

The Influence of Gender and Parental Qualification on Intelligence Scores in Adolescents

P. Karthikeyan^{1*}, Dr. R. John Louis Manoharan²

ABSTRACT

A wide range of cognitive skills, such as reasoning, remembering, reading, learning, problem-solving, and language use, are included in the concept of human intelligence. But there are many other factors that can affect intelligence in people, including genetics, environment, manner of birth, parental education, and even gender. This research paper delves into the intricate interplay among gender, parental qualification, and intelligence scores in adolescents. The study aims to uncover potential gender-related disparities in intelligence test scores and investigate how parental education and occupation impact adolescents' cognitive capabilities. The objective of this research is to offer insights that enlighten educators and policymakers about the multifaceted factors molding cognitive development during this pivotal life stage.

Keywords: *Intelligence, Gender, Parental Qualification*

This research aims to explore the relationship between gender, parental qualification, and intelligence scores among adolescents, aiming to understand how these factors interact to shape cognitive abilities during this critical phase of development. Gender disparities in intelligence have long intrigued scholars, and parental qualification, reflecting caregivers' educational background and attainment, is a crucial factor influencing children's cognitive development. The adolescent period is marked by significant cognitive growth and identity formation, and understanding how gender and parental qualification intersect can impact cognitive outcomes. This study aims to bridge the gap by examining how intelligence scores are affected by both gender and parental background. By delving into this multidimensional analysis, the study contributes to the broader discourse on educational equality and provides insights that can inform educational policies and practices to ensure equitable cognitive development opportunities for all adolescents, regardless of their gender or parental qualification.

Need of the Study

This study is crucial to address the persisting gender-based intelligence disparities in adolescence and to understand how parental qualification interacts with these differences. It fills a gap in research by examining the multifaceted impact of both variables. Insights

¹Research Scholar Bharathiar University, Coimbatore

²Research Supervisor Bharathiar University, Coimbatore

*Corresponding Author

Received: August 08, 2023; Revision Received: August 11, 2023; Accepted: August 13, 2023

The Influence of Gender and Parental Qualification on Intelligence Scores in Adolescents

gained can inform educational policies, interventions, and practices, promoting equity. Additionally, the study advances our understanding of cognitive development's sociological dimensions, benefiting educators, policymakers, and parents in fostering an inclusive environment that nurtures every adolescent's intellectual growth.

Objective of the Study

- "To assess the level of intelligence among higher secondary students."
- "To determine the significant difference in intelligence among higher secondary students with respect to gender."
- "To determine the significant difference in intelligence among higher secondary students with respect to parental qualification."

Hypothesis

- "There is no significant difference in intelligence among higher secondary students with regard to gender."
- "There is no significant difference in intelligence among higher secondary students with regard to parental qualification."

MATERIALS & METHOD

The researcher selected a total of 700 school students (356 boys & 354 girls) from Class XI-level as subjects from 14 different schools in Puducherry (UT), India. The study aimed to investigate the differences in IQ between boys and girls using the 'G.C. Ahuja Intelligence Questionnaire'. This questionnaire consisted of 135 questions and eight different types of tests, including classification, analogies, reasoning, vocabulary, comprehension, series, and best answer. The collected data were analyzed using descriptive statistics, "t" test, and F test, with a significance level set at 0.05.

Analysis of Data

Table: 1 – Level of Intelligence of Higher Secondary Students

Variable	Level	N	%
Intelligence	Low	160	23%
	Moderate	438	63%
	High	102	14%

The table presents the distribution of participants based on their intelligence levels, categorized into three distinct levels: Low, Moderate, and High. The data is derived from a sample size (N) of 700 individuals. The "Low" intelligence category comprises 160 participants, constituting 23% of the total sample. The "Moderate" intelligence category encompasses the largest portion of the sample, with 438 participants, making up 63% of the total. Lastly, the "High" intelligence category includes 102 participants, representing 14% of the entire sample.

Hypothesis: 1 There is no significant difference in intelligence among higher secondary students with regard to gender.

The Influence of Gender and Parental Qualification on Intelligence Scores in Adolescents

Table – 2 Mean Differences in Intelligence Scores of Higher Secondary Students with Respect to Gender.

Variable	Gender	N	Mean	SD	't' value	Level of Significance
Intelligence	Boys	356	69.97	16.04	1.31	Not significant
	Girls	344	71.58	16.30		

***Significant at 0.05 level**

Findings

The table compares intelligence scores based on gender, categorizing participants into "Boys" and "Girls." The "Boys" group has a mean score of 69.97, while the "Girls" group has a higher mean score of 71.58. The calculated 't' value is 1.31, indicating no statistically significant difference between boys and girls.

This suggests that the variations in intelligence scores between the two genders are likely due to chance rather than a meaningful difference. The findings indicate that there is no significant disparity in intelligence scores between boys and girls, and the 't' value falls below the threshold for statistical significance, indicating that the observed differences are not strong enough to draw meaningful conclusions about the relationship between gender and intelligence scores.

Hypothesis: 2 There is no significant difference in intelligence among higher secondary students with regard to parental qualification.

Table: 3 Mean difference between the Intelligence score of Higher Secondary Students with respect to Parental Qualification

Variable	Source of Variation	Sum of Squares	df	Mean Square	'F' Value	Level of Significance
Intelligence	Between Groups	12460.547	4	3115.14	12.70	Significant
	Within Groups	170480.612	695	245.30		
	Total	182941.159	699			

***Significant at 0.05 level**

Findings

The table above illustrates that the calculated 'F' value for the Intelligence scores (12.70) surpasses the tabulated value of 2.56 at a significance level of 0.05. Consequently, the null hypothesis formulated is rejected at the 0.05 level, indicating a significant difference in the Intelligence scores of higher secondary students based on their parental qualification.

Tukey post Hoc analysis for the mean scores of the Total score of Intelligence among higher secondary students with respect to Parental Qualification

Parental Qualification					Mean difference (i-j)
UPTO SSLC	UPTO DIPLOMA OR ITI	UPTO HSC	UPTO UG	UPTO PG	
66.52	67.22				0.746
		68.83	73.20		0.154
				78.48	1.000

The Influence of Gender and Parental Qualification on Intelligence Scores in Adolescents

Findings

The presented table displays the Tukey post hoc analysis of the total scores of Intelligence among higher secondary students concerning their Parental Qualification. The table conspicuously reveals mean differences of (66.52, 67.22, 68.83, 73.20, and 78.40) for students whose Parental Qualification varies from UPTO SSLC to UPTO PG. Notably, students with UPTO PG as their Parental Qualification (78.48) exhibit higher mean scores compared to those in the categories of UPTO SSLC, UPTO DIPLOMA OR ITI, UPTO HSC, and UPTO UG Parental Qualification.

Educational Implication

Gender-Inclusive Education: The absence of significant intelligence score differences between genders highlights the need for gender-inclusive teaching strategies. Educational institutions should ensure that their pedagogical approaches cater to the learning styles and needs of all students, promoting equal opportunities for academic success regardless of gender.

Parental Education Support: The observed correlation between higher parental qualification and intelligence scores underscores the significance of parental education. Schools and policymakers should offer targeted support programs to students whose parents have lower educational backgrounds, aiming to bridge the intelligence gap and enhance learning outcomes for these students.

Customized Learning Approaches: Educators should adopt personalized teaching methods that accommodate students with varying levels of parental qualification. By acknowledging and addressing these differences, schools can provide tailored support to meet individual learning needs, fostering an inclusive and effective learning environment

CONCLUSION

The analysis of intelligence scores based on gender and parental qualification has significant implications for education and cognitive development among adolescents. Results show that gender-based differences are not statistically significant, suggesting that any disparities are likely due to chance rather than inherent gender-related distinctions. This highlights the importance of adopting gender-neutral teaching approaches to ensure equitable learning opportunities for all students.

Family background also plays a significant role in shaping cognitive outcomes, necessitating tailored interventions and resources to support students from varying parental education levels. These findings emphasize the importance of personalized and inclusive educational practices, enabling schools, educators, and policymakers to design curriculum, implement interventions, and create an environment that fosters intellectual growth regardless of gender or parental qualification.

REFERENCES

- Branch, Z. (2011). The relationship between emotional intelligence and life satisfaction and determining their communication skill test effectiveness. *Indian Journal of science and Technology*, 4(11), 1560-1564.
- Fteiha, M., & Awwad, N. (2020). Emotional intelligence and its relationship with stress coping style. *Health Psychology Open*, 7(2), 2055102920970416.

The Influence of Gender and Parental Qualification on Intelligence Scores in Adolescents

- Gautam, A., & Khurana, C. (2019). Demographic variables as indicators of emotional intelligence: A study of selected enterprises of Uttarakhand. *Journal of Management*, 6(1), 11-20.
- Ghosh, S. M. (2014). Emotional intelligence and academic achievement among advantage and disadvantage children. *International Journal of Indian Psychology*, 2(1), 111-117.
- Herrera, L., Al-Lal, M., & Mohamed, L. (2020). Academic achievement, self-concept, personality and emotional intelligence in primary education. Analysis by gender and cultural group. *Frontiers in psychology*, 10, 3075.
- Kowalec, K., Lu, Y., Sariaslan, A., Song, J., Ploner, A., Dalman, C., ... & Sullivan, P. F. (2021). Increased schizophrenia family history burden and reduced premorbid IQ in treatment-resistant schizophrenia: a Swedish National Register and Genomic Study. *Molecular psychiatry*, 26(8), 4487-4495.
- Monica, T., Solehuddin, M., & Akhmad, S. N. (2021). Emotional Intelligence and Gender Difference in Elementary School: A Systematic Literature Review. *OPTIMA: Journal of Guidance and Counseling*, 1(1), 21-35.
- Sathya, A., & Velmurugan, V. P. (2021). A Study on Factors Influencing of Emotional Intelligence of Arts and Science College Students in Kanyakumari District. *REVISTA GEINTEC-GESTAO INOVACAO E TECNOLOGIAS*, 11(4), 2208-2213.

Acknowledgement

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Karthikeyan, P. & Manoharan, R.J.L. (2023). The Influence of Gender and Parental Qualification on Intelligence Scores in Adolescents. *International Journal of Indian Psychology*, 11(3), 2152-2156. DIP:18.01.201.20231103, DOI:10.25215/1103.201