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## A Comparative Study of Intelligence and Academic Achievement of Higher Secondary School Students in Relation to Their Gender, Stream, and Socio-Economic Status

**ABSTRACT:** With the advancement of knowledge, the world is becoming more and more competitive. Quality of performance has become the key factor for an individual achievement. The present study was carried out to compare intelligence and academic achievement in relation to students' gender, stream, and socio-economic status. Total 200 boys and girls from Science and Humanities streams were taken as the sample of the study. Investigator used M.C. Joshi's intelligence test (1956) and socio-economic status scale by S.D. Kapoor & H.C. Kocher (1997-1998) for collecting the data. T-Test and product moment method was used to find the results. The study reveals that girls on an average have high intelligence as compared to boys. On an average the male and female students have similar academic achievement. On an average Science student's high intelligence than the Humanities students. The correlation between intelligence and academic achievement have come out to be positive and significantly. This shows that higher the intelligence will be higher the academic achievement. The correlations between intelligence and socio-economic status have come out to be non-significant. This means that intelligence and socio-economic status are not correlated with each other.

**KEY WORD:** Intelligence, academic achievement, socio-economic status, gender, Science and Humanities streams, and high intelligence.

**IKHTISAR:** "Studi Perbandingan tentang Kecerdasan dan Prestasi Akademik para Siswa Sekolah Menengah Atas dalam Kaitannya dengan Gender, Jurusan, dan Status Sosial-Ekonomi Mereka". Dengan kemajuan pengetahuan, dunia menjadi semakin kompetitif. Kualitas kinerja menjadi faktor kunci untuk keberhasilan individu. Penelitian ini dilakukan untuk membandingkan kecerdasan dan prestasi akademik dalam kaitannya dengan gender, jurusan, dan status sosial-ekonomi para siswa. Sebanyak 200 siswa laki-laki dan perempuan dari jurusan Sains dan Humaniora diambil sebagai sampel penelitian. Peneliti menggunakan uji kecerdasan dari M.C. Joshi (1956) dan skala status sosial-ekonomi oleh S.D. Kapoor & H.C. Kocher (1997-1998) untuk mengumpulkan data. T-Test dan metode hasil seketika digunakan untuk mendapatkan hasil penelitian. Penelitian ini mengungkapkan bahwa para siswa perempuan, rata-rata memiliki kecerdasan yang tinggi dibandingkan dengan para siswa laki-laki. Mengenai rata-rata siswa laki-laki dan perempuan memiliki prestasi akademik yang sama. Rata-rata kecerdasan siswa pada ilmu Sains lebih tinggi daripada siswa ilmu Humaniora. Korelasi antara kecerdasan dan prestasi akademik menjadi positif dan signifikan. Hal ini menunjukkan bahwa semakin tinggi kecerdasan akan menjadi lebih tinggi pula prestasi akademik. Korelasi antara kecerdasan dan status sosial-ekonomi menjadi tidak signifikan. Ini berarti bahwa kecerdasan dan status sosial-ekonomi tidak berkorelasi satu sama lain.

**KATA KUNCI:** Kecerdasan, prestasi akademik, status sosial-ekonomi, jenis kelamin, jurusan Sains dan Humaniora, serta kecerdasan yang tinggi.

### INTRODUCTION

A new born in front is a helpless human being. He is not aware of the social customs and traditions. But as he grows up, education

plays a vital role in developing him gradually. Education is able to instill in a child a sense of maturity and responsibility by bringing in him the desired changes according to his needs

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and demands of ever changing society of which he is an integral part. Education helps to make a person intelligent, learned, bold, and courageous; and provides a strong, good, and moral character. It sublimates the animal basic instincts in a child to socially useful activities, habits of thinking and behaving; it infuses in a child a spirit of dynamic citizenship. Hence, it is opted to say that education plays an important role throughout the life of an individual from whom to tomb.

With the advancement of knowledge, the world is becoming more and more competitive. Quality of performance has become the key factor for personal factors. Parent's desire that their children should climb the ladder of performance to as high level as possible; this desire for a high level of advertisement puts a lot of pressure on students, teacher, schools, and general, on the educational system itself. In fact, it appears as if the whole system of education involves around the intelligence level and academic level achievement of students, which in turn is greatly influences by socio-economic status of students.

Intelligence and academic achievement, thus, are of paramount importance, particularly in the present socio-economic and enthrall content of schools as well great emphasis is placed on those two factors right from the beginning of formal education. The school performs the functions of selection of differentiation among students on the basis of their scholastic and other attainment and opens out avenues for achievement.

The effectiveness of any educational system is dependent upon different factors, such as intelligence, academic achievement, socio-economic status, motivation, interest, aspiration level, etc. Out of these, the present study focuses on intelligence and academic achievement of students belonging to different socio-economic status group.

#### **INTELLIGENCE AND ACADEMIC ACHIEVEMENT: ITS MEANING AND SIGNIFICANCE**

Intelligence, the electric force of the brain, is a factor which has a bearing effect on academic achievement. It is an important aspect of attainment, which although related to the specific instruction received

in the school is also dependent on factors and, especially, on education. Intelligence is considered as a property of mind that encompasses many related abilities, such as the capacities to reason, plan, solve problems, think abstractly, compare ideas and language, and learn.

Intelligence is not a single quality, but a combination of number of qualities. Hence, a person cannot be called intelligent or a fool without testing his intelligence. Intelligence shows existence in our activities, but it is not directly visible; thus, it is a hypothetical concept. Intelligence is usually used in solving various problems and in learning about new concepts people's uses intelligence to understand all minor and major things and in responding to them. Psychologists vary in their views about intelligence.

One of the important concerns of education is to ensure that each child is able to make most of his abilities. The problem why students achieve or fail to achieve in the school has always interested to psychologists and educators. Academic achievement is the core of educational growth and the centre of the life. High achievement in school creates self-esteem and self confidence in the child, which leads to better adjustment in society and which further leads to a sound personality.

Achievement is the accomplishment or proficiency of performance in a given skill or body of knowledge. The academic achievement of a pupil refers to the knowledge attained and skills developed in the school subjects, which are assessed by the school authorities with the help of achievement test which may be standardized or non-standardized. Mostly, these tests are teacher made.

The study of academic achievement of students is of great significance, as the efficiency or deficiency of students is chiefly determined by the quality of an academic achievement. Academic achievement assures that child is making use of his abilities. Achievement in itself has become a very strong symbol and way of life is determined by achievement yet it is certainly directly by it.

The justification of measuring academic achievement is based on the fundamental

assumption of psychology, namely there are differences within the individual from time to time, from one class to another. Besides, there are individual differences. Individuals of the same group, same grade, and same potentialities usually differ in their academic proficiency. Hence, arising the need for measuring academic achievement.

### **SOCIO-ECONOMIC STATUS**

An individual is a dynamic organism, and what ever he does or attains in life is influenced by socio-economic factors. It determines one's potential in life. An urban based student has different potential them his counterpart coming from rural areas; and within the urban and rural population itself, there is difference of potential between rich and the poor people and between the educated and uneducated.

A family's socio-economic status is based on the income earned by the family members parental educational level, parental social status in the community, group associations and the community's perception of the family Demarest, Reinsener, Anderson, Himpfrey, Farquhar, and Stein in 1993. Researches in the field of educational psychology and sociology have proved that socio-economic conditions have a deep input on the development of student personality as well (cf Apple, 1988; and Toffler, 1990).

According to socio-economic status, children differ markedly in the opportunities they get to unfitness religious, social, and cultural functions. The social climate in the family and the liberty, with which a child is permitted to approach, it depends upon the social status of the family. A child enjoys social status within the limit of economic conditions of the family. Thus, socio-economic conditions create an environment in which a child grows, develops, and thinks accordingly. Academic achievement, therefore, cannot be expected alike for children coming from families having different socio-economic status.

The researchers have also revealed the fact that right after the birth, the child starts interaction with the general environment and through this process of interacting, the personality traits of the child develop. Families with high socio-economic status often have

more success in preparing their young children for school, because they typically have access to wide range of resources to promote and support young children's development. They are able to provide their children with high quality child care books and toys to encourage in various learning activities at home. Also they have easy access to information regarding their children's health as well as social emotional and cognitive development. In addition, families with high socio-economic status have sought out information to help them better prepare their young children for school (Coleman, 1966; and Abt-Perkins & Gomez, 1993).

**On the Intelligence and Academic Achievement.** One of the most basics factors in human development and academic success is intelligence. Generally, it has been observes that individuals who have higher intelligence level has more chances of success in academic achievement than the one who has lower intelligence. Various studies conducted so far on academic achievement and intelligence have also revealed a positive relationship between the two variables (Dreeben & Barr, 1988).

B.L. Gerber, A.M.L. Cavallo & E.A. Marek (2001) studied the relationship between intelligence and academic success in school for a sample of 8<sup>th</sup> grade student. The result showed that intelligence had a significant correlation with academic performance. Students with average and average intelligence had a better measure of success in school than students with between average intelligence. It can be thereby being concluded that students with high intelligence level generally shows better academic achievement than their counterparts having lower intelligence level. Thus, intelligence and academic achievement are more or less positively interrelated with other.

**On the Intelligence and Socio-Economic Status.** A lot many studies have been conducted on intelligence and socio-economic status. Among them, studies conducted by N.Y. Reddy (1980); Kumari Sudha (1982); and D.D. Reddy & D.B. Rao eds. (2006) concluded that higher the socio-economic status higher will be intelligence. A study conducted on thinking

style and socio-economic status by Lifang Zheng & Gerard A. Postiglione (2001) revealed that students belonging to socio-economic status showed better thinking styles.

On the basis of all such studies, it can thus be inferred that socio-economic status has more or less positive impact on intelligence. Students belonging to families having high socio-economic status have a better chance to develop their inborn intellectual status gets less enriched environment so as to develop their innate tendencies.

**On the Academic Achievement and Socio-Economic Status.** Among the several sociological factors, socio-economic status of the child is one of the factors which require constant examination. A number of studies clearly established a definite relationship between socio-economic status and academic achievement. The review of some studies has revealed that socio-economically backward children show less academic achievement (Sirin, 2005). If it is seen in terms of intelligence, then, the children brought up in superior homes have higher IQ (Intelligence Quotient).

However, from other researches, it has been observed that the routine socio-economic status factors viz. father's income, father's educations and occupation has got much impact on the academic performance of their children hailing from families, where they subscribe to newspaper and magazines, progress better in their educational attainment (Sirin, 2005). Probably, this may be due to their contact with the rich literature they provide.

### NEED, SIGNIFICANCE, AND REVIEW RELATED STUDIES

Every year, new innovations, new facts, new concepts, new ways of doing things, new knowledge, and new theories or principles come into the field of education. Any addition to the existing body of knowledge is valuable and important for the planning of future educational goals and objective. In order to make the whole process of teaching and learning more effective, it is quite necessary to bring about sophistication of conceptual and operational terms by rigorous experimentation. Empirical data accumulated

through experimentation in the field will help sharpen and refine concepts.

Education process aims at the enhancement of the level of academic achievement of the students along with aiming at the fullest personality development of the individual. Academic achievement has been considered to be one of the most important factors in every individual's life as the future planning for higher studies or vocational choices depends upon the outcome of the students. Therefore, in order to unveil the compels determinants of academic achievement, which in turn affects student's performance, the present study has been taken.

The present study (investigation) focuses on socio-economic status group and gender as the independent variables and their impact on intelligence as well as on academic achievement of Higher Secondary Schools belonging to different streams viz Science and Humanities.

**On the Operational Definitions of the Terms Used.** There are some definitions and terms to be used in this study, such as: (1) *Gender*, it refers to the male and female students studying in 12<sup>th</sup> grade in the Government Schools of Jammu or J & K in India; (2) *Stream*, it refers to the Science and Humanities group studying in the Higher Secondary Schools of Jammu or J & K in India; (3) *Socio-Economic Status*, it is the overall information regarding the social and the economic status of a person. In the present study, the Socio-Economic Status or SES' scale questionnaire as developed by S.D. Kapoor & H.C. Kocher in 1997 to 1998; (4) *Intelligence*, it is in general the capacity to acquire and apply knowledge. In the present study, it refers to that which is measured by M.C. Joshi's verbal and group intelligence test in 1956; and (5) *Academic Achievement*, it is in the present study pertains to the total marks of the students obtained by them in the Annual J & K Board of Examination conducted by J & K Board of School Education in Jammu, India.

In any research study, the exploration of the previous studies conducted in the field of is very essential to pare or path for further studies. The investigator explored previous studies/literature relevant to the present study and could collect the following research studies conducted in India and in

foreign countries, which bear direct and indirect relevance to the present study.

**On the Studies Conducted in India and Aboard.** Dhall *et al.* (2009) studied intelligence as related to self-confidence and academic achievement of school students with the objective to explore the relationship between them. Review of related literature of 36 intelligence and academic achievement among Secondary School students by taking a sample of 1,000 students and found that there was a significant relationship between academic achievement and intelligence of Secondary School students; there existed a significant difference between boys and girls of Secondary School in terms of intelligence; there existed significant difference between boys and girls of Secondary School in terms of academic achievement.

Noorjehan *et al.* (2009) studied factors affecting academic achievement of IX standard students in Mathematics and found that factors like mathematical creativity, attitude towards Mathematics, achievement motivation, and a low level of anxiety influenced the academic achievement in Mathematics at secondary stage; and recommend the inclusion of curricular and co-curricular programmes to improve.

Gakhar *et al.* (2010) studied intellectual and non-intellectual correlates of scientific attitude with the objective to find the relationship of intelligence and science achievement (intellectual variable) and socio-economic status, scientific interest, and home environment (non-intellectual variables) with scientific attitude by taking a sample of 740 IX<sup>th</sup> class students selected on the basis of multistage randomization technique from eight districts of Punjab; and found that science achievement was not significantly correlated with scientific attitude. The reasons may be that science achievement depends on memory, recall, knowledge, and hardwork, whereas scientific attitude involves scientific temper of mind, rational thinking, open mindedness, objectivity, etc.

P.N. Menon (1982) studied the performance of students at polytechnics in relation to their academic achievement, intelligent. S.T.D.G. Acharyulu (1978) also studies the relationship

among intelligence, creative thinking, and school achievement of high intelligence group in different school subjects was significantly higher than that of low intelligence group.

S. Sharma (1982) studied intellectual factors and academic achievement in arts, science, and commerce courses at Higher Secondary stage. The main findings were: (1) the students of scientific stream possessed a higher level of verbal intelligence than that of literary and commercial stream; and (2) the higher academic achievers in each stream possessed high intelligence level in comparison to the low academic achievers.

D.R. Singh (1983) and S.K. Singh (1999) studied the mental abilities, namely numerical ability, reasoning ability, memory and symbolic representation in relation to academic achievement; it was indicated that there is a positive influence of intelligence on academic achievement. Mithilesh Kumari Dixit (1985) also made a comparative study of the academic achievement and intelligence of adulterants boys and girls. It was found that intelligence is a factor contributing towards.

R.S. Yadav & Sudha Srivastava (1989) studied child development as function of growth in intelligence academic achievement and creativity. They found that there is a significant correlation between intelligence and academic achievement obtained for Hindi and Civics respectively. R. Muthumanickam (1992) found also that boys and girls do not differ in their achievement in commerce; then was not found to be an influencing factor of achievement in commerce.

Rajshree (1997) and S.K. Singh (1999) found that socio-economic level of students was routinely related to the academic achievement of the students. Sarita (2003) also found out that the academic achievement of boys and girls were significantly different. This shows that the adolescent children of working mothers and girls were academically better than of non-working mothers and boys.

Phillip Ackerman (2000) studied domain specified knowledge as the dark matter of adult intelligence, personality, and interest correlates. The result showed that intelligence correlates to performance. Mab B.M. Contractor (1977) also found that educational

attainment was functionally related positively to socio-economic status and the same time functionally related in negative direction.

Last but not least, Lifang Zheng & Gerard A. Postiglione (2001) studied thinking style self esteem and socio-economic status. The finding of the study revealed that students belonging to higher socio-economic status showed the better thinking style.

## RESEARCH METHOD

Descriptive survey method of research was considered appropriate for conducting the present study, which aimed at investigating and further describing the existing relationship between academic achievement, intelligence, and socio-economic status among students both boys and girls belonging to different streams and high and low groups of socio-economic status.

Descriptive research studies are designed to obtain precise information concerning the different status of phenomenon and, whenever possible, to draw valid general conclusion from the facts discovered. Descriptive studies are more than just a collection of data; they involve measurement, classification analysis, comparison, and interpretations (Turney & Robb, 1971; and Saxena, Mishra & Mohanty, 2004).

**On the Sample.** In Jammu City, India, two schools were randomly selected for data collection. These schools are Government Higher Secondary School, Mubark Mandi and Government Higher Secondary School, Ranbir Parade, in Jammu City, India. Total of 200 boys and girls from Science and Humanities streams were taken as the sample for the study. The research was conducted in the month of May 2013. The distribution of this sample is shown in table 1.

**On the Tool Used.** In course of studying any problem, the researcher may use different types of devices which in technical language called tool. To collect the requisite data for the present study, the investigator used: M.C. Joshi's Intelligence Test (1956); Socio-Economic Status Scale Questionnaire by S.D. Kapoor & H.C. Kocher (1998); and Academic Achievement Scores of Students at +1 Level and Notified in the Gazette by J & K Board of school Education

in Jammu City, India.

**On the Procedure.** After making decision regarding the design of the study, sample was collected for data collection. The investigator had to collect the data with the prior permission of the Principals of the concerned institution. The entire data collection was completed in three phases as follows:

In the first phase, the students were administered M.C. Joshi's verbal group intelligence test. It comprised of 100 questions pertaining to seven different categories. The instructions were read out loudly. There, after the students were asked, to respond to the items on separate sheet. After 20 minutes, the response sheets were collected.

In the second phase, students were administered the SESSQ (Socio-Economic Status Scale Questionnaire) which consisted of 12 items pertaining to different social and economic dimensions. After ensuring that students have responded to all the 12 items, the sheets were collected back.

In the third and the last phase of data collection, the academic achievement scores of the previous class i.e. +1 class was recorded for each student from the official record of the school.

**On the Objectives.** The objectives of this study are: (1) to study the difference between male and female students of Higher Secondary School in relation to their intelligence; (2) to study the difference between male and female students of Higher Secondary School in relation to their academic achievement; (3) to study the difference between Higher Secondary School's students of Science and Humanities in relation to their intelligence; (4) to study the difference between Higher Secondary School's students of Science and Humanities in relation to their academic achievement; (5) to study the difference between high and low socio-economic status groups of Higher Secondary School's students in relation to their intelligence; (6) to study the difference between high and low socio-economic status groups of Higher Secondary School's students in relation to academic achievement; and (7) to study in inter-relationship of intelligence, academic achievement, and socio-economic status with each other.

**Table 1:**  
Showing the Institution Wise, Gender Wise, and Stream Wise Sample of the Study

S. No	Name of School	Gender	Science	Humanities	Total
1	Govt. Hr. Sec. School, Mubark Mandi	Female	50	50	100
2	Govt. Hr. Sec. School, Ranbir Parade	Male	50	50	100

**Table 2:**  
Significance of Difference in Mean Scores of Intelligence and Academic Achievement of Male and Female of Higher Secondary School's Students

Variables	Group		df	T- Value
	Male (N = 100)	Female (N = 100)		
Intelligence	M = 48.98 SD = 9.38	M = 55.47 SD = 12.74	198	4.10**
Academic Achievement	Mean = 55.15 SD = 9.83	Mean = 55.27 SD = 9.23		0.89 NS

\*\* Significance at 0.01 levels.  
NS = Not Significant.

**On the Hypothesis.** The hypothesis of this study are as follows: (1) Male and female of Higher Secondary School students will differ significantly on their intelligence; (2) Males and females of Higher Secondary School students will differ significantly on their academic achievement; (3) Higher Secondary School students of Science and Humanities will differ significantly on their intelligence; (4) Higher Secondary School students of Science and Humanities will differ significantly on their academic achievement; (5) Higher Secondary School students belonging to higher socio-economic status group low socio-economic status group will differ significantly on their intelligence; (6) Higher Secondary School students belonging to high socio-economic group and low socio-economic group will differ significantly on their academic achievement; and (7) The inter relationship among the variables of intelligence, academic achievement, and socio-economic status will be positive and significant.

## FINDINGS

First, **Section – A.** Intelligence and academic achievement of Higher Secondary School student's relation to their gender, stream, and socio-economic status. For the sake of convenience the present section has been sub divided under different headings according to the groups under study. Comparison of

mean score of intelligence and academic achievement of male and female Higher Secondary School's students.

The mean and SD (Standard Deviation) of scores on intelligence and academic achievement for both the gender were calculated. Thereafter, "T"-test was performed for ascertaining the significant of difference in mean scores of intelligence and academic achievement for both the genders.

It is evident that from table 2 that "T" value for male and female of Higher Secondary School's students with respect to their mean scores on intelligence come out to be 4.10, which is more than the table value for df 198 at .01 levels (i.e. 2.60). Thus, the obtained value of "T" is significant at 0.01 level of confidence. This indicates that male and female of Higher Secondary School's students differ significantly with respect to their intelligence, since the mean scores on intelligence for male students (49.98) is less than the female students (55.47).

It may be interpreted that female students of Higher Secondary School exhibit higher intelligence than their male counter parts. Hence, the research hypotheses stated that male and female of Higher Secondary School's students will differ significantly on their "intelligence" was accepted.

Likewise, it is also evident that from the table 2 that "T" value for male and female

**Table 3:**  
Comparison of Mean Score of Intelligence and Academic Achievement of Science and Humanities Stream of Higher Secondary School's Students

Variables	Groups		df	T-Value
	Science (N = 100)	Humanities (N = 100)		
Intelligence	M = 55.66 SD = 12.27	M = 48.79 SD = 9.67	198	4.36**
Academic Achievement	M = 58.65 SD = 8.13	M = 51.74 SD = 9.65		

\*\* Significant at 0.01 levels.

**Table 4:**  
Significance of Difference in Mean Scores of Intelligence and Academic Achievement of Higher Secondary School's Students Belonging to High and Low Socio-Economic Status

Variables	Group		df	T-Value
	High Sec. N = 107	Low Sec. N = 93		
Intelligence	M = 53.32 SD = 10.73	M = 52.53 S.D = 12.64	198	.341 NS
Academic Achievement	Mean = 53.32 SD = 10.06	Mean = 57.39 S.D = 8.36		

\*\* Significant at .01 level.

NS = Not Significant.

of Higher Secondary School's students with respect to their mean scores on academic achievement which came out to be 0.89, which is less than the table value for df 198 at 0.05 level (i.e. 1.97). Thus, the obtained value of "T" is not significant. This indicates that male and female of Higher Secondary School's students do not differ significantly with respect to their academic achievement.

Significance of difference in mean scores of intelligence and academic achievement of Science and Humanities stream of Higher Secondary School's students. It is observed from table 3 that "T" value for Science and Humanities students of Higher Secondary School with respect to their mean scores on intelligence came out to be 4.36, which are more than the table value for df 198 at 0.01 level of confidence (i.e. 2.60). Thus, obtained value of "T" is significant at 0.01 level of confidence.

This indicates that Higher Secondary School's students of Science and Humanities stream differ significantly with respect to their intelligence. Since the mean scores on intelligence for Science stream (55.66) are more than that of Humanities students (48.79). It may be interpreted that Science students of

Higher Secondary Schools exhibit than their counter parts in Humanities stream.

Likewise, it is also observed from the table 3 that "T" value for Science and Humanities students of Higher Secondary School with respect to their mean scores on academic achievement came out to be 5.63, which is more than the table value for df 198 at 0.01 level (i.e. 2.60). Thus, the obtained value of "T" is significant at 0.01 level of confidence. Since the mean scores of academic achievement for Science students 58.65 is more than that of Humanities students (51.74). It may be interpreted that Science students of Higher Secondary School exhibit higher academic achievement than their counterparts in Humanities stream.

Hence, the research hypothesis number 4 stated that Higher Secondary School's students of Science and Humanities will differ significantly on their "academic achievement" was accepted comparison of mean score of intelligence and academic achievement of Higher Secondary School's students belonging to high and low socio-economic status group.

It is observed from table 4 that "T" value for Higher Secondary School's students belonging to high and low socio-economic

**Table 5:**  
Correlation Matrix among the Variables of Intelligence, Academic Achievement, and Socio-Economic Status

S. No	Variables	Intelligence	Academic Achievement	SES
1.	Intelligence	-	.210**	.057 NS
2.	Academic Achievement	-	-	.230**
3.	SES (Socio-Economic Status)	-	-	-

\*\* Significant at .01. NS = Not Significant. Total number of observations = 200, df = 198.  
Table value of correlation significant at .05 = 198 and .01 level = 194.

**Table 5.1:**  
Coefficient of Correlation between Intelligent and Academic Achievement

S. No	Variable	Academic Achievement
1.	Intelligence	.210**

\*\* = Significant at .01 level.

**Table 5.2:**  
Coefficient of Correlation between Intelligence and Socio-Economic Status

S. No	Variable	Socio-Economic Status
1.	Intelligence	0.57 NS

**Table 5.3:**  
Coefficient of Correlation between Academic Achievement and Socio-Economic Status

S. No	Variable	SES (Socio-Economic Status)
1.	Academic Achievement	.230**

status with respect to their mean scores on intelligence came out to be .341, which is less than the table value for df 198 at 1.98 at 0.5 level (i.e. 1.97). Thus, the obtained value of “T” is not significant at 0.05 level of confidence. This indicates that Higher Secondary School’s students belonging to high and low SES (Socio-Economic Status) group do not differ significantly with respect to their intelligence. The mean score on intelligence for students belonging to high SES is 53.32, while that of students belonging to low SES is 52.52.

This shows that although intelligence level of both these group differ to certain extent, but statistically the mean scores do not differ significantly. This difference may be due to chance factor. Hence, the hypothesis number 5 stated that Higher Secondary School’s students belonging to SES group and low will differ significantly on their intelligence was accepted.

Likewise, it is also observed from table 4 that “T” value for Higher Secondary School’s students belonging to high and low SES with respect to their mean scores on academic

achievement came out to be 3.08, which is more than the table value for df 1.98 at .01 level (i.e. 2.60). Thus, the obtained value of “T” is significant at .01 level of confidence. This indicates that Higher Secondary School’s students of high and low SES group differ significantly with respect to their academic achievement. Since the mean score on academic achievement for the students belonging to high SES is 53.32 and that of students belonging to low SES is 57.39.

This shows that students belonging to low SES have high academic achievement as compared to their counterparts belonging to high SES. This difference may be attributed to the hard work of students belonging to low SES so as to excel in future life. Hence, the hypothesis number 6 stated that Higher Secondary School belonging to high SES group and low SES group will differ significantly on their academic achievement was accepted.

**Second, Section – B.** On the nature of correlation, inter-variables correlations, and their discussion. Pearson product movement

correlation more worked out to get the relationship among variables under study viz. intelligence, academic achievement, and socio-economic status. These values correlation are shown in table 5.

The correlation between intelligence and academic achievement is shown in table 5.1.

The correlation between intelligence and academic achievement is .210 (table 5.1) which is more than the table value of correlation (i.e. 0.194) for df 198 at 0.1 level. Thus, the obtained value is significant at .01 level of confidence. This indicates that intelligence and academic achievement of Higher Secondary School's students have positive and significant correlation i.e. if intelligence of a student is high than the academic achievement will also be high. A similar type of finding has also been reported by other researcher as well.

Ujjawala Rani (1990) studied pupils' academic achievement in relationship to intelligent, neuroticism, and focus of control. The finding of the study was that academic achievement showed a positive and significant correlation with intelligence. The correlation between intelligence and socio-economic status is shown in table 5.2.

The correlation between intelligence and SES (Socio-Economic Status) is 0.57 (table 5.2), which is less than the table value of correlation .148 for df 198. Thus, the obtained value is non-significant at .05 level of confidence. This indicates that intelligence and SES of Higher Secondary School's students does not have any correlation with each other i.e. students belonging to high SES may or may not have high intelligence and vice-versa.

The correlation between academic achievement and socio-economic status is shown in table 5.3.

The correlation between academic achievement and socio-economic status is .230 (table 5.3), which is more than the table value of correlation (i.e. 0.194) for df 198 at .01 level. Thus, the obtained value is significant at .01 level of confidence. This indicates that academic achievement and socio-economic status of Higher Secondary School's students have positive and significant correlation i.e. if socio-economic status is high than academic achievement will also be high. Therefore,

the hypothesis number 7 stated that the interrelationship among the variables of intelligence, academic achievement, and socio-economic status will be positive and significant was partially accepted.

## CONCLUSION

On the basis of analysis and interpretation of data, the following conclusions may be laid down.

*First*, male and female of Higher Secondary School's students do not differ significantly with respect to their academic achievement. The study showed that on an average, the male and female students have similar academic achievement.

*Second*, Higher Secondary School's students of Science and Humanities differ significantly in relation to their intelligence. It has been observed that on an average, Science student's high intelligence than the Humanities students.

*Third*, Higher Secondary School's students of Science and Humanities differ significantly in relation to their academic achievement. It has been found that on an average, Science student has high academic achievement than the Humanities students.

*Fourth*, high and low socio-economic status groups of Higher Secondary School's students do not differ significantly on their intelligence do not vary on the basis of high and low socio-economic status.

*Fifth*, high and low socio-economic status groups of Higher Secondary School's students differ significantly on their academic achievement. The study has revealed that students belonging to low-economic status on an average have high academic achievement as compared to those belonging to high socio-economic status.

*Sixth*, the correlation between intelligence and academic achievement have come out to be positive and significantly. This shows that higher the intelligence higher will be the academic achievement.

*Seventh*, the correlations between intelligence and socio-economic status have come out to be non-significant. This means that intelligence and socio-economic status are not correlated with each other.

Lastly, *eighth*, the correlations between

academic achievement and socio-economic status have come out to be significant.

The present study will be very helpful to the educational planner, teachers, and parents in bringing improvement in the intelligence level and academic achievement of students, both boys and girls belonging to different streams and socio-economic status.

On the basis of research finding, following educational implications can be laid down: (1) the teacher should identify students' intelligence level and on that basis should make selection of appropriate teaching methods and strategies; (2) the teacher should be continuous evaluation of the students throughout the academic or year session. This will help to increase the academic achievement; and (3) the teacher should try to create democratic and interactive environment in the class room, so that students belonging to the socio-economic status also feel free to discuss their problems related to studies.

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