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The relationship between self-regulation and educational performance in students

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Abstract:

INTRODUCTION: Self-regulation and educational performance are among the most important topics to be discussed in schools and universities. The present study aimed to the relationship between self-regulation and educational performance among daughter students of police officers in Birjand City, Iran (public and Payame Noor) in 2017.

MATERIALS AND METHODS: This research is a correlational cross-sectional study. In total, 200 female students were selected using random sampling method. The Ryan and Connell's Self-Regulation Questionnaire and Durtaj's educational performance scale were used to collect data. The data were analyzed using the Pearson correlation coefficient.

RESULTS: The results showed that there is a significant correlation between self-regulation and educational performance among students of Payame Noor University, whereas it is not significant for public university students.

CONCLUSION: We can provide students with effective and useful tips to improve their academic achievement and performance by teaching them self-regulation skills. Therefore, the cornerstone of educational achievement in students should be in that way to achieve the desired educational performance and also increase their self-regulation.

Keywords:

Birjand, educational performance, female students, self-regulation

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Introduction

One of the most important goals of education has become to help students acquire self-regulation skills that to improve learning during school years.

By continuing their education, students increase their opportunities for a better-paid and more satisfying career.^[1] It is also the key component for mediating success in most learning environments.^[2-4] Students who are defined as "self-regulated" participate proactively in the learning process – emotionally, motivationally, and cognitively.^[5] These students self-activate

and self-direct efforts to acquire knowledge and skills by implementing specific strategies rather than just passively reacting to their teachers' instructions.^[6,7]

Self-regulation during the adolescent years has been construed in a variety of ways. In general, self-regulation during adolescence involves the ability of the youth to function as an autonomous individual.^[8] A key feature of autonomy is the ability to make appropriate decisions. A self-regulated individual sets attainable goals and takes appropriate actions to achieve these goals, utilizing their resources while remaining aware of their limitations.^[9] These individuals show control over their psychological processes and the ability to adapt to their environment. Academic

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self-regulation can be defined as self-regulated learning, that is, the motivational and behavioral processes allowing individuals to activate and sustain cognitions, behaviors, and emotions in a systematic way toward the attainment of their own learning goals.^[10] The number of studies focusing on self-regulation has increased rapidly in the past decades. At the same time, the research focus has shifted from the concept of SRL to the applications of self-regulation.^[11] In recent years, more and more researchers have expanded their interests to the promotion of self-regulation through a range of methods.^[12] Cleary and Zimmerman studied 43 adolescent male students to see how much their level of skill in playing basketball affects their self-regulatory forethought, the sense of satisfaction and self-reflection processes regarding their free-shooting practice.^[13] Their findings confirm that inefficient choice of learning strategies and nonspecific goals of learning strategies and nonexperts' lower self-efficacy insights hinder their promotion as free-throw shooters.^[13] The results of Zimmerman and Martinez-pons study showed that successful learners had more skill in this regard than unsuccessful individuals.^[14] Abar *et al.*^[15] studied relations between religiosity, both parent and student, and maternal parenting style and student academic self-regulation, academic achievement, and risk behavior among African-American youth attending a parochial college. Their findings confirm that although no direct relations were observed between parenting style and student religiosity, maternal parenting style was found to moderate relations between parental and student religiosity. Findings are discussed in terms of their relevance to the population studied.^[15] Dent and Alison^[16] study explores how academic achievement relates to two main components of self-regulated learning for students in elementary and secondary school. Two meta-analyses integrated previous findings on (1) defining metacognitive processes of self-regulated learning and (2) students' use of cognitive strategies. Overall correlations were small, but there was systematic variation around both of them. Five moderator analyses were conducted to explain this variation. Average correlations significantly differed based on the specific process or strategy, academic subject, grade level, type of self-regulated learning measure, and type of achievement measure. Follow-up tests explored the nature of these differences and largely support the hypotheses. Theoretical, methodological, and practical implications of these findings are also discussed.

This meta-analysis examined research on the effects of self-regulated learning scaffolds on academic performance in computer-based learning environments from 2004 to 2015. Findings revealed that self-regulated learning scaffolds in computer-based learning environments generally produced a significantly positive

effect on academic performance. It is also suggested that both domain-general and domain-specific scaffolds can support the entire process of self-regulated learning since they demonstrated substantial effects on academic performance. Different impacts of various studies and their methodological features are presented and discussed.^[17]

The purpose of this study was to evaluate the relationship between self-regulation and educational performance of the daughter students of police officers at Birjand Universities (public and Payame Noor) in the 2016–2017 educational year.

Materials and Methods

This was a correlational study in which daughter students of police officers in Birjand City, Iran (public and Payame Noor universities), in the 2016–2017 educational year were selected by the availability sampling method. All daughter students were chosen voluntarily whereas their own satisfaction was provided. The some inclusion and exclusion criteria were included in this study. Inclusion criteria: (1) Female students between the ages of 18 and 22 years and (2) at least one of the parents should be a police officer. Exclusion criteria: (1) unwillingness to cooperate and (2) having been diagnosed with a specific psychological disorder. According to Gall *et al.*,^[18] a correlational study requires a minimum of 30 participants. However, the larger the sample size, the more information we have and so our uncertainty reduces.^[19] In this study after application of the exclusion criteria, a total of 200 students were included in the assessment.

In the first stage, the number of employees who have female student studying in public and Payame Noor were identified.

In the second stage, randomly, some of the female students-staff were selected and questionnaires were distributed among students in the field of basic sciences, engineering, literature and humanities, arts, agriculture, and psychology. Out of 200 female students, 50% were from the public university and 50% from the Payame Noor University.

Measures

In this study, two scales were used to measure the variables Ryan and Connell Educational Self-Regulation and the educational achievement scale of Durtaj.

The Academic Self-Regulation Questionnaire (SRQ-A) was prepared by Ryan and Connell to measure children's self-regulation.^[20] The questionnaire is based on the reasons why children and adolescents do not carry

out their school assignments. This scale is designed for secondary and high school students and is completely different from adult self-regulation questionnaires. SRQ-A has four subscales: external self-regulation, internal self-regulation, cognitive self-regulation, and internal motivation. There are two versions of the SRQ-A. The first version is used in many research projects of schoolchildren. It asks four questions why students are doing various school-related behaviors. Each question is followed by several responses that indicate the type of rule used on this scale. The validation of this scale has been done by Ryan and Connell.^[20] A 4-point Likert scale was used for this purpose where 3 was “very accurate,” 2 “not very accurate,” and 1 “not at all correct.” The mean of each of the subscales is calculated after the sum of the scores. The higher the mean, the higher the self-regulation.^[21] The Cronbach’s alpha in the present study was 0.89.

In order to assess the educational performance, the Durtaj educational performance test was used.^[22] This test has 48 questions of Likert scale. Questions (1-2-3-4-12-28-29-30-31-32-36-40-42-46-47-48) examine the effects of self-efficacy and are directly scored and question 9 is reverse scored. The questions (8-13-14-15-16-17-18-19-20) examine the emotional effects and are directly scored and the questions (31-32-35-36) are reverse scored. Questions (5-41-45-46) examine the planning impacts, and question 26 is scored in a reverse order. Questions (8-38-39) examine the effects of the loss of control of the outcome and are measured directly. Questions (21-22-23-24) examine the impacts of motivation and are directly evaluated and questions 43 are scored in reverse.^[23] Cronbach’s alpha was 0.90.

Consent to participate

All patients signed the informed consent form to participate in the study, following all the necessary ethical recommendations inherent to a project developed with humans.

Data analysis

For statistical analysis, results were presented as Pearson correlation for quantitative variables.

All statistical analysis was performed using SPSS software (version 19.0, SPSS Inc., Chicago, Illinois). Statistical significance was determined as a $P \leq 0.05$.

Results

Table 1 shows the P value between self-regulation and educational performance in students of public and Payame Noor universities. According to Table 1, there is a significant correlation between self-regulation and educational performance for students of Payame Noor

Table 1: Pearson correlation between self-regulation and educational performance

University	Pearson correlation <i>r</i>	<i>P</i>	<i>n</i>
Public	0.16	0.06	100
Payame Noor	0.1	0.57	100

University ($P = 0.1$). However, there is no significant correlation between self-regulation and educational performance of university students ($P = 0.57$).

Table 2 shows the relationship between the dimensions of self-regulation and the dimensions of educational performance in students. As you can see in Table 2, there was a negative and meaningful relationship between emotional effects and the lack of control of outcome with cognitive self-regulation and internal motivation ($P < 0.05$). There was a positive and significant relationship between planning and self-regulation and its components as well as between the motivation with cognitive self-regulation ($P < 0.05$). More precisely, there is a significant relationship between self-regulation with planning, and also between internal self-regulation with self-efficacy and planning. There were also significant relationships between cognitive self-regulation with self-efficacy and emotional effects and planning; lack of control of outcome and motivation, internal motivation with self-efficacy, emotional effects, planning, and lack of outcome control and autonomy had significant relationship with self-efficacy and planning ($P < 0.001$).

Discussion

Findings showed that most of the self-regulation components were related to the educational performance components. These results are consistent with other results.^[24-26] In explaining this, one can point out that students who used more self-regulating strategies were successful in the future planning as well as in self-efficacy. Students with better cognitive self-regulation can have better educational performance by managing their emotions and emotional influences. They also have a great motivation to study and can make targeted planning. There was a significant positive relationship between external self-regulation and planning. In other words, the higher the individual’s external self-regulation, the better he plans. In explaining this finding, one can say that self-regulation can empower a person to plan and target in the future and can achieve many successes. As internal self-regulation increases, self-efficacy and planning also increase in a person. We can point out that these individuals have the ability to internally direct attention, behavior, and emotions in order to reach the goals and respond to external needs, internal environment, and curriculum planning. The increase self-regulated, can increase emotions (positive

Table 2: The relationship between self-regulation and educational performance

Variable	Educational performance		Motivation		Lack of outcome control		Planning		Emotional effects		Self-efficacy	
	P	r	P	r	P	r	P	r	P	r	P	r
External self-regulation	0.08	0.12	0.41	0.06	0.46	-0.05	0.001	0.22	0.68	0.03	0.07	0.13
Internal self-regulation	0.09	0.11	0.14	0.10	0.64	-0.03	0.001	0.23	0.71	-0.03	0.01	0.17
Cognitive self-regulation	0.19	0.09	0.01	0.18	0.01	-0.18	<0.001	0.38	0.001	-0.22	<0.001	0.34
Internal motivation	0.82	0.02	0.37	0.06	0.01	-0.18	<0.001	0.32	0.001	-0.22	0.001	0.23
Self-regulation	0.12	0.11	0.08	0.12	0.06	-0.13	<0.001	0.35	0.06	-0.13	<0.001	0.27

P<0.001

and negative), self-efficacy and planning, and motivation to improve. An individual can be free and selective in determining how much and how his assignments should be done. According to Zimmerman, A student must know his strengths and weaknesses.^[27] Accordingly, although the professors need information about the strengths and weaknesses of the students, the goal is to help students' self-regulate. In general, there was a significant difference between students of Payame Noor University and public university on self-efficacy in educational performance. This is because of the difference in the educational system of universities. These findings have provided evidence in support of theories such as Garner.^[28] Based on his findings, learners do not automatically use self-regulation strategies unless they are taught to use them and they are forced to use these strategies.

The limitations of the study are the lack of cooperation of all students in completing questionnaires. The population of the study was students of Birjand universities, therefore, in generalizing the results to other people should be cautious.

Conclusion

Based on these results and considering the role and importance of self-regulation on the educational performance of students, they are advised to pay attention to their information and learning. The faculty members and educational staff in universities and centers of higher education are suggested to create a student-center atmosphere and challenging classroom as well as have right expectations of the students.

The findings of the present study may have implications for teachers and learners. As well, students can benefit from learning self-regulated skills by incorporating them into their learning processes, which may help them become independent and responsible in their own learning.

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Conflicts of interest

There are no conflicts of interest.

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