The Relationship between Self-Efficacy and Language Proficiency: A Case of Iranian Medical Students

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Abstract

Research findings from several academic domains have demonstrated that students' judgments of their own academic capabilities or self-efficacy beliefs influence their academic behaviors and performances. But there has been very few studies exploring the self-efficacy of Medical students and its effect on their language success. So, the present research aims to fill this gap by investigating the relationship between medical students' self-efficacy and their language proficiency. Moreover, this study tried to examine the variation of students' self-efficacy based on their different majors in medical sciences. To this end, 120 students studying in different majors in Mazandaran University of Medical Sciences were selected as the participants of this study. In order to measure students' language proficiency, Michigan Test of English Language Proficiency (MTELP) was administered. Another instrument was the self-efficacy questionnaire which was an adaptation of Bandura's questionnaire included 40 items with subsequent choices on a 5-point Likert-scale. The results of the study indicated that there was a positive relationship between students' self-efficacy and language proficiency. Besides, it was revealed that students' major had an effect on both language proficiency and self-efficacy. Finally, pedagogical implications and suggestions for further research were provided.

Keywords: self-efficacy, language proficiency, medical students

INTRODUCTION

It is evident that learners' affective variables have a key role in students' success. Some scholars believe that learners' affective variables have more effective influence on their foreign language learning than their language aptitude (Chastain, 1988). Among affective variables self-efficacy is recognized to have an essential role in academic success of students. Bandura (1993) argues that efficacy beliefs affect the way people feel, think and behave. He states that "In social cognitive theory, people must develop skills in regulating the motivational, affective, and social determinants of their intellectual functioning as well as their cognitive aspects" (p. 136). Pajares (2000) believes that self-efficacy is a

marvelous predictor of individual behavior and functioning. Self-efficacy has been used in research in different social, political and academic settings. However, as Pjares (2000) concerned there are few researches in the relation of foreign language achievement and self-efficacy. So, the current study intends to investigate the relation between self-efficacy and foreign language achievement in students who study medical sciences in one of the Iranian universities.

REVIEW OF LITERATURE

Bandura in 1970s, became conscious that a key component was absent from the prevailing learning theories of the day, and his own social learning theory (Pajares, 2002). Rejecting the behaviorist's indifference to self- processes, Bandura (1977) was able to identify that important missing element, self-beliefs. He believed that each person makes self-perceptions of his abilities which are useful for his perusing goals and controlling their environment.

According to Pajares (2002), these attitudes make a self-system with explicit, progressive, symbolizing, self-reflective, and self-regulatory competences, and individual behavior is the outcome of interaction between this personal system and external sources of influence. Pajares and Schunk (2001) state that in sociocognitive perspective, an individual is considered as active and self-regulating agent not a passive one controlled by other factors. Bandura (1989) mentions that "persons are neither autonomous agents nor simply mechanical conveyors of animating environmental influences. Rather, they make casual contribution to their own motivation and action within a system of triadic reciprocal causation" (p.1175). This, in turn, can be the reflection of Bandura's (1986) notion of reciprocal determinism which refers to interaction of behavioral variables (what people actually do), environmental variables (the setting in which the behavior occurs), and personal/cognitive variables (how the person thinks about, perceives, or expects events to occur). Then, Bandura changed the name of his theory from Social Learning to Social Cognitive to emphasize the serious role of human cognition in people's lives. Pajares (2002) states that Bandura's Social Cognitive Theory is different from other theories of human behavior which overemphasize the function of environmental or biological aspects. Bandura (1986) believed a theory which rejects thoughts can control acts cannot explain complex human behavior. What people think, believe, and feel influences their behavior. The natural and extrinsic effects of their actions, somehow establish their thought models and their succeeding actions. The fulfillments individuals achieve from what they do are established to a great degree by their self-evaluative standards.

Definition of Self-Efficacy

Bandura (1977) defines self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance" (p. 174). Bandura (1977) emphasized on self-efficacy, which operates what individuals choose to do; their level of attempt and perseverance when encountering

troubles; and the consequent act. It is a dynamic, many sided belief system that varies in different circumstances and activities.

Bandura (1986) argues that self-efficacy is a general belief about one's capabilities to successfully control crucial actions in life. Spratt, Humphreys, and Chan (2002) state that self-efficacy is a motivational construct which influence learners to autonomous behavior. It refers to an individual's beliefs that he has the capability to attain a certain level of performance and attainment.

Pajares (2002) states that according to Bandura's Social Cognitive theory, individuals possess a self-system that permit them to use a measure control over their thoughts, feelings, motivation, and actions. Self-efficacy beliefs can change human functioning by providing individuals with the ability to influence their own cognitive processes and actions and so modify their surroundings. Bandura (1997) claimed self-efficacy has a significant role in human functions. He stated "People's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true" (p. 2). That is the reason why individuals functioning can be estimated by the beliefs about their abilities rather than by what they are truly capable of doing, in fact these beliefs can help to decide what individuals can do with their knowledge and skills.

Sources of self-Efficacy

Bandura (1986) has mentioned four following sources of self-belief:

1. Mastery Experiences: past successes/ failures affect our current level of self-efficacy in a specific context.

2. Vicarious Experiences: seeing others perform a behavior successfully leads us to believe in our own capability to do it, especially when these others are similar to ourselves.

3. Verbal/Social Persuasion: people's self-efficacy beliefs are enhanced if they are told and convinced that they can succeed.

4. Emotional and Physiological State: when you are physically fit or in a positive mood your efficacy will be enhanced.

Bandura (1993) argues that the various effects that self-efficacy beliefs create is done through the following four key procedures:

1. Cognitive Process: Most of our actions are initially shaped in our thought. Self-efficacious ones visualize success that provides positive guides and supports for performance. Conversely, those who doubt their efficacy imagine failure which makes things go wrong.

2. Motivational Process: self-efficacy beliefs can also affect motivation. These beliefs have an important function in developing motivation. The majority of our

motivation is cognitively shaped. Through the exercise of forethought people motivate themselves, guide their actions, and form beliefs about what they can do.

3. Affective Process: individuals' beliefs about what they are able to do influence the amount of tension and depression they would encounter in frightening or complex circumstances and also the level of motivation.

4. Selection Process: Judgments of personal efficacy influence people's choice of environments and activities. Individuals also break away from activities and conditions which seem to be beyond their abilities.

Efficacious versus Inefficacious People

Bandura (1995) claims high self-efficacious learners monitor their performance, endure longer, and solve the problems better than low self-efficacious students. Pajares (2002) argues that high self-efficacious individuals have the following characteristics:

a) They don't see complex activities as a thread to evade rather they move toward it as a demanding activity to be mastered.

b) Their inherent interest in doing tasks is superior, their goals are more demanding, and they keep up their attempt even in the face of difficulties.

c) They would recover their self-belief rapidly after failures, and would see failures due to their own inadequate attempts or their own lack of knowledge or skills; in fact they do not look for external elements.

d) They are also not nervous and are calmer in accomplishing complex tasks.

On the contrary, low self-efficacious individuals consider tasks much harder than what they actually are, and this will increase their anxiety, tensions, depression and a give them weaker view for solving problem (Pajares, 2002). Bandura (1986) states that "people who hold a low view of themselves will credit their achievements to external factors, rather than to their own capabilities" (p.402). "If self-efficacy is lacking, people tend to behave weekly, even though, they know what to do" (p. 425).

Pajares (2005) argues that highly self-efficacious students consider themselves capable of doing academic tasks using different kinds of cognitive and metacognitive strategies while inefficacious ones do not believe in their capability. Bandura (1997) states that self-efficacy refers to the obvious benefits of enhancing students' confidence in their capacities.

Distinctive Features of Academic Self-efficacy

According to Bandura (1977) academic self-efficacy is described as personal judgment of one's abilities to manage and carrying out different actions to reach special types of educational performance. Academic self-efficacy predicts academic performance. In fact

there is a mutual relationship between self-efficacy and academic achievements. Dewitz and Walsh (2002) state that self-efficacy beliefs are considerably related to academic choices and performances. Self-efficacy beliefs are positively related to action, perseverance, and expected results. Academic self-efficacy is related with students' satisfactions. Students with greater self-efficacy seem to be more pleased with college life. Pajares (2005) uttered that academic self-efficacy will enhance students' strategy use. He mentioned that self-efficacy affects cognitive strategy use and self-regulation by using metacognitive strategies. Schunk (1991) states that academic self-efficacy can be defined as person's self-assurance in their own capabilities to successfully perform academic activities at a designed level. Jing (2006) states that self-efficacy in language learning can be perceived as students' judgment about their capabilities and their improvement in specific situations they are learning the language.

Distinctive Features of Self-efficacy

Zimmerman & Cleary (2006) named four main features of self-efficacy. First, it focuses on proposed abilities to perform a task rather than on behavior or psychological characters. In fact self-efficacy deals with "how well can I do something?' rather than "what am I like?". Next, self-efficacy beliefs are domain-specific, context-specific, and activity specific. In context- specific, for example an individual may shows a low self-efficacy for learning math in a competitive classroom context than in cooperative class. Though, self-efficacy is multidimensional and changes across particular activities within specific domain. Third, self-efficacy depends on mastery norm performance rather than normative or other measures. That is students beliefs about their skillfulness in doing a specific task such as writing an essay is measured and this gives no idea about comparing them with their peers ability in essay writing. As a final point, judgment about self-efficacy is done before really doing the task.

Self-efficacy and Academic Achievement

Students' academic achievement is mainly manipulated by their cognitive abilities. That is students with greater intellectual capacity would be successful at higher level than students with lower intellectual competencies. Students' self-efficacy perceptions play a key role in decision about student academic performances. However academic achievement is related to many factors and just knowing and possessing skills does not guarantee success. Students meet many difficult situations in their learning such as noisy study environments, bothersome thoughts, and negative feelings and if they don't use their knowledge well in these circumstances they won't success. Bandura (1993) found that high self-efficacious students tend to deal well with these circumstances and would better succeed from their peers with the same academic level ability. That is self-efficacy will guarantee students' academic achievements irrespective of their ability. Wong (2005) found that many language learners in ESL context also suffer from low self-efficacy. He argues that numerous ESL students have poor learning strategies and low self-efficacy which will diminish their motivation and consequently their language

proficiency. Lack of learning strategies hinder their problem solving ability and low self-efficacy impede their involvement in learning tasks.

Academic self-efficacy is related to issues, such as self-efficacy expectations, perceived self-competence, perceived control, academic self-regulatory skills. According to Bandura (1997) Self-efficacy expectations determine whether that person deals with hard conditions, the amount of attempt he will spend and the degree his efforts will continue in spite of difficulties and impediments. Bandura (1993) mentions that perceived self- competence is an inherent drive to feel competent. Having the required skills or knowledge alone cannot be useful in difficult conditions. In fact many individuals cannot use their skills in difficult situations. Self-efficacy is an important factor in determining their success in difficult conditions. Students with similar ability will vary greatly in their efficacy to cope with academic demands.

Self-efficacy can predict students' use of cognitive and self-regulative learning strategies in classroom situations. Bandura (1995) states that highly self-efficacious individuals apply different academic self-regulatory skills like goal-setting, self-evaluation, self-monitoring, time planning, and strategy use.

Pajares (2002) put forward Bandura's (1986) idea of reciprocal determinism in school contexts. Teachers have the challenge for improving the academic learning and confidence of the students. Teachers can develop students' emotional state, to change their imperfect self-beliefs and thinking patterns (personal factors), to develop their academic skills and self-regularity strategies (behavior), and to modify school constructions to facilitate students' achievements (environmental factors). Self-efficacy is not a judgment about physical characteristics or personality traits; it is a belief about what a person can do. Zimmerman (1995) mentioned that self-efficacy is also context-specific and differs across subsequent elements:

- Level: level refers to the complexity of specific activity.
- Generality: Generality refers to transferability of efficacy for specific task to different tasks or activities.
- Strength: Strength refers to the assurance about doing a task.

As far as the review of literature is concerned students' self-efficacy beliefs play a significant role in understanding how a person would act in academic settings. There are lots of obstacles that students may face during learning and just equipping ones with knowledge and skills cannot guarantee that students will use them well in complex situations. Self-efficacy as a key predicator of student's success has encouraged the researcher to investigate the self-efficacy of Iranian students who study medical sciences in the university. This study seeks to examine the relationship between Iranian students' self-efficacy and their language proficiency through answering following research questions:

- Is there any relationship between Iranian students' language proficiency and their self-efficacy?
- Do Iranian students with different majors in medical sciences (medicine, radiology and emergency care) have different levels of self-efficacy?
- Is there any relationship between Iranian students' majors (medicine, radiology and emergency care) and their language proficiency?

METHOD

Participants

The sample participating in this study is consisted of 120 university students who study medicine, radiology and emergency care at Mazandaran University of Medical Sciences.

Instruments

Self-efficacy questionnaire and Michigan Test of English Language Proficiency (MTELP) were used to measure the variables under study. Students' language achievement was measured by Michigan Test of English Language Proficiency (MTELP). MTELP was chosen because it is reliable and matches the proficiency level of university students. MTELP contains three parts: part one is a test of grammar which have 40 items, part two is a vocabulary test which consists of 40 items, and the last part includes four reading passages each having 5 questions. The self-efficacy questionnaire was adapted on the surveys of Albert Bandura and included 40 questions followed by choices on a 5 point Likert scale.

Data Collection Procedure

To examine the first variable of this study student were supposed to answer a standardized Persian self-efficacy questionnaire within 15 minutes. The questionnaire contains 40 questions followed by 5 point Likert scale choices. The score obtained from self-efficacy questionnaire ranges from 0 to 200. For measuring students' language proficiency Michigan Test of English Language Proficiency was administered. Students had 90 minutes to do the test. The MTELP scores ranges from 0-100.

Data Analysis Procedure

This study is not an experimental research but a descriptive one. As mentioned by Seliger and Shohami (1989) a descriptive study provides descriptions of naturally occurring phenomena connected with language learning. It will give information about naturally happening phenomenon with no control over any variables. Thus, this study has an Ex-Post Facto design since the researcher does not manipulate what has happened to the participants of the current research. Moreover, in this study students' language achievement is considered as dependent variables and students' self-efficacy and their majors (medicine, radiology and emergency care) are regarded as independent variables.

RESULTS & DISCUSSION

In order to answer the research questions the researcher used Statistical Package for the Social Sciences (SPSS). The first research question was regarding the relationship between Iranian students' language proficiency level and their self-efficacy level. In order to find the strength of the relationship between these two variables Pearson Correlation Coefficient was used (See the table1).

Table1. Pearson Correlation of Language Proficiency and Self-efficacy

		Language proficiency	Self-efficacy
Language proficiency	Pearson Correlation	1	.788
	Sig. (2-tailed)		.000
	N	112	112
Self-efficacy	Pearson Correlation	.788	1
	Sig. (2-tailed)	.000	
	N	112	112

As it is clear from the above table (table1), the correlation coefficient is 0.78 which is significant at $p<0.01$. This means that there is a positive and very strong correlation between students' language proficiency and their self-efficacy. Students with higher self-efficacy tend to have higher language proficiency.

The second research question aimed at investigating the relationship between students' different majors in medical sciences and their self-efficacy. Since we had three different majors including medicine, radiology and emergency care, we used One-Way ANOVA to compute the differences between these groups.

Table 2. ANOVA Results on the Self-efficacy Level

Self-efficacy	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4506.371	2	2253.185	14.439	.000
Within Groups	17009.486	109	156.050		
Total	21515.857	111			

The results of One-Way ANOVA as shown in Tables 2 revealed that there are significant differences in the level of self-efficacy between three groups of students studying in different majors of medical sciences.

In order to answer the third research question which investigates the relationship between students' major and their language proficiency, One -Way ANOVA was utilized.

Table 3. ANOVA Results on Language Proficiency

Language proficiency	Sum of Squares	df	Mean Square	F	Sig,
Between Groups	1549.962	2	774.981	7.374	.001
Within Groups	11454.895	109	105.091		
Total	13004.857	111			

As shown in the above table the differences between students' major and language proficiency are significant at 0.05 and 0.01 levels.

CONCLUSION

Most studies done in the field confirm that self-efficacy can enhance students' achievement. The relationship between self-efficacy and language learning has been studied by many researchers. Rahimi and Abedini (2009) studied Iranian students' self-efficacy and their listening skills and found a positive correlation. Magogwe and Oliver (2007) also reported a positive relation between self-efficacy and language learning strategies. So, the results of present study are in line with previous studies which reported a positive relation between self-efficacy and academic achievement.

Moreover, the present study validates previous studies which focused on self-efficacy as a predicator of academic achievements (Bandura 1997; Pajares, 2000). The results of present study show that self-efficacy and language proficiency are strongly correlated. The result is also in line with Rahimi (2007) who found that Iranian high school students majoring humanities have low self-efficacy and hence low language proficiency and also it proved that humanity students have lower self-efficacy and also lower language proficiency comparing to engineering and medicine students. It can be concluded that highly self-efficacious learners tend to have better perception of their capabilities and therefore try harder to reach their goals. As Cotteral (1999) mentioned self-efficacy is learners' self-assurance in their general ability in accomplishing a specific language goals.

The present study has some implications for foreign language teachers. Language teachers should improve students' self-efficacy. In fact they should support learners and enable them to expand their self-efficacy and this can be very helpful for learners' to have a good language learning experiences. Pajares (2002) mentioned that one way that teachers can increase students' self-efficacy in academic setting is through peer modeling. If individuals see a successful student who is like them, this would give them an optimistic view about their own capabilities, and this would have a significant influence on students' self-efficacy. Such a high efficacy belief will make students to put more effort in accomplishing their desired goals. He also mentioned that social messages that adults receive can also enhance their self-efficacy. Expressing positive views about their capabilities can really be helpful in increasing students' self-efficacy and reducing their stress. So teachers as well as parents should remind students of their competences and encourage them to put more effort in the process of language learning.

REFERENCES

Bandura, A. (1977). *Social learning theory*. New Jersey: Prentice-Hall.
Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* New Jersey: Prentice-Hall.
Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist,* 44. 9, 1175- 1184.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist,* 28. 2,117-148.

Bandura, A. (1995)*. Self-efficacy in changing societies.* Cambridge: Cambridge University Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman. Chastain, K. (1988). *Developing second language skills theory and practice* (3rd ed). San Diego: Harcourt Brace Jovanovich.

Cotterall, S. (1999). Key variables in language learning: What do learners believe about them? *System, 27*(4), 493-513.

Dewitz, S. J., & Walsh, B. (2001). Self-efficacy and college student satisfaction. *Journal of Career Assessment,* 10, 3, 315-326. doi: 10.1177/10672702010003003.

Jing, H. (2006). Learner resistance in metacognitive training? An exploration of mismatches between learner and teacher agendas. *Language Teaching Research, 10*(1), 95- 117.

Magogwe, J. M. & Oliver, R. (2007). The relationship between language learning strategies, proficiency, age and self-efficacy beliefs: A study of language learners in Botswana. *System 35*(3), 338-352. doi:10.1016/system.2007.01.003.

Meinhold, J. L., & Malkus, A. J. (2005). Adolescent environmental behaviors: Can knowledge, attitudes, and self-efficacy make a difference? *Environment and Behavior, 37*(5), 511- 532. doi:10.1177/0013916504269665.

Pajares, F. (2000). Self-efficacy beliefs and current directions in self-efficacy research. From http://www.emory.edu/EDUCATION/mfp/effpage.html

Pajares, F. (2002). Overview of social cognitive theory and self-efficacy. Retrieved December 2012 from http://www.uky.edu/~eushe2/Pajares/eff.html

Pajares, F. (2005). Self-efficacy during childhood and adolescence: Implications for teachers and parents. http://www.uky.edu/~eushe2/Pajares/PajaresAdoed2006

Pajares, F., & Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding, & S. Rayner (eds.), *Self-perception* (pp. 239- 266). London: Ablex Publishing.

Rahemi, J. (2007). Self-efficacy in English and Iranian senior high school students majoring in humanities. *Novitas-ROYAL, 1*(2), 98-111.

Rahimi, A. & Abedini, A. (2009). The interface between EFL learners' self-efficacy concerning listening comprehension and listening proficiency. *Novitas-ROYAL, 3*(1), 14-28.

Schunk, D.H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, *26*, 207-231.

Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield, & J. Eccles (eds.), *Development of achievement motivation* (pp. 16-31)*.* San Diego: Academic Press.

Seliger, H. W., & Shohamy, E. (1989). *Second language research methods.* Oxford: Oxford University Press.

Spratt, M., Humphreys, G., & Chan, V. (2002). Autonomy and motivation: Which comes first? *Language Teaching Research, 6,* 245-266. doi: 10.1191/1362168802lr106oa.

Wong, M. S. L. (2005). Language learning strategies and language self-efficacy: Investigating the relationship in Malaysia. *RELC Journal, 36*(3), 245-269.

Zimmerman. B. J., & Cleary, T. J. (2006). Adolescents' development of personal agency: The role of self-efficacy beliefs and self-regulatory skills. In F. Pajares, & T. Urden (eds.), *Self-efficacy beliefs of adolescents* (pp. 45-69). Greenwich, CT: Information Age publishing.