

A Comparative Study of Multiple Intelligence Among Male and Female Students of Class XI

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Abstract

The purpose of this study was to investigate differences between male and female students with reference to different dimensions of multiple intelligence. A sample of 100 boys and 100 girls studying in two senior secondary schools of Meerut city was randomly selected. The investigator had personally met the participants and administered the tool. Multiple Intelligence scale constructed by investigator was used. Mean, S.D. and T-test were calculated to analyse the data. The findings reveal that male and female students do not differ with reference to multiple intelligence. Male students have significantly more bodily-kinesthetic and naturalistic intelligence than female students. Male students possess more logical, bodily-kinesthetic, naturalistic intelligence than female students. Female students possess more linguistic, spatial, musical, interpersonal, intrapersonal and existential intelligence than male students.

Introduction

Multiple Intelligence

The concept of multiple intelligence is given by Prof. Howard Gardner in 1983.

According to Gardner, intelligence is:

- 1) The ability to create an effective product or offer a service that is valued in a culture,
- 2) A set of skills that make it possible for a person to solve problems in life, and
- 3) The potential for finding or creating solutions for problems, which involves gathering new knowledge.

The concept of intelligence by Prof. Howard Gardner is called multiple intelligence because it constitutes nine dimensions of intelligence which are as follows:

1. Linguistic intelligence
2. Logical intelligence
3. Spatial intelligence
4. Bodily kinesthetic intelligence
5. Musical intelligence
6. Naturalistic intelligence
7. Interpersonal intelligence
8. Intrapersonal intelligence
9. Existential intelligence

The concept of these intelligences is as follows:

1. Linguistic intelligence (“word smart”) is the ability to use words and language. It is the ability to think in words rather than pictures. It develops high auditory skills and elegant speaking.

2. Logical-mathematical intelligence (“number/reasoning smart”) is the ability to use reason, logic and numbers. It is the ability to think conceptually in logical and numerical patterns making connections between pieces of information. It develops curiosity about the world around, asking lots of questions and liking to do experiments.

3. Spatial intelligence (“picture smart”) is the ability to perceive the visual. It is the ability to think in pictures and need to create vivid mental images to retain information. It develops enjoyment looking at maps, charts, pictures, videos, and movies.

4. Bodily-Kinesthetic intelligence (“body smart”) is the ability to control body movements and handle objects skillfully. It is the ability to express through movement. It develops a good sense of balance and eye-hand co-ordination. (e.g. ball play, balancing beams). It is the ability to remember and process information through interacting with the space around.

5. Musical intelligence (“music smart”) is the ability to produce and appreciate music. It is the ability to think in sounds, rhythms and patterns. It develops immediate response to music either appreciating or criticizing whatever is heard. It develops extremely sensitivity to environmental sounds (e.g. crickets, bells, dripping taps).

6. Interpersonal intelligence (“people smart”) is the ability to relate and understand others. It is the ability to see things from other people’s point of view in order to understand how they think and feel. It is the ability to use both verbal (e.g. speaking) and non-verbal language (e.g. eye contact, body language) to open communication channels with others. It develops an uncanny ability to sense feelings, intentions and motivations. It develops great organizers, although they sometimes resort to manipulation. It develops to maintain peace in group settings and encourage co-operation.

7. Intrapersonal intelligence (“self smart”) is the ability to self-reflect and be aware of one’s inner state of being. It is the ability to understand inner feelings, dreams, relationships with others, and strengths and weaknesses.

8. Naturalist intelligence (“nature smart”) is the ability to discriminate among living things as well as sensitivity to other features of the natural world namely clouds, rock configurations, insects, fossils, butterflies, feathers, shells or dinosaurs etc. It is the expertise in the observation, recognition, classification and collection of plants and animals.

9. Existential intelligence (“cosmic smart”) is the ability to be sensitive to, or have the capacity for, conceptualizing or tackling deeper or larger questions about human existence, such as the meaning of life, why are we born, why do we die, what is consciousness, or how did we get here. It is called “**wondering smart**”, “**cosmic smart**”, “**spiritually smart**” or “**metaphysical intelligence**”.

Multiple Intelligence And Gender Differences

Many investigations conducted abroad have revealed results on gender differences in the test scores of multiple intelligence.

Al-Faoury, H. O. & Smadi, M. O. (2015) investigated the effect of an integrative skills program on developing Jordanian university students’ select- multiple intelligences. The study aimed at investigating the effect of gender and the interaction between gender and the instructional program on intelligences. The results showed that there was a statistically significant difference between the adjusted mean scores of students’ intelligences due to the

teaching method in favor of the experimental group. The data revealed that there was a statistically significant difference between the adjusted mean scores of students' intelligences due to gender in favor of the females in the linguistic and interpersonal intelligences and the males in the logical and intrapersonal intelligences. There was a statistically significant difference between the adjusted mean scores of intelligences due to the interaction between the teaching method and gender in favor of the females in the linguistic intelligence and the males in the logical intelligence.

Loori, Ali A. (2005) studied and reported the differences in multiple intelligences preferences of male and female students learning English as a second language at higher institutions in the United States of America. The study results indicated that there were significant differences between males' and females' preferences of intelligences. Males preferred learning activities involving logical and mathematical intelligences, whereas females preferred learning activities involving intrapersonal intelligence. There is hardly any research found on multiple intelligence in India so researcher decided to work on it.

Statement of The Problem

The present work is thus a comparative study of multiple intelligence among male and female students of class XI.

Objective of Study

To study difference between male and female students with reference to multiple intelligence.

Hypothesis of Study

There is no significant difference between male and female students with reference to multiple intelligence.

Methodology

Method of the study: In the present study descriptive survey method was used.

Sample: A sample of 100 boys and 100 girls studying in two secondary schools of Meerut city was selected on random basis for the study. The sample was equal on age and socio-economic status.

Procedure of sampling: Population of the study is senior secondary students of Meerut division. Firstly, two schools were selected by simple random sampling by lottery method. Then, students were selected by simple random sampling i.e. 100 boys and 100 girls.

Instrument of the study: Multiple intelligence scale was used in the study which is constructed and standardized by investigator herself.

STATISTICAL TECHNIQUES USED: Mean, S.D. and t-test were calculated to analyse the data.

ANALYSIS OF THE DATA: The significance of the difference between the mean scores of the male and female students of class XI was examined for each of the nine dimensions of multiple intelligence and for the composite score of multiple intelligence itself. The analysis of the results are given in table 1.0 and table 2.0.

Table 1.0: Significance of difference between multiple intelligence of male and female students

Intelligence	Male (N=250)		Female(N=250)		't'-ratio
	Mean	S.D.	Mean	S.D.	
Multiple Intelligence	905.8	50.78	913.0	51.71	0.70 Not Significant

As the above table reveals that the 't' value for male and female students on multiple intelligence has not come out to be significant. Hence, the null hypothesis is accepted which means that males and females do not differ so far as their multiple intelligence is concerned.

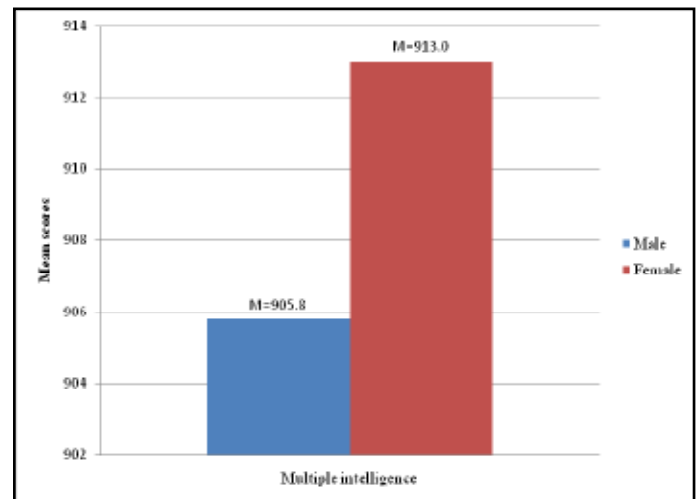


Fig. 1.0: Comparison between mean scores of male and female students due to multiple intelligence

The analysis of mean value also shows the close proximity that leads to conclude that the male and female students do not differ significantly with respect to their multiple intelligence. Thus, possess the similar level of multiple intelligence. Since the multiple intelligence has 9 dimensions, therefore dimension wise analysis has also been done and the results are presented in the following table 2.0:

Table 2.0 shows 't' values for each dimension of multiple intelligence.

Table 2.0: Significance of difference between dimensions of multiple intelligence of male and female students

Intelligence	Male(n=250)		Female (n=250)		't'-ratio	Level of Significance
	Mean	S.D.	Mean	S.D.		
Linguistic	92.88	13.26	93.90	17.02	0.33	Not significant
Logical	84.04	14.08	81.46	12.93	0.95	Not significant
Bodily-Kinesthetic	85.74	12.71	80.38	10.98	2,25**	0.05
Spatial	114.2	19.40	120.7	18.66	1.69	Not significant
Musical	115.7	18.26	120.4	15.53	1.38	Not significant
Naturalistic	83.30	13.83	76.00	16.75	2.37**	0.05
Interpersonal	120.5	18.43	127.3	17.83	1.85	Not significant
Intrapersonal	119.6	25.74	120.3	23.19	0.15	Not significant
Existential	89.72	9.26	92.56	15.95	1.08	Not significant

**Significant at 0.05 level of significance

The table 2.0 shows that the 't' values for bodily-kinesthetic and naturalistic intelligence of male and female students have come out to be significant. Therefore, the findings mean that male and female students differ from each other on bodily-kinesthetic and naturalistic intelligence. However, the analysis of mean values shows that male possesses more bodily-kinesthetic intelligence as compared to females & similarly, for naturalistic intelligence. The t-ratios for linguistic, logical, spatial, musical, interpersonal, intrapersonal and existential intelligence have not come out to be significant. Thus, male and female shows similar magnitude of the above dimensions of multiple intelligence.

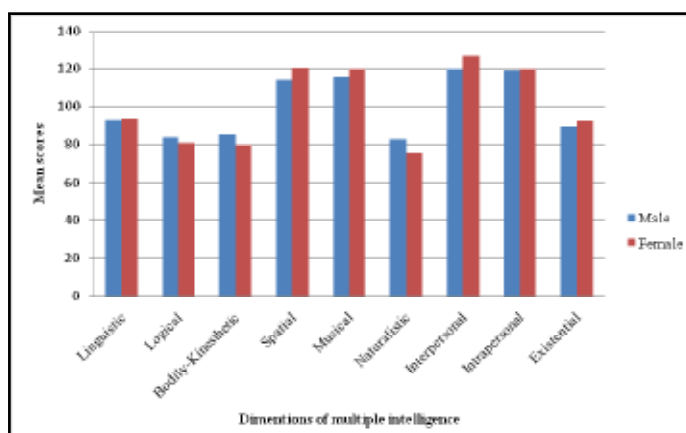


Fig. 2.0: Comparison between mean scores of male and female students with reference to nine dimensions of multiple intelligence

Discussion

Male and female students do not differ significantly with respect to their multiple intelligence while males have significantly

more bodily-kinesthetic and naturalistic intelligence than female students. The finding seems to be logical as the males have more stout body than females and demonstrate more awareness for environmental exposures.

In the present study, male students have demonstrated more logical, bodily-kinesthetic, naturalistic intelligence than female students who have more linguistic, spatial, musical, interpersonal, intrapersonal and existential intelligence. This finding is substantiated by the research studies also conducted by Loori, A. Ali (2005) and Al-Faoury, H.O. &Smadi, M.O. (2015). Loori, A. Ali (2005) found that males preferred logical and mathematical intelligences whereas females preferred intrapersonal intelligence. Al-Faoury, H.O. &Smadi, M.O. (2015) found that males favoured logical intelligence while females favoured linguistic intelligence.

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