

A Correlational Study of Achievement Motivation and Pupils' Performance in the Standard Five Assessment Examination From Selected Schools in Selangor.

HABIBAH ELIAS and ATAN BIN LONG

Department of Education,
Faculty of Educational Studies
University Pertanian Malaysia
Serdang, Selangor, Malaysia.

Key words: Achievement motivation; performance in examination; correlations.

RINGKASAN

Prestasi murid-murid dalam Peperiksaan Penilaian Darjah Lima telah diselidiki dalam hubungannya dengan beberapa angkubah iaitu motivasi pencapaian, taraf sosioekonomi, kecerdasan, lokasi tempat tinggal, persekitaran sekolah dan galakan ibu bapa untuk menaksir korelasi di antara satu angkubah dengan yang lain. Responden adalah terdiri daripada 90 orang murid yang dipilih secara contoh susun lapis daripada 40 buah Sekolah Rendah di Selangor dan mewakili 3 kumpulan etnik iaitu Cina, Melayu dan India. Temubual secara individu telah dijalankan oleh penyelidik. Responden telah diminta menjawab soal selidik, Ujian Tematik Peramatan dan Ujian Kecerdasan Raven's Progressive Matrices. Keputusan menunjukkan bahawa motivasi pencapaian mempunyai korelasi yang tinggi dengan prestasi dalam peperiksaan yang berkenaan. Angkubah-angkubah lain yang menunjukkan korelasi yang signifikan dengan prestasi peperiksaan ialah taraf sosioekonomi, kecerdasan, persekitaran sekolah dan galakan ibu bapa.

SUMMARY

The performance of pupils in the Primary Five Assessment Examination was examined in relation to a number of variables namely achievement motivation, socio-economic status, intelligence, area of residence, school milieu and parental encouragement to assess the correlation between them. The subjects were 90 pupils selected from 40 primary schools in Selangor and represented the Chinese, Malays and Indians. Individual interviews were conducted by the researcher. Subjects were asked to answer questionnaires, the Thematic Apperception Test, and the Raven's Progressive Matrices. The results showed that achievement motivation correlated highly with performance in the stated examination. The other variables which showed significant correlations with performance were socio-economic status, intelligence, school milieu and parental encouragement.

INTRODUCTION

Academic performance of pupils has always been a subject of much concern to parents, teachers and the society in general. A number of studies especially in the West have brought to light some of the variables which are related to academic performance. The tendency is to centre on the more observable factors like socio-economic status, the school and area of residence. It is felt that the motivational aspect of the child constitutes an important factor which can promote or impede the scholastic attainment

of the child. Atkinson (1974) highlights the importance of motivation when he says

"Motivation influences both efficiency in the execution of an activity (and therefore the level of performance) and persistence or more generally, the time spent in a particular endeavour."

It can be inferred that if children are not motivated adequately they will not utilize their potentials to the optimum. If a large number of children falls in this category it will amount

Key to authors' names: E. Habibah and L. Atan

to a great loss to society as the human resources available are not utilized to the maximum.

As a developing nation, Malaysia strives for economic development and a higher standard of living for the people. McClelland (1967) who believed that economic theory must be linked to sociological and psychological constructs, has the opinion that the achievement motive (n achievement) is partly responsible for economic development. According to him the more developed nations have more achievement motivated individuals.

McClelland (1953) who made a very intensive study on this particular motive, emphasized that the situation should involve standards of excellence presumably imposed on the child by the culture and the behaviour should reflect either 'competition' for those standards of excellence or attempts to meet them. If this is successful it will bring about a positive effect. Hence those cultures which stress 'competition' with 'standards of excellence or which insist that the child be able to perform certain tasks well by himself, should produce children with high achievement motivation.

Studies were conducted at college level in the United States of America using the Thematic Apperception Test (TAT) as a measure of achievement motivation relating it to academic performance. McClelland (1953) and associates found that for a sample of male students the correlation between grades and achievement motivation as measured by the TAT was .39. Burgess (1956) found that over-achievers were significantly higher on need for achievement than under-achievers. Chahbazi (1956) used two projective measures scored for achievement motivation and found that when these were added to a battery of six tests, the multiple correlation of the battery with college grades increased from .51 to .61. In the study by Weiss (1954) and associates, the TAT measure correlated .34 with grades.

At high school level, Rosen (1956) found that a TAT measure of achievement motivation was directly related to school grades for a sample of males. Vaughn (1973) showed in his findings that subjects with high n achievement had significantly higher grades than those with low n achievement.

Other than the TAT measures, researchers also made use of questionnaires to measure achievement motivation. At college level, six investigations found positive relations between

achievement motivation and academic performance. Three studies by Bendig (1958), Krug and Weiss (1959) used the need achievement scale from the Edwards Personal Preference Schedule. The other three studies by Christensen (1956) and Worell (1959) used a measure of level of aspiration as an index of achievement motivation. A study at high school level by Bresee (1957) found a positive relation between aspiration level and academic achievement.

In Malaysia, Rafaei (1972) made a comparative study on achievement motivation between Malay students in Malaysia and Australian students in Australia using the TAT and the Mehrabian Scale. On the Mehrabian scale, his hypothesis on the difference in achievement motivation between the Malays and Australians was only partly supported. The TAT measures showed that the mean difference between the groups compared, was statistically significant beyond the .01 level ($F = 12.5$). Comparing the two measures used, Rafei found that the trend of the difference between the Malay students and the Australians using the TAT was the reverse of the trend on the Mehrabian Achievement Scale.

In another study, Rafaei (1973) used two scales for measuring achievement motivation namely the Mehrabian Achievement Scale (MAS) and Russels Achievement Motivation Scale (RAMS). Subjects were Malay Students attending Basic Psychology course at a university in Malaysia. The scores for academic performance consisted of marks obtained in course work and final examinations. The results indicated positive significant correlations between the two scales and between MAS and course work in female subjects only. In addition, a significant difference in achievement motivation was found between males and females. In yet another study Rafaei used the Children Achievement Scale to assess the difference in achievement motivation between two races, the Javanese and the Malays. From the findings it was observed that the Javanese were significantly higher in achievement motivation compared to the Malays. Studies which support differences in achievement motivation between races are those of Travis and Anthony (1975), which found that Black students had significantly higher scores in achievement motivation than white students regardless of the type of school system.

The present study examines the pupils' achievement motivation in relation to performance

in the primary Five Assessment Examination. The other variables being examined in relation to performance are socio-economic status, intelligence, area of residence, school milieu, parental encouragement and race. Previous findings have shown that these variables are related to performance. The present study helps to emphasize the importance of achievement motivation and other variables in academic performance. It is relevant especially to teachers in the understanding of pupils' behaviour in their learning tasks in the school setting.

METHODOLOGY

Subjects

Subjects were 90 Primary Six pupils from 40 schools in Selangor. They were chosen by stratified random sampling from a population of 197 successful candidates with 5A's and 520 unsuccessful candidates with 5E's in the Primary Five Assessment Examination. Subjects were classified into two groups, 45 in the successful group and 45 in the unsuccessful group.

Data Analysis

The data collected from the pupils were analysed by simple correlation following Pearson's Product-Moment Correlation Coefficient formula

$$r_{xy} = \frac{z_x z_y}{n}$$

Academic performance was examined in relation to all the variables under study so as to assess the individual correlations.

The ANOVA was also performed to test the significance between the three ethnic groups at two levels of performance in relation to the Thematic Apperception Test (TAT), the Children Achievement Scale (CAS), Socio-economic Status (SES), area of residence, school milieu and parental encouragement using the 2 x 3 classification.

Measures

The Thematic Apperception Test (TAT) was administered during the individual interviews by the researcher. Eight pictures taken from Henry A. Murray (adapted to the Malaysian situation by Atan Long) were used; four pictures were presented to the female subjects while the other four to the male subjects to get their responses. Different sets of pictures were used

for male and female subjects to facilitate their thinking and expression of thought in relation to individuals of their own sex. For instance female subjects were presented with pictures with female figures. Based on the pictures and standard questions, responses were recorded and achievement motivation was scored by using Veroff method (1969). Responses were coded as follows:

AI — Achievement Imagery (score 2)

TI — Task Imagery (score 1)

UI — Unrelated Imagery (score 0)

High achievement motivation is shown by frequent achievement themes such as risk taking, energetic innovating activity or competition for some standard of excellence.

The Children Achievement Scale, a questionnaire form of measurement for achievement motivation was administered to the subjects in the study. It has twenty items in all, with two answers to choose from, one positive and the other negative. One point is scored for each positive answer and zero for the negative answer. The total score is the achievement motivation score for the subject.

Intelligence was measured by Raven's Standard Progressive Matrices. The score was based on the number of correct responses given.

The interview schedule which consisted of questionnaires was designed to obtain information regarding variables such as socio-economic status, motivation, area of residence and parental encouragement. For instance information on socio-economic status of subjects was obtained from items 13 — 17, 38 — 42, 45 — 60 and 62 — 70. Each item was scored objectively, thus the total score for all the items mentioned was the socio-economic status score for each subject.

Similar treatment was given to motivation, area of residence and parental encouragement. Items 19, 28 — 37 and 67 measured the level of motivation of subject. This variable was identified as the 'questionnaire on motivation' in the analysis of data. This was separate from the Children Achievement scale which is a standardized questionnaire developed by Weiner and Kukla (1970). Area of Residence was measured by items 4, 5, 6 and 78. Finally parental encouragement received by subjects was measured by items 8, 71 — 77 and 79 — 82.

Procedure

Data was collected by means of individual interviews based on a standard interview schedule. Subjects were interviewed for information regarding their home background. The average time taken for each interview session was 1½ hours. Responses were recorded by the researcher herself. The items were scored objectively and were grouped according to socio-economic status, motivation, area of residence and parental encouragement.

The Thematic Apperception Test was administered immediately after each subject was interviewed. Subjects were presented with a series of pictures adapted from Henry A. Murray and were asked to compose imaginative stories in response to the following questions:

1. 'What is the relation of the individuals in the picture?
2. What has happened to them? What led to this situation?
3. What are their, present thoughts and feelings?
4. What will be the outcome?

After the projective test was administered, the subjects were given the Children Achievement Scale to answer followed by Raven's Standard Progressive Matrices.

A separate questionnaire was prepared for the principals of schools to obtain data regarding the school milieu.

RESULTS

Table 1 shows the correlation coefficients for the nine variables under study. A high correlation was found between performance in the Standard Five Assessment Examination and TAT ($r = 0.805$) and this was significant at 1% level. The other variables which showed high correlations with performance and were significant at 1% level were the questionnaire on motivation ($r = 0.626$), socio-economic status ($r = 0.745$). The school milieu had a moderate correlation with performance ($r = 0.354$) while area of residence had a low correlation with performance ($r = 0.125$). However the correlation between performance and the Children Achievement Scale was found to be negative ($r = -0.112$).

When the Thematic Apperception Test was examined in relation to the other variables, it was found to have high correlations with

performance ($r = 0.805$), motivation ($r = 0.526$), socio-economic status ($r = 0.635$) and intelligence ($r = 0.704$). With respect to school milieu ($r = 0.429$) and area of residence the TAT was found to have moderate and low correlations ($r = 0.125$) respectively. However the correlation between the TAT and the Children Achievement scale was negative ($r = -0.539$).

Motivation was found to have high correlations with performance ($r = 0.626$), the TAT ($r = 0.526$), intelligence ($r = 0.507$), and parental encouragement ($r = 0.573$). Low correlations were found between motivation and area of residence ($r = 0.013$) as well as the school milieu ($r = 0.167$), while a negative correlation was recorded between motivation and the Children Achievement Scale ($r = -0.053$).

The variables which have high correlations with socio-economic status were performance ($r = 0.746$), intelligence ($r = 0.630$) and parental encouragement ($r = 0.618$). The variable which showed a moderate correlation with socio-economic status was motivation ($r = 0.406$). Low correlations were recorded between SES and area of residence ($r = 0.013$) as well as between SES and the school milieu ($r = 0.167$).

The Children Achievement Scale showed negative correlations with all the variables under study.

High correlations were found between intelligence and variables like performance ($r = 0.839$), TAT ($r = 0.704$) motivation ($r = 0.507$), socio-economic status ($r = 0.630$) and parental encouragement ($r = 0.669$). Low correlations were found between intelligence and area of residence ($r = 0.073$) and between intelligence and the school milieu ($r = 0.354$). A negative correlation was recorded between intelligence and the Children Achievement Scale ($r = -0.125$).

The area of residence was found to have very low correlations with all the variables under study and it was also found that its correlation with the Children Achievement Scale was negative ($r = -0.021$).

The school milieu showed either moderate or low correlations with most variables under study. A moderate correlation was found between the school milieu and performance ($r = 0.354$), the TAT ($r = 0.429$) and intelligence ($r = 0.354$). Rather low correlations were observed when the school milieu was examined in relation to motivation ($r = 0.167$) socio-economic status

A CORRELATIONAL STUDY OF ACHIEVEMENT MOTIVATION AND PUPILS' PERFORMANCE

TABLE 1
Table of Correlation Coefficients

	1	2	3	4	5	6	7	8	9
1		0.805	-0.112	0.626	0.745	0.839	0.125	0.354	0.754
2			0.135	0.526	0.635	0.704	0.070	0.429	0.657
3				-0.053	-0.112	-0.125	-0.021	-0.172	-0.113
4					0.406	0.507	0.013	0.167	0.573
5						0.630	0.043	0.192	0.618
6							0.073	0.354	0.669
7								0.037	0.101
8									0.216
9									

Key

- | | |
|--|---------------------------|
| 1. Performance in the Standard Five Assessment Examination | 6. Intelligence |
| 2. Thematic Apperception Test | 7. Area of Residence |
| 3. Children Achievement Scale | 8. School Milieu |
| 4. Motivation | 9. Parental Encouragement |
| 5. Socio-economic status | |

($r = 0.192$), area of residence ($r = 0.037$) and parental encouragement ($r = 0.216$). The school milieu showed a negative correlation when compared to the Children Achievement Scale ($r = -0.172$).

Parental encouragement showed high correlations with performance ($r = 0.754$), the TAT ($r = 0.657$), motivation ($r = 0.573$), socio-economic status ($r = 0.618$) and intelligence ($r = 0.667$). Rather low correlations were found between parental encouragement and area of residence ($r = 0.101$) as well as the school milieu ($r = 0.216$). A negative correlation was observed between parental encouragement and the Children Achievement Scale ($r = -0.113$).

Race as a variable was analysed separately by means of ANOVA to assess the differences between the three ethnic groups and the two levels of performance in terms of all the variables under study. The results are shown in Table 2.

It was found that there was a significant difference between the three ethnic groups in

terms of the TAT scores ($F = 5.24$, $p < .01$). However when race was examined in relation to the other variables under study, no significant differences were recorded.

When the two levels of performance were examined in relation to the other eight variables, the results from ANOVA confirmed that of the correlation analysis.

DISCUSSION

The investigation brought to light some interesting findings, one of which is the highly significant correlation between performance in Primary Five Assessment examination and achievement motivation as measured by the TAT. This indicates that the successful subjects were more inclined to produce stories with more frequent achievement themes — clearly a reflection of their need to excel in competition with some standards of excellence. This finding supports that of other researchers in the West Like McClelland (1953), Burgess (1956), Weiss (1959) and Vaughn (1973) which indicated the significant

TABLE 2
F values for variables in the comparison
between races and between levels of
performance

Variables	Between High and Low Performance	Between Races	Interaction Between Race and Performance
Thematic Apperception Test	177.0004 Significant ($p < .01$)	5.240489 Significant ($p < .01$)	0.757873 Not Significant
Children Achievement Scale	1.145014 Not Significant	1.81628 Not Significant	1.42885 Significant
Questionnaire on Motivation	57.68182 Significant ($p < .01$)	1.201128 Not Significant	1.5355 Significant
Socio-economic Status	109.9007 Significant ($p < .01$)	0.42173 Not Significant	1.74377 Not Significant
Intelligence	211.0829 Significant ($p < .01$)	1.622472 Not Significant	0.6314297 Not Significant
Area of Residence	1.42922 Not Significant	1.035386 Not Significant	2.077136 Significant
School Milieu	12.48917 Significant ($p < .01$)	1.225663 Not Significant	0.2945101 Not Significant
Parental Encouragement	112.1173 Significant ($p < .01$)	0.5830054 Not Significant	0.0319699 Not Significant

correlation between performance and achievement motivation. However this finding contradicts the views put forward by other researchers like Parrish (1954), Haber (1957), Kurmboltz and Farquhar (1957) and Mitchell (1961) which state that the TAT is not related to performance. This finding also implies that the TAT could have some predictive measure of performance in research. The practical implication of this finding is that if the level of performance in the above examination is to be improved, it is vital that the child's achievement motivation be stimulated or strengthened. On the other hand it could also

be that children could have high achievement due to the success which they achieved in the examination, in which case the predictivity of the TAT is very much reduced.

It was also discovered that subjects who performed well in the above examination had a tendency to come from the higher socio-economic status. An implication is that an improved standard of living associated with change of attitudes, values and way of life has a tendency to raise the level of performance of children in the above examination. Socio-

economic status was also found to be closely related to achievement motivation and parental encouragement. This suggests that a higher standard of living helps to promote certain important positive attitudes and values which help parents to be aware of their role in motivating their children. For instance, parents in the higher socio-economic status who take an interest in the well being and education of their children seem to have children who spend more time on their schoolwork, consult the subject teacher when not satisfied with a low test score and who will take the trouble to go to school even when faced with a problem. In addition, socio-economic status was also found to be related to intelligence and parental encouragement. This could imply that parents in the higher socio-economic status are aware of their role in providing various types of stimulations in order to promote the intelligence of their children. The environment has an important role to play in enhancing the intelligence inherited by children. A rich environment in terms of stimulations provided by parents will widen the experiences of children develop their mental capacities and thus make learning more meaningful.

The school milieu was found to be significantly correlated with the performance in the above examination, achievement motivation and intelligence of subjects. This implies that a good school in terms of facilities, number of qualified teachers, location and positive history had a tendency to produce pupils who perform well academically. There was also a tendency for such a school to stimulate the mental development of pupils as well as their level of motivation.

The area of residence of subjects did not show any significant correlation with either performance in the examination or achievement motivation. Its correlation with the other variables remained rather low.

The analysis of variance confirmed most of the findings in the correlation analysis. One interesting observation was that the TAT showed a significant difference in achievement motivation ($p < .01$) among the three races under study. This supports studies which found significant differences in achievement motivation between races, for example that of Rafaei (1972), Strodbeck (1959) and Travis and Anthony (1975). There is a need for further research to examine the reasons for the three races to differ in achievement motivation.

The TAT unlike the CAS, as a measure of achievement motivation was found to have a high

correlative value in the study. Although the CAS has been shown to have some predictive value in different cultures, this study does not prove so.

The Questionnaire on motivation gave lower correlation values generally compared to the TAT. This could be due to the fact that the items in the questionnaire on motivation were limited and were prepared by the researcher. The TAT on the other hand, being a standard projective technique, allowed subjects to project their own ideas related to achievement motivation.

The two questionnaires used that is the questionnaire on motivation prepared by the researcher and the Children Achievement Scale gave different results. The questionnaire on motivation generally was in agreement with the TAT values although the correlation coefficients were slightly lower. However the Children Achievement Scale gave a completely different result. This could be due to the cultural differences in the background of the CAS and the subjects themselves as the questionnaire was developed elsewhere and was adapted to the local situation. On the other hand, although the questionnaire on motivation prepared by the researcher, had limited items, these were considered on the basis of local cultural situations.

CONCLUSION

The study has its limitations as it was only confined to a sample of ninety subjects from forty English medium primary schools in Selangor. It was a correlational study which only identified the relationship between variables and did not reveal the cause and effect of each variable in terms of the others.

It is hoped that in view of the findings brought to light, this study will add in some measure a new perspective to research in this field. It is further hoped that this study will help add a new dimension to the understanding of parents and teachers over their indispensable role in the academic performance of children.

REFERENCES

- ATKINSON, J.W. & RAYNOR, J.O. (1974): *Motivation and Achievement*. Winston & Sons Inc.
- BENDIG, A.W. (1958): Comparison of the Validity of Two Temperament Scales in Predicting College Achievement, *Journal of Educational Research*. 51: 605-609.

- BRESEE, C.W. (1957): Affective Factors Associated with Academic Underachievement in High School Students, *Dissertation Abstracts*. 17: 90-91.
- BURGESS E. (1956): Personality Factors of Over and Underachievements in Engineering. *J. educ. Psychol.* 47: 89-99.
- CHAHBAZI P. (1956): Use of Projective Tests in Predicting College Achievement. *Educ. Psychol Measur.* 538-542.
- CHRISTENSEN, C.M. (1956): A Note on Borow's College Inventory Academic Adjustment, *Journal Educational Research*. 50: 55-58.
- HABER R.N. (1957): The Prediction of Achievement Behaviour and Interaction of Achievement Stress. *Dissertation Abstracts* 17: 2686-2687.
- KRUG, R.E. (1959). Over and Under-Achievement and the Edwards Personal Preference Schedule, *J. appl. Psychol* 43: 133-136.
- KRUMBOLTZ J.D. & FARQUHAR W.W. (1957): Reliability and the Validity of the Achievement Test. *J. Consult. Psychol.* 21: 226-228.
- MAEHR, M.L. & SJOGREN, D (1971): Atkinson's Theory of Achievement Motivation: First step toward a Theory of Academic Motivation. *Review of Educational Research*. 41: 2.
- McCLELLAND D.C. (1967): *The Achieving Society*. New York. The Free Press.
- McCLELLAND D.C. & ATKINSON J.W. (1953): The Achievement Motive. New York. Appleton-Century-Crofts, Inc.
- MEHRABIAN A. (1968): "Male and Female Scales of Tendency to Achieve" *Educ. psychol. Measur.* 28: 493-502.
- MITCHELL J.V. Jr. (1961): An Analysis of the Factorial Dimensions of the Achievement Motivation Construct. *J. Educ. psychol.* 52: 179-187.
- PARRISH J., RETHLIN D. & SHAFER (1954): A Study of the Need to Achieve in College Achievers and non-Achievers. *J. Gen. Psychol.* 50: 209-226.
- ROSEN C. (1956): The Achievement Syndrome: A Psychological Dimension of Social Stratification. *American Sociological Review*. 21: 203-211.
- STRODTBECK, F.L. (1959): Family Interaction, Values and Achievement, in McClelland, D.C. (Ed) *Talent and Society*. New Sersey. D. Van. Nostrand & Co.
- TRAVIS C.B. & ANTHONY S.E. (1975) Ethnic Composition of Schools and Achievement Motivation. *J. Psychol.* 89: 271-279.
- VAUGHN G.E. (1974) An Examination of the Relationship between Selected Personality Factors and Academic Achievement. *Psychol. Abstr* 52: 3.
- VEROFF J. (1969): Social Comparison and the Development of Achievement Motives in *Achievement Related Motives In Children*. Smith C.P. (Ed.).
- WEINER B. & KUKLA A (1970): An Attributional Analysis of Achievement Motivation. *J. Personality Soc. Psychol.* 15: 1-20.
- WEISS P., WERTHEIMER M. & GROESBECK B. (1959): Achievement Motivation, Academic Aptitude, and College Grades. *Educ. psychol Measur.* 19: 663-664.
- WORELL L. (1959) Level of Aspiration and Academic Success, *J. educ. psychol.* 50: 47-54.
- WAN RAFAEI WAN A. RAHMAN (1972); An Exploratory Comparative Study in Achievement Motivation between Malay and Australian Secondary School Students. *Akademika* 1:105-110.
- WAN RAFAEI WAN A. RAHMAN (1973): Achievement Motivation and Academic Performance. *Akademika*. 2:

(Received 9 November 1983)