

Association of Students Self-Efficacy Scores with Academic Performance in Health Care Students

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Abstract

Objective: To record self - efficacy scores of first year MBBS and BDS students using Student Self -Efficacy Scale & to identify association between self-efficacy scores and academic performance of first year MBBS and BDS students in their first block/term exam.

Method: This cross sectional study was carried out at Foundation University School of Health Sciences, after ethical approval using non-probability convenience sampling. First year MBBS and BDS students (n= 200) were asked to respond on a validated 10 item SSE scale. Students' Physiology performance in exam was grouped as 1) High 75% and above, 2) Average 50-74%, 3) Low below 50%. The SSE scores were labeled as 1) High above 30, 2) Average 20-29 and 3) Low below 20. SPSS 21 was used for calculating descriptive statistics and correlation.

Result: Data of 178 received responses on SSE scale and term exam scores showed students falling in High SSE scores were 42.1 % (n=75), average 49.4 % (n=88) and low 8.4 % (n=15). Total High performers were 26.9 % (n=48), average 57.8 % (n=103) and low 15.1 % (n=27). A significant positive association between SSE and the academic scores ($r=0.64$, $P=0.00$) was found using Pearson Correlation Coefficient.

Conclusion: Study indicates that higher the self-efficacy score of the students, the higher their exam scores.

Keywords: Students Self-efficacy score, Academic Performance

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Introduction

Students, especially in their first year of medical school are exposed to high level of stress. Stress can result in poor academic performance, resulting in more stress. However, where some students may need mental and social support, others facing the same level of stress successfully cope and do not become part of the vicious circle.¹ Perhaps, while facing challenging workload, the student performance may not be just dependent on intelligence, teaching or learning techniques, gender, socioeconomic background or daily

study hours. Personality profiles of medical students and doctors have been related to their performance outcomes in clinical environment.² It has been shown in a literature review carried out by Eva M D where four studies showed that the relationship between personality traits and performance becomes increasingly significant as students' advance through medical training years. In addition to personality variables, researchers also consider personal determinants like ones self-efficacy belief as an indicator of performance.³ General self-efficacy is the belief in one's competence to cope with a broad range of stressful or challenging demands.⁴ The Student Self -Efficacy (SSE) Scale specifically covers four main domains of students' academic challenges, namely academic performance, coping with academic stress, knowledge and skill development and social interaction with faculty. These academic challenges differ from those that other students face in daily life. As an educator, there is a need to understand how

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to support students meet these challenges⁵. A student reporting higher levels of self-efficacy takes difficult assignments as challenges to overcome, rather than threats to be avoided, which could impose stress on him. Some scholars believe that students with high self-efficacy show superior performance.⁶ Current study is planned to comprehend the influence of student self-efficacy on academic performance of students.

Methods

A cross sectional study was carried out at Foundation University School of Health Sciences after ethical approval using non-probability convenience sampling. The inclusion criteria were a total of 200 students of first year MBBS and BDS. After informed consent, students of first year MBBS and BDS were asked to fill a Student Self-efficacy Scale taken with permission from Rowbotham et al⁵. This scale consisted of 10 items which measured self-efficacy in four main areas namely a) academic performance b) knowledge and skill development c) social interaction d) coping with academic stress. The scale was answered on a four-point response format: (1) not at all true; (2) hardly true; (3) moderately true; (4) exactly true. Hence, score ranging from 10-40; 40 indicated higher student self-efficacy and vice versa. Students physiology first block/term exam scores were grouped as 1) High performance 75% and above, 2) Average performance 50-74%, 3) Low performance below 50%. The student self-efficacy (SSE) was labeled as 1) High SSE for scores above 30, 2) Average SSE for scores between 20-29 and 3) Low SSE for below 20.

Results

Out of 200 students who were asked to fill the Student's Self-Efficacy (SSE) scale, 178 filled it in the given time. The collected data was entered in SPSS 21. Pearson correlation was computed to evaluate the association

Table 1: Association between Self-Efficacy Score and Exam Scores of the Students (n=178)

Pearson's co-efficient	p-value
0.64	0.00*
*p < 0.05	

between self-efficacy score and academic performance of the MBBS and BDS students (Table I).

This result reveals highly significant positive relationship between two variables (r=0.64, p=0.00). It indicates that higher the self-efficacy score of the students, the

higher their exam scores.

Percentage of Students on basis of Performance

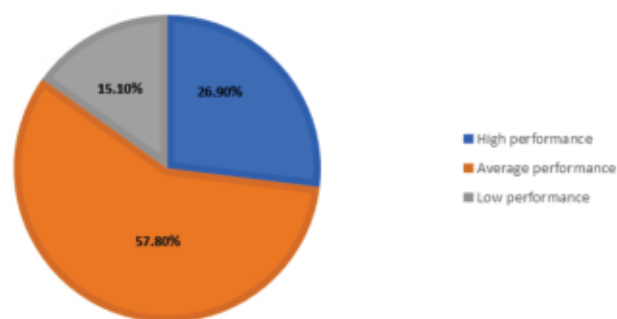


Fig. 1

Percentage of Students on basis of SSE

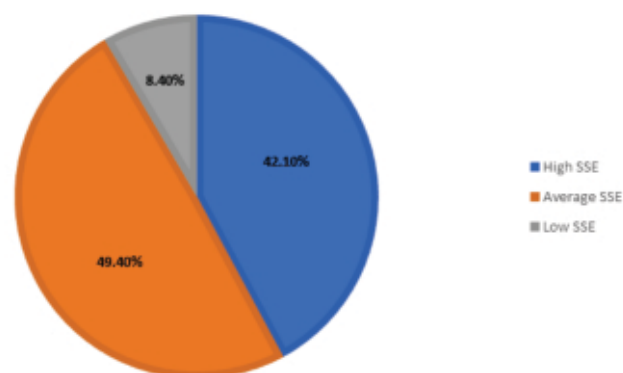


Fig. 2

The percentage of students scoring high, average and low results are shown in figure-I

The percentage of students scoring high, average and low SSE are shown in figure-II

Discussion

The present study explores relationship between self-efficacy and academic achievement among students from first year of MBBS and BDS. Healthcare students starting university often find themselves overwhelmed and experience increased levels of stress and find difficulty managing their time and vast coursework^{7,8}. Despite this, there are students who perform better than others. While this may be attributed to other factors, over the years, self-efficacy has been an area of growing interest for educators with increasing research being done on it⁹. A study conducted by Zheng et al compared self-efficacy, self-regulation and academic motivation as

predictors of academic achievement in medical students and showed that only self-efficacy was a direct predictor of students' academic achievements¹⁰. This may indicate that self-efficacy is more relevant when assessing health-care students which could be due to the fact that health-care students are required to master a certain set of skills and learn to develop rapport with patients⁸. These two factors i.e. skills development and social interaction are a vital facet of self-efficacy⁵.

This study revealed that there was a positive correlation between the academic scores of high achievers and their self-efficacy scores. This indicates that students who have higher self-efficacy are more likely to score better in examinations. These results are in agreement with the findings in similar studies conducted at various education levels¹⁰⁻¹². However, these studies vary in methodology and target population. For example, a study on self-efficacy in Tehran⁷ focused on research self-efficacy in post graduate students. Our study is specifically focused on first year medical and dental students because these students have freshly graduated from high school and have thus made the drastic transition from school to university life. This change of environment, institution, and increased workload can be a cause of significant stress and poor overall health^{7,13,14}. In fact, literature indicates that there is higher levels of stress amongst first year students¹⁵. Furthermore these factors have found to be what students perceive to be the cause of academic failure, specifically in preclinical years¹⁴. In contrast there are some students who perform exceptionally despite these changes. Present study may indicate that self-efficacy levels in students is a significant factor which can aid in overcoming these challenges which hinder better academic performance.

It is important to note that while some studies do have findings in favor of self-efficacy and academic performances, there are studies which contradict this¹⁶. In study conducted by Wu et al¹⁶, there was no significant relationship between self-efficacy scores and academic performance. Instead, it was intrinsic motivation which independently affected academic results. This brings into question whether improving self-efficacy is an effective intervention. Furthermore, a review on the self-efficacy beliefs of health sciences students conducted by Klassen et al showed that 46% of the articles reviewed were not in accordance with the guidelines derived from self-efficacy theory⁹. This may imply that the relationship between self-efficacy and academics still needs to be further researched and that the impact

of self-efficacy on students may be worth expanding on.

While the information provided in this study is valuable, like all studies, it has its limitations. To further research the association between self-efficacy and academics, the study may be repeated with a larger sample size and by comparing results of more than one subject. Moreover, the self-efficacy scores and results can be evaluated again in the same students after providing counselling and employing methods to improve self-efficacy for a fixed duration of time.

Conclusion

Present study revealed a positive correlation between high self-efficacy scores and high academic scores in first year MBBS and BDS students. This indicates that increasing self-efficacy in students may show an improvement in their academic results.

Conflict of Interest

None

Funding Source

None

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Authors Contribution

EA: Conceptualization of Project

SA, HA: Data Collection

EA: Literature Search

HA, MI: Statistical Analysis

HA, MI: Drafting, Revision

EA: Writing of Manuscript