

## Exploring the Impact of Background Variables on the Intelligence level of Senior Secondary Level Students

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**Abstract:** It has been proved through various researches conducted in the area of education that level of Intelligence of students plays an important role in their academic performance in a significant manner. Intelligence is regarded as an inherent quality of the individual along with their unified and stable characteristics, which is further normally distributed among individuals. Level of intelligence can be interpreted statistically as the ability of an individual for acquiring knowledge and understanding in area of education, especially while applying it for the handling of new situations facing in the life and successfully adjusting to the social and professional situation. So the level of intelligence can be defined as the ability of an individual to learn and acquire a wide variety of intellectual skills and further to use this acquired learning in its most efficient way. It also gives an insight to the individuals and provides directions to the human potential for achieving their desired goal. Through this paper the researcher has tried to identify effect of gender, type of management and location of the school on the Intelligence of the senior secondary students of Delhi.

**Key Words:** Academic Performance, Intelligence

**Introduction:** According to various psychologists intelligence is one of the most significant factors responsible for ensuring the higher chances of success in regard to the Academic performance out of a large number of factors which are affecting it. The various studies conducted in this field revealed that intelligence is closely related to the students' performance than any other personal characteristics. The level of intelligence is directly related to the psychological mechanism of the individual person and this process of cognitive mechanism is one of the best possible ways of increasing the academic performance of the students at school level. Thus it can be observed that the importance of intelligence can never be denied as an essential factor which is responsible for influencing the academic performance of the student in a significant manner. The importance of level of intelligence is significantly related with the academic performance of the students in all professional and behavioural domains which is assumed and proved to be well connected with the performance of the students. The entire performance of the students in academics is solely influenced by their level of intelligence and therefore their relationships, between the level of intelligence and their academic performance cannot be ignored in any of the manner. In case of students at any of the level of schooling, level of intelligence is considered as the ability to learn and become successful in academics at schools.

A teacher is expected and hopefully he should try to teach his lesson in accordance with their intellectual abilities catering to all children of the classroom by catering to their individual differences. Since the variable of intelligence has been recognized as an inbuilt and inherent, integrated and a stable attribute distributed normally among individuals, therefore it was supposed that the basic differences in the academic performance of all students could be easily given weight age for. Therefore, due to this reason one has to believe that the individuals having more level of I.Q. are able to learn more rapidly and effectively and it is likely to retain in their memory for a period of duration, further to perform better in most of the academic affairs and so in this way they can obtain high merits within their groups or classes in comparison to the less students having low level of IQ. It is known to all and acknowledged by all the educationists and behavioural scholars that there are a lot of variables which affects the Academic performance of an individual during schooling out of which one of them significantly affect the quality of behaviour which is called intelligence. According to **Stern (1914)**, "Intelligence of an individual is a general capacity of making adjustment of his thinking to new requirements in conscious manner. It is the

general mental adaptability to new problems and conditions of life. Intelligence is an important variable that affects performance". **Wechsler (1939)** also defined the intelligent behaviour of an individual in terms of his four characteristics, i.e. awareness, goal directedness, rationality and has value orientation. A person having high level of I.Q. is therefore a person who has acquired right and appropriate coping mechanisms and the various strategies that are available: "To deal with the demands of the environment effectively." On the other hand, an individual having low I.Q. is expected to have less directed coping mechanisms and other strategies available which are effective enough for him to deal with his existing environment in a proper way. According to **Terman (1937)**: "An individual is intelligent in the proportion that he is able to carry on abstract thinking." **Jean Piaget (1952)**: "Intelligence is the ability to adapt to one's surroundings."

#### **Review of Related Literature:**

**Kumari (1982)** conducted a study on intelligence, achievement, adjustment and socio-economic pattern of different stoichiometric groups of adolescents on a sample of 529 students from 9 schools of Jalandhar city and study revealed that a high positive correlation coefficient was obtained between intelligence and achievement of the students.

**Prakash (1986)** tried to study the relationship between intelligence, scholastic achievement, personality traits and achievement in sports and revealed that the students both boys and girls having a university or inter-university position were more intelligent than those having university or inter university participation. 2. Boys and girls with high SES were more intelligent than those with middle and low SES.

**Behera (1993)** conducted a study on rural-urban differences in Intelligence. The main objectives of the study were to find out the differences in the level of intelligence among the children belonging to rural and urban areas. The sample consists of 80 six graders (40 from rural and 40 from urban background) of two Jawahar Navodaya Vidyalayas located at two districts (one rural and one urban) in Orissa. The finding of the study is that the urban students of Navodaya Vidyalayas scored significantly higher on verbal intelligence, but did not show significant difference on Non-verbal measure.

**Chandra and Sheikh (2013)** conducted a study on the Influence of Intelligence and Gender on Academic Achievement of Secondary School Students of Lucknow City and it was revealed that i) A significant difference was found between High and Average IQ Category secondary school students on Academic Achievement. (ii) There is significant difference between Average and Low IQ Category secondary school students on Academic Achievement. (iii) There is a significant difference between high IQ and low IQ category students on academic achievement.

#### **Research Questions:**

- ❖ Is there any difference between Boys and Girls in terms of their Intelligence Level?
- ❖ Is there any difference between Govt. and Private Secondary School Students in terms of their Intelligence level?
- ❖ Is there any difference between Rural and Urban School Students in terms of their Intelligence Level?

#### **Objectives of the Study**

- ❖ To study the difference between relationship between Boys and Girls in terms of their Level of Intelligence.
- ❖ To study the difference between Govt. and Private Senior Secondary School Students in terms of their Level of Intelligence.
- ❖ To study the difference between Urban and Rural Senior Secondary School Students in terms of their Level of Intelligence.

#### **Hypotheses Tested during the Study**

- ❖ There is no significant difference between Boys and Girls in terms of their Level of Intelligence.

- ❖ There is no significant difference between Govt. and Private Senior Secondary School Students in terms of their Level of Intelligence.
- ❖ There is no significant difference between Urban and Rural Senior Secondary School Students in terms of their Level of Intelligence.

**Methodology Adopted for the Study:** The methodology adopted for the study depends upon nature of the problem and objectives of the study. As per the nature and objectives of the present study descriptive method was followed in this study

**Population:** All the students of 11th class (Arts stream) studying in schools in the geographical boundary of Delhi consists the population. They include students of Government schools and students of Private schools.

**Sample and Sampling Techniques:** The present study was conducted on a total sample of 520 students of 11th class selected through Random Sampling Technique including 260 urban school students and 260 rural school students. Further, these 260 students are comprised of 130 government school students (65 male and 65 female) and 130 private school students (65 male and 65 female). The sample has been taken from 20 senior secondary schools of Delhi.

**Tools Used for Data Collection**

**Verbal Intelligence Test (VIT):** For the assessment of the intelligence level of the students, the researcher used the Verbal Intelligence Test (VIT) developed by R.K. Ojha and K. Ray Chowdhury.

**Delimitations of the Study:**

- ❖ The study is limited to Union Territory of Delhi.
- ❖ The study is limited to only senior secondary (11th class) students.
- ❖ The study is limited to sample of 520 students only.
- ❖ For the present study Verbal Intelligence Test has been used for the measurement of their level of Intelligence.

**Analysis of the Data:** The techniques like: Mean, Standard Deviation and Pearson Correlation has been used for data collection as under:

**Level of Intelligence of Sr. Secondary School Students in relation to their Gender, Management of School and Location of the School**

Group (s)	N	Mean	StandardDeviation	StandardError (Mean)	df	Significance(Two-tailed)
Boys	260	65.51	13.24	0.82	518	0.07
Girls	260	67.68	14.24	0.88		
Govt.	260	68.46	12.91	0.80	518	0.00##
Private	260	64.73	14.37	0.89		
Urban	260	70.52	10.39	0.64	518	0.00##
Rural	260	62.67	15.58	0.97		

**Hypothesis 1: There is no significant difference between Boys and Girls in terms of their Level of Intelligence.**

In order to analyze the data for comparing the Level of Intelligence in terms of the gender, the research question formulated was: *Is there any difference between Boys and Girls in terms of Level of Intelligence?* To analyze the above mentioned question Hypothesis 1 mentioned above was formulated. To study the data related to their Level of Intelligence, the statistical measures such as Mean and Standard Deviation were computed. The comparison of Level of Intelligence between Boys and Girls was carried out with the help of **t-ratio**. The difference between the Means of Boys and Girls in terms of their Level of Intelligence is not significant even at .05 level as the **t-value** obtained as given in Table is less than the table value. Hence null hypothesis is not rejected. It is evident that the difference between the average Level of Intelligence of Boys and Girls is not significant enough. Hence our null hypothesis (**H<sub>0</sub>1**) is not rejected at **0.05 level**. Hence we can observe that there is no significant difference between Boys and Girls of Senior Secondary Schools in terms of their Level of Intelligence.

**Hypothesis 2: There is no significant difference between Govt. and Private Senior Secondary School Students in terms of their Level of Intelligence.**

In order to analyze the data for comparing the Level of Intelligence in terms of the administration of the school, the research question formulated was: *Is there any difference between Govt. and Private Senior Secondary School Students in terms of their Level of Intelligence?* To analyze the above mentioned question Hypothesis 2 mentioned above was formulated. To study the data related to their Intelligence, the statistical measures such as Mean and Standard Deviation were computed. The comparison of Level of Intelligence between Govt. and Private Senior Secondary School students was carried out with the help of **t-ratio**. The difference between the Means of Govt. and Private Senior Secondary School students in terms of their Level of Intelligence is significant at .01 level as the t-value obtained is given in Table is less than the table value. Hence null hypothesis is rejected. It is evident that the difference between the averages Level of Intelligence of Govt. and Private Senior Secondary School students is significant enough. Hence our null hypothesis (**H<sub>0</sub>2**) is rejected at **0.01 level. Hence we can observe that there is a significant difference between Govt. and Private Senior Secondary School students in terms of their Level of Intelligence.**

**Hypothesis 3: There is no significant difference between Urban and Rural Senior Secondary School Students in terms of their Level of Intelligence.**

In order to analyze the data for comparing the Level of Intelligence in terms of the location and of the school, the next research question formulated was: *Is there any difference between Rural and Urban School Students in terms of their Level of Intelligence?* To analyze the above mentioned question Null Hypothesis mentioned above was formulated. To study the data related to their Level of Intelligence, the statistical measures such as Mean and Standard Deviation were computed. The comparison of Level of Intelligence between Urban and Rural Senior Secondary School students was carried out with the help of **t-ratio**. The difference between the Means of Urban and Rural Senior Secondary School students in terms of their Level of Intelligence is significant at .01 level as the t-value obtained is given in above Table is less than the table value. Hence null hypothesis is rejected. It is evident that the difference between the averages level of intelligence of Urban and Rural Senior Secondary School students is significant enough. Hence our null hypothesis (**H<sub>0</sub>3**) is rejected at **0.01 level. Hence we can observe that there is a significant difference between Urban and Rural Senior Secondary School students in terms of their Level of Intelligence.**

**Findings:** 1) It was hypothesized that there is no significant difference between Boys and Girls in terms of their level of Intelligence. The study revealed that there is no significant difference between Boys and Girls in terms of their Level of Intelligence. 2) It was hypothesized that there is no significant difference between Govt. and Private Senior Secondary School Students in terms of their Level of Intelligence. The study revealed that there is a significant difference between Govt. and Private Secondary School students in terms of their Level of Intelligence. 3) It was hypothesized that there is no significant difference between Urban and Rural Senior Secondary School Students in terms of their Level of Intelligence. The study revealed that there is a significant difference between Urban and Rural Secondary School students in terms of their Level of Intelligence. Thus it is clear that Gender, Management of School and Location of School has a positive impact on the Intelligence level of the senior secondary students of Delhi.

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