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Relationship Between Multiple Intelligence And Reading Comprehension In Hindi Of Students Studying At Morarji Desai Residential Schools

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Abstract

This study investigates the differences in Multiple Intelligence (MI) scores between male and female students studying at Morarji Desai Residential Schools. Using an independent two-sample t-test, the research examines both overall MI scores and component scores of intelligence types such as verbal/linguistic, logical/mathematical, spatial, bodily-kinaesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligence. The results reveal significant gender differences in some MI components, with female students generally outperforming male students in areas like logical/mathematical and spatial intelligence.

Introduction

The theory of Multiple Intelligences, proposed by Howard Gardner, asserts that intelligence is not a singular capacity but a diverse set of abilities. These include various domains such as linguistic, logical, spatial, and bodily-kinaesthetic, among others. Understanding gender differences in these intelligences can provide educators with important insights for developing differentiated learning strategies.

The present study focuses on students attending Morarji Desai Residential Schools, examining whether male and female students differ significantly in their MI scores. The null hypothesis posited that there would be no significant difference between the MI scores of male and female students, while the alternative hypothesis suggested there would be significant differences.

Methodology

The study used a two-sample independent t-test to compare the MI scores of male and female students. The sample consisted of 495 male students and 549 female students from Morarji Desai Residential Schools. The data were analyzed for both the overall MI score and specific components, including verbal/linguistic, logical/mathematical, spatial, bodily-kinaesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligences.

Analysis

Null hypothesis: There is no significant difference between male and female students studying at Morarji Desai residential schools with their Multiple Intelligence scores

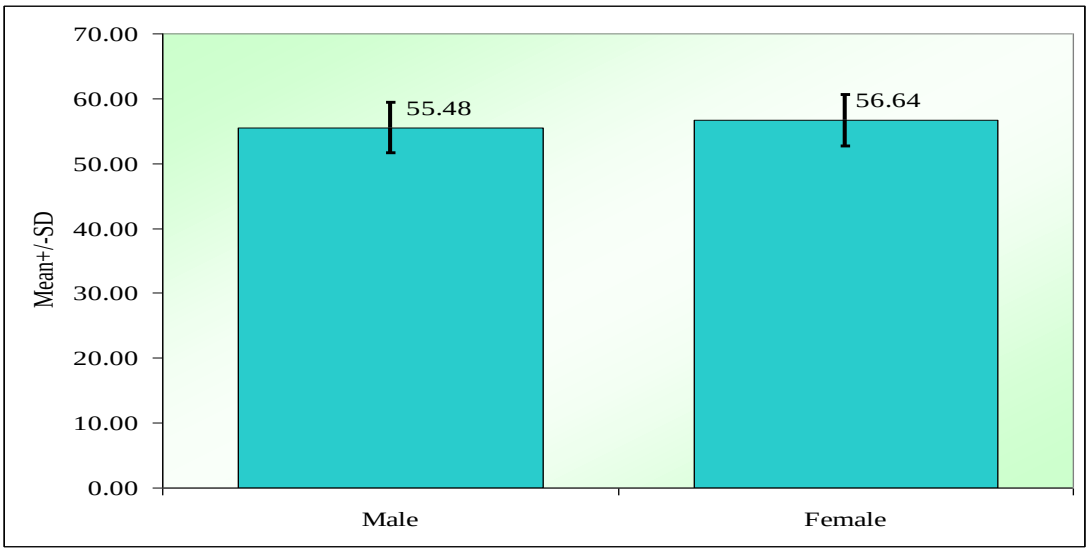
To test the null hypothesis, the two sample independent t test was applied and the results are presented in the following table:

Table: Outcome of two sample independent t test between male and female students studying at Morarji Desai residential schools with their Multiple Intelligence scores

Gender	n	Mean	SD	SE	|t|-value	P-value	Signi.
Male	495	55.48	3.90	0.18	4.7726	0.0001	S
Female	549	56.64	3.94	0.17			

From the results of the above table, it is seen that, the calculated value of independent t test is 4.7726 with p value=0.0001. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is greater than the critical value i.e. 4.7726>1.9600. It means that, a significant difference between male and female students studying at Morarji Desai residential schools with their Multiple Intelligence scores. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. In another word, the female students studying at Morarji Desai residential schools have significant and higher Multiple Intelligence scores as compared to male students studying at Morarji Desai residential schools. The mean and SD scores are presented in the following figure.

Figure: Comparison of between male and female students studying at Morarji Desai residential schools with their Multiple Intelligence scores



Null hypothesis: There is no significant difference between male and female students studying at Morarji Desai residential schools with component scores of Multiple Intelligence i.e.

- Verbal/linguistic intelligence
- Logical/mathematical intelligence
- Spatial intelligence
- Bodily-kinaesthetic intelligence
- Musical intelligence
- Interpersonal intelligence
- Intrapersonal intelligence
- Naturalistic intelligence

To test the null hypothesis, the two sample independent t test was applied and the results are presented in the following table:

Table: Outcome of two sample independent t test between male and female students studying at Morarji Desai residential schools with component scores of multiple intelligence

Variable	Gender	n	Mean	SD	SE	|t|-value	P-value	Signi.
Verbal/linguistic intelligence	Male	495	7.03	1.42	0.06	0.1550	0.8769	NS
	Female	549	7.04	1.42	0.06			
Logical/mathematical intelligence	Male	495	6.90	1.43	0.06	3.1366	0.0018	S
	Female	549	7.17	1.41	0.06			
Spatial intelligence	Male	495	6.80	1.35	0.06	3.1521	0.0017	S
	Female	549	7.07	1.42	0.06			
Bodily-kinaesthetic intelligence	Male	495	7.01	1.44	0.06	0.3556	0.7222	NS
	Female	549	7.05	1.41	0.06			
	Male	495	6.92	1.40	0.06	2.2925	0.0221	S

Musical intelligence	Female	549	7.12	1.40	0.06			
Interpersonal intelligence	Male	495	6.97	1.45	0.07	1.2565	0.2092	NS
	Female	549	7.08	1.43	0.06			
Intrapersonal intelligence	Male	495	6.88	1.35	0.06	1.8878	0.0593	NS
	Female	549	7.04	1.41	0.06			
Naturalistic intelligence	Male	495	6.97	1.42	0.06	1.0822	0.2794	S
	Female	549	7.07	1.43	0.06			

From the results of the above table, it is seen that,

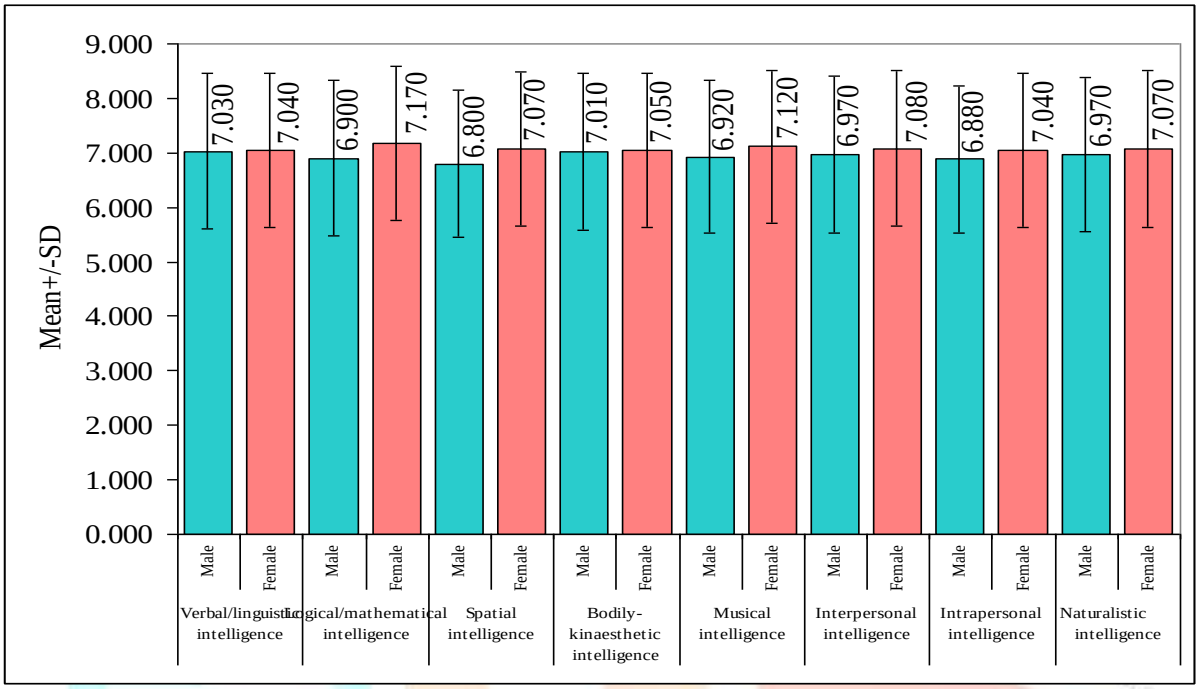
- When comparison male and female students with first component of multiple intelligence i.e. verbal/linguistic intelligence scores, the calculated value of independent t test is 0.1550 with p value=0.8769. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is lesser than the critical value i.e. 0.1550 <1.9600. It means that, no significant difference between male and female students studying at Morarji Desai residential schools with first component of multiple intelligence i.e. verbal/linguistic intelligence scores. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. In another word, the male and female students studying at Morarji Desai residential schools have similar verbal/linguistic intelligence scores.
- When comparison male and female students with second component of multiple intelligence i.e. logical/mathematical intelligence scores, the calculated value of independent t test is 3.1366 with p value=0.0018. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is greater than the critical value i.e. 3.1366>1.9600. It means that, no significant difference between male and female students studying at Morarji Desai residential schools with second component of multiple intelligence i.e. logical/mathematical intelligence scores. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. In another word, the female students studying at Morarji Desai residential schools have significant and higher logical/mathematical intelligence scores as compared to male students studying at Morarji Desai residential schools.
- When comparison male and female students with third component of multiple intelligence i.e. spatial intelligence scores, the calculated value of independent t test is 3.1521 with p value=0.0017. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is greater than the critical value i.e. 3.1521>1.9600. It means that, a significant difference between male and female students studying at Morarji Desai residential schools with third component of multiple intelligence i.e. spatial intelligence scores. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. In another word, the female students studying at Morarji Desai residential schools have significant and higher spatial intelligence scores as compared to male students studying at Morarji Desai residential schools.
- When comparison male and female students with fourth component of multiple intelligence i.e. bodily-kinaesthetic intelligence scores, the calculated value of independent t test is 0.3556 with p value=0.7222.

The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is lesser than the critical value i.e. 0.3556<1.9600. It means that, no significant difference between male and female students studying at Morarji Desai residential schools with fourth component of multiple intelligence i.e. bodily-kinaesthetic intelligence scores. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. In another word, the male and female students studying at Morarji Desai residential schools have similar bodily-kinaesthetic intelligence.

- When comparison male and female students with fifth component of multiple intelligence i.e. musical intelligence scores, the calculated value of independent t test is 2.2925 with p value=0.0221. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is greater than the critical value i.e. 2.2925>1.9600. It means that, a significant difference between male and female students studying at Morarji Desai residential schools with fifth component of multiple intelligence i.e. musical intelligence scores. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. In another word, the female students studying at Morarji Desai residential schools have significant and higher musical intelligence scores as compared to male students studying at Morarji Desai residential schools.
- When comparison male and female students with sixth component of multiple intelligence i.e. interpersonal intelligence scores, the calculated value of independent t test is 1.2565 with p value=0.2092. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is lesser than the critical value i.e. 1.2565 <1.9600. It means that, no significant difference between male and female students studying at Morarji Desai residential schools with sixth component of multiple intelligence i.e. interpersonal intelligence scores. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. In another word, the male and female students studying at Morarji Desai residential schools have similar interpersonal intelligence.
- When comparison male and female students with seventh component of multiple intelligence i.e. intrapersonal intelligence scores, the calculated value of independent t test is 1.8878 with p value=0.0593. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is lesser than the critical value i.e. 1.8878<1.9600. It means that, no significant difference between male and female students studying at Morarji Desai residential schools with seventh component of multiple intelligence i.e. intrapersonal intelligence scores. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. In another word, the male and female students studying at Morarji Desai residential schools have similar intrapersonal intelligence.
- When comparison male and female students with eighth component of multiple intelligence i.e. naturalistic intelligence scores, the calculated value of independent t test is 1.0822 with p value=0.2794. The critical value of t at 5% level of significance with 1042 degrees of freedom is 1.9600. It clearly shows that, the calculated value of t is lesser than the critical value i.e. 1.0822<1.9600. It means that, no significant difference between male and female students studying at Morarji Desai residential schools with eighth component of multiple intelligence i.e. naturalistic intelligence scores. Hence, the null

hypothesis is accepted and alternative hypothesis is rejected. In another word, the male and female students studying at Morarji Desai residential schools have similar naturalistic intelligence.

Figure: Comparison between male and female students studying at Morarji Desai residential schools with components scores of multiple intelligence



Conclusion

This study highlights the significant gender differences in Multiple Intelligence scores among students at Morarji Desai Residential Schools. The findings suggest that while male and female students perform similarly in most MI components, female students show higher proficiency in logical/mathematical, spatial, and musical intelligences. These results have important implications for educators in designing gender-sensitive curricula that cater to diverse intelligence profiles, promoting academic success across all MI domains.

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