A comparative study of Intelligence Quotient and Academic Achievement of below and above poverty line family's college male students.

Abstract:

*The objective of the present study was to compare **Intelligence Quotient and Academic Achievement of below and above poverty line family's college male students.** With the assistance and help of the experts in the field of psychology, education and sociology and also previous researches on these areas a comprehensive and suitable Desai and Desai IQ test was adopted and percentage of marks in Higher Secondary examination were considered as an academic achievement for the study. For this study 214 below poverty line and 132 above poverty line family's college male student of Gujarat were randomly selected. The average age of the subjects were twenty years, ranging from 18-23 years.*

The obtained IQ and academic achievement score of below poverty line and above poverty line family's college male students were analyzed by using group statistic and independent samples test, with the help of SPSS-11 software. The significant and no significant were considered with the (p < .5)

In compare to IQ mean score of BPL and APL family's college male students, BPL family's college male students were superior then APL family's college male students in IQ and in compare to academic achievement score of BPL and APL family's college male students, BPL family's college male students were superior then APL family's college male students in IQ.

The results of the study were, there is statistically significant difference in the performance of IQ by the BPL and APL family's college male students and there is no statistically significant difference in the performance of academic achievement by the BPL and APL family's college male students.

Key words: Below poverty line, above poverty line, IQ and academic achievement.

Introduction:

India is developing country. There are many family are economically poor, under the poverty line. But problem is that, how we can say that the family is poor, below poverty line? Different economist has given different definition about poverty. Correct and final definition of poverty is the problem of not only in India but also abroad. Government of India and state government have tried to identify families in need of government assistance. On the bases of family income and their property, government has decided the family is below poverty line or above poverty line. In India, each state has their own policy to determine which families are coming below poverty line.

To define the intelligence is very difficult. It has many words. Normally, intellectual skill like bright, dull, smart, stupid, clever, slow, and so are the related with intelligence. Fundamental questions remain are; is an intelligence ones general ability or several independent systems of abilities? Is intelligence a property of the brain, a characteristic of behavior, or a set of knowledge and skills of the individual? Till today, no people universally accepted the definition of intelligence; debate is going on among the people regarding the definition of intelligence

According to Dr. C. George Boeree of Shippensburg University, intelligence is a person's capacity to (1) acquire knowledge (i.e. learn and understand), (2) apply knowledge (solve problems), and (3) engage in abstract reasoning. It is the power of one's intellect and as such is clearly a very important aspect of one's overall well-being.

IQ or Intelligence Quotient is an attempt to measure intelligence. Many things to many people, but generally the attribute of intelligence refers to quickness of mental comprehension (or mental agility). Intelligence is often confused with knowledge, wisdom, memory and other attributes. In general, has a variety of meanings depending on the context in which it is used. The term IQ usually refers to the attempt to measure a person's mental agility.

Desai and Desai Intelligence Tests is general measure of intelligence quotient of the individual. The details given in this test are reasoning, word fluency, verbal comprehension, numbers, memory and space, other factors such as digit spans both forward and backward, information known, comprehension, vocabulary, picture arrangement and object assembly.

In the field of education, knowledge of the students may have relatively high levels of intelligence in an academic background, calls academic achievement. It is outcome of education, the student, teacher and institution has achieved their educational goals. There are various tools to measure the academic achievement of the students, like written and practical examination, seminar and assignment, interview or oral question- answer ect; but there is no general agreement on how it is best tested or which aspects is most important procedural. The direct relationship between intelligence and academic achievement has also been widely studied.

Members of the family influenced students through the social environment. It can be courage or discourage of their children. The socio-economic condition of the family is one of the social environment, influenced their children. The level of poverty depends upon socio-economic condition of the family and ultimate it influences the academic achievement of their children.

By keeping in mind the impact of poverty on IQ and academic achievement of the college students, the researcher has selected an investigation entitled, **"Impact of poverty on Intelligence Quotient and Academic Achievement"**

Aims:
The aim of this study is to investigate the impact of poverty on intelligence quotient and academic achievement.

Hypothesis:

We shell here examine whether there is any difference in Intelligence Quotient and Academic Achievement of students of belongs below poverty level and above poverty level family. Independent sample t-test is chosen because the respondents of two different groups are independent of each other (below poverty level and above poverty level family's students). Moreover, the variables are Intelligence Quotient and Academic Achievement.

The null and alternative hypotheses for examining the differences Intelligence Quotient and Academic Achievement of below and above poverty level family's students will be:

H_o: There is no difference in Intelligence Quotient and Academic Achievement of below and above poverty level family's students. i.e. $\mu_1 = \mu_c$

H_1: There is difference in Intelligence Quotient and Academic Achievement of below and above poverty level family's students. i.e. $\mu_1 \neq \mu_c$

Methodology:

A: **Procedure of the study**:
The procedure of this study has been semi experimental and the tests have been carried out in almost equal conditions.

B: **Procedure and the way of data collection:**
In order to gather data for IQ, Desai and Desai IQ test absolute score and for the academic achievement, percentages of marks in the Higher Secondary Examination of the subjects were considered.

C: **Statistical sample:**
214 below poverty line and 132 above poverty line family's college male were randomly selected from three Universities of Gujarat. The average age of the subjects were eighteen years, ranging from 19-25 years.

D: **Statistical method for data analysis:**
With respect to the type of study and the scales for it, Independent Samples Test was used for the investigation of IQ and Academic Achievement of below and above poverty line family's college male students, by the use of spss software. Then based on the use of SPSS Software, significant and no significant were considered with the (p < .5).

E: **Discussion and the result of the study:**

Analysis and comparison of selected IQ in between BPL and APL family's college male students.
The first table- group statistic displays the summary measures (N, Mean, Std. deviation, Std. Error Mean) of IQ and academic achievement variable (score) selected for the Independent Sample t-test for both the groups- BPL and APL family's college male students.

:TABLE:1 Group Statistics of BPL and APL family's college male students

variable	BPL-APL	N	Mean	Std. Deviation	Std. Error Mean
IQ	BPL	214	86.7103	13.06755	.89328
	APL	132	83.0909	13.16104	1.14552
HSC %	BPL	214	62.9262	9.34227	.63862
	APL	132	62.5578	9.21074	.80169

❖ **As per Table-1 Group Statistics of BPL and APL family's college male students:**

1. The mean and std. deviation of IQ of BPL family's college male students is 86.7103 and 13.06755 were as mean and std. deviation of APL family's college male students is 83.0909 and 13.16104
   As we compare the mean of BPL and APL family's college male students, BPL family's college male students were superior then APL family's college male students in IQ.
2. The mean and std. deviation of BPL family's college male students is 62.9262 and 9.34227 were as mean and std. deviation of APL family's college male students is 62.5578 and 9.21074
   As we compare the mean of BPL and APL family's college male students, BPL family's college male students were superior then APL family's college male students in IQ.
   But, is there significant difference of means of two groups? For that we should use **Independent Samples Test.**

:TABLE:2 Independent Samples Test of BPL and APL family's college male students

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
IQ	Equal variances assumed	1.215	.271	**2.496**	**344**	**.013**	3.6194	1.45018	.76703	6.47171
	Equal variances not assumed			2.492	275.994	.013	3.6194	1.45264	.75971	6.47904
HSC %	Equal variances assumed	.020	.886	**.358**	**344**	**.720**	.3684	1.02842	-1.65438	2.39120
	Equal variances not assumed			.359	280.531	.720	.3684	1.02496	-1.64919	2.38601

❖ **As per Table-2 Independent Sample Test of BPL and APL family's college male students:**

The second table- Independent Samples Test contains Levene's Test for Equality of Variances and t-test for Equality of Means.

❖ **The analysis of IQ of both groups done as below:**

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is 1.215 and its associated significant value is .271(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is 2.496 and associated significant value is .013, therefore we can reject the null hypothesis for equality of means. In common parlance we can say that there is statistically significant difference in the performance of IQ by the BPL and APL family's college male students.

❖ **The analysis of Academic Achievement of both groups done as below:**

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is .020 and its associated significant value is .886(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is .358 and associated significant value is .720, therefore we can't reject the null hypothesis for equality of means. In common parlance we can say that there is no statistically significant difference in the performance of academic achievement by the BPL and APL family's college male students.

:Graph:Mean and Standard deviation of BPL and APL family's college male students
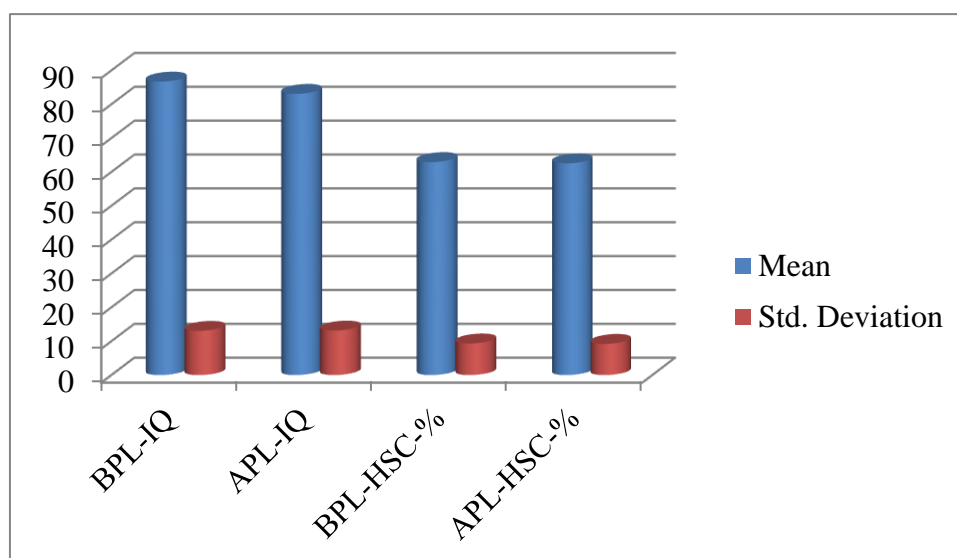
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