Perceived Self-Efficacy and Academic Achievement among Jordanian Students

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Abstract

The current study aimed at exploring the relationship between perceived self-efficacy and academic achievement among a sample of Jordanian secondary stage students through identifying the levels of perceived self-efficacy among students and identifying the effect of gender and academic achievement on self-efficacy. To achieve the study aims, the researchers applied the perceived self-efficacy scale on (356) secondary stage students and collected information on students' gender and academic achievement. The results of the study showed that the majority of students hold a moderate level of perceived self-efficacy in terms of the total score and in all domains scores of the scale. Also, the results showed a significant effect of academic achievement on perceived self-efficacy in favor of higher achievement students. In addition, the results showed no significant effect for gender or the interaction of academic achievement and gender on perceived self-efficacy. The results were discussed in terms of developmental and social aspects of the sample.

Keywords: Self-efficacy; Educators; Positive social interaction; Social reinforcement; Psychological processes

Introduction

Awareness of one's self dictates behavior, beliefs about abilities, task achievements and anticipation of success or failure. Bandura [1] has originally believed that self-efficacy mediate the relationship between an individual belief in terms of success or failure and actual behavior when performing a particular task. Self-efficacy is defined as the beliefs about individuals' capabilities to produce designated levels of performance that exercise influence over events or tasks that affect their lives [2]. Self-efficacy beliefs determine how someone feels, thinks, and behave. Educators often note how strong sense of efficacy may affect students' accomplishment and personal well-being. Students with high levels of self-efficacy are more likely to be certain about their capabilities when encountered by difficult tasks because they see that as a challenge rather than a way to avoid such difficult situations.

However, perceived self-efficacy can either enhance students' capabilities or decrease them. Those who have strong perceived self-efficacy will be able to analyze their problems and reach better solutions while those with low perceived self-efficacy will have doubts about their abilities and avoid initiating successful solutions especially in difficult situations [3]. This concept implies that self-efficacy is learned and can develop over age through positive social interaction and proper social reinforcement [4-5]. Bandura [6] stated that most of the

research conducted showed that self-beliefs of efficacy affect human functioning on four major psychological processes. First, most human behavior is regulated by forethought embodying valued goals because personal goals are influenced by self-appraisal of capabilities. Second, self-efficacy plays a major role in the self-regulation of motivation because most human motivation is cognitively generated and forms beliefs about what they think they can do. Third, highly perceived self-efficacy affect people's beliefs in their coping capabilities and how much stress or anxiety they experience in threatening or difficult situations. Finally, highly perceived self-efficacy enables individuals to create beneficial environments and choose the individuals whom they can exercise some control during social interaction. Therefore, beliefs of personal efficacy can shape the course of social interaction and the types of activities and environments people choose.

Bandura [2] also identified several sources of self-efficacy. The first and strongest source stems from mastery experiences since successes build a robust belief in one's personal efficacy and failures undermine it. The second source stems from modeling since seeing people similar to oneself succeed by sustained effort raises one's beliefs that one also has similar capabilities and can succeed; similarly, observing others fail regardless of high effort lowers one's judgments of their own

efficacy and undermines their efforts. Social persuasion is a third source of strengthening people's beliefs that they have what it takes to succeed. Students normally will do better if they are persuaded verbally that they possess certain capabilities in a particular task and are likely to perform better than students who have self doubt and focus on their personal deficiencies when facing a new task. The last source of successful efficacy comes from individuals' positive appraisals and self-improvement because those who have positive self-efficacy can structure situations that bring success and avoid placing themselves in situations where they may fail. Schunk [7,8] found that self-efficacy research is viewed in domains relevant to education and several studies have addressed cognitive skills, social skills, motor skills, and career choices and have shown that self-efficacy is an important construct that helps to explain students' learning and performance of academic achievement. Such studies also have identified variables that are associated with educational contexts and that signal to students how well they are achieving or making progress in learning.

Marat [9] indicated that self-efficacy is viewed as a multidimensional construct that shares a reciprocal relationship with various determinants of learning and academic achievement. These determinants included motivation, strategies, cognitive strategies, resource management, self-regulated learning, meeting others' expectations, and self-assertiveness. Several studies revealed that students with highly self-efficacy capabilities showed better abilities in solving difficult tasks, more initiatives, less risk taking, more persistent, ambition and more emotional or social stabilities [9-12]. Other studies have shown a positive relationship between students' self-efficacy capabilities and academic achievements among school and university students; those who have higher perceived self-efficacy usually have better academic achievement [13-16]. Few studies showed that there was no significant relationship between perceived self-efficacy and academic achievement [4,17-19].

The present problem

Students with high self-efficacy capabilities are considered better in solving problems, work harder on difficult tasks, face more initiatives, take less risk, and show signs of persistent emotional and social stabilities. Most of the previous research has shown that perceived self-efficacy is an important factor that helps to explain students' learning and performance of academic achievement in Western cultures. Furthermore, academic achievement could be a determinant of self-efficacy, therefore, the present study aim at exploring the effect of academic achievement and students' gender on perceived self-efficacy among a sample of Jordanian secondary stage students. Also, the present study will attempt to identify the levels of perceived self-efficacy among students. In other words, the present study will answer the following questions:

a. What is the level of perceived self-efficacy among a sample of Jordanian secondary stage students?

b. What is the effect of academic achievement and student's gender on perceived self-efficacy scores among a sample of Jordanian secondary stage students?"

Significance of the study

The significance of present study stems from the fact that it explores the relationship between self-efficacy capabilities and students learning and academic achievement. It brings more attention to the self-efficacy as a construct which shares a reciprocal relationship with various determinants of learning and academic achievement. Regardless of the many international studies on the topic, the authors have not found any direct studies on the relationship between perceived self-efficacy and academic achievement among school students at the Jordanian or Arabic regional level. Some local studies have attempted to study the impact of perceived self-efficacy on various factors such as depression and anxiety [20], moral development [21], need for achievement and adjustment [22], and locus of control and adjustment strategies [23]. Therefore, the present study will explore this relationship among a Jordanian sample and put some recommendations to teachers based on the results.

Operational definition of terms

Perceived Self-Efficacy: Students' estimation of their expectation towards abilities as measured by the perceived self-efficacy scale.

Academic Achievement: Students' CGPA at the End of the previous year based on school records.

Method

Population and sample

The population consisted of all secondary stage students enrolling in the 1st Irbid directorates of education in Jordan that were estimated at 7968 students (4090 males and 3878 females). The sample consisted of 356 students (210 males and 155 females) and was chosen randomly using sections in various schools as a unit of assignment.

Study instrument

To achieve the present study goals, the researchers adopted A Jordanian version of Perceived Self-Efficacy Scale developed by Al-Saqer in 2005 [21]. The scale consisted of 70 items distributed among nine domains (emotional, social, behavioral, self-confidence, confidence among others, persistent, cognitive, academic, and moral). Students rated each item using a 4-point Likert type scale ranging from 4-1 where (4) represents a high perceived self-efficacy and (1) represents a low perceived self-efficacy.

Validity of the scale: The original Jordanian scale was validated through construct and

content validity procedures. To re-ensure the validity of scale, the researchers presented the original scales to 10 psychologists in Jordan. Proper changes were made to ensure good content validity based on agreements of 80% of judges.

Reliability of the scale: The original Jordanian scale was tested to be reliable through test-

retest method. However, the present researchers have ensured more reliability measures by distributing the scale to an independent sample of students (35 students) from the same population. Alpha score was (.91) for the whole scale, and scores ranged from .82 to .90 to all nine domains of the scale.

Study procedures

The scale was distributed directly by one of the researchers to the sample in groups, where each section chosen was treated as a group and each group ranged from 25-30 students. The researcher explained the purpose of the study and gave them instructions in how to rate each item in the scale. The researcher also gave one example on the blackboard in order to help the students understand their task. The researcher answered any questions raised by the students and collected the scales from the students allowing an average of 35 minutes

to complete the task. Students General CGPA for the year 2007-2008 was collected from school records. Gender of the students was decided in advance since all schools used were not mixed gender schools.

Results

The results of this study are presented according to the study questions.

First

To answer the first question regarding "What is the level of perceived self-efficacy among a sample of Jordanian secondary stage students?", frequencies, percentages, means, and standard deviations for students' ratings on the perceived self-efficacy scale are shown in (Table 1). Table 1 shows an overall mean of (2.71) and means for scale domains ranged from (2.42) to (2.81), which suggests a moderate level of perceived self-efficacy among the sample for the total score and among all domains of the scale. Frequencies and percentages showed that (346) out (356), with a percentage of (97.2%), have scores on the total sore of the perceived self-efficacy scale in the moderate level. Percentages of the moderate levels for all domains scores of perceived self-efficacy scale ranged from (73-89%). Results also showed that the highest scores on perceived self-efficacy came from the social domain with a means of (2.81) and least scores came from the cognitive domain with a means of (2.42).

Table 1: Levels, Frequencies, Percentages, Means and Standard Deviations of perceived general self-efficacy and domains.

S. D.	Means	Per. %	Freq.	Levels of perceived self-efficacy		Domains
0.25	2.78	14.30 %	51	(3-4)	High	Emotional
		85.70 %	305	(2- 2.99)	Moderate	
		0 %	0	(1-1.99)	Low	
0.3	2.81	24.7 %	88	(3-4)	High	Social
		75.30 %	268	(2- 2.99)	Moderate	
		0 %	0	(1-1.99)	Low	
0.29	2.74	10.40 %	37	(3-4)	High	Behavioral
		89 %	317	(2- 2.99)	Moderate	
		6 %	2	(1-1.99)	Low	
0.3	2.75	14.30 %	51	(3-4)	High	Self-Confidence
		83.70 %	298	(2- 2.99)	Moderate	
		2 %	7	(1-1.99)	Low	
0.38	2.75	21.10 %	75	(3-4)	High	Confidence among others
		73 %	260	(2- 2.99)	Moderate	
		5.90 %	21	(1-1.99)	Low	
0.33	2.69	12.90 %	46	(3-4)	High	Persistent
		84.30 %	300	(2- 2.99)	Moderate	
		2.80 %	10	(1-1.99)	Low	
0.31	2.42	11.20 %	40	(3-4)	High	Cognitive
		86.80 %	309	(2- 2.99)	Moderate	
		2 %	7	(1-1.99)	Low	

0.32	2.71	11.80 %	42	(3-4)	High	Moral
		84.30 %	300	(2- 2.99)	Moderate	
		3.90 %	14	(1-1.99)	Low	
0.15	2.71	2.80 %	10	(3-4)	High	Total Score
		97.20 %	346	(2- 2.99)	Moderate	
		0 %	0	(1-1.99)	Low	

Second

To answer the second question regarding "What is the effect of academic achievement and student's gender on perceived self-efficacy scores among a sample of Jordanian secondary stage students?", means and standard deviations for total scores of perceived self-efficacy scale based on achievement and gender were observed as in (Table 2). The results in Table 2 showed that females means (2.72) were slightly higher on perceived self-efficacy than males (2.70), and high achievement students (2.73) have higher means than average achievement students (2.71) and low achievement students (2.67). Two-way analysis of variance (ANOVA) was used to test for statistical significant differences in perceived self-efficacy due to variation in academic achievement levels and students gender as in (Table 3).

Table 2: Means and standard deviations of Perceived self-efficacy total scores.

Indep. Var.	Males	Females	Averages
High Achievement	2.71	2.75	2.73
	0.15	0.13	0.14
Average Achievement	2.7	2.72	2.71
	0.17	0.15	0.16
Low Achievement	2.67	2.67	2.67
	0.16	0.14	0.15
Total Means	2.7	2.72	2.71
	0.16	0.14	0.15

Table 3: The effect of academic Achievement and gender on perceived self-efficacy.

Source of Variance	Sum of Squares	DF	F	Sig. Of F
Academic Achievement	0.2	2	4.41	0.013
Gender	2.66	1	1.18	0.279
2-way Interaction	3.06	2	0.68	0.51

Using analysis of variance Table 3 showed that academic achievement has a significant effect on perceived self-efficacy $F_{(2, 374)} = 4.41$ $p < 0.05$, while gender had no significant effect on perceived self-efficacy (F, 1, 374, =.1,18 p<NS), and no interaction effect between gender and academic achievement on perceived self-efficacy (F, 2, 374, =,68 p<NS). Post-Hoc comparisons (Scheffe) for different levels of academic achievement revealed a significant difference (p<0.05) in perceived self-efficacy between high achievement level (M=2.73) and low achievement level (M=2.67). Also there was no significant difference in perceived self-efficacy between average achievement level (M=2.71) and low and high achievement levels.

Discussion

Results of the first question revealed that secondary stage students achieved a moderate level of perceived self-efficacy scores on the total scale and all domains of the scale. These findings are consistent with student age and stage of development, and development theories would suggest that students should be at a moderate level of beliefs about their capabilities since more experiences and practices are still yet to be achieved before the majority of them can reach high levels of self-efficacy. Consistent with these findings, students at this age face lots of social and emotional problems, which may reflect on their thinking processes, and concentration levels, which in turn affect their self awareness of such capabilities of self-efficacy. Furthermore, some social and cultural factors regarding the strict socialization processes and limitations emerging from traditional Muslim society could contribute to explanation of these moderate levels of perceived self-efficacy during this stage of student's lives. Previous findings in similar contexts showed similar results. Al-Saqer [21] in a study on the relationship between self-efficacy and moral development and Al-Muhsin [22] on a study on the relationship between self-efficacy and need for achievement and adjustment showed moderate levels of self-efficacy among college students.

Results also showed a significant effect of academic achievement on self-efficacy among a sample of secondary stage Jordanian students. This result means that high academic achievement is an important factor in explaining perceived self-efficacy. Thus, it is logical to assume that high achievers produce better beliefs about their capabilities and ability to perform various tasks. High achievement obviously helps students in terms of how they feel, think, and behave in various life situations which in turn reflect positively on perceived self-efficacy. Most learning theories would support the previous findings because previous success experiences in academic achievement are expected to influence the way students feel about themselves and consequently they develop a sense of self confidence. It also help students positively evaluate various events in their lives and avoid negative effects due to difficult or failing experiences and eventually would increase their perceived self-efficacy. The previous finding on the effect of

academic achievement on students' self-efficacy capabilities is consistent with the majority of the previous research on secondary and college stage students [13-16]. Results also showed no significant effect of gender and the interaction between gender and academic achievement on perceived self-efficacy. This suggests that self-efficacy capabilities or beliefs are possibly more influenced by strict social and emotional socialization processes for both males and females. This issue needs further investigation since there is some disagreement on the nature of the differences in perceived self-efficacy due to gender [22,24].

Teachers are recommended to pay more attention to students' perceived self-efficacy and should recognize the relationship between self-efficacy and academic achievement. Perceived self-efficacy is an important construct that helps to explain students' learning and performance in general, and to recognize that both variables are associated with enhancing educational success [25-27]. The present findings require teachers to give more attention to lower achievers in order to avoid lower perceived self-efficacy or negative self evolution due to failure or expected difficulties in various academic tasks and to provide students with proper successful experiences that would enable students to avoid developing low self-efficacy. Teachers should also take advantage of students' high achievement or various experiences of mere success by directing and guiding them toward producing better beliefs about their capabilities and developing a high sense of efficacy toward themselves as a result of such successful experiences. Small successful experiences can be useful in strengthening students' attitudes and beliefs about themselves and their capabilities.

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