do players are more stable when standing on one leg. Fong , Chung , Ma, Chow, Ng, et al. (2013). Results are also in line with Pava, Bateman and Glascock (1991) conducted a longitudinal research work on the effects of self-defense activities on women with visual disability. These women were more susceptible to danger of assault, when assessed they had improved physical skills in areas such as balance and strength and were found to feel less susceptible after training. Thus, investigator concluded that self-defense training has incremental impact on the variable of balance. Balance further helps to

execute day to day movements without fall and injuries. At the time of being attacked by someone female has to keep their body balanced and make an action to protect themselves from the assaulter or attacker. Balance prevents individual from falling and injuries.

4.5.16 Discussion pertaining to the impact of Self-defense activities on Audio reaction time of Adult women

Reaction time redirects sensory-motor action and prevents the risk of injuries. Reaction time also epitomizes neuro-muscular coordination. Physical activities improve blood flow towards brain and repetitive movements give an exercise to brain which results good reaction ability. It includes three types of processes i.e. visually, auditory or tactile stimuli. The audio reaction time is very important for responding the hidden attack or assault. Human body translated these stimuli physically, chemically and mechanically which stimulates on sensory level Der, Deary (2006). Table no. 4.2.13 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Audio Reaction Time of Adult women. The paired difference clearly showed mean and standard deviation difference in treatment group as 0.38 and 0.51 whereas, control group showed mean and standard deviation difference of 0.00 and 0.33 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 4.44 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.00 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.99 which was higher than the 0.05 significance level which is not significant. The results presented in table showed an improvement in audio reaction time of treatment group. Thus, it indicated that there is positive impact of self-defense programme on audio reaction time of treatment group. Thus, the research hypothesis $H_{(16)}$ "There exists a significant effect of self-defense activities on audio reaction time of adult women" stands accepted. Studies don previously showed that professional Tai Kwan Do players have a

fast reaction time for a specific stimulus Chung P, Ng G (2012). In addition, O'Donovan et al. (2006) reported that martial arts players show shorter reaction time in comparison to control group. O'Donovan et al. (2006) and Song and An (2004) described that seven months of training could enhance reaction ability in young people who are intellectually disable. Thus, the investigator concludes that audio reaction time improves with self-defense training. Here the women from all walks of life are suggested to make self-defense training an essential part of their life so that they can respond to any type of assault or attack with not wasting much time by taking the help of their intuitions.

4.5.17 Discussion pertaining to the impact of Self-defense activities on Visual reaction time of Adult women

Visual reaction time is known as the response time when one can see the stimulus. Visual judgment is very important to judge the action of their and react properly without wasting time. Table no. 4.2.15 represents the values of mean and standard deviation based on pre and post test conducted on treatment and control group to measure the effect of self-defense activities on Visual Reaction Time of Adult women. The Table depicts mean, standard deviation in regard with pre-intervention value of psychological variable of Visual Reaction Time is 0.90 and 0.31 respectively whereas, 0.84 and 0.28 respectively for post intervention test. The control group shows mean, standard deviation in regard with pre-intervention value of psychological variable of Visual Reaction Time is 1.02 and 0.54 respectively, whereas, 1.00 and 0.56 respectively for post intervention test.

The paired difference clearly showed the mean and standard deviation difference in treatment group as 0.05 and 0.12 whereas, control group showed the mean and standard deviation difference of 0.02 and 0.17 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 2.80 which was greater than the tabulated value of t' *i.e.*, 2.03 and in control group t-value determined by calculation is 0.79 which was lower than the table value of t'. Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.43 and

is higher than the 0.05 significance level which was not significant. The results shown in the table depicted a decrease in visual reaction time of treatment group. Thus, it indicated that there is positive impact of self-defense programme on visual reaction time of treatment group. Thus, the research hypothesis $H_{(17)}$, "There exists a significant effect of self-defense activities on visual reaction time of adult women" stands accepted. Similar kind of results were drawn by Shelton and Kumar (2010) where investigator confirmed the effect of physical activity and doing sports on improving Reaction Time. Welford (1980) related physical fitness with reaction time and concluded that physical fitness brings positive improvement in reaction time. Same kind of study was done by Nougier et al. (1989) and Kaur et al. (2006) discovered that those take part in athletic activity have positive improve in reaction time than the one who did not. Same kind of results were withdrawn by Nakamoto and Mori (2008) concluded college goings who play basketball and baseball showed better reaction time than the sedentary people. One more study of Ghuntla et al. (2012) showed that basketball players displayed show faster reaction time than healthy controls. There are many definitions for this like improvement in neuro muscular coordination, conditioned reflexes and improved alertness. Spirduso (1975) proposed that improvement in reaction time of athletes in comparison with non-athletes was due to rapid proceeding time of central nervous system which produces fast movements. As per the findings of Gavkare et al. (2013), the quicker Reaction Time in players might be because of attentiveness and awareness, good coordination of muscles, improvement in fastness and precision. Additionally, motor reaction execution is a physical work, so it is coherent that individuals prepared in physically receptive games may have predominant motor reaction capacity. It is additionally believed that people who practice at moderate to extraordinary dimensions have higher rates of cerebral blood stream. This expanded measure of blood stream in the cerebrum results in upgrades in cognitive functioning because of expanded supply of fundamental supplements. Thus, the investigator can conclude that self-defense activities can affect the visual reaction time not significantly but still can slightly improve it.

4.5.18 Discussion pertaining to the impact of Self-defense activities on agility of Adult women

Agility is an essential part of human movement as it gives the power of moving into diverse paths without the loss of balance. For self-defense agility serves as a very good component which helps in moving body parts and stop being attacked without being injured. Agility is an essential component connected to visual response, speed and force. Agility is an essential characteristic to escape from attack and for self-defense. The paired difference clearly showed mean and standard deviation difference in treatment group as 2.76 and 1.37 whereas, control group shows mean and standard deviation difference of 0.22 and 1.60 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 11.87 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.81 which was lower than the tabulated value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level of significance and p value of control group is 0.42 and is higher than the 0.05 significance level which was not significant. The results shown in table depict an improvement in agility of treatment group. Thus, it indicated that there is positive impact of self-defense programme on agility of treatment group. Thus, the research hypothesis H (18) "There exists a significant effect of self-defense activities on agility of adult women" stands accepted. In present self-defense training programme, kicking boxing, sparring, other quick movements associated with different self-defense techniques are included which are done with help of neuro-muscular coordination. Practice improves their motor fitness and agility is also an essential part of it. The conclusions of this research endeavor are also showing the same kind of results as Gutiérrez et al. (2018) concluded that Judo participation improved participants' arms bone mineral and fitness in variables such as Flexibility, muscular endurance or agility Gutiérrez et al. (2018). In the same manner Maimone (2016) revealed that elite fighters had significantly better scores than amateurs for agility, power, and coordination. Rameshkhanna and Chittibabu (2014) concluded that Plyometric coaching established

improvement in agility tests is because of better motor conscription or neural modification. Arseneau, Mekary and Leger (2011) achieved enhancement in agility significantly and it could be credited to detailed movements in boxing which includes frequently using rapid steps and activities that produce an ability to move quickly.

Finally, this study has bridged the gap in the extent literature by developing an intervention programme for psychological and physical empowerment of women.

CHAPTER-V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The study was aimed at psychological and physical empowerment of women through self-defense activities. To accomplish the aim of the study it was important to bifurcate it in parts. Thus, considering the aim of the present study different objective were set up. In the context various objectives of the study different hypotheses were framed. This chapter provides summary of all the previous chapters, in addition with the conclusion, suggestion and application of the present research work.

5.1 Objectives of the Study

1. To find out the effect of self-defense activities on selected psychological parameters such as self-efficacy, emotional intelligence, and aggression of women.
2. To ascertain the effect of self-defense activities on selected physical and motor fitness components like explosive strength, Flexibility, balance, reaction time (audio and visual) and agility of women.

5.2 Hypotheses

1. **$H_{(1)}$:** There exists a significant effect of self-defense activities on Self-efficacy of adolescent females.
2. **$H_{(2)}$:** There exists a significant effect of self-defense activities on emotional intelligence of adolescent females.
3. **$H_{(3)}$:** There exists a significant effect of self-defense activities on aggression level of adolescent females.
4. **$H_{(4)}$:** There exists a significant effect of self-defense activities on the explosive strength of adolescent females.
5. **$H_{(5)}$:** There exists a significant effect of self-defense activities on flexibility of adolescent females.
6. **$H_{(6)}$:** There exists a significant effect of self-defense activities on static balance of adolescent females.

7. **$H_{(7)}$:** There exists a significant effect of self-defense activities on auditory reaction time of adolescent females.
8. **$H_{(8)}$:** There exists a significant effect of self-defense activities on visual reaction time of adolescent females.
9. **$H_{(9)}$:** There exists a significant effect of self-defense activities on agility of adolescent females.
10. **$H_{(10)}$:** There exists a significant effect of self-defense activities on self-efficacy of adult women.
11. **$H_{(11)}$:** There exists a significant effect of self-defense activities on emotional intelligence of adult women.
12. **$H_{(12)}$:** There exists a significant effect of self-defense activities on aggression level of adult women.
13. **$H_{(13)}$:** There exists a significant effect of self-defense activities on the explosive strength of adult women.
14. **$H_{(14)}$:** There exists a significant effect of self-defense activities on flexibility of adult women.
15. **$H_{(15)}$:** There exists a significant effect of self-defense activities on static balance of adult women.
16. **$H_{(16)}$:** There exists a significant effect of self-defense activities on auditory reaction time of adult women.
17. **$H_{(17)}$:** There exists a significant effect of self-defense activities on visual reaction time of adult women.
18. **$H_{(18)}$:** There exists a significant effect of self-defense activities on agility of adult women.

5.3 Design of the Study

It was an experimental type of study with two group randomized pre and post design was adopted for carrying out the current research work. The study was designed for empowering women psychologically as well as physically by means of selected self-defense activities.

5.4 Sample

Total sample was of one hundred and thirty (N=130) non-sports person females in which Sixty (N=60) adolescent and Seventy (N=70) adult women were taken. The age ranging from 13 to 17 for adolescents and 18 -25 years for adults was delimitated. Adolescent subjects were taken from Layalpur Sanatan Dharam Senior Secondary School, Bassi Daulat Khan, Punjab and adult female were taken from Hindu Kanya College, Kapurthala Punjab.

5.5 Sampling Method

For appropriate representation of the population, purposive random sampling technique was used.

5.6 Selection of Variables

The study was confined into two groups viz psychological aspect and physical aspect. The variables chosen for psychological aspects were Self-efficacy, Emotional Intelligence, Aggression whereas, variables chosen for physical aspect were Explosive Strength, Balance, Flexibility, Reaction time (audio - visual), and Agility variables.

5.7 Collection of Data

Prior information regarding the research project was given and consent of the authorities was taken by the investigator. The selected sample was divided in to two groups namely treatment / experimental group and controlled randomly. The treatment groups had gone through one-hour self-defense programme for twelve weeks whereas, controlled group was not given any of the training. Before the administration of pre-test on the criterion variable, a meeting of all selected subjects and concerned authority was held with the investigator to give detailed explanation of the purpose of the study along with the testing procedure and the training programme and its progression.

Pre-test was conducted on all the one hundred sixty (N=160) subjects and after pre-test, training programme of Twelve weeks was implemented to the treatment groups, whereas,

control group was not exposed to any sort of training. After completion of the experiment a post-test was conducted on the criterion variables among the subjects. Post-test data was collected from those treatment group subjects that had gone through the complete training programme for a time period of 12 weeks and control group. A total of 30 adolescent females and 35 adult women subjects, of treatment group out of 40 adolescents and 40 adult women, had gone through the complete training programme, and post-test of control groups was also conducted whereas, 30 subjects were removed before the final compilation of the data.

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 study objectives.

5.8.1 Instruments to measure Psychological Parameters :-

1. **Self-efficacy:** Self-efficacy Scale by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014)
2. **Emotional intelligence:** Emotional Intelligence Scale by Dr. Arun Kumar Singh and Dr. Shruti Narrain (2014)
3. **Aggression:** Aggression Scale by Dr. R.L. Bharadwaj (2008)

5.8.2 Instruments to measure Physical Fitness parameters :-

1. **Explosive Strength:** Standing Broad Jump by AAPHER Youth Fitness Test (1975).
2. **Balance static:** Stork Stand by Johnson & Nelson (1988)
3. **Flexibility:** Sit and Reach Test by AAPHER Youth Fitness Test (1975).
4. **Audio visual reaction time:** Audio visual reaction timer(Medicate made)
5. **Agility:** SEMO Agility Test by Johnson & Nelson (1988)

5.8.3 Description of the Self-Defense Programme

With the help of various experts from the field of martial arts, self-defense activities and sports trainers, the researcher had prepared twelve weeks programme for self-defense. Researcher has taken the help of experts for execution of self-defense programme for one hour six days a week. Description of the self-defense training programme was mentioned in Table No. 3.2.

5.9 Statistical Analysis

After providing intervention post-test of all the groups were taken. Collected data was examined for analysis by using descriptive analysis and paired t' test with the help of statistical package (SPSS) and level of significance was set at 0.05.

5.10 Results and Findings Pertaining to Adolescents

In Table No. 4.3.1.1 paired difference displays mean and standard deviation difference in treatment group as 4.70 and 2.53 whereas, the control group showed means and standard deviation difference of 0.16 and 3.22 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 10.15 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.28 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proved to be significantly accepted at 0.05 level and p value of control group was 0.77 and was higher than the 0.05 significance level which failed to be significant. Hence, it can be strongly reported that there was a positive impact of self-defense programme on treatment group who were exposed to self-defense activities for 12 weeks.

Thus, the research hypothesis $H_{(1)}$**,** "There exists a significant effect of self-defense activities on self efficacy of adolescent females" stands accepted.

In Table No. 4.3.2.1 paired difference clearly depicts the mean and standard deviation difference in treatment group as 2.23 and 2.04respectively whereas, the control group showed mean and standard deviation difference of 0.33 and 2.41 respectively. The result

found proved to be significantly different in pre-intervention and post-intervention data of the treatment group where the t-value determined by calculation was 5.97 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.07 which was lower than the tabulated of t' value. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group was 0.94 and was higher than the 0.05 significance level and resulting not to be significant. Hence, it can be strongly inferred that there was a significant improvement in emotional intelligence of those who were exposed to self-defense activities for 12 weeks.

Thus, the research hypothesis $H_{(2)}$ "There exists a significant effect of self-defense activities on Emotional Intelligence of adolescent females" stands accepted.

In Table No. 4.3.3.1 paired difference depicts mean and standard deviation difference in treatment group as 1.13 and 2.95 whereas, control group showed mean and standard deviation difference of 0.06 and 2.62 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation 2.10 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.13 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.04 which proves to be significantly accepted at 0.05 level and p value of control group was 0.89 and was higher than the 0.05 level and resulting not significant. Hence, it can be strongly documented that 12 weeks self-defense training contribute in the increment of aggressive behaviour in the subjects taken into current study.

Thus, the research hypothesis $H_{(3)}$, "There exists a significant effect of self-defense activities on Aggression of adolescent females" stands accepted.

In Table No. 4.3.4.1 paired difference clearly displays mean and standard deviation difference in treatment group as 0.24 and 0.21whereas, control group shows mean and standard deviation difference of 0.1 and 0.11 respectively. The result proved to be significantly different in pre-intervention and post-intervention data of treatment group

where the t-value determined by calculation was 6.48 which was greater than the tabulated t' value 2.04 and in control group t-value determined by calculation was 0.51 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which was significant at 0.05 level and p value of control group was 0.61 was higher than the significance level found to be not significant. Hence, the results indicated that there was positive impact of 12 weeks self-defense programme on explosive strength on treatment group.

Thus, the research hypothesis $H_{(4)}$, "There exists a significant effect of self-defense activities on Explosive Strength of adolescent females" stands accepted.

In Table No. 4.3.5.1 paired difference depicts the mean and standard deviation difference in treatment group as 1.43 and 0.93whereas, control group shows mean and standard deviation difference of 0.09 and 0.95 respectively. The result found to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 8.44 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.56 which was lower than the table value of t'. Since the p value for treatment group was 0.00 which proves to be significant at 0.05 level and p value of control group was 0.57, was higher than the selected significance level, resulting non-significance. Hence, it can be strongly recorded that 12 weeks self-defense activities have significant effect on flexibility component of physical fitness.

Thus, the research hypothesis $H_{(5)}$, "There exists a significant effect of self-defense activities on Flexibility of adolescent females" stands accepted.

In Table No. 4.3.6.1 depicted the paired difference of mean and standard deviation difference in treatment group as 1.61 and 1.50 respectively whereas, control group showed mean and standard deviation difference of 0.02 and 0.90 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 5.87 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by

calculation 0.12 which was lower than the tabulated t' value. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level was 0.90 and was higher than the 0.05 significance level and resulting to be not to be significant. It can be strongly inferred from the above results that 12 weeks self-defense activities improve the balance capability.

Thus, the research hypothesis $H_{(6)}$, "There exists a significant effect of self-defense activities on Balance of adolescent females" stands accepted.

In Table No. 4.3.7.1 paired difference depicts mean and standard deviation difference in treatment group as 0.48 and 0.52 whereas, control group shows mean and standard deviation difference of 0.02 and 0.36 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 4.99 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.03 which was lower than the table value of t'. Since the p value for treatment group was 0.00 which proved to be significantly accepted at 0.05 level and p value of control group was 0.73 and was higher than the 0.05 significance level and resulting not significant. The results accessible in descriptive statistics showed reduced timing between auditory stimuli and reaction of those, who were exposed to self-defense activities for 12 weeks. Thus, the results revealed that self-defense activities helped in increasing reaction ability to auditory stimulus of treatment group.

Thus, the research hypothesis $H_{(7)}$, "There exists a significant effect of self-defense activities on Audio reaction Time of adolescent females" stands accepted.

In Table No. 4.3.8.1 paired difference clearly shows the mean and standard deviation difference in treatment group as 0.70 and 0.02 whereas, control group showed mean and standard deviation difference of 0.02 and 0.37 respectively. The result found not to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 1.79 and for controlled it was 0.43 both are lower than the tabulated value of t' i.e. 2.04. Since the p value for treatment group

was 0.08 which was failed to be significant at 0.05 level of significance and p value of control group was 0.66 and was higher than the 0.05 significance level and resulting not to be significant. Though the mean difference showed a difference in visual reaction time of those who were exposed to self-defense activities for 12 weeks but it was not significantly different. Therefore, it was indicated that there was a little impact of self-defense programme on visual reaction time of treatment group.

Thus, the research hypothesis, $H_{(8)}$, "There exists a significant effect of self-defense activities on Visual reaction Time of adolescent females" stands rejected.

In Table No. 4.3.9.1 paired difference clearly shows mean and standard deviation difference in treatment group as 2.51 and 1.52 whereas, control group showed mean and standard deviation difference of 0.16 and 1.77 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 9.03 which was greater than the tabulated value of t' i.e. 2.04 and in control group t-value determined by calculation was 0.51 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group was 0.61 and was higher than the 0.05 significance level which was not found significant. The results presented in above tables depict an improvement in agility by showing less timing in post-test data of those who were exposed to self-defense activities for 12 weeks. Thus, it indicated that there was positive impact of self-defense programme on agility of treatment group.

Thus, the research hypothesis $H_{(9)}$, "There exists a significant effect of self-defense activities on agility of adolescent females" stands accepted.

5.11 Results and Findings Pertaining to Adult women

In Table No. 4.4.1.1 paired difference clearly shows the mean and standard deviation difference in treatment group as 5.31 and 4.54 whereas, control group shows mean and standard deviation difference of 0.00 and 9.82 respectively. The result proved to be

significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 6.91 which was greater than the tabulated t' value 2.03 and in control group t-value determined by calculation was 0.00, found to be lower than the table value of t'. Since the p value for treatment group is 0.00 which proved to be statistically significant at 0.05 level of significance. The results of above-mentioned tables revealed an enhancement of self-efficacy of those who were exposed to self-defense activities for 12 weeks. Thus, it indicated that self-defense programme given to treatment group improved the self efficacy.

Thus, the research hypothesis $H_{(10)}$, "There exists a significant effect of self-defense activities on Self-Efficacy of adult women" stands accepted.

In Table No. 4.4.2.1 paired difference clearly shows the mean and standard deviation difference in treatment group as 1.94 and 2.33whereas, control group shows mean and standard deviation difference of 0.17 and 1.96 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation was 4.91 which found to be greater than the tabulated t' value 2.03 and in control group t-value determined by calculation is 0.51 which is lower than the tabulated value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level and p value of control group is 0.60 and is higher than the 0.05 significance level which is not significant. The data obtained from above tables showed an improvement in emotional intelligence of those who were exposed to self-defense activities for 12 weeks. The results indicated that there is positive impact of self-defense programme on emotional intelligence of treatment group.

Thus, the research hypothesis $H_{(11)}$, "There exists a significant effect of self-defense activities on emotional intelligence of adult women" stands accepted.

In Table No. 4.4.3.1 paired difference clearly depicts mean and standard deviation difference in treatment group as 2.71 and 3.01 whereas, control group shows mean and standard deviation difference of 0.05 and 2.16 respectively. The result found proved to be

significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 5.32 which is greater than the tabulated t' value 2.03 and in control group t-value determined by calculation is 0.15 which is lower than the tabulated value of t'. Thus, it was failed to be significant. Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.87 and is higher than the 0.05 significance level which is not significant. The results revealed in above table depicted a decrease in aggression of those who were exposed to self-defense activities for 12 weeks. Thus, it can be concluded that 12 weeks self-defense programme affected aggression of treatment group positively. Thus, the research hypothesis $H_{(12)}$, "There exists a significant effect of self-defense activities on aggression of adult women" stands accepted.

In Table No. 4.4.4.1 paired difference represents mean and standard deviation difference in treatment group as 0.13 and 0.11 whereas, control group showed the mean and standard deviation difference of 0.00 and 0.05 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 7.12 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.45 which was lower than the table value of t' Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.65 and is higher than the 0.05 significance level which is not significant. The results existing in table showed an improvement in explosive strength of treatment group. Thus, it showed that there was treatment group had a positive effect of self-defense programme on explosive strength.

Thus, the research hypothesis $H_{(13)}$, "There exists a significant effect of self-defense activities on explosive strength of adult women" stands accepted.

In Table No. 4.4.5.1 paired difference depicts mean and standard deviation difference in treatment group as 1.23 and 2.28 whereas, control group showed mean and standard deviation difference of 0.03 and 0.47 respectively. The result found proved to be

significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 3.19 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.45 which was lower than the table value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level and p value of control group is 0.61 and is higher than the 0.05 significance level which was not significant. Thus, results in the above table showed an improvement in flexibility of treatment group. Thus, it indicated that self-defense programme affected flexibility of treatment group positively.

Thus, the research hypothesis $H_{(14)}$, "There exists a significant effect of self-defense activities on flexibility of adult women" stands accepted.

In Table No. 4.4.6.1 paired difference clearly showed mean and standard deviation difference in treatment group as 1.99 and 1.50 whereas, control group showed mean and standard deviation difference of 0.12 and 0.38 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 7.72 which was greater than the table value of t' i.e. 2.03 and in control group t-value determined by calculation is 1.93 which is higher than the table value of t'. Since the p value for treatment group is 0.00 which was significant at 0.05 level of significance and p value of control group is 0.06 and is also higher than the 0.05 significance level which failed to be significant. The results presented in table depicted an improvement in balance of treatment group. Thus, it indicated that there is positive impact of self-defense programme on balance of treatment group.

Thus, the research hypothesis $H_{(15)}$, "There exists a significant effect of self-defense activities on Balance of adult women" stands accepted.

In Table No. 4.4.7.1 paired difference clearly shows mean and standard deviation difference in treatment group as 0.38 and 0.51 whereas, control group showed mean and standard deviation difference of 0.00 and 0.33 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group

where the t-value determined by calculation is 4.44 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.00 which was lower than the tabulated value of t'. Since the p value for treatment group was 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.99 which was higher than the 0.05 significance level which is not significant. The results presented in table showed an improvement in audio reaction time of treatment group. Thus, it was clear that there is positive effect of self-defense programme on audio reaction time of treatment group.

Thus, the research hypothesis $H_{(16)}$ "There exists a significant effect of self-defense activities on audio reaction time of adult women" stands accepted.

In Table No. 4.4.8.1 paired difference clearly showed the mean and standard deviation difference in treatment group as 0.05 and 0.12 whereas, control group showed the mean and standard deviation difference of 0.02 and 0.17 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group where the t-value determined by calculation is 2.80 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.79 which was lower than the table value of t'. Since the p value for treatment group is 0.00 which proves to be significantly accepted at 0.05 level and p value of control group is 0.43 and is higher than the 0.05 significance level which was not significant. The results shown in the table depicted a decrease in visual reaction time of treatment group. Thus, it indicated that there is positive impact of self-defense programme on visual reaction time of treatment group.

Thus, the research hypothesis $H_{(17)}$, "There exists a significant effect of self-defense activities on visual reaction time of adult women" stands accepted.

In Table No. 4.4.9.1 paired difference clearly showed mean and standard deviation difference in treatment group as 2.76 and 1.37 whereas, control group shows mean and standard deviation difference of 0.22 and 1.60 respectively. The result found proved to be significantly different in pre-intervention and post-intervention data of treatment group

where the t-value determined by calculation is 11.87 which was greater than the tabulated value of t' i.e. 2.03 and in control group t-value determined by calculation is 0.81 which was lower than the tabulated value of t'. Since the p value for treatment group is 0.00 which proved to be significantly accepted at 0.05 level of significance and p value of control group is 0.42 and is higher than the 0.05 significance level which was not significant. The result shown in table depicts an improvement in agility of treatment group. Thus,it indicated that there is positive impact of self-defense programme on agility of treatment group.

Thus, the research hypothesis $H_{(18)}$ "There exists a significant effect of self-defense activities on agility of adult women" stands accepted.

5.12 Conclusions

On the basis of above findings, literature guidance and through thoughtful conversation with professionals, specialists in the field of sports and the guide, following conclusions were obtained : -

(1) 12 weeks self-defense activities have proved to be a useful mean to improve self-efficacy, and emotional intelligence positively whereas, findings showed improvement of aggression too which might be attributed to their adolescent period and intervening variables.

(2) The self-defense programme has also proved to be beneficial for improving explosive strength, balance, flexibility, reaction time, and agility of adolescent females whereas, it has been failed to improve visual reaction time significantly.

(3) The self-defense activities have had a significant effect upon psychological variable of self-efficacy, emotional intelligence and aggression. Self-efficacy and emotional intelligence increased due to effect of self-defense programme whereas, aggression decreased which is a good sign and evidence that self-defense activities can prove to be a useful mean.

(4) The physical fitness variables like explosive strength, balance, flexibility, audio and visual reaction time and agility were improved significantly with 12 weeks programme of self-defense activities.

5.13 Suggestions

(1) Depending upon the feasibility of the samples, the trainings may be planned for longer duration for better results.

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

(3) Similar sort of treatment programme can be implemented for the empowerment of more psychological and physical and physiological parameters.

(4) A comparative study can be conducted by using different type of self-defense activities.

(5) Competition phases can be included as a part of treatment programme.

(6) Different training programme can be developed by selecting other self-defense activities other than chosen in this study.

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

5.14 Limitations

(1) Certain elements like dietary habits, resting and sleeping pattern etc. were not in the hands of the 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.

5.15 Application/Recommendation of the Research

(1) The findings of this research can be considered by the government while framing various policies for empowering women. In this concern, self-defense training programme can be provided to uplift women in society.

(2) This study can be very useful in preventing women from risk of rape and will give them power to stay safe with their head held high.

(3) The study has highlighted the significance of 'self-defense activities to curb the weakness of women. Therefore, it can be applied in schools as well as at the college level. Findings can be used while framing curriculum and policies.

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Dr. Arun Kumar Singh *(Patna)*
Dr. Shruti Narain *(Patna)*

Consumable Booklet of SES-SANS

(Hindi Version)

कृपया निम्न सूचनाएँ भरिए— दिनांक ☐☐☐☐☐☐☐☐

नाम _____ आयु _____ लिंग _____

स्कूल/कालेज का नाम _____

कक्षा _____ वर्तमान आवास : शहर/गाँव _____

माता-पिता का मासिक आय :

(क) रु. 50,000 से अधिक ☐ (ख) रु. 30,000 से 49,000 तक ☐ (ग) रु. 20,000 से 29,000 ☐

(घ) रु. 10,000 से 19,000 ☐ (ड.) रु. 10,000 से नीचे ☐

पिता की शिक्षा : मैट्रिक / इंटर / स्नातक / स्नातकोत्तर / स्नातकोत्तर से ऊपर _____

माता की शिक्षा : मैट्रिक / इंटर / स्नातक / स्नातकोत्तर / स्नातकोत्तर से ऊपर _____

निर्देश (Instructions)

आगे कुछ ऐसे कथन (Statements) दिए गए हैं जो किसी व्यक्ति के जीवन के विभिन्न पहलुओं जैसे उसके आत्म-विश्वास, आत्म-सम्मान, प्रतिज्ञा (promise) आदि से संबन्धित हैं। प्रत्येक कथन का पाँच उत्तर विकल्प (options) अर्थात् **'पूर्णतः सहमत'**, **'सहमत'**,**'तटस्थ'**, **'असहमत'** एवं **'पूर्णतः असहमत'** दिए गए हैं। आप प्रत्येक कथन को ध्यानपूर्वक पढ़ें और दिए गए पाँच विकल्पों में से किसी एक वैसे विकल्प पर सही ☑ का चिन्ह लगाए जो आपके संदर्भ में सबसे उचित एवं सार्थक हो। इस कार्य के लिए कोई समय सीमा नहीं है, परंतु आपसे उम्मीद की जाती है कि लगभग दस मिनट में आप इस कार्य को पूरा करेंगे। **आपके उत्तर सदैव गोपनीय रखे जाएँगे।**

फलांकन तालिका

	Raw Score			Interpretation
Page	2	3	4	
Score				
Total Score				

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NATIONAL PSYCHOLOGICAL CORPORATION
4/230, KACHERI GHAT, AGRA-282 004 (INDIA)

क्रमांक	कथन	पूर्णतः सहमत	सहमत	तटस्थ	असहमत	पूर्णतः असहमत	प्राप्तांक
1.	**मुझे** अपनी योग्यता पर विश्वास है कि साधारण प्रयत्न से मैं कठिन समस्याओं का समाधान आसानी से कर सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
2.	**मुझे** विश्वास है कि मैं अपने लिए जो भी लक्ष्य तय करूँ उसे निश्चय ही प्राप्त कर सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
3.	**मुझे** अपनी क्षमताओं पर इतना भरोसा है कि मैं किसी भी कार्य को समय पर पूरा कर सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
4.	**मुझे** लगता है कि मैं कड़ी मेहनत भी करूँ तो मुझे सफलता प्राप्त नहीं होगी।	☐	☐	☐	☐	☐	⬭
5.	**मुझे** विश्वास है कि कठिन परिस्थितियों में भी मैं अपना नियंत्रण रख सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
6.	**मैं** किसी भी परिस्थिति में जो चाहूँ वह प्राप्त कर सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
7.	**किसी** भी कार्य को पूरा करने के लिए मुझमें पूरा आत्मबल है।	☐	☐	☐	☐	☐	⬭

कुल प्राप्तांक पृष्ठ 2 = ▭

क्रमांक	कथन	पूर्णतः सहमत	सहमत	तटस्थ	असहमत	पूर्णतः असहमत	प्राप्तांक
8.	**अपनी** मेहनत से मैं कुछ भी प्राप्त कर सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
9.	**मेरी** अब तक की उपलब्धियों का राज मेरी अपनी क्षमता एवं सामर्थ्यता है।	☐	☐	☐	☐	☐	⬭
10.	**मेरे** लिए किसी लक्ष्य कि प्राप्ति सामान्यतः संभव नहीं होती है।	☐	☐	☐	☐	☐	⬭
11.	**मैं** विषम (difficult) परिस्थिति में भी अपना संतुलन बनाए रखता/रखती हूँ।	☐	☐	☐	☐	☐	⬭
12.	**कठिन** परिस्थितियों का सामना मैं बिना किसी सहायता के नहीं कर सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
13.	**मैं** कठिन से कठिन परिस्थिति में उससे ठीक ढंग से निपटने की युक्ति (strategy) निकाल लेता/लेती हूँ।	☐	☐	☐	☐	☐	⬭
14.	**मैं** अपने निर्धारित लक्ष्य पर पहुँचने के लिए हर तरह का संभव प्रयास करता/करती हूँ।	☐	☐	☐	☐	☐	⬭

कुल प्राप्तांक पृष्ठ 3 = ☐

क्रमांक	कथन	पूर्णतः सहमत	सहमत	तटस्थ	असहमत	पूर्णतः असहमत	प्राप्तांक
15.	**यदि** कोई मुझसे लड़ने-झगड़ने का प्रयास करे तो भी मैं शांत रह सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
16.	**यदि** मैं किसी कार्य में फँस जाऊँ तो थोड़े प्रयत्न से समाधान ढूंढ़ सकता/सकती हूँ।	☐	☐	☐	☐	☐	⬭
17.	**यदि** मैं उत्तम ढंग से प्रयत्न करूँ तो निश्चित रूप से सफलता मेरे कदमों पर होगी।	☐	☐	☐	☐	☐	⬭
18.	**यदि** मैं ध्यानपूर्वक भी लक्ष्य पर केन्द्रित करूँ फिर भी असफल हो जाऊँगा/जाऊँगी।	☐	☐	☐	☐	☐	⬭
19.	**यदि** मैं ठान लूँ तो सफलता जरूर प्राप्त कर पाऊँगा/पाऊँगी।	☐	☐	☐	☐	☐	⬭
20.	**यदि** मैं किसी भी कार्य को सुनियोजित ढंग से करूँ तो जल्द ही परिणाम पर पहुँच जाता/जाती हूँ।	☐	☐	☐	☐	☐	⬭

कुल प्राप्तांक पृष्ठ 4 = ▭

Dr. Arun Kumar Singh *(Patna)*
Dr. Shruti Narain *(Patna)*

Consumable Booklet of

EIS-SANS

(Hindi Version)

कृपया निम्न सूचनाएँ भरिए— *दिनांक* | | | | | | | | |

नाम _____

स्कूल/कालेज का नाम _____

कक्षा _____ आयु _____ लिंग _____

वर्तमान आवास : शहर/गाँव _____

मोबाईल/टेलिफोन : _____

निर्देश (Instructions)

आगे कुछ ऐसे कथन (Statements) दिए गए हैं जो एक सामान्य व्यक्ति के दिन-प्रतिदिन से सम्बन्धित हैं। प्रत्येक प्रश्न का दो उत्तर विकल्प अर्थात् '**हाँ**' या '**नहीं**' में दिया हुआ है। आप इन प्रश्नों को ध्यानपूर्वक पढ़ें और दिए गए इन दो विकल्पों में से जो आपको सबसे ज्यादा उचित एवं सार्थक दिखता हो उस पर सही ☑ का चिन्ह लगाए। इस कार्य के लिए कोई समय सीमा नहीं है, परन्तु आपसे उम्मीद की जाती है कि लगभग 15-20 मिनट में आप इस कार्य को पूरा कर लेंगे।

आपके उत्तर सदैव गोपनीय रखे जाएँगे।

फलांकन तालिका

	Raw Score			Interpretation
Page	2	3	4	
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क्रमांक	कथन	हाँ	नहीं	प्राप्तांक
1.	**क्या** आपका संबंध आपके भाई-बहनों से अच्छा है ?	☐	☐	⬭
2.	**क्या** आपको लोगों से बातें करना पसंद है ?	☐	☐	⬭
3.	**क्या** आपको अन्य व्यक्तियों द्वारा बेहद पसंद किया जाता है ?	☐	☐	⬭
4.	**क्या** मित्रों से स्पर्धा की भावना को आप सहज रूप से लेते/लेती हैं ?	☐	☐	⬭
5.	**क्या** आप अक्सर अपनी खुशी या दु:ख के कारणों से अवगत रहते/रहती हैं ?	☐	☐	⬭
6.	**क्या** आप दूसरों के सुख-दु:ख का ध्यान रखते/रखती हैं ?	☐	☐	⬭
7.	**क्या** आप दूसरों की समस्याओं का समाधान आसानी से कर पाते/पाती हैं ?	☐	☐	⬭
8.	**क्या** आपके परिवार के सदस्य आपकी भावनाओं का ध्यान रखते हैं ?	☐	☐	⬭
9.	**क्या** आप बेहद अनुशासित हैं ?	☐	☐	⬭
10.	**क्या** आपके कई मित्र हैं ?	☐	☐	⬭
11.	**क्या** अन्य लोग आपके पास अक्सर सहायता के लिए आते हैं ?	☐	☐	⬭

कुल प्राप्तांक पृष्ठ 2 = ☐

क्रमांक	कथन	हाँ	नहीं	प्राप्तांक

12. **क्या** आप अक्सर खुश रहते/रहती हैं ? ☐ ☐ ⬭

13. **क्या** आपको अक्सर अपने कार्य की पूर्ति के लिए अन्य व्यक्तियों से सहायता लेनी पड़ती है ? ☐ ☐ ⬭

14. **क्या** आप किसी के आचरण को जल्द ही पहचान लेते/लेती हैं ? ☐ ☐ ⬭

15. **क्या** आप किसी के द्वारा अपनी निंदा किए जाने पर उसे सहजता से लेते/लेती हैं ? ☐ ☐ ⬭

16. **क्या** आप अपनी असफलताओं से जल्द उभर कर उससे नई सीख ले लेते/लेती हैं ? ☐ ☐ ⬭

17. **क्या** आपको अक्सर मित्रों द्वारा ठुकराए जाने का डर सताता है? ☐ ☐ ⬭

18. **क्या** दूसरे लोग आप पर विश्वास रखते हैं ? ☐ ☐ ⬭

19. **क्या** आप जल्द ही कोई निर्णय ले पाते/पाती हैं ? ☐ ☐ ⬭

20. **क्या** वे व्यक्ति जो आपको नापसंद हैं उनकी सही बातों को भी आप अस्वीकार कर देते/देती हैं ? ☐ ☐ ⬭

21. **क्या** जितनी जल्दी आपको किसी से प्रेम होता है उतनी ही जल्दी खत्म भी हो जाता है ? ☐ ☐ ⬭

कुल प्राप्तांक पृष्ठ 3 = ▭

क्रमांक	कथन	हाँ	नहीं	प्राप्तांक
22.	**क्या** आप दूसरों के मजाक को सहज रूप से लेते/लेती हैं ?	☐	☐	◯
23.	**क्या** दूसरों की मदद करना आपको पसंद है ?	☐	☐	◯
24.	**क्या** आप दूसरों को आसानी से प्रेरित कर पाते/पाती हैं ?	☐	☐	◯
25.	**क्या** आपको दूसरों के दु:ख अपने लगते हैं ?	☐	☐	◯
26.	**क्या** आपकी नजर में दूसरे लोग जिसके साथ आपकी अन्त:क्रिया प्राय: होती है, विश्वसनीय हैं ?	☐	☐	◯
27.	**क्या** आप अन्य व्यक्तियों पर विश्वास कर पाते/पाती हैं ?	☐	☐	◯
28.	**क्या** अन्य व्यक्ति आपके मजाक को सहज रूप से लेते हैं ?	☐	☐	◯
29.	**क्या** आप अन्य व्यक्तियों की दया और सहायता आसानी से प्राप्त कर लेते/लेती हैं ?	☐	☐	◯
30.	**क्या** आप अपने आपको एक जिम्मेदार इन्सान मानते/मानती हैं ?	☐	☐	◯
31.	**क्या** आप दूसरों के क्रोध को जल्द शांत कर पाते/पाती हैं ?	☐	☐	◯

कुल प्राप्तांक पृष्ठ 4 = ☐

राजीव लोचन भारद्वाज
रीडर, मनोविज्ञान विभाग
धर्म समाज कॉलेज, अलीगढ़

अपने सम्बन्ध में सूचना दें :-

लिंग	आयु	जाति	धर्म	शिक्षा
ग्रामीण/शहरी	व्यवसाय	मासिक आय	विवाहित/अविवाहित	

निर्देश :-

१. प्रत्येक कथन आपके द्वारा अभिव्यक्त व्यवहार से संबन्धित है, ध्यान से पढ़िए।
२. प्रत्येक कथन का ईमानदारी से उत्तर दें।
३. प्रत्येक कथन के सामने पाँच विकल्प हैं, इन विकल्पों में से जो भी विकल्प आपके सम्बन्ध में सत्य हो, अथवा आपके व्यवहार से मेल खाता हो, उसको (✓) से इंगित कर दें।
४. आपके द्वारा दी गयी जो भी सूचनाएँ हैं गुप्त रखी जायेंगी।

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१. क्या आपसे, आपके मित्र या परिवार के लोग मिलने से....
( ) अत्यधिक बचते हैं।
( ) अधिक बचते हैं।
( ) सामान्यत: बचते हैं।
( ) नहीं बचते हैं।
( ) बिल्कुल भी नहीं बचते हैं।

२. आवश्यकता न होने पर भी, मुझे दूसरों से बहस करने में....
( ) अत्यधिक आनन्द आता है।
( ) अधिक आनन्द आता है।
( ) सामान्यत: आनन्द आता है।
( ) आनन्द नहीं आता है।
( ) आनन्द बिल्कुल नहीं आता।

३. क्रान्तिकारी वीरों की गाथा पढ़ना या सुनना....
( ) मुझे बहुत अधिक पसन्द है।
( ) अधिक पसन्द है।
( ) सामान्यत: पसन्द है।
( ) कम पसन्द है।
( ) बहुत कम पसन्द है।

४ सामाजिक नियमों का अनुपालन, मैं....
( ) हमेशा आवश्यक नहीं समझता हूँ
( ) आवश्यक नहीं समझता हूँ।
( ) कभी-कभी आवश्यक समझता हूँ।
( ) आवश्यक समझता हूँ
( ) हमेशा आवश्यक समझता हूँ।

५. आवश्यक न होने पर भी तेज गाड़ी चलाना/या उसमें बैठना, मुझे....
( ) अत्यधिक पसन्द है।
( ) अधिक पसन्द है।
( ) सामान्यत: पसन्द है।
( ) कम पसन्द है।
( ) बिल्कुल पसन्द नहीं है।

६. दूसरों के उत्तेजनापूर्ण व्यवहार का उत्तर देने में, मुझे....

( ) अत्यधिक आनन्द आता है।
( ) अधिक आनन्द आता है।
( ) सामान्यत: आनन्द आता है।
( ) कम आनन्द आता है।
( ) बिल्कुल भी आनन्द नहीं आता है।

७. ईंट का जवाब पत्थर से देना, मुझे....

( ) बहुत अधिक उपयुक्त लगता है।
( ) अधिक उपयुक्त लगता है।
( ) सामान्यत: उपयुक्त लगता है।
( ) कम उपयुक्त लगता है।
( ) बहुत कम उपयुक्त लगता है।

८. इच्छा विरूद्ध कार्य होने पर, मैं अपना आपा....

( ) बहुत अधिक खो देता हूँ।
( ) अधिकतर खो देता हूँ।
( ) कभी-कभी खो देता हूँ।
( ) कम खोता हूँ।
( ) बिल्कुल भी नहीं खोता हूँ।

९. टी०वी० पर मारधाड़ वाले कार्यक्रम, मुझे...

( ) बहुत अधिक पसन्द है।
( ) अधिक पसन्द हैं।
( ) सामान्यत: पसन्द हैं।
( ) कम पसन्द हैं।
( ) बिल्कुल पसन्द नहीं हैं।

१०. मुझे, सोते समय लड़ाई-झगड़े युक्त सपने...

( ) अत्यधिक आते हैं।
( ) अधिक आते हैं।
( ) कभी-कभी आते हैं।
( ) नहीं आते हैं।
( ) बिल्कुल भी नहीं आते हैं।

११. वर्तमान सामाजिक व्यवस्था को कैसे सुधारा जाय, यह बिन्दु मेरे लिए....

( ) अत्यधिक महत्व रखता है।
( ) महत्व रखता है।
( ) सामान्यत: महत्व रखता है।
( ) कम महत्व रखता है।
( ) बिल्कुल महत्व नहीं रखता है।

१२. मैं, अपने हित को किसी भी साधन (सही/गलत) से प्राप्त करने में....

( ) हमेशा तत्पर रहता हूँ।
( ) तत्पर रहता हूँ।
( ) कभी-कभी तत्पर रहता हूँ।
( ) तत्पर नहीं रह पाता हूँ।
( ) बिल्कुल भी तत्पर नहीं रहता हूँ।

१३. युद्ध वीरों या खूँखार लड़ाकू लोगों से मिलना, मुझे....

( ) अत्यधिक रुचिपूर्ण लगता है।
( ) अधिक रुचिपूर्ण लगता है।
( ) सामान्यत: रुचिपूर्ण लगता है।
( ) कम रुचिपूर्ण लगता है।
( ) बिल्कुल भी रुचिपूर्ण नहीं लगता है।

१४. दूसरों के स्वार्थपरक उद्देश्यों की प्राप्ति का साधन, मैं....
( ) अत्यधिक बनता रहता हूँ।
( ) अधिक बनता रहता हूँ।
( ) कभी-कभी बन जाता हूँ।
( ) कम बनता हूँ।
( ) बिल्कुल भी नहीं बनता।

१५. अपनी वस्तुओं को यथा स्थान पर न पाने पर, मैं....
( ) अत्यधिक क्रोधित हो जाता हूँ।
( ) क्रोधित हो जाता हूँ।
( ) कभी-कभी क्रोधित हो जाता हूँ।
( ) कम क्रोधित होता हूँ।
( ) बिल्कुल भी क्रोधित नहीं होता हूँ।

१६. निर्जीव वस्तुओं को तोड़ने एवं फेंकने में, मुझे....
( ) अत्यधिक मजा आता है।
( ) अधिक मजा रहता है।
( ) सामान्यत: मजा आता है।
( ) कम मजा आता है।
( ) बिल्कुल मजा नहीं आता है।

१७. आवश्यकता न होने पर भी पशु एवं पक्षियों का शिकार करना, मुझे....
( ) अत्यधिक पसन्द है।
( ) अधिक पसन्द है।
( ) सामान्यत: पसन्द है।
( ) कम पसन्द है।
( ) बिल्कुल पसन्द नहीं है।

१८. मुझे अन्य लोगों को प्रताड़ित करने, में....
( ) अत्यधिक सन्तोष होता है।
( ) अधिक सन्तोष होता है।
( ) सामान्यत: सन्तोष होता है।
( ) सन्तोष नहीं होता है।
( ) बिल्कुल सन्तोष नहीं होता है।

१९. पक्षपात पूर्ण व्यवहार से, मै...
( ) अत्यधिक क्रोधित हो जाता हूँ।
( ) क्रोधित होता हूँ
( ) सामान्यत: क्रोधित होता हूँ।
( ) क्रोध नहीं करता।
( ) बिल्कुल क्रोध नहीं करता।

२०. विरोधी किस प्रकार अधिक से अधिक प्रताड़ित किया जाए, यह विचार मेरे मन में....
( ) हमेशा बना रहता है।
( ) बना रहता है।
( ) कभी-कभी बना रहता है।
( ) नहीं रहता है।
( ) कभी भी नहीं रहता है।

२१ बड़ों के आदेशों का पालन करना, मुझे...
( ) बिल्कुल अच्छा नहीं लगता है।
( ) अच्छा नहीं लगता है।
( ) कभी-कभी अच्छा नहीं लगता है।
( ) अच्छा लगता है।
( ) हमेशा अच्छा लगता है।

२२. दूसरों का ऊँची आवाज में बोलना, मैं....

( ) कतई बर्दाश्त नहीं करता हूँ।
( ) बर्दाश्त नहीं करता हूँ।
( ) कभी-कभी बर्दाश्त करता हूँ।
( ) अधिकतर बर्दाश्त करता हूँ।
( ) हमेशा बर्दाश्त करता हूँ।

२३. अपने बड़ों के द्वारा गलती करने पर, मैं उन्हें उनकी गलती बताना....

( ) अत्यधिक आवश्यक मानता हूँ।
( ) अधिक आवश्यक मानता हूँ।
( ) सामान्यत: आवश्यक मानता हूँ।
( ) कम आवश्यक मानता हूँ।
( ) बिल्कुल अनावश्यक मानता हूँ।

२४. प्रतिद्धन्द्धी से बदला न ले पाने की स्थिति में, मैं....

( ) अत्यधिक समय तक बड़बड़ाता रहता हूँ।
( ) अधिक समय तक बड़बड़ाता रहता हूँ।
( ) सामान्यत: बड़बड़ाता हूँ।
( ) कम बड़बड़ाता हूँ।
( ) बहुत कम बड़बड़ाता हूँ।

२५. राष्ट्र हित में, जनहित विरोधी कार्य भी, मैं....

( ) बहुत आसानी से स्वीकार कर लेता हूँ।
( ) आसानी से स्वीकार कर लेता हूँ।
( ) सामान्यत: स्वीकार कर लेता हूँ।
( ) कम स्वीकार कर पाता हूँ।
( ) बिल्कुल भी स्वीकार नहीं कर पाता हूँ।

२६. सड़क पर चलते समय मामूली सी बात पर, मैं....

( ) अत्यधिक झल्लाने लगता हूँ।
( ) अधिक झल्लाता रहता हूँ।
( ) सामान्यत: ही झल्लाता हूँ।
( ) कम झल्लाता हूँ।
( ) बहुत कम झल्लाता हूँ।

२७. किसी बात पर क्रोध आ जाने पर, मैं स्वयं को क्षति होने का....

( ) बिल्कुल भी ध्यान नहीं करता हूँ।
( ) ध्यान नहीं करता हूँ।
( ) कभी-कभी ध्यान नहीं रख पाता हूँ।
( ) कम ध्यान करता हूँ।
( ) बहुत कम ध्यान करता हूँ।

२८. समाज के फिजूल के वाद-विवादों में, मैं

( ) अत्यधिक बढ़चढ़ कर हिस्सा लेता हूँ।
( ) अधिक हिस्सा लेता हूँ।
( ) सामान्यत: हिस्सा लेता हूँ।
( ) कम हिस्सा लेता हूँ।
( ) बिल्कुल भी हिस्सा नहीं लेता हूँ।

धन्यवाद !