"A STUDY OF ACADEMIC PERFORMANCE IN RELATION TO GENERAL MENTAL ABILITY AMONG STUDENTS OF VARIOUS CATEGORIES"

Dr. Sanand Kumar Gautam[1] & Prof. N.L. Mishra[2]
[1]Associate Professor, HNSITE Baijla Sasaram Bihar.
[2]M.G. Gramodaya University, Chitrakoot Satna (M.P.).

ABSTRACT:

In the present research the relationship between general mental ability and academic performance is investigated. This study concentrated on the influence of genetic and social factors associated with the patterns of cognitive development of adolescents including mental ability or the efforts of academic performance of child's cognitive developments itself. The purpose of this investigation is to compare the general mental ability of different categories of adolescent students of higher secondary school in terms of general, backward, scheduled caste categories, age sex, and types of school rural and urban, higher secondary school. Three hundred students were selected from the target population of two states Uttar Pradesh and Madhya Pradesh, using multistage random sampling technique. In educational institutions success is measured by academic performance where general mental ability is a dominant factor who decide how well a student meets standards set out by the institution itself. Academic achievement is the performance of educationand extent to which a student, teacher or institution has achieved their educational target or purpose of education. Individuals differences have been also affected and linked to general mental ability. Adolescents with higher general mental ability tend to achieve high academic performance. If academic performance and mental ability are interdependent and if improving mental ability skills will increase the academic performance of adolescents, it means both effects to each other.

KEYWORDS: *Academic performance, General Mental ability,categories, significant.*

INTRODUCTION

General mental ability can be referred to as human intelligence or an individual mental ability to constructural work and solves problems in the environment without much instruction or assistance form another individuals. Measures general mental ability of adolescent students in a process of measuring the general mental ability of an individuals because the brain has different components and factors.

The study has consistently shown that a positive correlational relationship exist between general mental ability and academic performance by the verbal intelligence test and academic performance. General mental ability is the most important predictor of academic performance in number of subjects including mathematics and other subjects.

_____

_____

More important academic effort provides them with sufficient collective support to allow them to direct their efforts in quite different, directions than those suggested facility and measures of adolescent students' academic performance increases educational investigator and practitioners are interested to identify the GMA factors and demonstrate effectiveness in supporting academic performance and general mental ability of higher secondary adolescent students.The present study will examine the differences in general mental ability and academic performance of adolescentsstudents which is based on different categories and variables. The students' academic effort is a made of accommodation to what the students find expected of them is in school. Thus the efficiency of general mental ability would depend upon analysis of discrimination as well as academic performance and as well as of difficult values. All of those ability such, reasoning, speaking, verbal, numerical aspect of general mental ability are well known for their contributions to success in the field of education academic performance and learning of behavior and abstract task for adolescents. Further more successful efforts of an individual's intelligence would be shown by the capacity of readily shift from one kind of problems to another academic performance.

REVIEW OF LITERATURE

There are so many interesting studies which conducted and reports on academic performance in relation to general mental ability among the students and how often the knowledge of social evaluations influences the individual judgment of physical dimensions, personality factor and other educational and psychological variables. Thus the level of ability to discriminate and related to different ways in each. Other academic performance between their relevance a similars is more like a task of general mental ability. Another way of distinguishing truancy, behaviouralproblems and delinquency and activity of general mental ability is to observe the capacity to deal with a variety of different academic task, in which one has to adjust to different kinds of performance in quick successon for example educational failures to the school situation may contributing factors similarly, emotional, maladjustment among intellectually gifted children are sometimes found to be associated with improper educational placement. The review of the available literature illustrate that there is crucial depth of literature of research studies restated APM in relation to GMA among adolescents are following below. Kochenis (1981) – Study involved 325 first grade students from five different schools. Datnonegathered on students reading achievement as measured by their performance outh standard reading achievement test. Students intelligence measured by their academic performance on the Ammons quick test, the roll of intelligence was found to be much lower than expected which the investigator tried to justify on the basis of questionable validity of the Ammons test. Narul, K.S. (1979) A Study a achievement motivation personal performance, perception anxiety, risk taking behavior and other correlates in relation to intelligence socio-economic status and performance of the prospective secondary school teacher of the Orissa state. In this investigation academic performance was found to be related to parent's education and occupations but not to parent's income and also influenced the rural, urban, nature of residence. Banarjee N.P. (1972) – A comparative study of the students in Basic and non-basic school in respect of their scholastic achievement and same aspects of personality development, had observed on the whole basic school students showed superiority over non basic schools in achievement in mother tongue. Khiure U.S. (1971) - had observed the creativity in relation to intelligence and personality factors and found that the poor quality of academic performance was directly related to low intelligence and quality with high creativity. Barial (1966) Mathur(1963) and chopra (1964) Found that the socio economic and home background influence the achievement of students, better the background and better the achievement. Joshi M.C. (1961) Construction and standardization of a group test of general mental ability in Hindi for school and college students. The urban students found that superior in intelligence to these form of rural areas, caste was not found to discriminator students in terms intelligence.It is important to have a clear understanding of what benefits of educational academic achievement this is the premise on which this study is justified. Review of related literature clearly indicates the evidences regarding the association of academic performance and general mental ability but none of the study was found pertaining to higher secondary

_____

_____

school adolescentstudent's in the state of Uttar Pradesh and Madhya Pradesh. In the light of above studies the need and importance of present study on academic performance in relation to general mental ability among the adolescent students may easily attempted.

OBJECTIVES
The objectives of the study were as follows.
1. To Know in the effect of socio culture, economic, religion and casts on general mental ability and academic performance of adolescents.
2. To find out the difference between boys and girls on general mental ability and academic performance with respect to socio culture, economic, caste status and residential.

HYPOTHESIS
The present study aims at investigating the following hypothesis.
1. There exists no significant relationship between various measures of general mental ability and academic performance of general,backward and schedule caste respondents.
2. There is no significant agreement between various measures of high and low general mental ability and academic performance of general, backward and schedule casterespondents.

MATERIAL AND METHODS
There are four populations in the present study. The first population represents the school going adolescents students and second population of Rural adolescents. The third populations represents the school going general, backward and scheduled caste adolescents of district Chitrakoot(U.P.) and district Satna (M.P.) and fourth urban students. From the above populations, four different samples have been drawn randomly.

SAMPLE AND PROCEDURE
Researcher has conducted present study in majhganwa tehsil of satna district Madhya Pradesh and Karwi tehsil of Chitrakoot district Uttar Pradesh state. Thus selected respondents were 300 male and female adolescents students of both tehsil on random basis. To measure the Academic performance and GMA researcher has applied Dr. S. Jalota's general mental ability test and marks of their classes. obtained data was analyzed on the basis of various measures of central tendencies.

RESULTS
In pursuance of the objective of the present study, the analysis have applied some significant results pertaining to the relationship between academic performance and general mental ability of adolescent, students and many specific statistical analysis are available to the results.

Table – 1
### Central tendency and variation of total sample and various subgroups

Central tendency and variation	Total sample of GMA and APM variables																	
	GMA									APM								
	General caste			Backward			Scheduled caste			General caste			Backward			Scheduled caste		
	W (st)	B (st)	G (st)	W (st)	B (st)	G (st)	W (st)	B (st)	G (st)	W (st)	B (st)	G (st)	W (st)	B (st)	G (st)	W (st)	B (st)	G (st)
Mean	78.0	77.02	79.58	75.81	74.22	80.26	66.1	64.91	74.50	57.8	57.9	57.8	57.1	57.0	57.57	56.0	55.95	57
S.D.	17.8	16.28	18.43	17.32	17.03	17.35	10.83	11.35	0	8.24	7.63	9.15	9.30	8.64	10.94	6.0	6.12	0
C.V.	22.2	21.14	23.16	22.85	22.95	21.62	16.39	17.49	0	14.24	13.18	15.82	16.28	15.15	19.01	10.71	10.93	0

GENERAL MENTAL ABILITY OF VARIOUS CATEGORIES
In the above table the frequency of GMA of the total sample of different categories (G.C., B.C., S.C.) along with various subgroups are given in the between class interval 30-39 to 160-169,but categories wise class interval are given in between 50-59 to 140-149 the frequencies are scattered in

_____

the class interval. The highest frequency lies in the midpoint of the distribution. while the lowest once a whole ends of the distribution. Some are normally distributed to a greater strength while other are not so. The Me's, S.D. and C.V. of the various distributions are seen. It is found that they are more or less similar the distribution appears to normal distribution. Other variation and other statistics also confirm about the normal distribution.

The Frequency Me's, S.D. and other confirm statistics of GMA comparison between general caste, Backward caste and schedule castegroups in this regards for also we made on frequency in percentage. Within the respect of categories comparison to be found the girls student of general caste appear to more intelligent than the general boys and other categories boys and girls students . The girls student general caste reaches to the class interval 140-149 while the other categories boys 120-129.
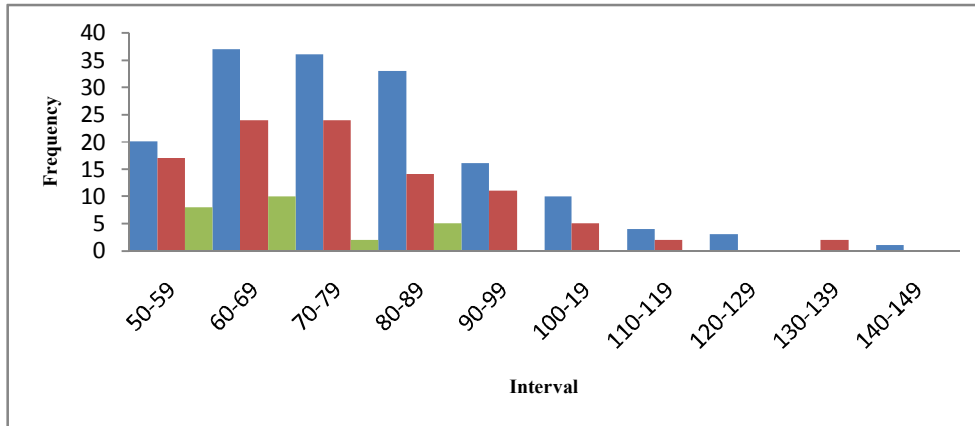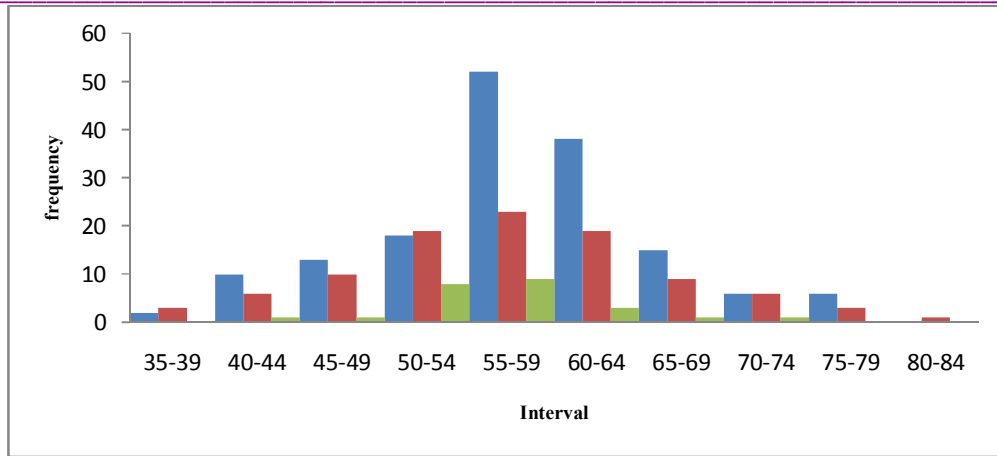

Comparative graphical representation of GMA among various categories (GC, BC and SC)

The frequency as collected of the whole and various subgroups in this area shown this trend towards to normal distribution the comparatively graphical representation of original frequency of whole sample in general mental ability of various categoriesare shown in here in graphical figure. The comparative graph or polygone indicates more or less similar towards the normal distribution. It means the data of GMA are significant and normal distributed to a greater strength.

Further it is shows the trends of normal probability curve and distributions appear to be normal distributed. The frequency comparison between various categories in this regards,it is found that from graphical figure that the general caste having high intelligency with respect to other backward caste and schedule caste.

ACADEMIC PERFORMANCE OF VARIOUS CATEGORIES

Above table reveals the highest number of frequency lies in the mid of the distribution,while the lowest once at whole ends for the distribution. Some are normal distributed to a greater strength while other are not so. It is obivious from the table that Me's, S.D., C.V. scores of general, backward and scheduled caste students on academic performance of the various distribution are seen. It is found that they are more or less similar. The distribution appears to be normal distributed. The SEm seems the data as collected are significant and normal distributed. Other various statistics also confirm about the normal distribution. The frequency comparison between various category and sub groups in this regards for also we made frequency percentages. The girls students appear to be more high academic performance than general, backward and schedule caste boys students as the girls students reaches the class interval 80-84 while the boys 75-79.All students of various categories shown to be more or less similar academic performance. There are no more or less difference between various subgroups of categories of boys and girls academic performance as all of reaches together with the same class interval 75-79.

_____

Comparative graphical representation of APM among various categories (GC, BC and SC)

The original frequency comparativelyrepresents graphical representation of whole sample in academic performance are shown here the graphical figure of original whole frequency indicates more or less towards the normal distributions. Itmeans the data of A.P.M. are significant and normal distributed to a greater strength. The frequency comparison of graphical representation of various subgroups among categories has been done. There were seen differences between various subgroups of categories such as general, Backward and schedule casteadolescents students of APM as reaches together with the class interval 75-79.

INTERPRETATION

The aim of the present study was to determine the relative impact of general mental ability and academic performance on schools achievement. The results of our analysis are quite clear among the adolescent students various categories. The General mental ability is found strongly associated with academic performance. Therefore, determining the factors as associated with academic performance is of paramount importance among the adolescent students various categories. The current study aimed at investigating general mental ability profile in students relationship with academic performance of various subgroup of categories.

Consistent with the current study of comparative graphical results showed that more or less similar strong and significant attention span and short term memory (GMA) had lower academic performance. Another interesting direction through which to extend this investigation is to examine difference concerning the back ground of general, Backword and schedule caste of adolescent students. The comparative graphical figure represent with background of general caste have been found to have a strong impact on students' academic performance with respect to backward and schedule caste. Therefore, The impact of background of general caste found in the present study might be further moderated by students gender and students caste background,which could be tested using larger samples. Other study revealed that hot executive skill did not anticipate learning related behaviors and academic performance. The working and creative mental ability (GMA) was the more and major predictor of academic performance while creative ability, flexibility played restricted role and relationship with academic performance.The present study showed that all general mental ability components and academic performance were significantly correlated among the general mental ability components. Processing speed and perceptual mental ability is positively related academic performance. The verbal Intelligence test constructed by Dr. S. Jalota were directly applied to the respondents, but other GMA were completed by the teachers. The comparative graphical representationof caste background showed that general mental ability are more essential for the success of adolescent students at school of the various category. When graphical figure of an image presented to a students as task, student should be able to stay focused and concentrate on the information and students ability to control the impulses before complete processing of the image.

_____

_____

Eventually,the graphical figure could provide further insight into understanding the underlying mechanism of the impact and relationship on successesness or academic performance among the students various categories.

CONCLUSION

The current study analysis aimed to determine the relationship between general mental ability and academic performance achievement among students various categories. This research also indicated that the importance of general mental ability in predicting academic performance. The measures of explanatory and cross-sectional style used here had only modest reliability and yet was able in structural education model to predict academic performance for future research, might improve the accuracy of prediction with reliable various statistical measure. In this present study three hundred students (300) in age range 16 years and various statistical values of total samples of general casteof GMA (Me = 78.0, S.D. = 17.8, C.V = 22.02) and general boys having (Me = 77.02, S.D. = 16.28, C.V = 21.14) and also general girls have (Me = 79.58, S.D. = 18.43, C.V = 23.16) respectively. The statistical values of GMA backward and scheduled caste total samples of boys and girls are having respectively, Backward total simple (Me = 75.81, S.D. = 17.32, C.V = 22.85) Boys (Me = 74.22, S.D. = 17.03 C.V = 22.95) girls (Me = 86.26, S.D. = 17.35, C.V = 21.62) and scheduled caste total samples having (Me = 66.1, S.D. = 10.83, C.V =16.39) and SC Girls have (Me's = 74.50). On the above various statistical values and dominant predicting factor of GMA we have data of academic performance of various categories is of general total (Me = 57.9.0, S.D. = 7.63 C.V = 13.18), girls(Me = 57.8, S.D. = 9.15, C.V = 15.82)and academic statistical values of backward and scheduled caste are respectively total sample (Mean = 57.1, SD = 9.30, CV = 16.28 Boys (Mean = 57.0, S.D. = 8.64, C.V. = 15.15), girls (Mean = 57.57, S.D. = 10.94, C.V = 19.01) and SC total sample (Mean = 56.0, S.D. = 6.0, C.V. = 10.71), Boys (Mean = 55.95, S.D. = 6.12, C.V = 10.93)and girls mean is 57.0 .

On the basis of caste status the general boys and girls having high mean scores of GMA than Backward and scheduled caste Boys and Girls.Thus the study shows that the GMA is a predictor factors of academic performance among students various categories. It is clear from the analysis of given table that general caste adolescents students more intelligent than backward and scheduled caste students evident that backward girls GMA is a bit higher than G.C. and S.C. boys once. The polygon of total frequency distribution of GMA to show this trends of normal probability curve and distribution is normal distributed. It is clear from the above table the statistical values shows that G.C. adolescents students to appears to be higher academic status with respect backward and scheduled caste students and G.C. girls also, to show higher academic achievement than other caste (B.C. & S.C.).The polygon of total frequency distribution of APM to show this trends towards the normal distribution and distribution is normally distributed.On the graphical analysis comparatively its inferred that both variable are positively correlated together and general mental ability affects academic performance of students. In this study G.C. adolescents students appears to be high scores significantly higher on GMA than backward and scheduled caste. It is clear from the above table and graphical illustration the general category adolescent are more intelligent than other caste. The results of the current study indicate significant relationship between GMA and APM among students various categories. These findings help and suggested that the early assessment GMA especial executive working function can help to identify students at risk of poor academic performance and academic improvement. The study of positive and dominant factor GMA is relatively different new area in psychology non ethicless. Its appears to be provide differences and important insights into human behaviors. Therefore early and current interventions can be offered to help students before accidental damages are mode. The findings further suggested and moderated by developmental stages, domains of academic skills and academically relevant socio economic factors and executive function exercise can improve   academic performance.

_____

_____

REFERENCES

1. Kochenis (1981) – Study in volved first grade students from five different schools. Dat none gathered on students reading achievement as measured by their performance outh standard reading achievement test.
2. Narul. K.S. (1979) – A study of a achievement motivation personal performance, perception, anxiety, risk taking behaviour and other correlates in relation to intelligence socio economic status and performance of the prospective secondary school teacher.
3. Banarjee N.P. (1972) – A comparative study of the students in basic and non-basic school in respect of their scholastic achievement and some aspects of personality development.
4. Khire. U.S. (1971) – Had observed the creativity in relation to intelligence and personality factors.
5. Barial (1966), Mathur (1963) and Chopra (1966) had observed and found that the socio economic and home back ground influence the achievement of student.
6. Joshi M.C. (1961) – Construction and standardization of a group test of general mental ability in Hindi for school and college students.

_____