

The role of self-regulated learning, achievement motivation and academic burnout in academic performance of students

Masoud Hejazi^{*1}, Hossein Taran² and Abbas Ramazani³

¹Assistant Professor in Department of Psychology, Zanjan Branch, Islamic Azad University, Zanjan, Iran

²MA. in General Psychology, Department of Psychology, Islamic Azad University of Zanjan, Branch, Zanjan, Iran

³PhD Student in Educational Administration, Education Department, Shahid Beheshti University, Tehran, Iran

QR Code



*Correspondence Info:

Masoud Hejazi,
Assistant Professor in Department of Psychology,
Zanjan Branch, Islamic Azad University, Zanjan, Iran

*Article History:

Received: 04/05/2017

Revised: 24/05/2017

Accepted: 29/05/2017

DOI: <https://doi.org/10.7439/ijapr.v5i1.4096>

Abstract

Recently, academic performance as a challenge has been the concern of families and researchers. The study was aimed to investigate the relationship of self-regulated learning, achievement motivation and academic burnout with academic performance of the students. Statistic population of the study was 22992 people. For this purpose, 379 students were selected through cluster random sampling based on Krejcie & Morgan (1970) table. The study utilized Motivational Strategies Questionnaire (MSLQ), Herman's achievement motivation questionnaire and Bresó academic Burnout Questionnaire. The data was analyzed using the Pearson correlation coefficient and regression analysis. The results showed that self-regulated learning, achievement motivation and academic Burnout dimensions have significant relationship with academic performance. Academic burnout is also able to predict academic achievement of the students. It can be concluded that psychological problems are associated with the concept of academic performance.

Keywords: Self-regulated learning, Achievement motivation, academic burnout, academic performance.

1. Introduction

Academic failure is one of the main problems of the educational system, which is influenced by many factors. Researchers have shown the highest correlation between academic achievement and academic talent at $r=0.50$ [1]. Thus, academic talent explained only 0.25 of academic achievement variance – suggesting that another factors are involved in academic performance of the students.

Since learning is measured mainly by the learner's academic performance, identifying factors affecting learners' academic performance is among the important issues that educational professionals and students of the field deal with. academic burnout is one of these variables. It is clear that controlling academic burnout of the students is essential to improve academic achievement and learning motivation. Schools and teachers should carefully plan courses and even, plan tests and work programs with due care to reduce academic burnout of the students and promote their academic achievement [2].

Neuman [3] believe that academic burnout among students, for various reasons, is one of the key areas of research in schools. The first reason is that academic burnout can be the important key to understanding the behavior of students, such as academic performance, during the academic years. The second reason is that academic burnout affects student's relationship with schools and, thirdly, academic burnout can affect students' enthusiasm to continue their education.

During recent decades, Education professionals have paid further attention to the study of factors affecting academic achievement, particularly cognition and motivation. Self-regulated learning was one of the theories within the framework of which the researchers conducted studies. The main part of this theory is based on the grounds that how the students organize their learning by meta cognitive beliefs, motivations and behavior [4]. Self-regulated learning has been raised by cognitive and social psychologists and researchers, such as Bandura, since 1960s [5]. Bandura's social cognitive theory (1986)

provided self-regulated learning model with a useful theoretical framework to be developed. Based on this theory, textual factors and behavior provides anyone with the opportunity to control student's learning [6].

As one of the theorists of social cognitive theory, Zimmerman [7] defined self-regulated strategies as a kind of learning in which the students, instead of relying on teachers, parents and other educational agents, begin and conduct their own efforts to learn skills and knowledge. In other words, self-regulated learning is active cooperation of the learner on learning process in terms of behavioral, motivational, cognitive and meta cognitive to increase learning [8].

Pintrich and Groot [9] regarded self-efficacy, self-assessment and test anxiety as motivational beliefs and defined cognitive and meta cognitive strategies and students' efforts and attitudes as self-regulated learning. Self-efficacy refers to the beliefs of students about their ability to perform the tasks [10].

Self-assessment refers to the importance the students give to a certain task or lesson. Test Anxiety is an unpleasant feeling or emotion, which has certain behavioral and psychological consequences. It is experienced in official examinations and in the evaluation of learning conditions. According to self-regulation theory, self-regulating is formed by metacognitive processes, endeavor and prudence of students. By self-regulation is meant that students have the skills to design, control and direct their learning processes. They have the motivation to learn, assess the learning process and think about it. Cognitive strategies points out to strategies employed by students when learning, memorizing, recalling and reading comprehension [7].

The results of the research done by Pintrich and Groot [9] showed that self-regulation, self-efficacy, test anxiety and motivational achievement are the best predictors of academic performance. Moreover, self-efficacy was significantly higher in boys and so was test anxiety in girls. The results of some studies indicated that gender has no effect on the use of cognitive strategies. In addition, a number of studies have shown that self-regulated learning can boost academic achievement and facilitate learning motivation [7].

Mohsenpour *et al* [11] studied the role of self-efficacy, achievement goals, learning strategies and academic achievement consistency in math and concluded that self-regulated learning strategies have a relationship with academic performance. The study results of Sobhaninejad & Abedi [8] and Alborzi & Seyf [12] showed that self-regulated learning strategies and achievement motivation have a relationship with academic achievement. Therefore, achievement motivation is one of the other variables which has a relationship with and affects self-regulated learning and academic achievement. Previously,

academic achievement motivation was exclusively known as a dimension of motivation which is called internal motivation of student, and by which the person perceive himself of competence and conceptual self-control. Academic achievement motivation can cause other outcomes such as academic achievement and interest in the lessons and schools. Therefore, it is necessary that factors associated with achievement motivation and academic performance of students be recognized and put at the disposal of Educational planners, teachers and families.

Zimmerman and Pones [13] conducted a study on high school students and came to the conclusion that there is a positive relationship between the need for achievement and consistency in doing homework (number of assignments carried out). Also, those with high achievement motivation were more perpetual, even when they were unsuccessful in doing homework, than those who had low achievement motivation. Research has shown that the use of motivational strategies in learning enables students to personally focus on behavior, their environment, and the resulted cycle of mutual feedback. This means that if reviewing academic performance makes it clear to the student that he has shortcomings in his own practice, these shortcomings affect this self-efficacy and self-efficacy can, in its turn, lead to motivation and selection of viable strategies so that the student be able to improve his performance. Most researches in the field of educating self-regulated learning strategies have been looking for answers to this question that how students regulate learning processes on their own in the process of learning knowledge and skills, and how they display metacognitive, motivational, and behavioral aspects of self-regulated learning to achievement motivation and academic performance. Thus, recognition of learning strategies is important for several reasons: For one thing, teachers coordinate their teaching strategies with learning strategies of the students. Secondly, learning strategies can be taught to students in case they are not familiar with learning strategies or when learning strategies are not used properly. In general, self-regulated learning and achievement motivation is important issues in human learning. Psychologists emphasize on active participation of learners in the learning process rather than being submitted to passive learning.

The evidences from the conducted researches suggest that people with academic burnout usually experience symptoms such as lack of enthusiasm for the course material, inability to maintain a continuous presence in classrooms, lack of participation in classroom activities, sense of meaninglessness in classroom activities and sense of inability to learn lessons [14].

Accordingly, many research findings indicated that achievement motivation, self-regulated learning strategies and academic burnout are regarded as the three main

components of academic performance. But they are less likely to investigate the relationship between academic performance and achievement motivation, self-regulated learning strategies and academic burnout as an interwoven series.

In this regard, the researcher intends to investigate: is there a relationship between academic performance and self-regulated learning strategies, achievement motivation and academic burnout? Can we predict academic performance of the students through self-regulated learning strategies, achievement motivation and academic burnout? Or, do male and female students differ in achievement motivation, self-regulated learning strategies and academic burnout?

2. Method

With respect to the purpose, nature and subject of the research, correlation method was chosen as research method. This study is a descriptive research. In these type of researches, there is studied the relationship between variables. No manipulation is gone on independent and dependent variables of the study by the researcher [15].

The study population consisted of all male and female high-school students enrolled in secondary schools of Zanjan city, Iran, in 2013 academic year. It totaled to 22992 people, 11869 male and 11123 female, based on the statistics released by Education Office of Zanjan.

Table 1: Frequency of statistic population based on Education Sectors of Zanjan

Sector	Girls	Boys	Total
Sector1	5048	5836	10884
Sector2	6075	6033	12108
Total Students	11123	11869	22992

Based on the Krejcie & Morgan (1970) table, sample size was estimated as 379 people. Out of 80 secondary-schools existed in Zanjan, a number of 379 subjects were sampled in proportion to their share in the population through multistage cluster sampling (182 girls and 197 boys) regardless of their field of study or grade. For this purpose, first, there were randomly selected 10 schools (five male and five female schools) from Sector1, and 10 schools (five male and five female schools) from

Sector 2. Then, two classes were randomly selected out of each high-school according to gender. Finally, out of each class, some were selected by drawing of lots in accordance with the number of students in the classes.

Instruments

The study consisted of four variables (Self-regulated learning, Achievement motivation, academic burnout and academic performance) which are to be measured.

1. Motivated Strategies for Learning Questionnaire: The questionnaire was developed by Pintrich & Groot [9], known as MSLQ in abbreviated term. It was translated into Persian by Mousavinejad [16] in 1997. The questionnaire consists of two scales; learning strategies (high-level cognitive strategies, low-level cognitive strategies, and self-regulation) and motivational beliefs (self-efficacy, intrinsic evaluation and test anxiety). It includes 47 items. It is rated on a 5-point Likert scale. The options reads as: a) Completely untrue of me, b) Untrue of me, c) No idea, d) True of me, and e) Completely true of me. The questionnaire is scored as follows:

If participants choose option A, a score of 1 is awarded to him and so it goes, i.e. score of 2 for option B, score of 3 for option C, score of 4 for option D, and score of 5 for option E. However, items 29, 30, 40, and 41 within the MSLQ are negatively worded and must be reversed before a student's score is computed.

At the end, the scores of the items are added and presented as the total score of the subject in the motivated strategies for learning questionnaire. It should be noted that a maximum score and a minimum score at this test would be 235 and 45 respectively.

Reliability of motivated strategies for learning questionnaire: Following the factor analysis, Pintrich and Groot [9] identified five factors in the questionnaire and calculated their reliability. The results were as follows: self-efficacy (0.83), intrinsic evaluation (0.87), test anxiety (0.75), use of cognitive strategies (0.83), and self-regulation (0.74). Furthermore, Mousavinejad [16] reported the total reliability of the test at 0.82 by Cronbach's alpha [17].

Table 2: Direction of Motivated Strategies for Learning Questionnaire according to Pintrich & De Groot [9] version

Scale	Subtest	Item count	Item number	Cronbach's coefficient
Motivational beliefs	self-efficacy	9	10,9,6,2,21,19,14,12,22	0.83
	intrinsic evaluation	9	8,5,4,1,20,17,16,11,24	0.87
	test anxiety	7	15,13,7,3,25,23,18	0.75
Self-regulated learning strategies	Use of cognitive strategies	13	33,31,29,42,39,37,34,26,47,45,44,32,27	0.83
	Self-regulation	9	35,30,28,40,38,36,46,43,41	0.74

2. Hermans' achievement motivation questionnaire: This questionnaire was developed by Hermans in 1970. Hermans took initial questionnaire as a basis and guidance for the

selection of the questions. He first designed 92 questions. Then, based on the obtained correlation coefficient between motivation achievement and any of the questions, he

Table 5. The mean and standard deviation of the predictor variable subscales

Variables	Variable dimensions	Count	Mean	SD
Academic burnout	Emotional exhaustion	379	3.18	0.85
	academic cynicism	379	2.71	0.96
	academic inefficacy	379	2.56	0.68
Achievement motivation	Achievement motivation	379	3.25	0.45
Self-regulated learning	academic self-efficacy	379	3.92	0.67
	Intrinsic evaluation	379	3.91	0.61
	Test anxiety	379	3.30	0.86
	High-level cognitive strategies	379	3.30	0.86
	Self-regulation	379	3.97	0.97
	Motivational beliefs	379	4.05	0.52
	Self-regulated learning	379	4.27	0.78
	Low-level cognitive strategies	379	3.97	0.97

The results of table (5), items designed to measure variables, indicate that for Emotional exhaustion the mean is 3.18 and the SD is 0.85, for academic cynicism the mean is 2.71 and the SD is 0.96, for academic inefficacy the mean is 2.56 and the SD is 0.68, for Achievement motivation the mean is 3.25 and the SD is 0.45, for academic self-efficacy the mean is 3.92 and the SD is 0.67, for Intrinsic evaluation the mean is 3.91 and the SD is 0.61, for Test anxiety the mean is 3.30 and the SD is 0.86, for High-level cognitive strategies the mean is 3.30 and the SD is 0.86, for Self-regulation variable the mean is 3.97 and the SD is 0.97, for Motivational beliefs the mean is 4.05 and the SD is 0.52, for Self-regulated learning the mean is 4.27 and the SD is 0.78, and for Low-level cognitive strategies the mean is 3.97 and the SD is 0.97.

The overall standard deviation and mean of the main research variables

Table (6) shows the mean and standard deviation of variables used in the inferential statistics and analysis.

Table 6: The overall standard deviation and mean of the main research variables

Variables	Count	Mean	SD
Self-regulated learning	379	161.77	18.84
Achievement motivation	379	83.74	8.25
academic inefficacy	379	2.56	0.68
academic cynicism	379	2.71	0.96
academic exhaustion	379	3.18	0.85
academic performance	379	16.99	2.11

According to the results of table(6), the mean and standard deviation of self-regulated learning are 161.77 and 18.84 respectively, the mean and standard deviation of self Achievement motivation are 83.74 and 8.52 respectively, the mean and standard deviation of academic inefficacy are 2.56 and 0.68 respectively, the mean and standard deviation of academic cynicism are 2.71 and 0.96 respectively, the mean and standard deviation of academic exhaustion are 3.18 and 0.85 respectively, and those of academic performance are 161.77 and 18.84 respectively.

Note that all parameters measured in this study were on a scale of 1 to 5 equivalents. They were divided into the number of their items to be placed on a scale of 1 to

5, so that, they be comparable to the reader on the subject of descriptive statistics.

Analysis of the research questions

Question one: Is there a relationship between self-regulated learning and academic performance of the students?

Table 7: The results of the Pearson correlation test between self-regulated learning and academic performance

Pearson correlation coefficient	Count	Significance level
0.114	379	0.026

Findings from table (7) shows that there is a linear relationship between self-regulated learning scores and academic performance so that the relationship is significant at about $r=0.114$ and significance level of 0.026. In simple terms, it can be concluded that as the students use self-regulated learning, their academic performance is promoted as well and this is significant at $p \leq 0.05$. Therefore, it can be concluded that there is a little correlation between the variables according to Cohen's criteria.

Question two: Is there a relationship between achievement motivation and academic performance of students?

Table 8: The results of Pearson correlation test between achievement motivation and academic performance

Pearson correlation coefficient	Count	Significance level
0.132	379	0.010

The results from table (8) indicate that there is a linear relationship between achievement motivation scores and academic performance so that the relationship is significant between these variables at about $r=0.132$ and significance level of 0.010. In simple terms, it can be concluded that the more the students' achievement motivation, the greater their academic performance and this is significant at $p \leq 0.05$. Therefore, it can be concluded that there is a little correlation between the variables according to Cohen's criteria.

Question three: Is there a relationship between the academic burnout dimensions (academic inefficacy, academic exhaustion and academic cynicism) and academic performance?

Table 9: The results of Pearson correlation between academic burnout dimensions and academic performance

Variable	academic inefficacy	academic cynicism	academic exhaustion
Academic performance	-0.19**	-0.19**	-0.17**
Significance level	0.010	0.010	0.010
Observation count	379	379	379

The results from table (9) indicate that there is a linear relationship between academic burnout dimensions and academic performance so that the relationship is significant with significance level of 0.010 for academic inefficacy at $r=0.19$, for academic cynicism at $r=0.19$, and for academic exhaustion at $r=0.17$. Therefore, as academic performance of students increases, their academic inefficacy, academic exhaustion and academic cynicism

decrease. In other words, this relationship is significant at alpha level of one percent. Therefore, it can be concluded that there is a little correlation between the variables according to Cohen's criteria.

Question four: Can we predict academic performance of the students through their self-regulated learning, achievement motivation and academic burnout?

Table 10: The correlation matrix of variables

Variables	Academic performance	Self-regulated learning	Achievement motivation	Academic burnout
academic performance	1			
self-regulated learning	0.11*	1		
achievement motivation	0.13**	0.40**	1	
academic burnout	-0.26**	-0.31**	-0.44**	1

$p \leq 0.05^*$ $p \leq 0.01^{**}$

According to the results from table (10), although the correlation between the predictor variables and the criterion variable not very high, it is significant at $p \leq 0.05$. It can be significant due to the large volume of the sample (379 people).

Although correlations between predictor variables are significant at $p \leq 0.05$, it is not very high and is indicative of multiple linear absences.

Table 11: Variables added or removed from the regression model

Model	Added variable	Removed variable	Method
1	Self-regulated learning	Self-regulated learning	Stepwise
2	academic burnout	Achievement motivation	
3	Achievement motivation		

Table (11) shows the way the predictor variables of the model are added or removed. Also, Stepwise Regression indicated that two predictor variables (self-regulated learning and achievement motivation) were removed from the model.

Table 12. Summary of the regression model

Durbin-Watson statistic	SEM	Adjusted R	R square	R	Model
1.705	8.88	0.066	0.068	0.261	2

The summary of the regression model showed that model one explained 0.068 of the total variance. Besides, Durbin-Watson statistic equals to 1.7.5, which indicated that the Residual is independent.

Table 13. ANOVA to determine the significance of model 1

Model	Sum of squares	Degree of freedom	Mean squares	F	Significance level
2	Total residual	0.702	114.702	0.562	0.010
		114			
		0.906			
		1568			
		0.608			
		1	377	4.162	27
		378			
		1683			

Predictor variable: academic burnout

Criteria variable: academic performance

Table (13) shows ANOVA to determine the significance of regression model and ANOVA for Model 2 with $F=27.562$ at $p \leq 0.05$ is significant.

Table14: Standardized and simple Regression coefficients of model

Model	Non-standardized regression coefficients	SEM	Standardized regression coefficients	t	Significance level
academic burnout	19.245	0.441	-	0.641	0.010
(Constant value)	-0.62	0.12	-0.261	43 5.250	0.010

Table (14) shows regression coefficients to account for the contribution of academic burnout in predicting academic performance.

Academic burnout, with $\beta=0.261$, accounts for greater contribution to the prediction of academic performance. The regression equation to assess academic performance variable through the mentioned variables is:

$$Y = a + \beta_1 X_1 + e$$

Academic performance =

$$19.24 + (0.62) \times (\text{academic burnout})$$

As a summary, the regression results showed that academic burnout variable with (-0.26) beta coefficient indicated that this variable provides criterion variable with a stronger contribution to be explained.

3. Discussion and conclusion

Research Question One: Is there a relationship between self-regulated learning and academic performance of the students?

Using Pearson correlation, the relationship between self-regulated learning and academic performance were analyzed and it was determined that there is a linear relationship between self-regulated and learning scores and academic performance. In simple terms, it can be concluded that with the increase in the use of self-regulated learning by the students, their academic performance is promoted as well.

The results of the study is consistent with Cross & Paris (1988) who indicated that self-regulated learning is an important component of academic performance and there is a significant relationship between self-regulated learning and academic performance and that, students who use more cognitive and self-regulation strategies, put in a better academic performance. Moreover, Zimmerman & Martinez [13] found that, self-regulation ability can predict self-efficacy in achieving the academic goals, self-assessment standards and grades of students in the end of their course. In their study, Linder *et al* showed that self-regulated learning is an important component of academic success and there is a significant relationship between self-regulated learning and academic performance of students. The findings regarding the relationship between self-regulated learning and academic performance are consistent with other authors. [9,21-27]. The results of this study confirm the findings of previous results. In general, based on the findings, we can conclude that, self-regulated learning variable has a significant effect on academic performance.

Research Question Two: Is there a relationship between achievement motivation and academic performance of students?

Using Pearson correlation, the relationship between achievement motivation and academic performance were analyzed and it was determined that there is a linear relationship between achievement motivation and academic performance. In simple terms, it can be concluded that with the increase in the use of achievement motivation by the students, their academic performance is promoted as well. The result of the research is consistent with Ghasemi [28] and Sheykhi [19]. Ghafouri stated significant positive relationship between achievement motivation and academic performance and concluded that higher levels of motivation lead to high levels of academic achievement. The relationship between these two variables has also been confirmed in many studies such as Valinejad [26] and Mousavi [16].

The findings of the research are not consistent with the findings of Gashtasbi [29] and Dadashi [30], which found no significant statistical correlation between achievement motivation and academic performance.

Perhaps one reason for the lack of relationship between achievement motivation and academic performance can be related to the academic grade. It is because most of the studies on these two variables have been done at Guidance Schools. Another reason is that achievement motivation may have been designated to other components over the past few years and its relationship to academic performance has faded. But, due to the large number of researches on the relationship between achievement motivation and academic performance, and its significance, we can conclude that achievement motivation variable has a significant effect on academic performance.

Research Question Three: Is there a relationship between the academic burnout dimensions (academic inefficacy, academic exhaustion and academic cynicism) and academic performance?

Using Pearson correlation, the relationship between academic burnout dimensions and academic performance were analyzed and it was determined that there is a linear relationship between academic burnout dimensions and academic performance. Therefore, with the increase in academic performance of students, the academic inefficacy, cynicism and emotional exhaustion will be decreased.

The results of the study is in harmony with those of Yang [2], who examined the relationship between academic burnout and academic performance and found that academic burnout puts a significant negative effect on academic achievement.

Furthermore Neami [14] showed that academic burnout deepens the relationship between academic stress and its consequences such as headache, stomachache, fear and depression. This researcher found that adding academic burnout variable, significantly increased the relationship between academic stresses and their consequences. In addition, researches have shown that atmosphere of the school and academic performances have a significant negative relationship with academic burnout [14]. Negative relationship between these two variables has been confirmed in many studies such as Schwarzer & Hallum [31].

Generally, based on the results, we can conclude that academic burnout variable has a considerable negative effect on academic performance, i.e. with increase in the academic performance of students, the academic inefficacy, cynicism and emotional exhaustion will be decreased and vice versa, with decrease in the academic performance of students, the academic inefficacy, cynicism and emotional exhaustion will be increased. Academic burnout can gradually lead to academic failure, cynicism and student confusion and waste energy through the life.

Research Question Four: Can we predict academic performance of the students through their self-regulated learning, achievement motivation and academic burnout?

Stepwise multiple regression method was used to investigate and analyze the prediction of academic performance through the variables of self-regulated learning, achievement motivation and academic burnout. Performing regression analysis showed that among the three independent variables only academic burnout variable had significant relationship with academic performance.

The use of Path analysis method revealed that it was only academic burnout variable which had direct effect on academic performance of students. The magnitude of the effect of academic burnout on academic performance of students was 0.26, which indicated that for a unit SD variance in academic burnout, the academic performance of the students will change on the order of 0.26. Based on these findings, we can say that, out of the three influential variables, only academic burnout has a reverse effect on academic performance of students. In fact, academic burnout decreased academic performance of students.

It should be noted that the effect of achievement motivation and self-regulated learning on academic performance has not a cause and effect relationship.

The results of the study are consistent with those of Yang [2] who found that academic burnout has a significant negative effect on academic achievement and

those of Hekmatinejad [37] who stated that students with high self-efficacy, compared to students with low self-efficacy, have greater achievement in science and mathematics courses. He noted that students who have low self-efficacy (academic burnout component), i.e. students who experienced academic burnout, achieved low academic performance than the students with high self-efficacy. These results are consistent with findings of other authors. [14,32-36] Thus, we can conclude that academic burnout is concerned as one of the most important predictors of academic performance of students. That is to say, it is responsible for the highest percentage of variation (variance) in academic performance.

Given the above, it is recommended that teachers and authorities take use of these findings in instructional design and educational groups to improve academic performance. The results of such researches shall be used to take action to educate self-regulated learning strategies, cognitive strategies, metacognitive strategies, and innovative practices in Education in order to take steps to improve the quality of education and bring up creative students and qualitatively enhance the students' progress.

It is also recommended that, since research has shown that cultural differences and class context have an effect on self-regulated learning ,the research shall be carried out in other provinces and cities and their cultural process be compared.

References

- [1]. Seyf, A. Modern Educational Psychology: psychology of learning and teaching (Sixth Edition). Tehran: Doran Publications 2011.
- [2]. Yang, Hui-jen & Fran, Cheng. An investigation of the factors of student burnout in technical – vocational college. *Computers in Human Behavior* 2005; 21(6): 917-932.
- [3]. Neumann Y, Finaly-Neumann E, Reichel A. Determinants and consequences of students' burnout in universities. *The Journal of Higher Education*. 1990 Jan 1; 61(1):20-31.
- [4]. Pintrich PR, Marx RW, Boyle RA. Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of Educational research*. 1993 Jun; 63(2):167-99.
- [5]. Kadivar, P. Educational Psychology. Tehran: Samt Publications 2008.
- [6]. Mousoulides N, Philippou G. Students' motivational beliefs, self-regulation strategies and mathematics achievement. In Proceedings of the 29th Conference of the *International Group for the Psychology of Mathematics Education* 2005; 10 (3): 321-328.
- [7]. Zimmerman BJ, Martinez-Pons M. Construct validation of a strategy model of student self-

- regulated learning. *Journal of educational psychology*. 1988 Sep; 80(3):284.
- [8]. Sobhaninejad, M. Abedi, A. The Study of the Relationship between academic Performance in Math and Self-regulated Learning strategies and academic Achievement Motivation of High school Students in Esfahan., *Quarterly Journal of Psychology, University of Tabriz*, 2006; 1(1): 97-82.
- [9]. Pintrich PR, De Groot EV. Motivational and self-regulated learning components of classroom academic performance. *Journal of educational psychology*. 1990 Mar; 82(1):33.
- [10]. Schunk, D.H. Learning theories. Merrill, an imprint of prentice hall, third edition 2000.
- [11]. Mohsenpour, M. Hijazi, M. Kyamnsh, A.R. The Role of Self-efficacy, Achievement Goals, Learning Strategies and academic Achievement Stability in Math, *Journal of Educational Innovations*, 2007; 5 (16): 86: 37-33.
- [12]. Alborzi, SH. Seyf, D. Learning strategies and Motivational Beliefs and Demographic Factors Related to Group Achievement of Humanities Students in Statistics. Human and social sciences, University of Shiraz, Winter 2002: 20-18.
- [13]. Zimmerman BJ, Martinez-Pons M. Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of educational Psychology*. 1990 Mar; 82(1):51.
- [14]. Neami, A. The Relationship between academic Burnout and Quality of Students' Learning Experiences of M.A. Students of Shahid Chamran University of Ahwaz. *Journal of Psychological Studies*. 2009; 5 (3): 60-55.
- [15]. Sarmad, Z. Bazergan, A. and Hejazi, E. Research Methods in the Behavioral Sciences. Tehran: Agah Publication 2011.
- [16]. Mousavinejad, A. The Study of the Effect of academic Achievement on Motivational Beliefs and Self-regulated Learning strategies of Third-grader Guidance School Students M.A. thesis. Tehran University, Faculty of Education and Psychology 1997.
- [17]. Hosseininasab, S.D. Investigating the Relationship between Mathematics Performance of Third-grader Guidance School Students and Dependent and Independent on Background Cognitive Style and Self-regulated Learning. *Journal of Psychology and Educational Sciences Shahid Chamran University of Ahwaz*, numbers 3 and 4, the ninth year 2002: 47-42.
- [18]. Talebpour, A. Effects of Cognitive Training on Achievement Motivation and academic Achievement of the Students of Shahed. *Journal of Psychology* 2002; 21: Ss18-29.
- [19]. Sheikh Fini, A. Investigating the Relationship between academic Achievement and Achievement Motivation and Source of control, M.A. thesis, Tarbiat Modares University 1993.
- [20]. Bresó E, Salanova M, Schaufeli WB. In search of the "third dimension" of burnout: Efficacy or inefficacy? *Applied Psychology*. 2007 Jul 1; 56(3):460-78.
- [21]. Sedaqat, M. The Role of Self-regulated Learning strategies in the Relationship between Intellectual Trends and Goals, Perceptions and Attitudes of Third-grader High school Students in Public Schools in Section 19 of Tehran, PhD thesis, Shahid Beheshti University of Tehran 2010.
- [22]. Desta, M. The Role of Achievement Goals and Self-regulation Strategies in Solving the Mathematical Performance and Problem-solving Performance of First-grader High school Students in Yazd, M.A. Thesis, Tarbiat Moallem University of Tehran 2010.
- [23]. Mostafaei, A. The Study of the Effectiveness of Training Self-regulated Learning strategies Based on Pintrich Component Model on Self-efficacy, Source of Control, and academic Achievement of Third-grader High school Male Students, PhD thesis, Allameh Tabatabai University of Tehran 2008.
- [24]. Eshvarnejad, F. The Study of the Structural Relationship between academic Achievement and Self-Concept and Self-regulated Learning of the Students of Shahid Beheshti University, M.A. thesis, Shahid Beheshti University of Tehran 2008.
- [25]. Mirmoshtaqi, Sh. The Study and Comparison of the Relationship between academic Achievement and Self-efficacy and Self-regulation Third-grader High school Female Students of Humanities at Mathematics, M.A. Thesis, Al-Zahra University of Tehran 2005.
- [26]. Valinejad, Y. Investigating the Relationship between Dependent and Independent on Background Cognitive Style and Self-regulated Learning Strategies in Math Performance of Third-grader Guidance School Students in Chapyareh, M.A. thesis, University of Tabriz 2001.
- [27]. Vatanparast-Aghdami, A. Examining the Relationship between self-regulated Learning Components with Source Control in Third-grader High school Students in Urmia. M. A. Thesis, University of Tabriz 2001.
- [28]. Ghasemi-pibaluti, M. Examining the Relationship between academic Achievement and Motivation and Source of Control in Third-grader Guidance School Students. M.A. Thesis, Tehran University 1995.
- [29]. Ghafouri, M. The Study of the Relationship between academic Achievement and Achievement Motivation, Source of Control, Creativity of Third-grader High school Students in Tabriz. M.A. Thesis, University of Tabriz 1997.

- [30]. Dadashi, N. The Study of the Relationship between Personality Traits and Achievement Motivation and academic Achievement of Pre-university Students in Tabriz in the academic Years of 2000-2001, Tabriz University, Faculty of Psychology and Educational Sciences 2001.
- [31]. Schwarzer R, Hallum S. Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied psychology*. 2008 Jul 1; 57(s1):152-71.
- [32]. Grau R, Salanova M, Peiró JM. Moderator effects of self-efficacy on occupational stress. *Psychology in Spain*. 2001; 5(1): 63-74.
- [33]. Brouwers A, Tomic W. A longitudinal study of teacher burnout and perceived self-efficacy in classroom management. *Teaching and Teacher education*. 2000 Feb 1; 16(2): 239-53.
- [34]. Amini, Sh. Studying the Role of Self-efficacy, Self-regulation, Self-esteem on academic Achievement of Third-grader High School Students of Science Field of study in Shahr-e-Kord city, M.A. thesis at Tarbiat Moallem University of Tehran 2003.
- [35]. Pirhosenlu, S. The Study of the Relationship between self-efficacy in Mathematics, Math anxiety, Math performance Expected Achievement of Boys and Girls in Public High schools in the Section 2 Education Office of Tehran. M.A. thesis. Tarbiat-Moallem University of Tehran 2003.
- [36]. Keramati, H. The Study of the Relationship between Achievement and Perceived Self-efficacy of Third-grader Guidance School Students and Attitudes towards Mathematics in Tehran. M.A. Thesis, Tarbiat Moallem University of Tehran 2001.
- [37]. Hekmatinejad, E. The Study of the Interaction of Gender and Self-efficacy (high and low) with the Achievement of Third-grader Guidance School Students. M.A. thesis, University of Shiraz 2001.