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## Relationships between university students' achievement motivation, attitude and academic performance in Malaysia

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### Abstract

Student achievement problems are often highlighted in academic literature and the mass media and therefore, it is pertinent for educators to be aware and to study the factors related to student achievements such as achievement motivation and attitude. The purpose of this study was to identify the relationships between the achievement motivation, attitude and student academic performance. The research design employed was a descriptive correlational. Data were collected by self-reported questionnaire on a sample using cluster sampling technique based on the different faculty of studies in the university. The respondents were 1484 students from a local university (1102 females and 382 males). They were following the education, science, humanities, agriculture/technical/engineering programmes. Results indicated a positive significant correlation between students' attitude towards learning and achievement motivation ( $r = 0.53$ ,  $p < .001$ ), and between students' attitude and academic achievement ( $r = 0.16$ ,  $p < .001$ ). However, a negative and low correlation ( $r = -.038$ ,  $p > .05$ ) was observed between students' achievement motivation (nAch) and their academic achievement. The implications of the findings were also discussed in the paper.

*Keywords:* Academic performance; attitudes towards learning; achievement motivation; attitudes towards peer influence; gender differences.

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### 1. Introduction

Student achievement problems are often highlighted in academic literature and the mass media and therefore, it is pertinent for educators to be aware and to study the factors related to student achievements such as nAch and attitude towards learning. Motivation is the driving force behind our actions and affects our needs, desires and life ambition (Rabideau, 2005). Achievement motivation is one's inner drive to achieve. In the study on predicting student success with the Learning and Study Strategies Inventory (LASSI) Hendricks (1997) discovered that motivation and attitude were the best predictors of student academic performance. In this study students' academic performance was measured by using grade point average. In another study, Lirias (2009) indicated that with a caring environment, students showed better achievement and the ones who were able to achieve were those who attained high achievement motivation. Mahyuddin, Elias and Noordin (2009) also found a significant but low positive correlation between students' achievement motivation and their academic achievement.

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A positive significant correlation between students' attitude and academic achievement has been observed in the works of Zimmerman, Bandura, and Martinez-Pons (1992). They also reported a path analysis for final grades of 9<sup>th</sup> and 10<sup>th</sup> graders and the students' attitude. Direct effect of attitude on performance has also been shown by Pajares and Miller (1994). Papanastasiou (2000) also found a positive relationship was observed between mathematics achievement and students' attitudes towards mathematics.

The objectives of this study were to identify: (a) the relationship between achievement motivation and academic performance of university students; (b) the relationship between attitude and academic performance of university students; (c) the relationship between attitude and achievement motivation of university students; and (d) to determine relationships and to predict the influence of several predictor variables on academic performance among university students.

## 2. Methodology

The research design employed in the study was a quantitative descriptive-correlational. This design is useful when the research tries to look at relationships between variables (academic achievement, achievement motivation and attitude, etc). The sample was chosen using cluster sampling technique based on the different faculty of studies in the university. The clusters were represented by groups of General Education courses taken by all students from different programme of studies in the university. Students from four courses (which form the clusters) out of the 20 courses offered for the semester were randomly chosen as sample of the study.

The respondents consisted of 1484 students which exceed the necessary sample size as indicated by Cochran (1988). Accordingly, the minimum sample size for a population totaling 20,000 students is 450. The respondents of the study comprise of mixed groups. There were 1102 females (74.3%) and 382 (25.7%) males. Their age ranged from 20 to 41 years. Respondents were also categorized based on their programme of studies, viz-a-viz the Education (318 & 21.5%), Science (379 & 25.6%), Humanities (316 & 21.4%), Agriculture/Technical/Engineering (467 & 31.6%) programmes.

Data were collected by administering a self-reported questionnaire which consisted of two parts. Part A was to solicit the respondents' demographic information and Part B consisted of the 13-item 5-point Likert scale achievement motivation section which was modified from the Mehrabian Achievement Motivation Scale; and the 14-item 5-point Likert type attitudinal scale which was developed based on literature. Content validity of the instrument was checked by a panel of experts. A reliability coefficient of the instrument was using Cronbach Alpha was 0.78.

## 3. Results

### 3.1 Descriptive Statistics

Table 1 shows descriptive statistics for the construct understudy. The mean level of achievement motivation of the university students was 3.86 (SD = 0.32) whilst their attitudes toward learning was 3.95 (SD = 0.34). Thus based on ratings of one to five, students' level of achievement motivation and attitudes were both moderate. Students' reported level of peer influence on their studies were found to be high with a mean of 4.43 (SD = 0.67). Academic achievement of the students based on cumulative grade-point average (0.00-4.00 points) were found at the average level with a mean of 2.87 (SD = 0.47). Additionally, the distributions of all the five variables were found normal.

Table 1. Means and standard deviations of constructs understudy

Variables	Mean composite scores	SD
1. Academic performance	2.87	.47
2. Achievement motivation	50.21	4.20
3. Attitudes towards learning	55.32	4.80
4. Peer influences	26.61	4.04

Findings of the study indicated that students' academic achievement was correlated significantly with their attitudes towards learning ( $r = .16$ ) and their attitudes towards peer influence ( $r = -.17$ ). There were also association between students' academic achievement with gender and ethnic groupings (see Table 2). Findings of the study also indicated a positive significant correlation between students' attitude and achievement motivation ( $r = 0.53$ ,  $p = .000$ ), thus this finding is in line with that highlighted in Lirias (2009) study. Lirias reported that achievement motivation was significantly and positively related to mathematics and language achievement. This finding is supported by other research, such as that by Zimmerman, Bandura, and Martinez-Pons (1992) who reported a path analysis for final grades of 9<sup>th</sup> and 10<sup>th</sup> graders and the students' attitude. Direct effect of attitude on performance had also been shown by Pajares and Miller (1994). However, in this study it was found there was a negative and low correlation between nAch and academic achievement. This implies that nAch is not a contributing factor in academic achievement. This result is in contrast to the findings by Mahyuddin, Elias & Noordin (2009) where nAch was significantly and positively correlated with academic achievement ( $r = .372$ ,  $p < .05$ ). The study was conducted on students from the public higher educational institutions. Perhaps this may be due to some methodological differences where the students from the public higher educational institutions were homogeneous.

Table 2. Intercorrelations between predictor variables with students' academic performance

Variables	1	2	3	4	5	6
1. Academic performance	1.00	-	-	-	-	-
2. Achievement motivation	-.038**	1.00	-	-	-	-
3. Attitudes towards learning	.158**	.53**	1.00	-	-	-
4. Peer influences	-.017**	.073**	.15**	1.00	-	-
5. Gender	.22**	.05**	.04**	.002 <sup>ns</sup>	1.00	-
6. Ethnicity	.15**	.07**	.04**	.05 <sup>ns</sup>	-	1.00

\*\* $p < .001$ , <sup>ns</sup> not significant

### 3.2. Regression Analysis

Further analysis on understanding students' academic achievement were conducted using a standard multiple regression analysis incorporating students' achievement motivation, attitudes towards learning and peer influence in learning, ethnic group and gender as predictor variables. Preliminary analyses were also conducted in order to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Findings indicated an overall significant effect on students' academic achievement,  $F(5, 1176) = 40.442$ ,  $p = 0.001$ , adjusted  $R^2 = 0.14$  with all the five constructs found to be significant predictors namely, students' achievement motivation, attitudes towards learning and peer influence in learning, ethnic group and gender.

Table 3. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.672	5	1.734	0.442	.000
	Residual	224.905	1176	.191		
	Total	233.576	1181			

a Predictors: (Constant), ethnic group, attitudes, gender, peer influence, motivation

b Dependent Variable: academic achievement

The standardized coefficients for the predictor variables indicated the unique contribution of each predictor variable (see Table 4). The model which includes the five variables explained only 14 per cent of the variance in students' academic achievement. Of these, students' attitudes towards learning makes the largest contribution (beta = .255) followed by category by gender (beta = .207). Students' attitudes toward peer influence and ethnicity were found to have significant contribution as well. Surprisingly, students' achievement motivation showed the lowest

contribution. This finding is contrary to findings by Schultz (1993) who found that achievement motivation was strongly related to academic performance, however, among minority students.

Table 4. Coefficients for the predictor variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std Error	Beta		
1	(Constant)	2.307	.195		11.845	.000
	Motivation	-.015	.004	-.137	-4.306	.000
	Attitude	.025	.003	.255	7.976	.000
	Peer influence	-.022	.003	-.189	-6.928	.000
	Gender	.226	.030	.207	7.646	.000
	Ethnic group	.092	.016	.156	5.768	.000

#### 4. Discussion

The aim of the study was to examine the learning environment factors influencing students' academic achievement at the university level. Based on previous research related to learning environments, students' attitudes might propagate the idea for better achievements and thus provide information for improvement of teaching and learning. Specifically in mathematics learning, student's attitude towards mathematics and factors related to learning are two components that always concern mathematics educators. In addition, affective factors such as attitudes and motivation had been a significant and critical dimension of learning (Seegers & Boekaerts, 1993; Vermeer, 1997; Zembylas, 2004).

Findings of this study indicated an overall significant effect on students' academic achievement,  $F(5,1176) = 40.442$ ,  $p = 0.001$ , adjusted  $R^2 = 0.14$  with all the five constructs found to be significant predictors namely, students' achievement motivation, attitudes towards learning and peer influence in learning, ethnic group and gender. Thus, this implies that attitudes towards learning and personal factors play important role in learning or any educational settings. These findings were supported by other research, such as that by Zimmerman, Bandura, and Martinez-Pons (1992) who found direct effect of attitude on performance and also by Pajares and Miller (1994).

Generally, achievement motivation was found strongly related to academic performance. Thus it is important to note that motivational variable appeared strongly related to high achievement for instance to high level of intelligence quotient. Therefore, efforts should be made by all instructors to augment students' attitudes and motivation towards learning as these would propel them to achieve higher in the learning process. However, further research needs to be done to investigate into relationships and plausible causes for academic achievement among university students.

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