The Study of Multiple Intelligence in Male and Female

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Abstract

Introduction:Most researchers agree that intelligence is an umbrella term which covers a variety of related mental abilities. This intelligence refers to self-knowledge and the ability to adaptation based on this knowledge, formulating an accurate image about self including strengths and limitations and awareness of the internal mood and the ability to self-control.

Aim and objective:-To study and analyse the multiple intelligence and differences of in male and Female students from different streams.

Material and Methods:- The study was conducted at Greater Noida on 300 students, consisting of four groups of 75 students each from Medical (MBBS), Engineering (B.Tech), Law (LLB) and Journalism and Mass Communication (BJMC) courses. The students were randomly selected from the different schools and the age group of the students ranged from 18 -22 years.

Results:- The results of gender wise comparison of students scores on multiple intelligence inventory. It was observed that both in male and female students intrapersonal intelligence had the highest score (males - 72.16 ±30.43, females – 76.87 ± 21.09) and linguistic intelligence had the lowest score (57.24 ± 25.70 and 49.48 ± 27.92 for males and females respectively). Male students had significantly higher scores for logical and interpersonal intelligences as compared to females, on the other hand female students had significantly higher scores for linguistic intelligence ($p<0.05$).

Conclusion:-The present study confirm that every individual has different types of MIs. This knowledge may help students identify their strong and weak areas with respect to the intelligence types.

Key words: Multiple intelligence, intrapersonal, linguistic.

Introduction:

- Most researchers agree that intelligence is an umbrella term which covers a variety of related mental abilities. More recently, scientists dissatisfied with the traditional idea of a single intelligence have postulated alternate theories of multiple intelligences (MI)‖, that is, intelligence is the result of several independent abilities which combine to contribute to the total performance of an individual (1,2). The most popular theory of multiple intelligences was developed by Howard Gardner (1983), a professor of cognition and education at Harvard university (3).

- Gardner's Multiple intelligence theory asserts that, barring cases of severe brain damage, everyone possesses all components of the intelligence with varying levels of aptitude, giving each person a unique profile. Gardner's seven comprehensive categories or "intelligences" include.

Linguistic: The ability of effective use of written and verbal language.

Logical-Mathematical: The ability to use numbers effectively, develop equations, make calculations and solve abstract problems.

Musical: The ability to perceive musical pieces and discriminate between them and the sensitivity to rhythm. This intellectual ability provides opportunities to understand the sounds, give them meaning and diagnose the musical tones.

Visual-Spatial: The ability to perceive the visual-spatial world accurately. This intelligence includes the sensitivity to colours, lines, models, space and relationships between these elements. **Kinaesthetic:** The ability to use the whole body to express thoughts and feelings, as in acting, dance and dexterity in the use of hands as in sculpture, drawing and the surgical procedures. **Interpersonal:** The ability to recognize other's feelings, intentions, interpreting them, distinguishing between motives and feelings, sensitivity to cues and facial expressions and sounds of others, responding to them in a practical way and the ability to influence them.

Intrapersonal: This intelligence refers to self-knowledge and the ability to adaptation based on this knowledge, formulating an accurate image about self including strengths and limitations and awareness of the internal mood and the ability to self-control. The Present study showed the pattern of Multiple Intelligence in Males and Females students of an University from different streams and to find significant differences.

Aim and Objectives:
- To study and analyse the multiple intelligence In Male and Female students of Sharda University from different streams.
- To find differences of MI Between Males and Females Students.

Material and Methods:
Study design: Cross sectional study.

Duration of study - One year
The study was conducted at Greater Noida on 300 students, consisting of four groups of 75 students each from Medical (MBBS), Engineering (B.Tech), Law (LLB) and Journalism and Mass Communication (BJMC) courses. The students were randomly selected from the different schools of known University and the age group of the students ranged from 18 -22 years.

Evaluation of multiple intelligence

Multiple intelligence profile of the students was determined by using a validated questionnaire (annexure1) designed by Kirsi et al (2013) based on multiple intelligence theory of Gardner (4). The questionnaire had 28 statements in total related to the seven intelligences proposed by Gardner(3). Each student was required to complete the questionnaire by placing number 1 or 0 next to each statement which they felt accurately described them or not respectively. Students were scored on each of the multiple intelligence type and the scores were transformed to percentage and recorded in excel sheet for study analysis .

Result: The study was conducted on 300 students which consisted of four groups of 75 students each from Medical (MBBS), Engineering (B.Tech), Law (LLB) and Journalism and Mass Communication (BJMC) courses.

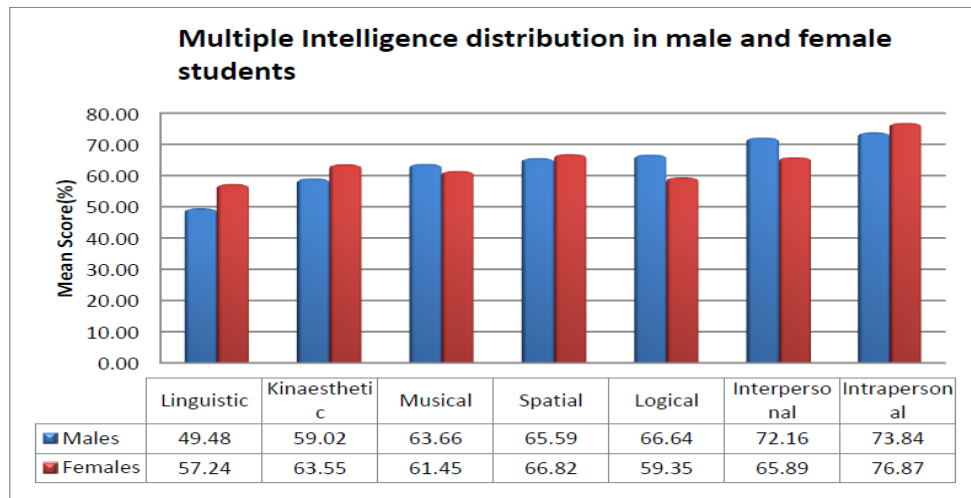**Mean score of MI in male and female students**

Table 1 shows the results of gender wise comparison of students scores on multiple intelligence inventory. It was observed that both in male and female students intrapersonal intelligence had the highest score (males - 72.16 ± 30.43, females – 76.87 ± 21.09) and linguistic intelligence had the lowest score (57.24 ± 25.70 and 49.48 ± 27.92 for males and females respectively). Male students had significantly higher scores for logical and interpersonal intelligences as compared to females, on the other hand female students had significantly higher scores for linguistic intelligence ($p<0.05$). No statistically significant difference was seen in the scores of musical, spatial, kinaesthetic and intrapersonal intelligences. The order of Mis with lowe st to highest score in females was – linguistic -> logical -> musical-> kinaesthetic -> interpersonal -> spatial -> Intrapersonal.

In males it was - linguistic -> kinaesthetic -> musical-> spatial -> logical -> interpersonal -> Intrapersonal. (Figure-1)

Table 1: Comparison of mean scores (%) of MI types between male and female students

Multiple Intelligence	Male students (n=193)		Female Students (n=107)		p value
	Mean	SD	Mean	SD	
Linguistic	49.48	27.92	57.24	25.70	0.008*
Logical	66.64	26.30	59.35	30.43	0.019*
Musical	63.66	30.46	61.45	32.63	0.283
Spatial	65.59	26.96	66.82	24.95	0.346
Kinaesthetic	59.02	25.81	63.55	24.35	0.066
Interpersonal	72.16	30.43	65.89	30.79	0.045*
Intrapersonal	73.84	23.17	76.87	21.09	0.126

*Statistically significant p<0.05 (paired t test)

Figure 1. **M**ean scores (%) of MI types in male and female students.

Multiple Intelligence distribution in male and female students

	Linguistic	Kinaesthetic	Musical	Spatial	Logical	Interpersonal	Intrapersonal
Males	49.48	59.02	63.66	65.59	66.64	72.16	73.84
Females	57.24	63.55	61.45	66.82	59.35	65.89	76.87

DISCUSSION

Gardner (1983) proposed the theory of Multiple Intelligences (3). He suggested that all individuals have personal intelligence profiles which consist of combinations of eight different intelligence types, namely verbal/linguistic, mathematical / logical, visual/spatial, bodily / kinaesthetic, musical/rhythmic, interpersonal, intrapersonal intelligence, naturalist intelligence. MI theory is assuming an important place in the recognition of the diversity of ways by which learners learn. Consequently, many researchers stress on the importance of identifying the multiple intelligence profiles of the learners and empowering them with recognition of their intelligences, in order to enhance and develop learning (5,6,7,8).

A number of studies have been conducted to identify the multiple intelligence profiles in school and college students, however most of the studies available in literature have been conducted in countries other than India (9,10,11). Keeping in view the statement made by Armstrong (1994), that the cultural or historical background, including the place where one is born and raised affect the development of different MI types (12), the present study attempted to examine the types of multiple intelligences among undergraduate students at Sharda University in light of Gardner's theory.

The results of the present study showed that students have multiple intelligences with different levels. The intrapersonal intelligence scores were consistently high across students of all the courses whereas linguistic intelligence had the low score. Similar findings were reported by Johnson and White (2002) among criminal justice student (13). Katzowitz (2003) & Morajees (2015) also reported that intrapersonal intelligence was one of the three highest scorers in students of allied health sciences and hotel management respectively (14,11). Even Fernando & Cabrera (2009) found that intrapersonal intelligence had the highest mean rating among accounting student (15). However, the results were different in studies which were conducted in school children. Gogebanakan (2003) explored the variations in intelligence preferences of students in terms of effect of age of students. The findings of the study showed that the intelligences vary in accordance with the age. He reported that very young students had preferences of the linguistic and logical intelligences whereas older students showed preferences towards the intrapersonal, kinaesthetic and musical intelligences (16).

CONCLUSION:

The results of the present study confirm that every individual has different types of multiple intelligence. This knowledge may help students identify their strong and weak areas with respect to the intelligence types. Application of this knowledge of MI types can have both pedagogical and curricular implications. However the present result of MI types showed clear differences of MI in male and female students. More detailed empirical studies with higher sample size involving subjects from varied races and age groups may give a clear picture so as to come to some conclusive results.

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