

A Correlation Study of University Students' Academic Success

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Abstract: This study aims to explore the relationship between academic success factors and academic success of the students. In this study, every effort was made to include all full time diploma students of a public university in Sarawak for the past six semester (three years) from January 2016 in order to provide a detailed overview of the entire population. Due to considerable constraints which cannot be controlled, the final samples yielded 175 randomly selected students for the past six semesters from January 2016. The instruments comprised the report of final examination analysis of the students and the detailed information from the students' registration database. Data concerning students' CGPA (cumulative grade point average), students' gender, family income and the SPM (Sijil Pelajaran Malaysia) results were then obtained. From the findings, university students' academic success were significantly related to SPM results, particularly English, Mathematics and Science subjects. The finding also found that there is a significant difference in mean of recent CGPA between male and female students. The female students outperformed the male students counterpart in the university studies.

Key words: correlation study, academic success, demographic profiles, university

1. Introduction

University completion or graduation rate, dropouts, academic dismissal are common problems in most of the universities in Malaysia. These problems of the academic success in tertiary education have its roots in many variables. Studies to determine the relationship of the factors influencing academic success of university students are valuable to tertiary education institutions. The search for factors associated with university students' academic success has stimulated keen interest and studies on a large number of empirical studies in recent decades (Studzinska-Cavour, 2006; Trockel, Barnes & Egget, 2000). Cumulative grade point average (GPA) is a frequently used measure of academic success (Lammers, Onwuegbuzie & Slate, 2001; Lahmers & Zulauf, 2001).

“Success factors” are defined as any data obtained that the study respondents cited as a factor of academic success in university. Many researchers investigate on the factors that affect academic success in university. Based on prior studies, one can categorize the related results into five factors: Learner, Family, Educator, Environment and Curriculum factors in order to label university success in the tertiary education.

This study seeks to improve the understanding of tertiary educators on the academic success of the students. Hence, the findings of this study may provide information for policymakers, university administrators and curriculum developers as well as details relevant to the similar studies. Therefore, the objective of this study is to explore the relationship between academic success factors and academic success of the students. In the present

study, cumulative GPA, gender, students' family income and SPM results were examined to determine their relationship on the academic success of the study, as shown by cumulative grade point average. The main hypotheses of this study were as the following:

H1: There is a significant relationship between family factor (family income) and students' academic success.

H2: There is a significant relationship between SPM results (English, Mathematics, Science) and students' academic success.

H3: There is a significant difference in students' academic success between male and female students.

2. Literature Review

Many researchers believe that academic success in tertiary education is not only important for a person to further his education, but it also ensures a more educated community. Hence, there is a continuing interest or demand to search for the best predictors of academic success in tertiary education. For the past century, there has been research investigating variables that best predict tertiary education success. Most of the early research investigated the use of ability measures and high school performance measures to predict college grades (Odell, 1929). Therefore, there is a continuous need to explore in details with respect to the academic success of the students in tertiary education.

Choi (2005) reported that when students are uncertain about their academic ability in an area or have not had much exposure to a certain academic area, they will likely be sensitive to the academic information. In this scenario, if someone is significant to the student believe and encourage the student in his academics, this will likely bring positive result. Besides, demographic characteristics and psychological characteristics have been argued until nowadays to better understand what contributes to students succeeding or failing in their studies from tertiary education institution.

Concerning the variables which predict academic success, Gokhan (2012) reported that the variable best predicting students' academic success in science course was the variable personal relevance in relation to the constructivist learning environment. On the other hand, Darren et al. (2008) reported that the greatest predictors of GPA (grade point average) were time-management skills, intelligence, time spent studying, computer ownership, less time spent in passive leisure and a healthy diet. Many studies report that intelligence and study time are positively associated with academic performance (Sternberg, 2006; Lahmers & Zulauf, 2001; Wang & Marsella, 1999).

3. Methodology

A correlational design was used to collect and analyze data from the samples. This study looks into the factors that influence the students' academic success in university. This study studies on the possible relationship between the students' cumulative grade point average and factors such as students' gender, students' family income and SPM results. A correlational design is most appropriate for this study because this design shows if they have a relationship between the variables. Amir, Maryam and Mohammad Reza (2013) found that six factors that positively impact student academic success were identified in the following order of relative impact (from greatest to least): "Teaching-Evaluation", "Learner", "Environment", "Family", "Curriculum" and "Teaching Knowledge".

In this study, every effort was made to include all UiTM Sarawak Mukah Campus full time diploma students for the past six semester (three years) from January 2016 in order to provide a detailed overview of the entire population. The population was the full-time diploma students in UiTM Sarawak Mukah Campus. Due to considerable constraints which cannot be controlled, the final samples yielded 175 students for the past six semester from January 2016. The instruments comprised the report of final examination analysis of the students and the detailed information from the students' registration database. Data concerning students' CGPA, students' gender, family income and the SPM results were then obtained.

The data collected were analyzed by using IBM SPSS version 22.0. Descriptive statistics were generated on the students' CGPA and the contributing factors. Pearson product-moment correlation coefficients were calculated to identify correlations, if any, for the students' CGPA and the contributing factors. Independent samples test was calculated to identify if there is any significant difference in mean CGPA between male and female students.

4. Results

The descriptive statistics and Pearson bivariate correlations are presented in Table 1. Mean CGPA score is 2.72; mean family income of the students is RM1941.00; mean SPM English score is 2.65; mean SPM Mathematics score is 2.77 and mean SPM Science score is 3.00.

Table 1 also displays the results of the correlational reports based on the data collected. Concerning the family income, there is no significant relationship between students' recent CGPA and their family income. On the other hand, statistical significance is found at the 0.01 level for SPM English, SPM Mathematics and SPM Science. There is a significant relationship between students' recent CGPA and their SPM English. In addition, there is a significant relationship between students' recent CGPA and their SPM Mathematics. Finally, there is a significant relationship between students' recent CGPA and their SPM Science.

Table 1 Descriptive Statistics and Correlations

	Mean	S.D.	V1	V2	V3	V4	V5
Recent CGPA	2.72	.6050	1	.038	.488*	.585*	.598*
Family Income	1941.00	.4731		1	.362*	.142	-.003
SPM English	2.65	.4667			1	.573*	.517*
SPM Maths	2.77	.5964				1	.519*
SPM Science	3.00	.4365					1

*. Correlation is significant at the 0.01 level (2-tailed).

Table 2 Statistics of Recent CGPA Between Male and Female Students

	Gender	Mean	Std. Deviation	Std. Error Mean
Recent CGPA	Male	2.45	.540	.072
	Female	2.84	.596	.055

Table 2 displays the statistics of recent CGPA between male and female students. Mean of recent CGPA for female students (2.84) is higher than mean of recent CGPA for male students (2.45). According to Table 3, there is a significant difference on the mean recent CGPA between male and female students ($p < 0.01$). Therefore, we can conclude that female students significantly outperformed the male students.

Table 3 Independent Samples Test between Male and Female Students

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Recent CGPA	Equal variances assumed	413	.521	-4.162	173	.000	-.390	.094	-575	-205
	Equal variances not assumed			-4.313	118.029	.000	-.390	.090	-569	-211

5. Conclusions and Suggestions

This study seeks to explore the relationship between academic success factors and academic success of the students. Generally, higher SPM results particularly English, Mathematics and Science subjects are significantly related to higher CGPA score in university. We therefore conclude that academic success of university students is significantly related to their SPM results. Besides, female students tend to outperform the male students in university education. Comparatively, in this study, mean of recent CGPA for female students is significantly higher than the mean of recent CGPA for male students. The findings of this study were found consistent with Waters & Marzano (2006) who reported that there were many factors that affected the students' academic success in their tertiary education.

As this study only reported partial findings from a complete study, hence the variables in this study limited to students' CGPA, family income, gender and SPM results. There is important need to further look into factors that may explain the academic success of university students in term of psychological, educator and environment perspectives. Further study should include an investigation of students' personality traits, intelligence, awareness and motivation to success academically. The researcher suggests to integrate these variables with other variables to further explain and predict the academic success of university students.

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