

CHAPTER VIII

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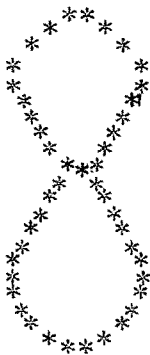
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CHAPTER



SUMMARY AND SUGGESTIONS

Education is ^{the} key for economic, social and political development of a country. In a democratic country, like India, education should be provided for all the children of all the people. In India, out of every three, two are illiterate. Every effort is needed to enrol, retain and provide every child education suitable to his age, ability, aptitude and aspirations. The efforts to increase the percentage of literate population have not yielded desired results partly due to wastage and stagnation at every stage of education.

In India, the rate of failures at the examinations has been very high. Out of every two who appear for the examination, one is failing and ^amajority of them are getting only ^{the} third division. It means, half of the money spent in educating the youth results in a wasteful expenditure. India, with its scarce resources and unlimited and varied pressing needs, cannot afford to bear the loss through failures in the examination - loss in terms of money, time, energy on every front. Therefore, there is a pressing need to identify the factors associated with achievement at the college level, where the cost of education is high and consequential loss through failure is greater, for developing suitable selection procedures or for providing suitable guidance services to reduce the high incidence of failures.

In foreign countries, there have been many studies pointing out the importance of one factor or the other for success at school or college level. Most of the studies are related to correlates of success at secondary school or elementary school level and it is not known how far these findings are applicable to achievement at the college level. In Indian context, studies related to achievement at the college level are very limited. The high percentages of failures warrant further studies in bringing out the factors related to achievement at the college level and the present study is an attempt in this direction.

8.1 PROBLEM

A Study of Certain Factors Associated with Academic Achievement at the First Year Degree Examination.

In this study, the relationships between academic achievement and four broad factors or variables, namely, (1) Home Environment, (2) Intelligence, (3) Need for Achievement, and (4) Personality are examined. The First Year Degree Examination refers to the examination held at the end of the First Year of the Three Year Degree Course. Marks obtained at the above examination are taken as academic achievement. In this study, the marks obtained at the First Year Degree Examination held in March-April 1968 by Sri Venkateswara University, Tirupati, Andhra Pradesh, are taken as academic achievement.

8.2 SCOPE OF THE PROBLEM

The study attempts to provide answers to the following questions :

1. Is there any relationship between academic achievement in each subject or groups of subjects at the First Year Degree Examination and (1) Home Environment, (2) Intelligence, (3) Need for Achievement, and (4) Personality of the students ?

2. If such relationship exists,
 - (a) What are the variables significantly related to achievement in different subjects ?
 - (b) Do they vary from one subject to the other ?
 - (c) What is the extent of relationship between academic achievement and the said variables ?
 - (d) Are these variables related differentially to academic achievement in the same subject or groups of subjects ?
 - (e) Is the same variable related differentially to achievement in different subjects or groups of subjects ?
3.
 - (a) To what extent can academic achievement be predicted by the four variables ?
 - (b) What is the relative contribution of each variable when acting along with others ?
 - (c) Among them, which are the potential predictors ?
 - (d) Does the contribution made by the four variables put together vary from subject to subject ?
 - (e) Does the contribution of the same variable vary from subject to subject ?
 - (f) Do these variables contribute differentially to the prediction of achievement in the same subject ?

8.3 VARIABLES COVERED BY THE STUDY

As said earlier, the present study is concerned with finding out relationships between achievement and four broad variables, namely, (1) Home Environment, (2) Intelligence, (3) Need for Achievement, and (4) Personality. The home environment covered in the study comprises of five aspects of the home. The 16 P.F. Test employed for measuring personality gives scores on sixteen factors of personality including intelligence as one of the sixteen factors. Since separate test has been employed for measuring intelligence, the factor B of 16 P.F. which measures intelligence is not considered. Thus, the four broad variables yield twenty-two variables. These twenty-two variables are the independent or predictor variables of the study.

The Degree Class students read (1) English, and (2) Telugu in common and choose one optional group comprising of three subjects. The present study is confined to academic achievement (marks obtained) in English, Telugu, and three optional ~~subjects~~ groups (individual subjects and combined), namely (1) Mathematics, Physics, Chemistry, (2) Chemistry, Botany, Zoology, and (3) History, Economics, Politics. In the case of females, achievement in English and Telugu and one optional group, namely Chemistry, Zoology, Botany is covered. Twenty-three types of achievement in individual subjects or groups of subjects are covered in

the study. These twenty-three types of achievement criteria are the dependent or criterion variables of the study. The following are the predictor and criterion variables of the study.

<u>Predictor Variables</u>	<u>Criterion Variables</u>
I. Home Environment	
1. Parental value on education and academic achievement	1. Achievement in English - Males
2. Emotional climate in the home	2. Achievement in English - Females
3. Parental encouragement	3. Achievement in Telugu - Males
4. Educational facilities in the home	4. Achievement in Telugu - Females
5. Socio-economic Status	5. Achievement in Mathematics - Males
II. Need for Achievement	6. Achievement in Physics - Males
6. Need for achievement	7. Achievement in Chemistry - Males
III. Intelligence	8. Achievement in Chemistry - Females
7. Intelligence	9. Achievement in Botany - Males
IV. Personality	10. Achievement in Botany - Females
8. Personality Factor A	11. Achievement in Zoology - Males
9. Personality Factor C	12. Achievement in Zoology - Females
10. Personality Factor E	13. Achievement in History - Males
11. Personality Factor F	14. Achievement in Economics - Males
12. Personality Factor G	15. Achievement in Politics - Males
13. Personality Factor H	16. Achievement in Languages - Males
14. Personality Factor I	17. Achievement in Languages - Females
15. Personality Factor L	18. Achievement in MPC Group - Males
16. Personality Factor M	19. Achievement in CBZ Group - Males
17. Personality Factor N	20. Achievement in CBZ Group - Females
18. Personality Factor O	21. Achievement in HPoEc Group - Males
19. Personality Factor Q1	22. Total achievement - Males
20. Personality Factor Q2	23. Total achievement - Females
21. Personality Factor Q3	
22. Personality Factor Q4	

The relationships between the above predictor and criterion variables are studied.

The study is confined to the achievement in certain groups of subjects only in finding out their contribution to achievement. The groups of subjects covered to examine the contribution of variables are given hereunder :

1. Achievement in Languages - Males
2. Achievement in Languages - Females
3. Achievement in MPC Group - Males
4. Achievement in CBZ Group - Males
5. Achievement in CBZ Group - Females
6. Achievement in HPoEc Group - Males
7. Total achievement - Males
8. Total achievement - Females

8.4 TOOLS USED IN THE STUDY

The following tools are used for measuring the predictor variables :

- I (a) The first four aspects of the home : The Questionnaire-cum-Rating Scale developed by the Investigator.
- (b) Socio-economic Status : Kuppuswamy SES Scale.
- II. Need for achievement : Sentence Completion Test of Mukherjee
- III. Intelligence : Cattell's Culture Fair Test of Intelligence - Scale 3 - Form A (1963 edition) and Form B (1961 edition).

IV. Personality : Cattell's 16 P.F. Test - Form A (1962 edition) and Form B (1961 edition).

Since the criterion variables are marks, marks obtained at the First Year Degree Examination of S.V. University held in March-April 1968 are collected.

8.5 SAMPLE

The sample for the study is drawn from the Government Arts and Science Colleges affiliated to Sri Venkataswara University, Tirupati. Aided colleges were excluded from the study. The students who appeared at the First Year Degree examination held in March-April 1968 (whether failed or passed) were in the Second Year course during the year 1968-69. These Second Year students formed the sample for the study. The students covered by the study were the students who have chosen three optional groups, namely, (1) Mathematics, Physics, Chemistry (N = 110 Males); (2) Chemistry, Botany, Zoology (N = 108 Males) and (N=74 Females); and (3) History, Economics, Politics (N=104 Males).

8.6 COLLECTION OF DATA

The marks obtained at the First Year Degree Examination held in March-April 1968 by Sri Venkataswara University, Tirupati, were collected from the registers maintained in

the colleges. The scores on (1) Home environment, (2) Need for achievement, (3) Intelligence, and (4) Personality were obtained by administering the relevant tests and scoring them.

8.7 STATISTICAL METHODS USED

Relationships between predictor variables and criterion variables were examined by means of simple correlations. To find out the contribution of these variables to the prediction of achievement in certain groups of subjects and total achievement, multiple regression and correlation analysis were employed.

8.8 ANALYSIS OF RESULTS

Results are analysed in two ways : First, to find out the relationship between each criterion variable and the predictor variables by means of simple correlation analysis for identifying the significant correlates; second, to find out (1) the total contribution of the four variables, (2) the relative contribution of each variable, and (3) the potential predictors and their relative contribution to the achievement in certain groups of subjects by means of multiple regression and correlation analysis.

The marks obtained in the subjects are converted into standard scores (Mean = 50 and S.D. = 10) and these scores are used in the calculations. In the case of achievement in certain groups of subjects, the composite standard scores in those groups were used. For finding relationships with achievement in English, Telugu, Languages, Total achievement, the three groups of males, namely, MPC, CBZ and HPoEc were combined. In the case of Chemistry, MPC and CBZ groups were combined.

8.9 RESULTS AND DISCUSSION

The results based on correlation analysis and regression analysis are presented below.

(a) Results based on Correlation Analysis

The extent of the relationships of the variables with different types of achievement criteria is shown in Table No. 10. The magnitude of the relationships can be noticed from the Table.

The variables significantly related to different types of achievement criteria are shown in Table No. 11. From ^{the} Table, the variables significantly related to achievement in a particular subject can be read easily.

From the same Table, the subjects with which each variable is significantly related can also be got.

On the basis of correlation analysis, the following conclusions may be drawn :

1. Among the twenty-two independent variables, five variables, namely, Socio-economic Status, Personality Factors E, F, O and Q2 are not at all related to achievement in any subject or groups of subjects covered by the study.
2. The remaining variables are significantly associated with achievement in one subject or the other.
3. Among the twenty-two independent variables studied, there is no single variable which is significantly related, in common, to achievement in all the individual or groups of subjects studied.
4. The variables significantly related to achievement appear to differ from subject to subject or groups of subjects. That is, the correlates of achievement depend upon the type of achievement criterion chosen. However, there are certain variables which are related to achievement in more than one subject.
5. The extent of relationship of the significantly related variables with achievement in a particular subject varies from variable to variable. That is, each significantly related variable is related differentially to achievement in the same subject.
6. Even in the case of achievement of those subjects with which a particular variable is significantly related, the extent of its relationship varies from subject to

subject. That is, the same variable is related differentially to achievement in different subjects.

7. Need for achievement, Intelligence, Personality Factors Q4, G, I, M, and H are significantly related to different achievement criteria more often than the other variables. Emotional happiness in the home (lack of emotional climate), Parental encouragement, Personality Factors C, N, and Q1 are significantly related only with one of the twenty-three achievement criteria.

With regard to factors related to achievement in certain groups of subjects, namely, Languages, MPC Group, CBZ Group, HPoEc Group and Total achievement, the following conclusions may be drawn :

Personality Factor Q3 is related to achievement in Languages, achievement in Humanities Group (HPoEc) and not related to achievement in Science Groups (CBZ or MPC). It is also not related to achievement in individual science subjects - Mathematics, Physics, Chemistry, Botany, Zoology, but related to achievement in individual Humanities subjects namely, History, Politics, Economics and also individual language subjects namely Telugu and English.

Need for achievement and Intelligence are related to achievement in Languages, in MPC Group and not in CBZ Group. Need for achievement is related to achievement in HPoEc Group

whereas Intelligence is not related. Intelligence is also not related to achievement in individual subjects like Botany, Zoology, History, Politics and Economics. Need for achievement is also not related to achievement in individual subjects Botany and Zoology.

Personality Factor H is related to HPoEc Group and CBZ Group and not to MPC Group. Parental value on education and achievement, Educational facilities in the home, Personality Factors G, I, and M are related to CBZ Group and not to MPC or HPoEc Groups. Personality Factors A and Q4 are related to achievement in Languages and not to HPoEc, MPC or CBZ Groups. Educational facilities in the home and Personality Factor N are specifically related to achievement in females and not in males.

The variables significantly related to achievement in different subjects and the subjects with which each variable is related can be read easily from the Table No. 11.

(b) Results based on Regression Analysis

Multiple Regression analysis and correlation analysis is done for achievement in certain groups of subjects only. The significant predictors found on the basis of Regression analysis for achievement in certain groups of subjects together with the variance explained by each predictor when acting along with others and also the total contribution of

the predictor variables are given in Table No. 22. The potential predictors for different achievement criteria can be read easily from the Table.

The variance explained by the four broad variables jointly and individually (individually when they are present with other variables) are also shown in Table No. 22. The percentage of variance explained by the variables individually and jointly can be read directly from the Table.

The following conclusions may be drawn :

Significant Predictors

1. No single variable emerged as a common potential predictor for the eight types of achievement criteria studied.
2. Personality Factors A, C, E, F, I, L, N, O, Q1 and Q2 did not emerge as potential predictors of achievement in the groups of subjects studied. Personality Factors C, E, F, L, O, Q1 and Q2 are also found to be not significantly related to achievement on the basis of correlation analysis.
3. The remaining variables emerged as potential predictors for one type of achievement criterion or the other.
4. Intelligence, Parental value on education, and achievement, Personality Factor Q3, Lack of emotional climate in the home, Parental encouragement, Need for achievement, Personality Factors G and M figured more times as potential predictors of achievement. In the correlation analysis also, Need for achievement,

Intelligence, Personality Factor Q3 besides Educational facilities and Personality Factor I appeared more frequently than the other variables.

5. Next to Intelligence, Home variables appeared more prominently as potential predictors, whereas it is not the case on the basis of correlation analysis. Probably the Home variables might have given rise to some of the variables that have been found, on the basis of correlation analysis, to be related to achievement.
6. Personality Factor M appeared as potential predictor in the case of females only.
7. The potential predictors appear to depend upon the achievement criterion chosen. That is, the potential predictors differ from achievement in one group of subjects to the other Group. However, there are certain variables which are potential predictors for achievement in more than one group of subjects.
8. There are variations between the significant correlates identified through correlation analysis and the significant predictors identified through regression analysis for the same achievement criteria. This might have happened due to interaction between the variables.

Contribution of the Variables
to the Achievement

1. The total contribution of the four variables for predicting achievement is more when compared to the individual contribution of the variables.
2. The total contribution of the four variables for predicting achievement varies from achievement in one group of subjects to the other.
3. The contribution of the same variable for predicting achievement varies from one group of subjects to the other.
4. The variables contribute differentially to achievement in the same group of subjects.
5. The contribution of the potential predictors also ^{is} vary from one group of subjects to the other and from one variable to the other.
6. The value of multiple R ranges from .42 to .64. The percentage of variance explained by the four broad variables ranges from 17 to 41 (roughly 20 to 40). It means, the unaccounted percentage of variance ranging from 60 to 80 is due to factors not covered by the study.
7. The multiple R in the case of achievement in Languages (females), MPC Group (males), CBZ Group (females), Total subjects (females) is not significant. It means, the variables are not helpful in predicting the achievement in these cases. In the case of females,

the multiple R did not reach the level of significance due to small sample and large number of variables.

These are the results obtained as measured by the tests employed. The findings are tentative and need further confirmation.

8.10 SUGGESTIONS FOR FURTHER RESEARCH

A look at the previous research reveals that most of the studies are related to finding out correlates of success at the high school stage, taking samples from one or the other of the high school classes. Studies are needed to identify the correlates at the other stages of education, particularly at the college stage where the cost of a failure is more.

Many studies have taken a single variable for investigation, without controlling the most of other variables related to achievement and end with bare conclusion whether the variable is related or not, without even going into the extent of relationship so far as that variable is concerned. The studies should take a step forward from 'single' to 'multiple' variables, from 'simple correlation' to 'multivariate analysis' to better our understanding of the relative importance of each variable for purposes of prediction of academic achievement.

The following problems may be attempted :

1. The four broad variables employed in the study have explained only about one-third of the variation in achievement. Studies are needed to explain the remaining two-thirds of the variation in achievement. Probably the relationship between attitudes, interests, study habits, etc. of the students and achievement may be studied.
2. The results of the study are tentative and further studies are needed to confirm the findings.
3. The Investigator related the variables to the achievement at the First Year Degree Examination. Longitudinal studies covering the achievement at the examinations held at the end of the First Year, Second Year, and Third Year are needed.
4. The Investigator used 16 P.F. in English version. He feels that better results may be obtained if the 16 P.F. is standardized to Indian conditions and then used for prediction purpose.
5. Relatively, there are a few studies in India which throw light on the effect of 'school environment' on achievement. This area needs further probe. The Investigator is not aware of any studies in India which examined the relationship of 'college environment' to the achievement of the students. What specific

elements in the college environment contribute to achievement need to be identified.

6. Research is also needed to identify the elements in the home environment that contribute to achievement.
7. Tools for measuring 'college environment' or 'home environment' may be developed.
8. Of late, there has been an increasing interest in India in the field of achievement motivation. Suitable test to measure need for achievement of college population may be developed.
9. Studies are also needed to identify the techniques through which need for achievement can be developed and the effective agencies through which this can be done.
10. Experimental try-outs to reduce wastage and stagnation at the college level (professional and non-professional) are necessary.
11. Predictive value of the examination marks on which admissions are based to professional and non-professional colleges need to be studied.

The areas of problems listed are only suggestive and not exhaustive. If the study could help the prospective researchers to provide leads for further research, the purpose of the study is fulfilled and the labour of the Investigator well paid.