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PREDICTORS OF ACADEMIC PERFORMANCE OF URDU AND ENGLISH MEDIUM ADOLESCENTS

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Abstract

Academic performance is a multidimensional construct in which there are several intervening variables, which have been studied under several approaches. The factors which influence the learning or the academic performance of the students include intelligence, adjustment, socio-economic status, study habits and medium of instruction along with several other factors. In the present study the investigators have undertaken an empirical study to explore the academic performance of Urdu and English medium adolescents in relation to intelligence, adjustment, socio-economic status and study habits, as this kind of comparison is very rare and expected to yield interesting result. A sample of 684 students (336 Urdu Medium and 348 English Medium) from class X has been taken from Hyderabad district by stratified random sampling technique. Intelligence Test-Culture Fair (Scale 2, Form A) by Cattell, and Cattell, Adjustment Inventory for School Students (AISS) by Sinha and Singh, Socio-Economic Status Scale (SESS) (Form A, Urban) by Srivastava, Test of Study Habits & Attitudes (TSHA) by Mathur and Academic Performance Scores (% of annual examination marks (Class IX) taken from the school records) have been used to collect the data. By applying regression analysis, the study revealed: i) Study habits, adjustment, SES and intelligence are found to be significant predictors of academic performance for the Urdu medium sample and have the predictability strength of 43.6%; ii) For the Urdu medium sample, the maximum predictable variance is shared by study habits (34.8%) followed by adjustment (5.7%), SES (1.9%) and intelligence (1.2%); iii) Adjustment, intelligence, study habits and SES are found to be significant predictors of academic performance for the English medium sample and have the predictability strength of 59.6%; iv) For the English medium sample, the maximum predictable variance is shared by adjustment (27.0%), followed by intelligence (16.1%), study habits (10.1%) and SES (6.4%); v) All the four predictors are found to be common significant predictors of both the groups. Study habits are found to be playing more important role for the Urdu medium sample whereas adjustment and intelligence play more important role for the English medium counterparts.

INTRODUCTION

In the present day education, secondary level should not be viewed as a mere extension of elementary level. Rather, it should be perceived as the preparation of adolescents as better human resource, capable of contributing to economic, social and national development. A modern society cannot achieve its aim of economic growth, technical development and cultural advancement without harnessing the talents of its citizens. One of the major tasks of education is to help children to develop the skills appropriate to the age in which they live and those skills which promote a lifetime of learning. Educationists and counsellors in educational settings are often confronted with students who appear to have above average scholastic aptitude but are very poor in their studies. A recurring question baffling them has been why some students succeed in their study while others do not. This question is sometimes considered to be closely related to learning than teaching. Jamuar (1974) stated that efficient learning depends not only on good teaching methods but also satisfactory learning procedures. Tiwari and Bansal (1994) mentioned that a child with high academic achievement is likely to be well-treated as well behaved and independent and low achievers as incapable and deprived of employment, which may lead maladjustment to life.

In our society academic achievement is considered as a key criterion to judge one's total potentialities and capacities. Hence, academic achievement occupies a very important place in education as well as in the learning process. The student who cannot keep up academically is likely to find his school experiences frustrating, unrewarding and in a significant number of instances humiliating (Mussen et al., 1974). Academic performance is a function of a set of variables. It shows the extent to which students are able to attain the predefined instructional objectives. In order to achieve the stipulated objectives learning experiences are

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provided in the classroom. There are many cognitive and non-cognitive factors such as intelligence, personality, creativity, socio-economic status, adjustment, study habits, social acceptance, level of aspiration, motivation, achievement motivation, opportunities, education and training and gender which influence the learning of a student (Conger and Peterson, 1984).

The importance of intelligence as a contributing factor towards academic performance is time and again researched upon. Among the studies under consideration, those which have considered intelligence as a variable contributing towards achievement are James et al. (2000), Dandy, Justine & Ted (2002), Nayak (2002), Ahmad & Raheem (2003), Parida (2003), Zettergren (2003), Gurubasappa (2005), Panigrahi (2005), Deary, Strand, Smith & Fernandes (2007), Kamal & Ahmad (2007), Laidra, Pullmann & Allik (2007), and Naderi, Abdullah, Hamid & Sharir (2008) and Nalini (2009). All the studies have shown that intelligence, in general, is a factor contributing towards achievement.

The complex structure and functioning of society proved to be too taxing for individuals' adjustment capacities. Adjustment problems are increasing day-by-day and have challenged the parents, teachers, as well as public. There may be various areas of adjustment like emotional, social, educational, home and psychological, etc. An individual is not born adjusted or maladjusted. Education helps people to adjust and to adopt himself to his own needs and demands of the society. If an individual could not adjust, he will have adverse effects on the learning and behaviour; this not only hinders him from doing whatever he is supposed to do at a particular moment but also sometimes leads to indiscipline and in some cases even to anti-social manifestation. Poor adjustment at home and school may lead a student to perversion and juvenile delinquency. The studies which taken into consideration the adjustment as the variable to see the effect on the academic performance like Ahmad & Raheem (2003), Gurubasappa (2005), Nalini (2009), Osaedoh & Iyamu (2012), Shah & Shama (2012) and Yellaiah (2012). All studies reported that there is a significant and positive relationship between adjustment and academic achievement.

Socio-economic status plays an important role in the life of a person. The status opens the ways for his progress. Intelligence, attitudes, aptitudes and even interests are patterned by socio-economic background of the individual. The socio-economic status pays rewards and punishment both to a person. Family income, education of parents, basic home amenities as well as cultural and psychological factors have all been studied for their influence on children's academic performance, although the relationship between socio-cultural factors and educational attainment appears to have been firmly established in studies all over the world, the findings are not consistent with each other, to quote some of these are: Okpala (2001), Ahmad & Raheem (2003), Devi & Mayuri (2003), Parida (2003), Daley et al (2005), Stewart (2006), Kamal & Ahmad (2007), Nalini (2009), Farooq et al. (2011) and Alam (2012).

Many students do not perform satisfactorily in academics, due to factors other than low intellectual capacity. One such factor is poor study habits, which often result in poor academic performance even among the naturally bright students. Study habits are the behaviour of an individual related to studies which is adjudged from his study habits. In the process of learning, learners' habitual ways of exercising and practicing their abilities for learning are considered as study habits of the learners. The pattern of behaviour adopted by students in the pursuit of their studies is considered under the caption of their study habits. Study habits play a very important role in the life of students. Success or failure of each student depends upon his own study habits. Of course, study is an art and as such it requires practice. Some students study more but they fail to achieve more. Others study less but achieve more. Success of each student definitely depends upon ability, intelligence and effort of students. No doubt, regular study habits bring their own rewards in the sense of achievement of success. To quote some of the studies supported the above point of views are Alude & Onolemhemhen (2001), Tondon (2008), Vanita & Kale (2010) and Kumari (2011).

Along with the above mentioned factors, the importance of language as a potent instrument of thought and communication and as an effective means of human development and also as an influencing factor on academic achievement cannot be ignored. Language has played an important role in the development of human civilization and culture. The principle of teaching through MT was strongly recommended by the Education Commission (1964-66). The three language formula recommended by the Commission emphasizes this principle and it also forms part of our National Policy on education (Srivastava et al., 1978). Even though MT is selected



as the instructional medium, the child of today cannot afford to remain unilingual and he has to learn more than one language. There is an emphasis on bilingual education and several studies have been conducted to assess the impact of bilingualism on child's cognition, achievement and personality (Cummins, 1976; Srivastava, 1976). The programme of bilingual education has generally followed two approaches. The first one has taken the form of total and partial immersion programmes. In total immersion, from the very beginning the MI for teaching of all the subjects is the second language. In partial immersion, the MI is equally divided between the first and the second languages. In the second approach the MI is the child's first language which is followed later by introducing the teaching of second and third languages. In India while the English medium school follows the first approach the first language medium schools follow the second one.

Thus, it can be evolved from the above discussion that academic performance is a multidimensional construct in which there are several intervening variables, which have been studied under several approaches. The factors which influence the learning or the academic performance of the students include intelligence, adjustment, socio-economic status, study habits and medium of instruction along with several other factors. In the light of the empirical works cited above, the investigators undertake an empirical study to explore the academic performance of Urdu and English medium adolescents in relation to intelligence, adjustment, socio-economic status and study habits, as this kind of comparison is very rare and expected to yield interesting result.

OBJECTIVES OF THE STUDY

1. To find out the predictability strength of intelligence, adjustment, socio-economic status and study habits on academic performance for the Urdu medium and English medium sample
2. To compare the predictability strength of intelligence, adjustment, socio-economic status and study habits on academic performance for the Urdu medium and English medium sample

HYPOTHESES OF THE STUDY

1. The variables intelligence, adjustment, socio-economic status and study habits will not found to be the significant predictors of academic performance for the Urdu medium and English medium sample
2. The Urdu medium and English medium adolescents would show no significant difference with respect to their predictors of academic performance or predictability strength of the significant predictors

METHODOLOGY

Keeping in view, the adaptability of the proposed design with respect to the type of study, variables under consideration, size of respondents and phenomenon to be studied, the ex post facto is selected as an appropriate research design. Population in the present study refers to all the students studying in class X through Urdu and English medium during the academic session 2010-11 in any school located in the urban area of district Hyderabad and affiliated to A.P. Board. There are 636 Secondary/High Schools in the district Hyderabad as per the records obtained from websites of Andhra Pradesh Board (APB).

Keeping in view the feasibility and other resource conditions, twenty four schools are selected by stratified random sampling procedure in such a way that Urdu and English medium students may get equal representation. From each selected school, the sections of class X are identified through random sampling. Finally, the adolescent students of class X are taken from the selected sections by the cluster sampling technique. The sample so selected consists of 684 students (336 Urdu Medium and 348 English Medium).

Tools Used:

1. Intelligence Test- Culture Fair (Scale 2, Form A) by Cattell, and Cattell.
2. Adjustment Inventory for School Students (AISS) by Sinha and Singh.
3. Socio-Economic Status Scale (SESS) (Form A, Urban) by Srivastava.
4. Test of Study Habits & Attitude (TSHA) by Mathur.
5. Academic Performance Scores (% of annual examination marks (Class IX) taken from the school records).



Statistical Techniques Used:

Keeping in view the objectives and hypotheses of the study, the nature of the data required the use of advanced statistical techniques. So, the collected data were processed by computer using statistical software package SPSS (Statistical Package for Social Sciences). A comprehensive data sheet was prepared with proper coding of the dependent and independent variables taking care of the need of the package. After that the data was fed in the software worksheet and also crosschecked to avoid any mistakes. The main statistical technique used for the treatment of data is stepwise multiple regression analysis. Other includes Mean, Standard Deviation, t-test to see the significance of difference between two means, z-test to see the significance of difference between two proportions or percentages, Multiple correlation (R), Partial (unstandardized) regression coefficients, Beta coefficients (standardized regression coefficient or β -weight), F-test to check the statistical significance of R^2 , F-test to see the significance of difference between multiple R^2 's, and F-test to see the significance of variance attributed by the prediction model due to the regression. The formulae which are mentioned above are inbuilt in the software SPSS, only necessary commands are given to do the calculations.

ANALYSIS AND INTERPRETATION OF THE DATA

As per the design of the study, the needed data are collected and subjected to statistical treatment to verify the stated hypotheses:

Urdu Medium Sample: The results of the stepwise regression analysis treating academic performance as the criterion variable and intelligence, adjustment, socio-economic status and study habits as the predictive variables for the Urdu medium respondents are presented in the Tables 1, 1A and 1B:

Table 1. Stepwise Regression Analysis between the Predictive Variables and the Criterion Variable

Predictive Variable(s) and Academic Performance	df	R ²	R ² -change	F-change
Study habits	334	0.348	0.348	177.891***
Study habits and Adjustment	333	0.404	0.057	31.794***
Study habits, Adjustment and SES	332	0.424	0.019	11.177**
Study habits, Adjustment, SES and Intelligence	331	0.436	0.012	7.309*

*= P<0.05, ** = P<0.01, ***= P<0.001

Table 1A. Summary of ANOVA for Regression

Sources of Variations	Sum of Squares	df	Mean Square	F-ratio
Regression	12584.741	4	3146.185	64.031***
Residual	16263.925	331	49.136	
Total	28848.667	335		

*** = P<0.001

Table 1B. Regression Coefficients

Predictive Variables	Unstandardised Coefficients	Standardised Coefficients	t-value
(Constant)	33.075		10.716***
Study Habits	0.577	0.448	9.805***
Adjustment	0.233	0.232	5.201***
SES	0.210	0.147	3.383**
Intelligence	0.054	0.114	2.704*

*=P<0.05, ** = P<0.01, ***= P<0.001



The analysis of the results presented in the Tables 1, 1A and 1B reveal that all the predictive variables- intelligence, adjustment, SES and study habits are found to be significant predictors of academic performance for the Urdu medium adolescents. The magnitude of the predictability as represented by the multiple regression factor R^2 is found to be 43.6% of all the four predictive variables to the criterion variable (Table 1). The Study habits comes out to be the most important contributing factor (34.8) which is significant beyond 0.001 level as shown by the F-ratio (177.891) given in the Table 1. The adjustment is the second important contributing factor which has a share of 5.7% of variance in the criterion variable which is also significant beyond 0.001 level (F=31.794). The SES is found to be contributing 1.9% of the variance whereas the least contributing variable is intelligence, contributing only 1.2% to the variance in the criterion variable academic performance, both are significant beyond 0.01 & 0.05 level respectively.

The Table 1A reveals that the model of prediction to predict academic performance scores of the Urdu medium adolescents share significant variance in the criterion variable due to the regression as shown by the F-ratio (64.03) which is significant beyond 0.001 level. This model can be used to predict the academic performance scores of any student belonging to the said population with the help of the knowledge of the scores of the predictive variables. The regression coefficients as shown in the Table 1B are found to be positive and significant, showing that any change in the scores of the predictive variables would cause positive and significant change in the criterion variable academic performance of the Urdu medium sample.

English Medium Sample: The results of the stepwise regression analysis treating academic performance as the criterion variable and intelligence, adjustment, socio-economic status and study habits as the predictive variables for the English medium respondents are presented in the Tables 2, 2A and 2B:

Table 2. Stepwise Regression Analysis between the Predictive Variables and the Criterion Variable

Predictive Variable(s) and Academic Performance	df	R^2	R^2 -change	F-change
Adjustment	346	0.270	0.270	127.989***
Adjustment and Intelligence	345	0.431	0.161	97.535***
Adjustment, Intelligence and Study habits	344	0.532	0.101	74.516***
Adjustment Intelligence, Study habits and SES	343	0.596	0.064	54.348***

*** = $P < 0.001$

Table 2A. Summary of ANOVA for Regression

Sources of Variations	Sum of Squares	df	Mean Square	F-ratio
Regression	18074.711	4	4518.678	126.617***
Residual	12240.945	343	35.688	
Total	30315.655	347		

*** = $P < 0.001$

Table 2B. Regression Coefficients

Predictive Variables	Unstandardised Coefficients	Standardised Coefficients	t-value
(Constant)	31.776		10.651***
Adjustment	0.390	0.306	8.148***
Intelligence	0.193	0.374	10.847***
Study habits	0.324	0.279	7.462***
SES	0.351	0.273	7.372***

*** = $P < 0.001$



From the analysis of the results presented in Tables 2, 2A and 2B, it can be inferred that the predictive variables- intelligence, adjustment, socio-economic status and study habits are found to be significant predictors of academic performance of English medium adolescence. The magnitude of the predictability as represented by the multiple regression factor R^2 is found to be 59.6% of all the four predictive variables to the criterion variable (Table 2). The adjustment comes out to be the most important contributing factor (27.0%) which is significant beyond 0.001 level as shown by the F-ratio (127.99) given in the Table 2. The intelligence is the second important contributing factor which has a share of 16.1% of variance in the criterion variable which is also significant beyond 0.001 level ($F=97.53$). Study habits is found to be contributing 10.1% of the variance whereas the least contributing variable is SES, contributing only 6.4% to the variance in the criterion variable academic performance, both are significant beyond 0.001 level.

The ANOVA Table 2A reveals that the model of prediction of academic performance scores of the English medium adolescents has shared significant variance due to the regression as shown by the F-ratio (126.62) which is significant beyond 0.001 level. This model can be used to predict the academic performance scores of any student belonging to the said population with the help of the knowledge of the scores of the predictive variables. The regression coefficients as shown in the Table 2B are found to be positive and significant, showing that any change in the scores of the predictive variables would cause positive and significant change in the criterion variable academic performance of the English medium sample.

Comparative Strength of the Significant Predictors of Academic Performance

The results of Urdu Medium and English Medium sample groups are compared as far as the significant predictors and their strength of prediction is concerned; which is presented in a tabular form for the criterion variable - Academic Performance. Before going to see the comparative predictability strength of the significant predictors of academic Performance for the two groups, the significance of difference in the mean academic performance scores for the same has been calculated and presented in the following Table: 3

Table 3. Significance of Difference in the Mean Academic Performance Scores

Comparable Groups	N	M	SD	t-value
Urdu Medium Sample	336	56.67	9.280	17.07***
English Medium Sample	348	68.83	9.347	

***= $P < 0.001$

From the Table 3, it is clear that the first comparison is made between the mean academic performance scores of Urdu medium and English medium adolescents. The mean academic performance scores of the Urdu medium students are 56.67 whereas it is 68.83 for the English medium students. When the difference in mean academic performance scores of these two groups is subjected to t-test, it is found to be 17.07 which is significant beyond 0.001 level. This shows that the English medium sample is significantly better in academic performance as compared to the Urdu medium sample.

The comparative predictability strength of the significant predictors of the academic performance in terms of the percentage shared common variance for the Urdu medium and English medium adolescents are presented in the Table 4. From the observation of the results, it is clear that the prediction model for the adolescents of both the medium contains all the four significant predictors namely intelligence, adjustment, SES and study habits.



Table 4. Comparative Strength of the Significant Predictors of Academic Performance in Urdu Medium and English Medium Sample

Predictive Variables and Academic Performance	% Shared Common Variance		z-value
	Urdu Medium Sample	English Medium Sample	
Intelligence	1.2	16.1	3.75**
Adjustment	5.7	27.0	4.07**
SES	1.9	6.4	1.60
Study Habits	34.8	10.1	4.19**

**= P<0.01

From the results given in the Table 4, it is clear that the percentage shared common variance of the intelligence in academic performance is 1.2% for the Urdu medium whereas it is 16.1% in the case of English medium counterparts. When this difference is subjected to z-test, the obtained value is 3.75 which is significant beyond 0.01 level. This shows that intelligence plays more important role in the prediction of academic performance scores of English medium adolescents whereas it has no significant role for their Urdu medium counterparts.

The other significant predictor, i.e., adjustment has the percentage shared common variance as 5.7% for the Urdu medium and 27.0% for the English medium counterparts. When the z-value is obtained for the significance of the difference between the two, it is found to be 4.07 which is, again significant beyond 0.01 level. This shows that adjustment has also greater important role in the prediction of academic performance of the English medium adolescents.

When the contribution of the third predictive variable i.e., SES is subjected to the z-test for the two groups, it is found to be 1.60 which is not significant showing that this particular variable plays equally important role for both the groups.

Surprisingly, the contribution of the study habits is found to be significantly greater for the Urdu medium adolescents 34.8% as compared to their English medium counterparts 10.1% as revealed by the z-value 4.1 which is significant beyond 0.01 level. This shows that the study habits is the single significant predictor which plays more important role in the prediction of academic performance scores of the Urdu medium adolescents as compared to the English medium counterparts.

FINDINGS OF THE STUDY

- Study habits, adjustment, SES and intelligence are found to be significant predictors of academic performance for the Urdu medium sample and have the predictability strength of 43.6%.
- For the Urdu medium sample, the maximum predictable variance is shared by study habits (34.8%) followed by adjustment (5.7%), SES (1.9%) and intelligence (1.2%).
- Adjustment, intelligence, study habits and SES are found to be significant predictors of academic performance for the English medium sample and have the predictability strength of 59.6%.
- For the English medium sample, the maximum predictable variance is shared by adjustment (27.0%), followed by intelligence (16.1%), study habits (10.1%) and SES (6.4%).
- All the four predictors are found to be common significant predictors of both the groups. Study habits are found to be playing more important role for the Urdu medium sample whereas adjustment and intelligence play more important role for the English medium counterparts.



DISCUSSION:

As far as the Urdu medium and English medium adolescents is concerned, from the results presented in the Tables 1 and 2, it is clear that the prediction model for the adolescents of both the medium contains all the four significant predictors namely- intelligence, adjustment, SES and study habits. For Urdu medium sample, study habits is found to be the most important contributing variable (34.8%) whereas for the English medium counterparts, adjustment has emerged as the most important contributing variable (27.0%).

Thus, the first null hypothesis of the present study, "The variables intelligence, adjustment, socio-economic status and study habits will not found to be the significant predictors of academic performance for the Urdu Medium and English Medium samples," is partially accepted and partially rejected.

When the comparative predictability strength of the significant predictors of the academic performance for the two groups are compared, intelligence is found to be playing more important role in the prediction of academic performance scores of English medium adolescents whereas it has less important role for their Urdu medium counterparts (Table 4). The other significant predictor, i.e., adjustment has the percentage shared common variance as 5.7% for the Urdu medium and 27.0% for the English medium counterparts. The comparative analysis of the contribution resulted in indicating adjustment as the greater important role player in the prediction of academic performance of the English medium adolescents in comparison to Urdu medium counterparts.

When the contribution of the third predictive variable i.e., SES is seen for the two groups, it is found that this particular variable plays equally important role for both the groups. Surprisingly, the contribution of the study habits is found to be significantly greater for the Urdu medium adolescents 34.8% as compared to their English medium counterparts 10.1%. This shows that the study habits is the single significant predictor which plays more important role in the prediction of academic performance scores of the Urdu medium adolescents as compared to the English medium counterparts.

From the above discussion, it emerges that if the Urdu medium adolescents should pay more attention towards improving their study habits, whatever their educable intelligence may be, their outcomes will likely to be enhanced as such the present group of Urdu medium adolescents are found to be significantly less achiever than their English medium counterparts (Table 3).

Thus, the second null hypothesis of the present study, "The Urdu medium and English medium adolescents would show no significant difference with respect to their predictors of academic performance or predictability strength of the significant predictors," is partially accepted and partially rejected.

CONCLUSION

Academic performance becomes a matter of great concern in our present system of education. There are various factors, which influence the academic performance but intelligence, adjustment, socio-economic status and study habits affect it the most. The study reveals that intelligence is the most potential predictor of academic performance of the English medium adolescents, while study habits play key role in affecting the academic performance of Urdu medium adolescents. In English medium schools, the students get opportunities to utilize their mental potential to the fullest possible extent due to the availability of necessary facilities in terms of good teachers, conducive environment, information sources, special parental care, tutors so on and so forth. All these elements help the child to perform well in academic activities but we hardly find any of these at Urdu medium schools for the students to pursue their school education without any difficulties. In comparison with the parents of English medium students, parents of the Urdu medium students fail to provide proper care and facilities to their wards due to many reasons. All these factors hamper the academic performance of the students studying in Urdu medium schools. In the context of English medium adolescents various components help in the development of their intelligence which ultimately positive effect on their academic performance but Urdu medium adolescents had inadequate educational facilities resulting in negative influence on their academic performance. Therefore, there is an urgent need to introduce Guidance and Counseling Centers in each and every school, particularly in Urdu medium schools so that the Urdu medium adolescents could achieve well, academically.



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