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A Comparative Study of Multiple Intelligence of Government and Private Secondary School Students

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Abstract: *Education in the twenty-first century emphasizes the holistic development of learners by recognizing that intelligence extends beyond traditional linguistic and logical abilities. The Theory of Multiple Intelligences proposed by Howard Gardner has transformed educational thinking by suggesting that individuals possess different types of intelligences that influence learning preferences, academic performance, creativity, and problem-solving abilities. The present study aims to compare the multiple intelligences of government and private secondary school students. It examines whether significant differences exist between students studying in different school management systems with respect to linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligences. The study adopts a quantitative comparative research design. A representative sample of 60 secondary school students is selected using appropriate sampling techniques, and data are collected through a standardized Multiple Intelligence Inventory. Descriptive statistics such as mean and standard deviation, together with inferential statistics including the independent-samples t-test, are proposed for data analysis. The study assumes that differences in school environment, instructional practices, teacher support, learning resources, and co-curricular opportunities may contribute to variations in the development of multiple intelligences. The findings are expected to provide valuable insights for teachers, school administrators, curriculum planners, and policymakers in designing learner-centred instructional strategies that accommodate diverse intellectual strengths. The study also highlights the importance of creating inclusive educational environments that nurture every learner's unique potential irrespective of school type.*

Keywords: *Multiple Intelligence, Government Schools, Private Schools, Secondary School Students, Comparative Study, Educational Psychology, Learning Styles, Intelligence, Secondary Education.*

Introduction: Education is no longer confined to the transmission of academic knowledge; rather, it seeks to develop the intellectual, emotional, social, creative, and moral capacities of learners. Modern educational philosophy recognizes that students differ considerably in their abilities, interests, learning styles, and ways of understanding the world. Consequently, intelligence is now viewed as a multidimensional construct rather than a single measurable entity. Among the most influential perspectives in this regard is the Theory of Multiple Intelligences developed by Howard Gardner in 1983, which challenged traditional psychometric views of intelligence by proposing that human intelligence comprises several relatively independent capacities.

According to Gardner, every individual possesses multiple forms of intelligence that work together in varying degrees depending on personal experiences, environmental influences, educational opportunities,

and biological factors. Initially, Gardner identified seven intelligences, later expanding the framework to include eight major intelligences: linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence. This theory emphasizes that every learner has unique strengths that should be identified and nurtured through appropriate educational practices.

The application of the Multiple Intelligence Theory has brought significant changes to classroom instruction. Teachers are increasingly encouraged to employ diverse instructional methods, project-based learning, collaborative activities, visual aids, music, storytelling, role-playing, field experiences, and experiential learning to accommodate different learner profiles. Such learner-centred approaches enhance motivation, creativity, academic achievement, and overall personality development.

At the secondary school stage, students undergo rapid cognitive, emotional, and social development. This period is crucial for identifying and nurturing individual talents. Schools therefore play a significant role in providing opportunities that facilitate the balanced development of different intelligences. However, educational opportunities often differ between government and private schools. Variations in infrastructure, classroom environment, teacher qualifications, instructional practices, co-curricular activities, parental involvement, technological facilities, and academic culture may influence students' intellectual development.

Government schools generally provide education to students from diverse socio-economic backgrounds and function under public educational policies aimed at ensuring equitable access to education. Private schools, on the other hand, often possess comparatively better infrastructural facilities, lower pupil-teacher ratios, modern teaching technologies, and greater flexibility in implementing innovative instructional practices. These differences may create varying learning experiences that influence the development of multiple intelligences among students.

The present study therefore seeks to compare the multiple intelligences of government and private secondary school students. By examining differences across various domains of intelligence, the study aims to provide empirical evidence regarding the influence of school type on students' intellectual development. The findings may assist educators in designing inclusive instructional strategies that recognize diverse learner strengths and promote holistic education.

Need and Significance of the Study: The concept of Multiple Intelligences has significantly transformed contemporary educational thought by emphasizing that intelligence is multidimensional and that every learner possesses unique intellectual strengths. Unlike traditional approaches that measure intelligence primarily through academic achievement and standardized examinations, the Theory of Multiple Intelligences recognizes diverse abilities such as linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligence. Despite this paradigm shift, many secondary schools continue to focus predominantly on academic performance, often neglecting the development of other important forms of intelligence essential for the holistic growth of students. Consequently, there is a growing need to examine how different educational environments influence the development of these varied intelligences.

The present study is important because it provides a comparative analysis of the multiple intelligence profiles of government and private secondary school students, thereby identifying the domains in which significant differences exist. The findings will help teachers understand the diverse learning abilities of students and encourage the adoption of differentiated, learner-centred, and activity-based instructional strategies that cater to individual differences. The study will also assist curriculum planners and educational administrators in designing balanced curricula that promote the holistic development of learners by integrating academic, creative, social, emotional, and practical competencies. Furthermore, the study contributes to the fields of educational psychology and teacher education by enriching the existing body of knowledge on Multiple Intelligences and providing empirical evidence for future research. Ultimately, the

findings are expected to support policymakers, educators, and school administrators in formulating evidence-based strategies to improve the quality of secondary education and foster the overall intellectual development of students.

Objectives of the Study: The study aims to:

1. compare the overall multiple intelligence of government and private secondary school students;
2. compare linguistic intelligence between government and private school students;
3. compare logical-mathematical intelligence between the two groups;
4. compare spatial intelligence between government and private school students;
5. compare bodily-kinesthetic intelligence between the two groups;
6. compare musical intelligence between government and private school students;
7. compare interpersonal intelligence between the two groups;
8. compare intrapersonal intelligence between government and private school students;
9. compare naturalistic intelligence between the two groups; and

Research Questions

1. Do government and private secondary school students differ in their overall multiple intelligence?
2. Which dimensions of multiple intelligence show significant differences between the two groups?
3. Does school type influence the development of specific intelligences?
4. Which intelligence is most highly developed among government school students?
5. Which intelligence is most highly developed among private school students?

Hypotheses

H_{01}: There is no significant difference in the overall multiple intelligence of government and private secondary school students.

H_{02}: There is no significant difference in linguistic intelligence between government and private secondary school students.

H_{03}: There is no significant difference in logical-mathematical intelligence between government and private secondary school students.

H_{04}: There is no significant difference in spatial intelligence between government and private secondary school students.

H_{05}: There is no significant difference in bodily-kinesthetic intelligence between government and private secondary school students.

H_{06}: There is no significant difference in musical intelligence between government and private secondary school students.

H_{07}: There is no significant difference in interpersonal intelligence between government and private secondary school students.

H_{08}: There is no significant difference in intrapersonal intelligence between government and private secondary school students.

H_{09}: There is no significant difference in naturalistic intelligence between government and private secondary school students.

Research Methodology

Research Design: The present study employed a quantitative descriptive-comparative research design to compare the multiple intelligences of government and private secondary school students. The design was considered appropriate because it facilitates the comparison of two independent groups with respect to different dimensions of multiple intelligence. The study also used a survey approach to collect data from students through a standardized Multiple Intelligence Inventory.

Population of the Study: The population of the study comprised all secondary school students studying in government and private secondary schools of the selected district. Students enrolled in Classes IX and X constituted the target population because they are at a developmental stage where various dimensions of intelligence can be adequately assessed.

Sample and Sampling Technique: A total sample of60 secondary school studentswas selected usingsimple random sampling**.**

School Type	Number of Students
Government Secondary Schools	30
Private Secondary Schools	30
Total	**60**

Research Tool: Data were collected using aMultiple Intelligence Inventorybased on the Theory of Multiple Intelligences developed by Howard Gardner. The inventory measured the following eight dimensions:

- Linguistic Intelligence
- Logical-Mathematical Intelligence
- Spatial Intelligence
- Bodily-Kinesthetic Intelligence
- Musical Intelligence
- Interpersonal Intelligence
- Intrapersonal Intelligence
- Naturalistic Intelligence

Each item was rated on a five-point Likert scale ranging from 1 = Strongly Disagree **to** 5 = Strongly Agree.

Validity and Reliability: The instrument was validated through expert review by specialists in Educational Psychology and Teacher Education. Reliability was established using Cronbach's Alpha, which yielded a reliability coefficient of 0.89, indicating high internal consistency.

Statistical Techniques: The following statistical techniques were employed:

- Mean
- Standard Deviation
- Independent Samples *t*-test

The hypotheses were tested at the 0.05 level of significance.

Data Analysis and Interpretation

Table 1: Comparison of Overall Multiple Intelligence between Government and Private Secondary School Students

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	122.43	11.54			
Private School	30	129.67	10.28	2.56	0.013	Reject H_{01}

Table 1 shows that the mean score of overall multiple intelligence for government school students was 122.43 (SD = 11.54), whereas the mean score for private school students was 129.67 (SD = 10.28). The obtained t-value of 2.56 with a p-value of 0.013 is significant at the 0.05 level. Therefore, the null hypothesis H_{01} is rejected. This indicates that there is a significant difference in overall multiple intelligence between government and private secondary school students, with private school students demonstrating comparatively higher overall multiple intelligence scores.

Table 2 Comparison of Linguistic Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	16.92	2.18			
Private School	30	18.43	2.04	2.76	0.008	Reject H_{02}

Table 2 reveals that the mean linguistic intelligence score of government school students was 16.92 (SD = 2.18), while that of private school students was 18.43 (SD = 2.04). The calculated t-value of 2.76 and p-value of 0.008 indicate a statistically significant difference at the 0.05 level. Hence, the null hypothesis H_{02} is rejected. The findings suggest that private school students possess significantly higher linguistic intelligence than government school students.

Table 3 Comparison of Logical-Mathematical Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	15.88	2.35			
Private School	30	17.12	2.10	2.17	0.034	Reject H_{03}

Table 3 indicates that government school students obtained a mean score of 15.88 (SD = 2.35) in logical-mathematical intelligence, whereas private school students obtained a mean score of 17.12 (SD = 2.10). The

obtained t-value of 2.17 with a p-value of 0.034 is significant at the 0.05 level. Therefore, the null hypothesis H_{03} is rejected. This finding indicates that private school students exhibit significantly higher logical-mathematical intelligence than government school students.

Table 4 Comparison of Spatial Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	14.97	2.31			
Private School	30	15.52	2.08	0.96	0.341	Accept H_{04}

Table 4 shows that the mean spatial intelligence score of government school students was 14.97 (SD = 2.31), while private school students obtained a mean score of 15.52 (SD = 2.08). The calculated t-value of 0.96 and p-value of 0.341 are not significant at the 0.05 level. Therefore, the null hypothesis H_{04} is accepted. The results indicate that there is no significant difference in spatial intelligence between government and private secondary school students.

Table 5 Comparison of Bodily-Kinesthetic Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	16.23	2.47			
Private School	30	16.84	2.18	1.01	0.316	Accept H_{05}

Table 5 reveals that the mean bodily-kinesthetic intelligence score for government school students was 16.23 (SD = 2.47), whereas the mean score for private school students was 16.84 (SD = 2.18). The obtained t-value of 1.01 with a p-value of 0.316 is not significant at the 0.05 level. Consequently, the null hypothesis H_{05} is accepted. This indicates that government and private secondary school students do not differ significantly in bodily-kinesthetic intelligence.

Table 6 Comparison of Musical Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	13.85	2.63			
Private School	30	15.76	2.25	3.03	0.004	Reject H_{06}

Table 6 shows that government school students obtained a mean musical intelligence score of 13.85 (SD = 2.63), while private school students obtained a mean score of 15.76 (SD = 2.25). The calculated t-value of 3.03 and p-value of 0.004 are statistically significant at the 0.05 level. Therefore, the null hypothesis H_{06} is rejected. The findings indicate that private school students possess significantly higher musical intelligence than government school students.

Table 7 Comparison of Interpersonal Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	17.02	2.15			
Private School	30	18.26	1.89	2.37	0.021	Reject H_{07}

Table 7 indicates that the mean interpersonal intelligence score of government school students was 17.02 (SD = 2.15), whereas private school students obtained a mean score of 18.26 (SD = 1.89). The obtained t-value of 2.37 with a p-value of 0.021 is significant at the 0.05 level. Hence, the null hypothesis H_{07} is rejected. This result suggests that private school students demonstrate significantly higher interpersonal intelligence than government school students.

Table 8 Comparison of Intrapersonal Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	14.96	2.21			
Private School	30	15.48	2.09	0.94	0.351	Accept H_{08}

Table 8 reveals that government school students obtained a mean intrapersonal intelligence score of 14.96 (SD = 2.21), while private school students obtained a mean score of 15.48 (SD = 2.09). The calculated t-value of 0.94 and p-value of 0.351 are not significant at the 0.05 level. Therefore, the null hypothesis H_{08} is accepted. The findings indicate that there is no significant difference in intrapersonal intelligence between government and private secondary school students.

Table 9 Comparison of Naturalistic Intelligence

Group	N	Mean	SD	t-value	p-value	Decision
Government School	30	12.60	2.54			
Private School	30	14.11	2.27	2.42	0.019	Reject H_{09}

Table 9 shows that the mean naturalistic intelligence score of government school students was 12.60 (SD = 2.54), whereas private school students obtained a mean score of 14.11 (SD = 2.27). The obtained t-value of 2.42 with a p-value of 0.019 is significant at the 0.05 level. Therefore, the null hypothesis H_{09} is rejected. This finding indicates that private school students possess significantly higher naturalistic intelligence than government school students.

Findings of the Study: Based on the analysis of data collected from the following major findings were obtained:

1. The study found a statistically significant difference in the overall multiple intelligence of government and private secondary school students. Private school students obtained a higher mean score (M = 129.67) than government school students (M = 122.43), indicating that private school students demonstrated comparatively higher overall multiple intelligence. Hence, H_{01} was rejected.

2. A significant difference was observed in linguistic intelligence between the two groups. Private school students (M = 18.43) scored significantly higher than government school students (M = 16.92). Therefore, H_{02} was rejected, suggesting that private school students possess better linguistic abilities.

3. The findings revealed a significant difference in logical-mathematical intelligence. Private school students (M = 17.12) performed better than government school students (M = 15.88). Consequently, H_{03} was rejected.

4. No statistically significant difference was found in spatial intelligence between government and private secondary school students. Although private school students obtained a slightly higher mean score

(15.52) than government school students (14.97), the difference was not significant. Therefore, H_{04} was accepted.

5. The analysis showed no significant difference in bodily-kinesthetic intelligence between the two groups. Government school students (M = 16.23) and private school students (M = 16.84) demonstrated comparable levels of bodily-kinesthetic intelligence. Hence, H_{05} was accepted.

6. A statistically significant difference was found in musical intelligence. Private school students (M = 15.76) scored significantly higher than government school students (M = 13.85). Thus, H_{06} was rejected.

7. The study revealed a significant difference in interpersonal intelligence between government and private school students. Private school students (M = 18.26) exhibited higher interpersonal intelligence than government school students (M = 17.02). Therefore, H_{07} was rejected.

8. No significant difference was observed in intrapersonal intelligence. Although private school students (M = 15.48) scored marginally higher than government school students (M = 14.96), the difference was statistically insignificant. Hence, H_{08} was accepted.

9. A significant difference was found in naturalistic intelligence. Private school students (M = 14.11) obtained significantly higher scores than government school students (M = 12.60). Therefore, H_{09} was rejected.

10. The findings indicate that private secondary school students performed significantly better than government school students in overall multiple intelligence, linguistic intelligence, logical-mathematical intelligence, musical intelligence, interpersonal intelligence, and naturalistic intelligence. However, no significant differences were observed between the two groups in spatial intelligence, bodily-kinesthetic intelligence, and intrapersonal intelligence.

Conclusion: The study concludes that the development of multiple intelligences depends upon the combined influence of educational environment, teaching methodologies, learning opportunities, and individual characteristics. Therefore, educators, school administrators, curriculum planners, and policymakers should adopt instructional practices that identify, encourage, and cultivate the diverse intellectual potentials of every learner. Such an approach will not only improve academic achievement but also foster creativity, problem-solving ability, emotional competence, social responsibility, and lifelong learning, thereby contributing to the holistic development of secondary school students.

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