

## A Study on the Rate of Self-efficacy's Effect on University Students' Academic Achievements

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**Abstract:** The present study is conducted with the aim of investigating the rate of self-efficacy's impact on students' academic achievements in universities and higher education centers which is run on the basis of descriptive correlation method. The population contains all students in Islamic Azad University, Karaj branch (30000 participants) and 379 subjects are selected according to systematic random sampling on the basis of Morgan's table [1]. The data collection tools are two questionnaires: self-efficacy scale by Sherer *et al.* [2] and the other is related to students' personal and educational qualifications. The data was analyzed by Pearson Correlation Coefficient test and the gained results indicated that there is a positive and meaningful relationship between students' self-efficacy and their academic achievements at very high, high, middle, low and very low level. It was then suggested that students' academic achievements can be enhanced by increasing their self-efficacy through applying appropriate training methods and enriching educational environments.

**Key words:** Self-efficacy • Academic achievement • Students • University • Higher educational centers

### INTRODUCTION

Many of human behaviors are excited and controlled by the self-influence mechanism. Among the self-influence mechanisms, the belief of personal self-efficacy is more important and comprehensive than the others [3]. If a person believes that he cannot reach the expected results, or cannot prevent unacceptable behaviors, he will have low motivation. Although there are many elements which act as exciting behaviors but all of them are obedient to personal beliefs. The beliefs of self-efficacy are the bases of human activities. The people who have high self-efficacy, they have high expectations to get a successful result. In contrast, people who have doubts about their abilities, their chances in gaining success would be decreased. People who have high efficacy believe that they can encounter problems and conditions effectively. Due to their success expectation against problems, they try hard to do their duty, so they often act at higher level. These people have more confidence in their ability than the people who have low self-efficacy; they have a little doubt about themselves. They look at the problem as a struggle not as a threat and they look for new conditions actively [4]. To Bandura, when a person

believes that he has the development and success ability, he has gotten self-efficacy. The pattern of thinking, motivation, excited reflex and people understanding of their self-efficacy, selecting activities, the rate of attempts for a position all affect their performance when they do an activity. So, when people with high self-efficacy encounter problems, he shows high motivation and insistence which consequently increase their performance [5].

Self-efficacy is created from four resources or combination of them which control the increment and decrement of self-efficacy. The most important resource of self-efficacy is the skills of experiences, that is, previous performance. Generally a successful performance will increase the efficacy experiences and will decrease failure ones. The second efficacy resource is social patterning, that is, replacement business which is provided by others. Social contenting also can raise or reduce personal efficacy. The last efficacy resource is personal physiology and excited condition. Generally extra excitement will reduce performance. When people afflicted with fear and extra excitement at high levels, expectation of their efficacy will be reduced [6].

Bandura (1997) debates that self \_efficacy is a constructive power which effectively organizes the cognitive, social, emotional and behavioral skills of humans to achieve different subjects. In his opinion, having knowledge, skills and forgone people's achievements are not appropriate predictors for their future performance, but the people's beliefs about their abilities influence the quality of their performance. There is a clear difference between having different skills and the ability to combine them with appropriate method for doing duties in different conditions. "People completely know, what duties must they do and for which they have necessary skills, but often they are not successful in using the skills appropriately." [3].

Pajares (2002) believes that the people who have weak self \_efficacy see the duties and jobs difficultly, so they are more stressful while powerful self \_efficacy beliefs cause calmness and success. Thus, self-efficacy can be a powerful predictor for people's achievements .Self\_ efficacy also is effective on learning and development. Students who have high self \_efficacy are more successful than those who have low self \_efficacy [7].

The research on academic achievement's variable is taken into consideration during the late three decades by experts of education and training. The different research findings show that academic achievement is effected by knowledge structures and environmental and positional elements such as motive orientation and learning method [8].

Academic achievement points to a manifestation of conditions which this manifestation may academic students' show the grade of one term, the average of grades for a set of terms in one course or the average of different terms grades. Powerful self-efficacy beliefs in students and university students refer to a judgment about their ability to do their duties and learning necessary educational subjects in order to get good grades. people who have high self \_efficacy try more and more to do their duties and spend more time to get better grades [9].

Development motivation is the most important motivation in educational psychology and all the researches about this subject are a struggle to improve students' academic achievement; it has the most applications in education [10].

Ames (1990) has declared that the most important elements in academic achievement are a long time challenges with learning and having obligation and motivation for learning process [11].

Whitehead (2003) and Wang & Guthrie (2004) in their studies have shown that people's inner motivation such as the sense of satisfaction and personal enjoyment and self-confidence affects their learning and academic achievement [12, 13].

Likewise, A'rabian (2004) concluded that there is a relationship between students' self \_efficacy beliefs and their mental health and academic achievement [14]. Asgharnezhad (2004) as well have indicated that there is a significant relationship between students' self-efficacy and their academic achievements [15].

Moreover, Eydiyan (2006) studied the relationship between students' compatibility, self-respect and their academic achievements and showed that they are meaningfully correlates with each other [16].

Seif, Diba *et al.* (2008) also demonstrated that self-efficacy is the most powerful element for predicting educational performance and the aspects of cognitive perceptions' beliefs through self-efficacy mainly predict the educational performance of students in experiential sciences [17].

Similarly, Moradkhani (2008 ) investigated the effect of self-efficacy's sense and academic degrees of beginner English teachers on language students' academic achievement and showed that teachers' degrees affects their abilities and teaching methods which may consequently influences student's academic success. However, there found no meaningful differences between the teachers' self-efficacy senses and their academic degrees. But there is a meaningful relation between the teachers' self-efficacy and the language students' academic achievement [18].

Additionally, ZahraKar *et al.* (2010) studied the effect of learning skills of problem solution on self-efficacy. Their findings revealed that that the rate of students' self-efficacy who have been trained in learning solving problems skills are more than the student who haven't received them. Also the rate of students' self-efficacy benefits from an appropriate consistency during time [19].

Abbasiyan fard *et al.* (2010), as well, in studying the relationship between self-efficacy and students' motivation for development have shown that self-efficacy correlates with their development motivation in four aspects of self-leadership, self-fertility, self \_exciting and self-regulating [20] .

Abolghasemi and *et al.* (2012) in studying the role of social desirability, mental health and self-efficacy in predicting students' academic achievement have shown that approximately 12% of variance which related to academic achievement of intelligent students was explicated by social desirability, mental health and self-efficacy variables [21].

Eskandarpour Charmkharan (2007) additionally showed in his study students' self-concept significantly correlates with their academic achievements [22].

Tamaddoni *et al.* (2010) in their study revealed that the average grades of boys are more than girls. The comparison of normalized scores for negligent acts of academic performances in all cases are higher than previous norms. The result of Pearson's correlation about the relationship between variables showed that there is a negative and meaningful relationship among public self-efficacy, academic carelessness and academic achievement [23].

In addition, Bakhtiyarpour *et al.* (2009) who studied the relationship between control status, idealism, self-efficacy, exam stress and students' academic performance concluded that there is a relation between the set of prediction's variables and the set of central Correlation Coefficient's variables with 66%. Also the result showed that just the exam stress, not academic performance, is predictable by idealism, "innermost" control situation and self-efficacy [24].

Besides, Qalaei *et al.* (2012) in their study evaluated models of teachers' self-efficacy beliefs as an indicator of determining their job satisfaction and students' academic achievements. It was shown that there is a meaningful relation among teachers' self-efficacy beliefs, their job satisfaction and students' academic achievement [25].

Furthermore, Birami *et al.* (2011) in their study came to this conclusion that there is a positive and meaningful relationship among the subject of homework involvement, superficial learning strategy, in-depth learning strategy and academic achievement; also it was revealed that there is a positive and meaningful relation among the self-involvement subject, superficial learning, in-depth learning strategy and self-efficacy; however, it was shown that there is a negative relation between self-efficacy and avoidance of working [26].

Ryan & Stiller (2000), moreover, have shown that in their researches that there is a powerful interconnection among the innermost motivation, academic achievement and enjoying learning activities [27]. Finally the researches of Pajares (1996), Mimi (1996) Andrew & Viall (1998) Cassidy & Eachus (2000) Sommerfield & Watson (1998) also revealed that there is a relation between students' self-efficacy and their academic achievement [28-32]. Considering the studies conducted as mentioned above, the main purpose of this study is to investigate the rate of self-efficacy's effects on students' academic achievements at universities and higher education centers. This study follows five hypotheses as follows:

- There is a relation between students' self-efficacy and their academic achievement at very high level.
- There is a relation between students' self-efficacy at high level and their academic achievement at very high level.
- There is a relation between students' self-efficacy and their academic achievement at middle level.
- There is a relation between students' self-efficacy and their academic achievement at low level.
- There is a relation between students' self-efficacy and their academic achievement at very low level.

**Research Method:** The present study is conducted with the aim of investigating the rate of self-efficacy's impact on students' academic achievements in universities and higher education centers which is run on the basis of descriptive correlation method. The population contains all students in Islamic Azad University, Karaj branch (30000 participants) and 379 subjects are selected according to systematic random sampling on the basis of Morgan's table (1970). The data collection tools are two questionnaires: self-efficacy scale by Sherer *et al.* (1982) and the other is related to students' personal and educational qualifications. Sherer *et al.* (1982) public self-efficacy scale consists of 17 subjects; its reliability was estimated as  $r=0.79$  in Bakhtiari (1997)'s study,  $R=0.85$  in Abdi nia (1998) and  $R=0.86$  in the present study [33]. The other questionnaire is seeking general information about the students which has been codified on the basis of student's average scores. The collected data was also analyzed by Pearson coefficient correlation test so that the rate of the relationship between the variables can be evaluated.

## RESULTS

In this study, five hypotheses are proposed:

**First Hypothesis:** There is a relationship between students' self-efficacy and their academic achievements at very high level.

The results illustrated in Table (1) reveals that the correlation coefficient between students' self-efficacy variable and their academic achievement is 0.65 at very high level. It means by increasing the rate of students' self-efficacy, the rate of academic achievement will be boosted, too. The significant level of these two variables shows that there is a significant relation with 99% confidence between them ( $P=0.00<0.01$ ). Therefore, it can be concluded that there is a positive and significant

Table 1: Results of Pearson Test regarding the relationship between students' self-efficacy and their academic achievements at very high level

| Variables                           | Numbers (N) | Correlation Coefficient (R) | Impact factor (R <sup>2</sup> ) | Level of significance (P) |
|-------------------------------------|-------------|-----------------------------|---------------------------------|---------------------------|
| 1.Self_ efficacy at very high level | 379         | 0.65                        | 0.43                            | 0.00                      |
| 2.academic achievement              |             |                             |                                 |                           |

Table 2: Results of Pearson Test regarding the relationship between students' self-efficacy and their academic achievements at high level

| Variables                      | Numbers (N) | Correlation Coefficient (R) | Impact factor (R <sup>2</sup> ) | Level of significance (P) |
|--------------------------------|-------------|-----------------------------|---------------------------------|---------------------------|
| 1.Self_ efficacy at high level | 379         | 0.61                        | 0.38                            | 0.00                      |
| 2.academic achievement         |             |                             |                                 |                           |

Table 3: Results of Pearson Test regarding the relationship between students' self-efficacy and their academic achievements at middle level

| Variables                        | Numbers (N) | Correlation Coefficient (R) | Impact factor (R <sup>2</sup> ) | Level of significance (P) |
|----------------------------------|-------------|-----------------------------|---------------------------------|---------------------------|
| 1.Self_ efficacy at middle level | 379         | 0.31                        | 0.10                            | 0.04                      |
| 2.academic achievement           |             |                             |                                 |                           |

Table 4: Results of Pearson Test regarding the relationship between students' self-efficacy and their academic achievements at low level

| variables                     | Numbers (N) | Correlation Coefficient (R) | Impact factor (R <sup>2</sup> ) | Level of significance (P) |
|-------------------------------|-------------|-----------------------------|---------------------------------|---------------------------|
| 1.Self_ efficacy at low level | 379         | 0.53                        | 0.28                            | 0.00                      |
| 2.academic achievement        |             |                             |                                 |                           |

relationship between students' self-efficacy and their academic achievement at very high level. Also the rate of self-efficacy's impact factor (R<sup>2</sup>) at very high level is 0.43. In other words, self-efficacy variable determines 39 percent of changes in students' academic achievements at very high level.

**Second Hypothesis:** There is a relationship between students' self-efficacy and their academic achievements at high level.

The results illustrated in Table (2) reveals that the correlation coefficient between students' self-efficacy variable and their academic achievement is 0.61 at high level .It means by increasing the rate of students' self-efficacy, the rate of academic achievement will be boosted, too. The significant level of these two variables shows that there is a significant relation with 99% confidence between them (P=0.00<0.01). Therefore, it can be concluded that there is a positive and significant relationship between students' self-efficacy and their academic achievement at high level. Also the rate of self-efficacy's impact factor (R<sup>2</sup>) at high level is 0.38. In other words, self-efficacy variable determines 38 percent of changes in students' academic achievements at high level.

**Third Hypothesis:** There is a relationship between students' self-efficacy and their academic achievements at middle level.

The results illustrated in Table (3) reveals that the correlation coefficient between students' self-efficacy variable and their academic achievement is 0.31 at

middle level .It means by increasing the rate of students' self-efficacy, the rate of academic achievement will be boosted, too. The significant level of these two variables shows that there is a significant relation with 95% confidence between them (P=0.04<0.05). Therefore, it can be concluded that there is a positive and significant relationship between students' self-efficacy and their academic achievement at middle level. Also the rate of self-efficacy's impact factor (R<sup>2</sup>) at middle level is 0.10. In other words, self-efficacy variable determines 10 percent of changes in students' academic achievements at middle level.

**Forth Hypothesis:** There is a relationship between students' self-efficacy and their academic achievements at low level.

The results illustrated in Table (4) reveals that the correlation coefficient between students' self-efficacy variable and their academic achievement is 0.53 at low level. It means by decreasing the rate of students' self-efficacy, the rate of academic achievement will be reduced, too. The significant level of these two variables shows that there is a significant relation with 99% confidence between them (P=0.00<0.01). Therefore, it can be concluded that there is a significant relationship between students' self-efficacy and their academic achievement at low level. Also the rate of self-efficacy's impact factor (R<sup>2</sup>) at low level is 0.28. In other words, self-efficacy variable determines 28 percent of changes in students' academic achievements at low level.

Table 5: Results of Pearson Test regarding the relationship between students' self-efficacy and their academic achievements at very low level

| Variables                          | Numbers (N) | Correlation Coefficient (R) | Impact factor (R <sup>2</sup> ) | Level of significance (P) |
|------------------------------------|-------------|-----------------------------|---------------------------------|---------------------------|
| 1.Self_ efficacy at very low level | 379         | 0.62                        | 0.39                            | 0.00                      |
| 2.academic achievement             |             |                             |                                 |                           |

**Fifth Hypothesis:** There is a relationship between students' self-efficacy and their academic achievements at very low level.

The results illustrated in Table (5) reveals that the correlation coefficient between students' self-efficacy variable and their academic achievement is 0.65 at very low level .It means by decreasing the rate of students' self-efficacy, the rate of academic achievement will be reduced, too. The significant level of these two variables shows that there is a significant relation with 99% confidence between them ( $P=0.00<0.01$ ). Therefore, it can be concluded that there is a significant relationship between students' self-efficacy and their academic achievement at very low level. Also the rate of self-efficacy's impact factor ( $R^2$ ) at low level is 0.39. In other words, self-efficacy variable determines 39 percent of changes in students' academic achievements at very high level.

## DISCUSSION AND CONCLUSION

The obtained results of the present study has revealed that there is a significant and positive relationship between students' self-efficacy and their academic achievements with 99% confidence at very high, high, middle, low and very low levels. In other words, decreasing students' self-efficacy would reduce their academic achievements and vice versa. The gained results of this research go on the same track with the previous ones. For instance, in 2004, A'arabian *et al.* showed that students' self-efficacy affects their academic achievements. In the same year, Asgharnezhad also concluded that there is a significant relationship between students' self-efficacy and their academic achievements.

In addition, Seif, Diba *et al.* (2008) indicated that self-efficacy may be regarded as one of the most powerful criteria for predicting educational performances. Likewise, Abdolghasemi *et al.* (2012) came to this conclusion that approximately 12 percent of the variance which is related to intelligent students' academic achievements is determined by self-efficacy.

Moreover, Eskandarpoor Charmkharan (2007) in his study demonstrated that there is a meaningful relationship between students 'self-concept and their academic achievements. Also, Tamaddoni *et al.* (2010) in his study

demonstrated that there was a meaningful and negative relationship between public self-efficacy and students' academic carelessness and achievements.

Furthermore, Qalaei *et al.* (2012) also showed students' self-efficacy beliefs significantly correlates with their academic achievements. Similarly, Pajares (1996), Mimi (1996) Andrew & Viall (1998) Cassidy & Eachus (2000) Sommerfield & Watson (1998) in their studies found out that students' self-efficacy affects their academic achievements. Thus, regarding the obtained results in different studies, it may be suggested that by increasing students' self-efficacy through appropriate educational methods and inspiring training environment, their academic achievements would be enhanced.

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