



THE IMPACT OF SELF-EFFICACY (ONLINE MEASURE) ON STUDENTS' GRADE POINT SCORES



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ABSTRACT

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This study examines the impact of students' self-efficacy on grade point scores. The data came from 59 sports-science majors (38 males and 21 females) who were in their third semester and were enrolled in the subject Exercise Psychology (SPS543). An online self-efficacy measuring scale was adapted from a previous scale to measure the students' grade point scores. The Pearson correlation showed a positive significant relationship in that students with higher self-efficacy scores also scored higher in grade point scores. As for gender differences, the independent t test indicated no significant difference in self-efficacy and grade point scores between male and female students. The findings revealed that self-efficacy for a specific subject's grade point scores is a good measure other than more generalized performance scores. However, level of stress might have influenced the students who predicted a lower score. Future research may focus on students' anxiety levels prior to final exams, which affect grade point scores.

Contribution/ Originality: This study inspects the impact of students' self-efficacy on grade point scores.

1. INTRODUCTION

Academic life is challenging to students (Khan, 2013) because they perceive the university as the final institution prior to their work life and therefore strive to obtain good results in their tertiary education. This research aims to identify the important factors related to students' psychological and academic performance (Bandura, 1997; Mazlan and Hajar, 2016). According to Heslin and Klehe (2006) a student's self-confidence refers to how confidently he or she accepts and reacts to most situations. Self-esteem, on the other hand, is the extent to which a student values him or herself.

Pajares (1996) notes that self-efficacy refers to one's personal beliefs in their ability to complete a specific task, which depends on their interpretation of their performance prior to the actual task. Sometimes, people change their environment and self-belief based on the environment and their ability at the present time. Those with higher self-efficacy tend to have feelings of serenity when performing a particular task. A student's level of self-efficacy can predict their level of accomplishment. In other words, students with higher self-efficacy tend to perform better academically because their self-belief can significantly affect their determination (Chermers *et al.*, 2001).

Students' self-efficacy refers to the level of confidence they have in mastering a subject, and this aspect of learners has become a popular topic of investigation among researchers (Chermers *et al.*, 2001; Mazlan and Hajar, 2016). Despite the numerous studies, very few studies have investigated the relationship between self-efficacy and academic performances using methodical research strategies. A study by Galyon *et al.* (2012) revealed that the grade point average (GPA) of undergraduate students (whether high, medium or low) is influenced by their self-efficacy. In another study, Robbins *et al.* (2004) found academic self-efficacy to be the most influential factor affecting a student's GPA. The finding suggests that students' learning ability must be aligned with their belief towards their own academic performance because different subjects measure and grade performance differently. As Pajares and Schunk (2001) stated, students' predictions in their general accomplishments and self-belief in learning do matter because implications have been noted about one's capability of learning and succeeding in a new environment. Nevertheless, students have limited knowledge of their capability to succeed in a specific subject and therefore, having a personal achievement of a GPA grade or score for a particular subject is important for self-motivation. This notion necessitates further attention (Mazlan and Hajar, 2016).

In the context of gender differences and the relationship between self-efficacy and academic performance, Shkullaku (2013) found that male and female students differed in their self-efficacy and GPA grade. Interestingly, Zeldin and Pajares (2000) found that female students were more inclined to misjudge their capability of performing in a subject, although their academic performance appeared to be higher than that of the male students. Another study by Tenaw (2013) on the other hand, showed no significant difference between genders in terms of self-efficacy.

The literature attests that several studies have been conducted on self-efficacy and academic performances (GPA grade) in Malaysia and elsewhere. In one recent study, Mazlan and Hajar (2016) investigated a group of students' predicted grade point scores of a specific subject before sitting for final exams using data collected from a sports counseling course taken by the students of Universiti Teknologi Mara in Seremban, Malaysia. The results showed no significant difference between the male and female students in self-efficacy scores. However, a positive relationship was noted between the passing scores and the failing scores among the students; the passing scores were higher than the failing scores. In the study, Mazlan and Hajar (2016) also developed a self-efficacy scale following the lack of a scale that focuses on grade point scores. Using a hierarchical design scale recommended by Bandura (2006) and Feltz *et al.* (2008) Mazlan and Hajar then recorded a Cronbach's alpha value of .73, a score considered acceptable (Pallant, 2013). However, no study has focused on the relationship between the self-efficacy of a specific subject and a grade point score.

Several scholars (Mazlan *et al.*, 2017) contended the need to investigate the self-prediction of students who major in sports science, particularly in their ability to succeed academically. Self-prediction is believed to reflect self-efficacy in the context of a specific subject (i.e. Exercise Psychology) for science majors because the former can motivate other people to be involved in physical activities.

The objective of this study is to determine the relationship between self-efficacy and academic performance (grade point scores) among sports-science majors who were taking the subject Exercise Psychology (SPS543). The aim of this study is also to investigate the influence of gender on self-efficacy and academic performance.

2. MATERIALS AND METHODS

2.1. Sample and Participant Selection

The sample comprised fifty-nine students (male; 38, female; 21) aged from 21 to 22 years ($M = 21.03$, $SD = .18$). At the time of this study, all the participants were third-semester sports science major students who were taking the subject Exercise Psychology (SPS543).

2.2. Assessments and Measures

A grade-point self-efficacy scale was adapted from a self-efficacy GPA grade developed by Mazlan and Hajar (2016). This scale allows measurements to be task-specific and hierarchically arranged in order to represent increasing levels of complexity (Bandura, 2006; Feltz *et al.*, 2008; Mazlan and Hajar, 2016; Mazlan *et al.*, 2017). For the purpose of this study, the students needed to complete the survey (online) immediately after completing the syllabus. The online grade-point self-efficacy assessment adopted in this study differs from those adopted previously only by one item: the items *I believe I can get 1.00 to 1.32 GPA or D out of 4.00 for this course* was modified to *I believe I can get D or 1.00 to 1.32 out of 4.00 for this course*. The participants were asked to record their strength on a 100-point scale, from 0 (*cannot do at all*), 50 (*moderately can do*) to 100 (*highly certain can do*). The Cronbach's alpha value recorded was .75, a value considered acceptable by Pallant (2013).

The students' grade point scores were obtained from the university records a month after the final exam in order to comply with the standard examination procedure. The grading for this subject was from A to D. The failing grade is 1.00 to 1.99; a grade of 2.00 to 3.32 represents satisfactory performance; and a grade of 3.33 to 4.00 represents outstanding performance (Mazlan and Hajar, 2016; Mazlan *et al.*, 2017).

2.3. Procedures

The study was conducted at the Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Seremban Campus. The students were continuously given assessments' marks immediately after completing parts of the syllabus. They also had to rate their responses on the online grade-point self-efficacy scale after being briefed by the researcher. In general, the students took approximately 15 to 20 minutes to complete the survey. Their performance for the subject Exercise Psychology (SPS543) was assessed in this study. This course typically consists of nine topics that aim to enhance a student's understanding of exercise from various psychological perspectives. The continuous assessments included tests, assignments, and presentations.

3. RESULT

The relationship between self-efficacy and grade point scores for the subject Exercise Psychology was analyzed using the Pearson product-moment correlation coefficient. The data were found to be normally distributed for both the male students ($M = 910.08$, $SD = 93.46$) and the female students ($M = 932.86$, $SD = 56.32$). Table 1 shows a strong positive correlation between two variables on the self-efficacy of male and female students; the grade point scores were noted to be $r = .67$, $n = 38$, $p < .01$ for the male students and $r = .85$, $n = 21$, $p < .01$ for the female students. The results suggest a strong and positive correlation between self-efficacy of both genders and grade point scores. The present findings clearly indicate that students who perceived their self-efficacy to be higher also performed better in the subject, as evidenced by their grade point scores.

Table-1. Pearson Correlation between Self-Efficacy and Grade Point Scores in Male and Female Sports Science Students Taking the Subject "Exercise Psychology".

Gender	R	N
Male	.67**	38
Female	.85**	21

Note: ** Correlation is significant at the 0.01 level (two-tailed).

A preliminary analysis was conducted and the data were found to be normally distributed in each group. Also, equal population variances were noted for the two groups. An independent sample *t* test was conducted to compare the level of self-efficacy and grade point scores between the male and female students.

The results in Table 2 below show no significant difference in the self-efficacy scores between the male students ($M = 910.08$, $SD = 93.46$) and female students ($M = 932.86$, $SD = 56.32$; $t(57) = -1.02$, $p = .32$, two-tailed). The magnitude of the differences in the means (means difference = -22.78 , 95% CI: -67.62 to 22.07) is very small

(eta squared =.01). Additionally, no significant difference was noted in terms of grade point scores between the male students ($M = 789.74$, $SD = 151.93$) and the female students ($M = 814.29$, $SD = 135.23$; $t(57) = -.62$, $p = .54$, two-tailed). The magnitude of the differences in the means (means difference = -24.55 , 95% *CI*: -104.20 to 55.10) is very large (eta squared = 6.5). The findings clearly reveal that both the male and female sports-science majors were similar in their prediction (self-efficacy) and academic performance (grade point scores).

Table-2. Differences of Self-Efficacy and Grade Point Scores of Exercise Psychology Subject between Male and Female Students Taking Sports Science in UiTM Seremban.

Variable	Students	N	Mean	SD	t	df	p value	Mean difference	Std. Error difference
SE	Male	38	910.08	93.46	-	57	.31	-22.78	22.39
	Female	21	932.86	56.32					
GP	Male	38	789.74	151.93	-.62	57	.12	-24.55	39.78
	Female	21	84.29	135.23					

Note: SE = Self – efficacy, GP = Grade Point.

4. CONCLUSION

The study results show a positive relationship between the self-efficacy (as measured through an online grade point self-efficacy scores) and the grade point scores of students taking the subject Exercise Psychology. This finding supports previous studies that found a significant difference in the relationship between students in self-efficacy and academic performance using the written General Self-efficacy Scale and Academic Self-Efficacy Scale (see (Shkullaku, 2013; Akram and Gazanfar, 2014)). As for gender differences, the present study found no significant differences in self-efficacy and grade point scores between the male and female students. This finding is similar to that obtained by Mazlan and Hajar (2016). The findings of this study also support (Pajares, 1996) that knowledge and accomplishments are often poor predictors of consequent accomplishments. This is because the belief and abilities to succeed that students hold depend on their behavior (Pajares, 1996). Other than supporting the hypothesis of the study, results from the investigation show that judgments of capability are better predictors of related outcomes than more generalized self-belief (see Bandura (1986)). The findings of this study also demonstrate that self-efficacy for the grade point scores of a specific subject is also a better predictor than more generalized performance. Nevertheless, the findings support (Bandura, 1986)'s argument that if the aim of a study is to better the prediction of academic performances or to help distinguish between self-efficacy and other expectancy belief, then the research questions should be formulated to measure self-efficacy specifically. A positive relationship between self-efficacy and grade point scores implies that direct counseling might be beneficial for those with low self-efficacy (Mazlan and Hajar, 2016; Mazlan et al., 2017). Furthermore, lecturers should assist students to increase their academic self-efficacy by providing relevant tasks (Choi, 2005). Although the results indicate that students who have higher grade point scores also have higher self-efficacy, it is acknowledged that other influencing factors might play a role. For example, the level of stress might have influenced the students to have lower predictions of score, as observed in previous studies (see (Friedlander et al., 2007; Barrows et al., 2013)). Future research thus can focus on students' anxiety levels prior to final exams and how it affects their grade point scores.

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