A Study on Successful Intelligence among Secondary School Students

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Abstract:

The present study examined the differences in successful intelligence among secondary school students with respect to gender, type of school management, and locale. A sample of 500 adolescents (250 boys and 250 girls) from secondary schools in Calicut, Malappuram, and Palakkad districts of Kerala was selected through stratified random sampling. Data were collected using a researcher-developed and validated Successful Intelligence Scale consisting of 30 items across the analytic, creative, and practical dimensions. Descriptive statistics and independent samples t-tests were employed for data analysis. Results showed that students' scores were moderately distributed (M = 100.48, SD = 20.42). Comparison of dimensions revealed no significant difference between analytic and creative intelligence, while both analytic–practical and creative–practical comparisons were highly significant. Gender-wise analysis indicated no significant difference between boys and girls in successful intelligence. However, significant differences were found based on locale, with urban students outperforming rural students, and government-school students scored significantly higher than private-school students. Overall, the findings highlight that school type and locale, rather than gender, plays meaningful roles in shaping students' successful intelligence.

Keywords: *successful intelligence, secondary school students*

Introduction

Successful intelligence, as described by Sternberg (1997), refers to a combination of analytical, creative, and practical abilities that enable individuals to succeed in real-life environments. This perspective broadens the traditional academic-focused view of intelligence, emphasizing the application of knowledge in practical contexts (Sternberg, 2005). Research indicates that successful intelligence may vary according to gender, schooling conditions, and socio-cultural background (Subtonic, Olszewski-Kubilius, & Worrell, 2011). School-related factors such as type of management, instructional quality, and available resources also influence students' cognitive development (UNESCO, 2020). Additionally, differences between rural and urban settings—such as infrastructure, teacher quality, and learning opportunities—can impact students' intellectual performance (Govinda & Bandyopadhyay, 2010). Given these considerations, it is important to explore

successful intelligence among adolescents across gender, school type, and locale to inform educational practices and policies.

Review of Related Literature

Successful intelligence, as explained in Sternberg's Triarchic Theory, includes analytic, creative, and practical abilities that together provide a more complete picture of a student's capabilities than traditional IQ scores (Sternberg, 1997; Sternberg & Grigorenko, 2002). Research in school environments shows that teaching methods such as project-based learning and inquiry-driven activities can strengthen students' creativity and practical problem-solving skills (Niu & Sternberg, 2001; Kozéki & Bergh, 2008). Findings related to gender differences are mixed; while a few studies note slight advantages for boys in analytical tasks and for girls in creative or communication-related skills, many recent works report very small or no overall differences in successful intelligence (Halpern, 2012; Zhang & Sternberg, 2019). The type of school management also influences students' development, with private schools often reporting stronger analytical and creative performance due to better facilities and learning opportunities, whereas government school students sometimes show higher practical intelligence shaped by real-life challenges and responsibilities (Singh, 2015; Kumar & Kumari, 2018). Locale is another important factor: urban students usually score higher in analytic and creative areas because of greater exposure to academic and cultural experiences, while rural students often develop stronger practical intelligence through everyday tasks and community involvement (Ghosh, 2014; Sinha & Shukla, 2017). Several tools have been created to measure successful intelligence, most of which adapt Sternberg's framework to different cultural settings and have been tested for reliability and validity (Grigorenko et al., 2004). Overall, the literature suggests that successful intelligence is shaped by multiple demographic and educational factors, making it important to study these patterns among secondary school students in Kerala.

Objectives

1. To compare the successful intelligence among boys and girls students of secondary schools.
2. To compare the successful intelligence among students of government and private secondary schools.
3. To compare the successful intelligence among rural and urban students of secondary schools.

Hypotheses

H01: There is no significant difference between boys and girls students of secondary schools on successful intelligence.

H02: There is no significant difference between government and private secondary school students on successful intelligence.

H03: There is no significant difference between rural and urban secondary school students on successful intelligence.

Methodology

Sample

The study included 500 adolescents (250 boys and 250 girls) from secondary schools in Calicut, Malappuram, and Palakkad districts of Kerala. Stratified random sampling was employed to ensure representation across gender, school type, and locale.

Tools

Data were collected using a researcher-developed and validated Successful Intelligence Scale, comprising 30 items distributed equally across analytic, creative, and practical intelligence dimensions. The scale included both positive and negative statements, rated on a five-point Likert scale (Strongly Agree = 5 to Strongly Disagree = 1; reverse scoring for negative items). Content validity was confirmed by subject experts, and reliability was established via split-half and test-retest methods.

Procedure

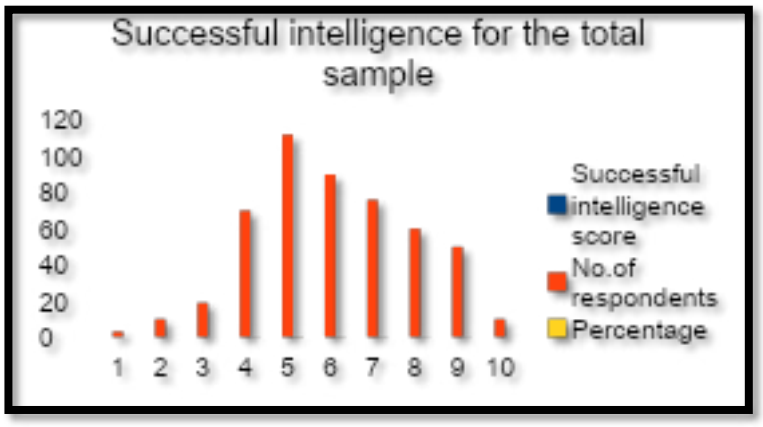
Participants were selected purposively and asked to complete the scale according to the instructions. The collected data were analyzed using descriptive statistics and independent samples t-tests.

Results and Interpretations

Table-1 Distribution of Successful Intelligence Scores for the total sample

SI NO	Successful intelligence score	No. of respondents	Percentage
1	40-50	3	0.6%
2	51-61	10	2.0%
3	62-72	19	3.8%
4	73-83	70	14%
5	84-94	112	22.4%
6	95-105	90	18%
7	106-116	76	15.2%
8	117-127	60	12%
9	128-138	50	10%
10	139-149	10	2%

Figure: 1



The majority of students scored in the 84–116 range, indicating moderate levels of successful intelligence across the sample.

Table-2 Mean, Median, Mode, and SD of Successful intelligence scores for the total sample

Successful intelligence (N=500)	Mean	Median	Mode	SD
	100.48	99	90.56	20.42

The mean score indicates moderate performance, while the standard deviation shows considerable variability in students' successful intelligence.

Table-3 Dimension-wise Scores of Successful intelligence

		Mean	SD
Analytic	N=100	**35.10**	**7.00**
Creative		**35.04**	**7.19**
Practical		**32.76**	**6.12**

Analytic and creative dimensions are similar, but practical intelligence is lower, suggesting a need to strengthen real-life application skills.

Table: 4 Comparison between Dimensions

Comparison	t-value	Significance
Analytic vs Creative	**0.14**	Not significant
Analytic vs Practical	**5.64**	Highly significant
Creative vs Practical	**5.40**	Highly significant

Practical intelligence is significantly lower than analytic and creative intelligence, indicating a focus area for educational interventions.

Table-5: Means, SD and "t" scores of Successful intelligence based on Gender

	N	Mean	SD	SED	df	t
Boys	212	**99.32**	**19.35**	1.825	476	-1.096
Girls	288	**101.32**	**21.24**			

The study compared the successful intelligence scores of boys (n=212) and girls (n=288). The boys had a mean score of 99.32 with a standard deviation of 19.35, while the girls had a mean score of 101.32 with a standard deviation of 21.24. The standard error of the difference between the two means was 1.825, and the degrees of freedom for the independent samples t-test were 476. The calculated t-value was -1.096.Based on these results, the two-tailed p-value is approximately 0.27, which is greater than the conventional significance level of 0.05. This indicates that the difference between boys' and girls' successful intelligence scores is not statistically significant. Therefore, it can be concluded that there is no significant difference in successful intelligence scores between boys and girls in this sample.

Table-6: Means, SD and "t" scores of Successful intelligence based on locale differences

	N	Mean	SD	SED	df	t
Rural	194	**97.58**	**23.68**	2.034	354	-2.12
Urban	306	**101.9**	**19.54**			

The successful intelligence scores of students from rural (n=194, mean = 97.58, SD = 23.68) and urban (n=306, mean = 101.90, SD = 19.54) areas were compared using an independent samples t-test. The standard error of the difference between means was 2.034, with 354 degrees of freedom, producing a t-value of -2.12. This indicates that the difference is statistically significant ($p < 0.05$).It shows that Urban students scored significantly higher on successful intelligence compared to rural students. The negative t-value indicates that the mean score of rural students was lower than that of urban students. This suggests that location (urban vs rural) has a meaningful effect on successful intelligence scores in this sample.

Table-7: Means, SD and "t" scores of Successful intelligence based on type of management of the school

SI NO	N	MEAN	SD	SED	df	T value
Govt.	250	105.72	18.6	1.767	492	-5.93
Private	250	95.25	20.86			

The private-school group (M = 95.25, SD = 20.86, N = 250) scored lower than the government-school group (M = 105.72, SD = 18.60, N = 250). A Welch's t-test indicated that this difference was statistically significant, t(492) = –5.93, p < .001. This result shows that government-school students in this sample demonstrated notably higher successful-intelligence scores than private-school students.

Conclusion

The study shows that secondary school students in Kerala generally display moderate levels of successful intelligence, with analytic and creative abilities being relatively balanced, while practical intelligence appears weaker—a pattern consistent with Sternberg's view that real-life problem-solving skills need intentional development (Sternberg, 1997, 2005). The findings further confirm that boys and girls do not differ significantly in their overall cognitive abilities, supporting previous research on gender similarities in performance (Hyde, 2014). At the same time, clear differences emerged across locale and school type: urban students scored higher than rural students, likely due to better facilities, learning exposure, and academic support (Govinda & Bandyopadhyay, 2010; UNESCO, 2020), and government-school students outperformed private-school students, reflecting variations in instructional approaches and academic expectations (Kingdon, 2020). Altogether, the results highlight that environmental and institutional factors play a greater role in shaping students' successful intelligence than gender does, emphasizing the need for educational practices that integrate analytic, creative, and practical learning experiences. Future studies with more diverse samples are essential for deepening understanding and guiding policies that promote balanced cognitive development among adolescents (Creswell & Creswell, 2018; Subotnik et al., 2011).

Limitations of the study

1. Conducted in only three districts of Kerala, limiting generalizability (Creswell & Creswell, 2018).
2. Sample may not fully represent socio-economic and cultural diversity (Kingdon, 2020).
3. Other factors such as parental education, peer influence, and emotional intelligence were not considered (Sternberg, 2005)

Educational Implications

- Schools should integrate practical learning experiences alongside analytic and creative tasks to foster holistic intelligence (Sternberg, 1997).

- Rural schools need enhanced resources and support to reduce the rural–urban gap (UNESCO, 2020)and thereby enhancing successful intelligence
- Private schools could adopt instructional methods emphasizing practical and creative problem-solving skills (Muralidharan & Sundararaman, 2015) leading successful living for the coming generation.

Suggestions for Further Research

- Larger and more diverse samples across regions could improve generalizability (Creswell & Creswell, 2018).
- Longitudinal studies could examine developmental paths of successful intelligence (Sternberg, 2005).
- Intervention studies could test teaching strategies for enhancing analytic, creative, and practical abilities (Subotnik et al., 2011).

Future research could explore parental education, socio-economic status, peer influence, and teaching quality as factors affecting intelligence (Kingdon, 2020).

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