

## Self-Perceived Multiple Intelligences of Male and Female

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**Abstract**

Intelligence plays a great role in one's life. This study was conducted with the objective to investigate the differences between self-perceived multiple intelligences of male and female. Results of the study revealed that there is a significant difference between self-perceived verbal/linguistic, logical/mathematical, visual/spatial, interpersonal, and intrapersonal intelligence of the male and female and there is no significant difference between self-perceived musical, bodily/kinesthetic and naturalistic intelligence of the male and female. On the basis of the conclusions it was recommended that students should be explicitly trained and they should be provided different opportunities so they may have equal chance for the development of each intelligence, Female should be encouraged to participate in learning activities drawn around logical/mathematical activities, students may be provided both for male and female students with appropriate feedback without discrimination between male and female, Further researches may be conducted to further investigate difference between male and female self-perceived intelligence.

**Keywords:** Multiple Intelligence, IQ, verbal/ linguistic, logical/mathematical, visual/spatial, musical, bodily/kinesthetic, interpersonal, intrapersonal, natural.

## Self-Perceived Multiple Intelligences of Male and Female

### Introduction

According to Gardner (1999a), all human beings possess all different intelligences in varying degrees and each individual manifests varying levels of these different intelligences and thus each person has a unique “cognitive profile”; that is, a) all human possess all different intelligences in varying amounts; b) Each individual has a different composition; c) Different intelligences are located in different areas of the brain and can either work independently or together; d) By applying Multiple Intelligences Theory we can improve education; and e) These intelligences may define human species.

It has been proved by intelligence tests that intelligence increases and develops when a child grows physically or in age. Mental development takes place differently in different people. The time at which mental progress stops, is not similar in different individuals. It becomes stable after the age of 10 and is fully stabilized during puberty. Intelligence does not grow throughout one’s life and it is almost true. The development of intelligence goes in parallel with the development or decline of the nervous system because intelligence is a function of neurons and neuralgia.

A number of researches have been conducted to know whether women are intelligent or men are more intelligent. The results of these researches showed, that there is no considerable difference between the intelligence of women and men. And on the basis of these results it can be stated that difference in gender is not the cause of difference in intelligence (Chauhan, 1991). But Still Great diversities in intelligence exist among people. It is fact that no two persons even identical twins or persons brought up in the same social and physical conditions are blessed with the same intellectual energy. The evaluation of intelligence through different tests has provided sufficient proofs to accept as true that not only does intelligence varies from person to person, but it also inclines to show a discrepancy in the same person from state to state and time to time.

Many of the studies of the early days confined to the measuring overall intelligence or ‘g’ till Gardner’s multiple intelligence theory appeared, which opened new vistas for researchers. Gardner (1983 a) argued that despite the success of standard IQ in predicting ability in school subjects, it did not

highlight the potential/competence of an individual in particular fields of expertise. Gardner's theory of multiple intelligences identifies eight subtypes of intelligence that every normal individual should develop to some degree (linguistic, logical/mathematical, spatial, interpersonal, intrapersonal, musical, bodily-kinesthetic, and naturalistic (Gardner, 1983b).

Later, with the merger of cerebral research and cognitive psychology, specific ontological tasks were associated with intelligence. Gardner (1999b) came up with two other debatable dimensions to multiple intelligences those being existential and spiritual. These together generated substantial interest among researchers and educators to demonstrate differences across various types of intelligence and in self-estimates of multiple intelligences (Bennett, 1996; Furnham and Baguma, 1999; Furnham et al., 2001, Furnham et al., 2002). Several of these studies showed that perceptions of intelligence differed significantly from objective measures of intelligence and between males and females. Research reviews suggest a small and significant gender differences in self-estimates of intelligence, and more so on specific skills. Beginning with Anastasi (1958), Tyler (1965), and Maccoby (1966), researchers have reported male performance increased with age on tests of mathematical reasoning compared to females.

It has also been observed that within societies having strong kinship and patriarchal systems, a distinct bias prevails in favor of higher male self-estimates on the mathematical and kinesthetic abilities. Hogan (1978) reported that in a review of 11 studies more than half of the studies demonstrated significant differences between male and female self-estimates of IQ levels. Hogan argued that women tend to be perceived as less intelligent than men as society may deny intellectual equality. In a study of Scottish students, it was noted that women underestimated while men overestimated their own intelligence along spatial and logical components (Beloff, 1992). Even the estimates of parental, grandparental, and sibling IQ favored males as brothers, fathers, and sons as more intelligent than sisters, mothers, and daughters respectively (Byrd and Stacey, 1993; Furnham and Rawles, 1995; Furnham et al., 1999c).

In a review of gender differences on estimates of intelligence, Bennett (1996) observed that male respondents self-estimate their intelligence quotient (IQ) higher than females, but males did not attribute higher levels of interpersonal intelligence over females. Halpern (1997) wrote that males on

average score higher on tasks that require transformations in visual-spatial working memory, motor skills involving aiming, spatial-temporal and fluid reasoning, especially in abstract mathematical and scientific domains. Whereas males performed better than females on the mathematical reasoning and spatial tasks, females were more successful at tasks requiring the use of language, arithmetical evaluation, and manual precision (Halpern, 1992; Springer and Deutsch, 1993). Among Zulu mothers, Furnham and Mkhize (2003) noted the mathematical and spatial intelligence were the best predictor of self-estimates of their children. They observed few significant differences in their estimates of sons and daughters on multiple intelligences. Furnham and associates found British fathers estimating their overall IQ and the logical and spatial components higher than the mothers, and both parents rated their sons more intelligent than daughters (Furnham and Gasson, 1998; Furnham, 2000). Furnham (2000) speculated that the logical and spatial intelligences lay at the heart of people's conception of intelligence. People may conflate logical and spatial intelligence with overall intelligence, leading to overall gender differences in self-estimates.

Full scale IQ scores represent an average of heterogeneous subtests, and although on average there are no differences between males and females on the IQ scores obtained, there are group differences on the subtests, suggesting that females and males differ on at least some of the abilities assessed with intelligence tests. The largest differences are found in the "tails," or extreme ends, of IQ distributions, with males over-represented in some types of mental retardation, learning disabilities, and language disorders (DeFries and Gillis, 1993; Henning-Stout and Close-Conoley, 1992).

Loori (2005) conducted a study in which the differences in intelligences preferences of ESL male and female students are investigated. Ninety international students at three American universities took part in this study. The results showed 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." Those intelligences improve which get sufficient training, exercise and favorable environment.

### **Statement of the Problem**

The problem under study was to find out the difference between students' self-perceived multiple intelligences (verbal/linguistic, logical/mathematical, visual/spatial, musical, bodily/kinesthetic, interpersonal, intrapersonal, natural) of male and female.

### **Objectives of the Study**

1. To investigate the differences between self-perceived multiple intelligences of male and female.
2. To give recommendations and suggestions in the light of the findings of the study.

### **Research Question**

1. Is there any difference between self-perceived multiple intelligences of male and female?

### **Research Methodology**

Review of relevant literature revealed that numerous studies have been conducted in order to explore the relationship of academic achievement with different variables. No specific study was found regarding the difference of overall intelligence and multiple intelligences of male and female in Pakistan. Therefore researcher was keenly interested to conduct study on this topic. The following research methodology was adopted.

### **Population**

Students enrolled in 1st year, in all government degree colleges, session 2010, in district Bannu constituted population of the study.

### **Sample**

There were ten government degree colleges in district Bannu. Four male and three female degree colleges were randomly selected. Using convenient sampling techniques 379 male and 335 female all together 714 students were selected as a sample of the study.

### **Instrumentation**

Some psychologists have developed different scales for the measurement of multiple intelligences. Multiple intelligence inventory based on Howard Gardner multiple intelligences theory, developed by Armstrong (1994) was used to measure students perceived multiple intelligences. This

inventory contains 40 items five statement for measuring each intelligence.

This inventory was translated in Urdu with the help of English and Urdu expert in order to make it easier and understandable to the students.

For the reliability and validity and to remove language ambiguity the multiple intelligence inventory was personally distributed among 50 subjects as a pilot run. The subjects were part of the population but were not included in the selected sample of the study. Data was analyzed through SPSS-16. The reliability of forty items at Cronbach's alpha obtained was .784 which is quite reasonable.

### **Data Analysis**

The collected data was entered in SPSS-16 and was analyzed using appropriate statistical tests. The central tendency and variability of the multiple intelligences of the sampled students was measured using Mean and SD respectively. Independent Samples t- test was used to compare the mean scores of multiple intelligences of the male and female students.

### **Findings of the Study**

Mean score of the male self-perceived verbal/linguistic intelligence is  $M= 3.08$  and female  $M= 3.41$ ,  $SD=.75$ ,  $.65$ , P value is  $.00$  which is less than  $\alpha 0.01$  which means that there is a significant difference between male and female self-perceived verbal/linguistic intelligence in favour of females.

Mean score of the male self-perceived logical/mathematical intelligence is  $M= 3.12$  and female  $M= 2.94$ ,  $SD=.89$ ,  $.84$ , P value is  $.00$  which is less than  $\alpha 0.01$  which means that there is a significant difference between male and female self-perceived logical/mathematical intelligence in favour of males.

Mean score of the male self-perceived visual/spatial intelligence is  $M= 3.05$  and female  $M=3.24$ ,  $SD=.73$ ,  $.63$ , P value is  $.00$  which is less than  $\alpha 0.01$  which means that there is a significant difference between male and female self-perceived visual/spatial intelligence in favour of females.

Mean score of the male self-perceived musical intelligence is  $M= 2.05$  and female  $M= 2.13$ ,  $SD=.68$ ,  $.79$ , P value is  $.11$  which is greater than  $\alpha .01$  which means that there is a no significant difference between male and female self-perceived musical intelligence.

Mean score of the male self-perceived bodily/kinesthetic intelligence is  $M= 3.60$  and female  $M= 3.61$ ,  $SD=.77$ ,  $.65$ ,  $P$  value is  $.84$  which is greater than  $\alpha .01$  which means that there is a no significant difference between male and female self-perceived bodily/kinesthetic intelligence.

Mean score of the male self-perceived interpersonal intelligence is  $M= 3.27$  and female  $M= 3.53$ ,  $SD=.69$ ,  $.65$ ,  $P$  value is  $.00$  which is less than  $\alpha 0.01$  which means that there is a significant difference between male and female self-perceived interpersonal intelligence.

Mean score of the male self-perceived intrapersonal intelligence is  $M= 3.26$  and female  $M= 3.57$ ,  $SD=.64$ ,  $.55$ ,  $P$  value is  $.00$  which is less than  $\alpha 0.01$  which means that there is a significant difference between male and female self-perceived intrapersonal intelligence.

Mean score of the male self-perceived naturalistic intelligence is  $M= 3.23$  and female  $M= 3.28$ ,  $SD=.71$ ,  $.65$ ,  $P$  value is  $.37$  which is greater than  $\alpha 0.01$  which means that there is no significant difference between male and female self-perceived naturalistic intelligence.

### Conclusions

Researcher found that female students rated themselves higher than male students in term of over all perceived intelligence.

Female students considered themselves higher than male students in term of perceived verbal/linguistics intelligence.

Researcher found that male students estimated themselves higher than female students in term of perceived logical/mathematical intelligence.

Result of the study showed that female students rated higher themselves than male students in term of perceived visual/special intelligence.

Researcher found that female students rated themselves higher than male students in term of perceived interpersonal and intrapersonal intelligence.

### Recommendations

1. Students should be explicitly trained and they should be provided different opportunities so they may have equal chance for the development of each intelligence.
2. Female should be encouraged to participate in learning activities drawn around



logical/mathematical activities.

3. Students may be provided both for male and female students with appropriate feed back without discrimination between male and female.
4. Further researches may be conducted to further investigate difference between male and female perceived intelligence.

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## Tables

**Table1. Mean Comparison of Male and Female Self- Perceived Multiple Intelligences.  
(Male =379 Female=335)**

Intelligence	Variable	M	SD	t	p
Verbal/Linguistic	Male	3.08	.75	-6.23	.00
	Female	3.41	.65		
Logical/Mathematical	Male	3.12	.89	2.74	.00
	Female	2.94	.84		
Visual/spatial	Male	3.05	.73	-3.65	.00
	Female	3.24	.63		
Musical	Male	2.05	.68	-1.56	.11
	Female	2.13	.79		
Bodily/kinesthetic	Male	3.60	.77	-.20	.84
	Female	3.61	.65		
Interpersonal	Male	3.27	.69	-5.02	.00
	Female	3.53	.65		
Intrapersonal	Male	3.26	.64	-6.71	.00
	Female	3.57	.55		
Naturalistic	Male	3.23	.71	-.88	.37
	Female	3.28	.65		