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# The impact of self-efficacy, achievement motivation, and self-regulated learning strategies on students' academic achievement

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## Abstract

This study investigates the impact of self-efficacy, achievement motivation, and learning strategies on students' academic achievement. Conducting this research is important since there is a lack of educational research on the above research components as an integrated motivational model. Selected undergraduate students participated in the study. The structural equation modelling (SEM) was applied to answer the following research Question: What is the impact of self-efficacy beliefs, achievement motivation, and self-learning strategies on academic achievement of the UKM undergraduate students? Scientifically, results of direct and indirect technique indicated the effects of self-efficacy beliefs, achievement motivation, and self-learning strategies on academic achievement. Self-efficacy beliefs were significantly enhanced learning attainment.

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*Keywords:* ; impact, Self-efficacy; Achievement Motivation; Self-regulation Learning strategies; achievement;

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## 1. Introduction

In 1977, Albert Bandura initiated the conception of perceived self-efficacy which influences and modifies human behaviour. Self-efficacy refers to the personal beliefs or to an individual's confidence in his own ability to perform effectively specified tasks. Self-efficacy theory stressed that human action and success depend on how deep the interactions between one's personal thoughts and a given task (Bandura 1986, 1997). Individuals with a low sense of self-efficacy will possess negative thoughts and think of task's demands as threatening not as challenging and therefore set low objectives for themselves (Aid Suraya & Wan Ali 2009; Bandura 1994). Students that were able to initiate their study activities with self efficacy and develop applicable self learning strategies are more likely to progress and achieve better because non self-regulated students are not really involved in learning process and consequently they might be subjected to any kind of shallow knowledge and low academic achievement (Pintrich and Schraben 1992; Zimmerman 1986). Consistently, extensive evidence from empirical research has proven the effects of self-efficacy on students' academic accomplishments (Bandura 1997; Chemens et al. 2001; Eastin and LaRose 2000; Khorrami-Arani 2001; Maimunah Ismail et al. 2005; Tamara and Koufteros 2002).

On the other hand, the causal effect of self-efficacy on academic achievements is among of the important issues that have been raised in educational research. The causality effect of self-belief becomes more interesting when researchers are try to find out whether one's self-confidence is a primary cause of academic success or, is that success rooted largely in the students' remarkable effort and skills. Generally, the literature review indicates two

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broad areas that have been the focus of much educational research. Firstly, some researchers have investigated existing relations between efficacy beliefs and college students' confidence to enroll to a specific major and career choices in science and mathematics. Generally, it was reported that the mathematical self-efficacy in college students predicts their choice of math-related courses and influences their major interest more so than their previous achievement or outcome expectations in mathematics (Brown et al. 1989; Bores-Rangelet et al 1990; Pajares and Miller 1995). Secondly, some investigators explored interconnections between efficacy and other psychological constructs such as self-concept, anxiety, and perceived usefulness. It is generally reported that when self-efficacy is included in a psychological model, the effects of other constructs on students' academic performance will be reduced and self-efficacy influence increased (Pajares and Kranzler 1994, 1995a, 1995b; Pajares and Miller 1995; Pajares and Johnson 1996; Young and Choi 2000; Wood and Bandura 1989).

## **2. Methodology**

Three hundred UKM undergraduate students responded to the research questionnaires which include four constructs, namely, the self-efficacy construct (3 sub-scales), achievement motivation construct (3 sub-scales), and self-learning strategies construct (6 sub-scales). Separate confirmatory factor analysis was run for each construct, though; some items were removed from further analysis because they were below the requirements.

## **3. Result**

### **3.1 Model fit**

The overall model fit for all individual constructs was acceptable signifying the models fit of the research. For instance, CFA's fit indices satisfied that the self-efficacy encouragement hypothesized model (11 items) fit the collected data well, the root mean residual (RMR) .040, the Hoelter critical number (CN .05) 201, Hoelter critical number (CN.01) 229, the root mean square error of approximation (RMSEA) .060, CMIN/DF 2.07, the goodness-of-fit index (GFI) .95, the adjusted goodness-of-fit (AGFI) .92, the Tucker-Lewis Index (TLI) .96, and the comparative fit index (CFI) .97 (Barbara 2001; Hair et al. 1998; Pintrich et. al. 1991).

### **3.2 Direct and Indirect Effect Estimation**

Direct and indirect effect technique was applied to explore causal relations between self-efficacy beliefs, achievement motivation, learning strategies, and students' academic achievement. The analysis of direct and indirect effect technique indicates .031 on participants' CGPA with estimate of standardize indirect effect of .028. The standardize error of the indirect effect .028 is estimated for .078. The confidence level on standardize error is between 0.88 lower bound and .028 upper bound. In parade with these results, we might claim that, we are 90% sure and confident that standardize indirect effect is somewhere between .088 and .028. Standardize indirect effect is at statistical significant level 0.36. Turning to figure 1.1 direct and indirect effect techniques, the analysis shows the influence of achievement motivation construct and learning strategies construct on academic achievement (CGPA) of the research participants through mediation of self-efficacy construct. The posted path on students' achievement CGPA also shows direct high impact for self-efficacy construct .16 compared to achievement motivation .01 and learning strategies -.11 respectively confirming the mediational role of self-efficacy construct on achievement motivation and learning strategies as well as it constantly influenced participants' academic achievement CGPA.

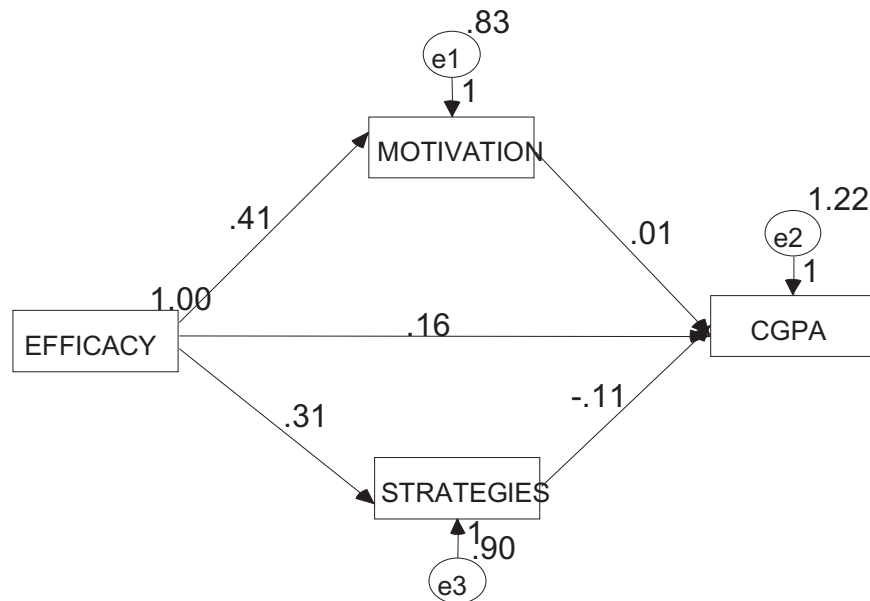


Figure 1.1 Direct and Indirect Estimations

#### 4. Discussion and conclusion

The path analysis established that there was a direct and indirect effect between research components and respondents' academic achievement. Specifically, the analysis has shown the direct effect of self-efficacy and indirect influence of achievement motivation and self learning strategies on participants' academic accomplishment. Additionally, the analysis of direct and indirect results indicated the mediational role of self-efficacy on achievement motivation and learning strategies. The highest statistical significant effect was between respondents' self- efficacy and CGPA suggesting neither, the achievement motivation, nor was the learning strategies the strongest cause of the respondents' academic achievement. The above findings were similar to the existing literature on self- efficacy, achievement motivation, learning strategies in relation to the students' academic achievement (Habibah Elias 2009; Mahmud Bin Hj Abd Wahab 2009; Wood and Bandura 1989; Young and Choi 2000).

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