

## A Study of the Relationship of Self-Regulated Learning Strategies, Self-Esteem and Personality Traits with Self-Efficacy

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**ABSTRACT:** Self-efficacy is an important influence on human achievement in a wide variety of settings, including education, health, sports, and work. Students' self-efficacy, which refers to students' beliefs about what they can do in terms of a particular task or context, has likewise been shown to influence motivational and behavioral processes. The purpose of the present research was to examine relationships of self-regulated learning strategies, self-esteem and personality traits with self-efficacy of 2<sup>nd</sup> Grade students of Bushehr's High Schools. The relevant sample consisted of 150 students of high school and selected through a randomly sampling. The instruments used in this research consisted of Self-Efficacy Scale, Self-Regulated Learning Strategies Questionnaire, Self-Esteem Inventory and the revised NEO Personality Inventory. The results indicated that there were significant relationships between self-regulated learning strategies, self-esteem and personality traits variables with self-efficacy. Also, to determine the contribution of each of the variables was used the multiple regression analysis. The results of regression analysis showed that for predicting self-efficacy, the best predictive variables were self-regulated learning strategies, conscientiousness and agreeableness orderly. Also, from among types of self-regulated learning strategies for predicting self-efficacy, the best predictive variables were note taking, self-evaluation and goal setting orderly. Therefore, in accordance with the results, the most important variable was self-regulation learning strategy. When that students monitoring on progress and used suitable learning strategies and setting goal, in turn, influenced on self-efficacy. Also, conscientiousness trait plays important role in student's efficacy.

**Key words:** Self-Efficacy, Self-Regulated Learning Strategies, Self-Esteem, Personality Traits.

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### INTRODUCTION

Self-efficacy, defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997). Students' self-efficacy, which refers to students' beliefs about what they can do in term of a particular task, has likewise been shown to influence motivational and behavioral processes (Tschannen-Moran et al., 1998). Self-efficacy is an important influence on human achievement in a wide variety of settings, including education, health, sports, and work. According to Bandura's (1986, 1997), social cognitive theory, individuals develop their self-efficacy by four informational sources.

The first source is mastery experience, and is the strongest source (Bandura, 1986). If one judged the performance was good, he perceived efficacy is high. If one judged the performance was not good enough, he perceived efficacy is low. The second source is vicarious experience. Students only do not rely to mastery experience. Vicarious experiences provide students with an opportunity to witness the successes and failures of others and may thereby alter self-efficacy. The third source is social persuasions. Teachers, administrators and parents often try to convince students that can do a certain behavior. So, social persuasions can enhanced persistent until a person overcame on obstacles (Godard, 2001). Finally, physiological and affective states, including stress, fatigue, anxiety, and mood can also influence perceived capability.

Students self - efficacy is related to positive educational outcomes. Students self - efficacy in

various academic assignments predicted academic performance. The meta-analysis of 36 studies, Multon et al. (1991) found that efficacy beliefs of students with their perseverance and persistence in academic tasks are related. Pajares and Graham (1999) concluded that students self-efficacy, their academic success predicted in the mathematic lesson. Various studies show that self-efficacy with self-esteem, academic performance and better grades related (Bandura, 1997; Gooddard, 2001; Pajares and Graham, 1999; Anderson et al., 1988).

One of important variables that can promote student self-efficacy is self- regulation. Self-regulation is defined as the deliberate modulation of one's responses to stimuli and includes how an individual functions in the face of different types of activation (e.g., attention, behavioral, or emotional activation; Baumeister and Vohs, 2004; Calkins, 2007; cited on Connor et al., 2010). As generally defined, self-regulation includes a specific constellation of skills critical for persisting on academic tasks and completing work independently (Connor et al., 2010). Students with stronger levels of overall self-regulation, measured with tasks that necessitate integrating multiple component skills, specifically attention, working memory, and inhibitory control, generally achieve at higher levels compared to students with weaker overall self-regulation (Connor et al., 2010). Evidence suggests that individual differences in students' self-regulatory skills contribute to differences in academic achievement (Smith, Borkowski and Whitman, 2008). Self-regulation underlies multiple skill domains related to controlling

and directing behavior, and enables students to function in cognitively challenging settings, such as first grade. self-regulatory competence appear to be associated with academic achievement (Connor et al., 2010).

The past decade has seen an interesting and polemic discussion: which of the structural models, of five or three factors, best explains human personality? (Costa & McCrae, 1985, 1992a; Eysenck, 1991, 1992a, 1992b). Eysenck (1991) defends a three factor structure based on Psychoticism (P), Extraversion (E) and Neuroticism (N), while Costa and McCrae (1985) put forward a five-factor structure as the most adequate: Neuroticism (N), Extraversion (E), Openness (O) Agreeableness (A) and Conscientiousness (C).

One of Eysenck's criticisms of the five-factor model is that A and C factors would in fact be traits opposed to the P dimension. The negative correlations between A and P, and C and P found by McCrae and Costa (1985) suggest that these two factors would be part of the several personality traits related to P. Within the Big Five framework, somewhat different interpretations of the negative and moderate correlations between A and C with P, have been made by Goldberg (1993) and John (1990). From this point of view, A and C would actually be personality dimensions not considered as primary factors that combine in a second order wider factor, P would rather be integrated in A and C. Another of Eysenck's objections refers to the O factor, which he sees as representing a component of cognitive skills rather than a personality dimension (Eysenck, 1991). Of the Big Five personality factors, O is the most difficult to conceptualize. It has also been termed Culture or Intellect (Peabody and Goldberg, 1989), although Openness to Experience seems to be a better description of this personality characteristic (Costa & McCrae, 1985). In summary, our aim in this article is to examine relationships of self-regulated learning strategies, self-esteem and personality traits with self-efficacy.

## MATERIALS AND METHODS

### Participants and Procedure

The sample for the study consisted of 150 girls students who were selected randomly from the high school population in Boushehr. All students were asked to complete all Questionnaires. Analysis of the data involved both descriptive and inferential statistics including means, standard deviations, Pearson's correlation coefficient, and regression analysis.

**Instruments:** We translated into Persian the following questionnaires from the English version for this study:

### Self-regulation

Three measures of self-regulation were derived from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich & De Groot, 1990; Pintrich, Smith, Garcia, & McKeachie, 1991). The MSLQ consists of student self-report items measured on a 7-point Likert scale. The standardized subscales used were:

a) Academic self-regulation: 12 items pertaining to metacognitive self-regulation (assessing the extent to which a student monitors his/her thought processes) and four items pertaining to effort regulation (assessing the extent to which an individual monitors and adjusts his/her effort to a task) were combined to represent overall academic self-regulation with larger number indicating better self-regulation ( $\alpha = 0.70$ ); b) Regulation of the academic environment: eight items pertaining to how well individual structures his/her learning environment (i.e. time management skills, quiet study area, consistent study schedule, etc.) ( $\alpha = .78$ ); c) Study skills: 19 items tapping the extent to which an individual thinks critically about his/her work, elaborates upon learned material, organizes course work, and goes over difficult material ( $\alpha = .90$ ).

### The Revised NEO Personality Inventory

The Revised NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1992c) has 240 items and measures Big Five personality factors, as well as 30 facets (six by dimension), although they were not used in the present study. The construct validity of the NEO PI-R, and its previous version—the NEO-PI—, has been clearly demonstrated by the replicate of its five-factor structure in several languages and cultures (Caprara, Barbaranelli, Hahn and Comrey, 2001; Katigbak, Church, and Akamine, 1996). The reliability coefficients oscillate between 0.86 and 0.92. Goldberg (1992) compiled a list of 50 transparent bipolar adjectives adjusted to the Big Five model of personality. This pool of adjectives was administered to a sample of students, scoring on a 1–9 scale (e.g.: introverted, 1–2=very, 3–4=moderately, 5=neither, 6–7=moderately, 8–9=very extraverted). The results were factor analyzed in two different formats, transparent and opaque, showing a five-factor structure with 10 adjectives included in each one. The personality dimensions measured were: Intellect (G-Int), Conscientiousness (G-Con), Surgency (G-Sur), Agreeableness (G-Agr), and Emotional Stability (G-Emo). The author informs of good convergent and discriminant validity with the NEO-PI (Costa and McCrae, 1985). Reliability alpha coefficients range between 0.84 and 0.88.

**Self-Esteem**

Self-esteem was measured by Rosenberg's (1965) 10-item scale. This scale is a self-report measure of generalized feelings about the self. The self-esteem items (e.g. "I feel I have a number of good qualities"; "At times, I think I am no good at all") were rated on a five-point Likert scale (1=totally agree, 5=totally disagree). The Cronbach alpha coefficients for the scale were 0.87 for the men and 0.88 for the women. Although the self-esteem scale is widely used there is only little data available on its psychometric properties (Bosson et al., 2000; Pullman and Allik, 2000).

**Self-Efficacy**

The Academic Self-efficacy Measure is composed of 10 items (McIlroy and Bunting, 2002). This measure is in 7-point Likert format ranging from Strongly Disagree to Strongly Agree. Academic self-efficacy represents differences in beliefs/expectancies related to students' confidence in their own abilities, determination to succeed, and perseverance in the face of obstacles. Reliability alpha coefficient 0.81, also demonstrated significant predictive association with test performance (r= 0.37).

**RESULTS**

Table 1 presents the means and standard deviations for dependent variable and independent variables. Table 2 provides an overview of correlational associations among variables.

Self-efficacy was significantly positively correlated with learning strategies, self-esteem, extraversion, conscientious, agreeable and openness. Also, self-efficacy and neurotic trait was negatively correlated. Testing the association between learning strategies, self-esteem and personality traits with self-efficacy, regression analyses were performed, with self-efficacy as criterion variable and learning strategies, self-esteem and personality traits as predictor variables (Table 3).

The results of regression analysis to stepwise method indicated that the model was significant (F = 22.50; p < .001; R<sup>2</sup> = .31). Specifically, self-regulated learning strategies, conscientious trait and agreeable trait were best predictors of self-efficacy. Other variables removed in regression equation. so, other regression analysis was performed to stepwise method, that self-efficacy as criterion variable and self-regulated learning strategies as predictor variables (Table 4).

The results of regression analysis showed that the model was significant (F = 10.94; p < .001; R<sup>2</sup> = .18). Specifically, note taking, self-evaluation and goal setting were significant predictors of self-efficacy. Also, other regression analysis was performed to stepwise method, that self-efficacy as criterion variable and personality traits as predictor variables (Table 5).

The results of regression analysis to stepwise method indicated that the model was significant (F = 20.65; p < .001; R<sup>2</sup> = .21). Specifically, extraversion, conscientious was significant predictors of self-efficacy.

**Table 1.** Descriptive statistics of achievement motivation, parenting styles and attitudes and creativity

Variables	M	SD	Variables	M	SD
Achievement motivation	38.71	13.98	Dictatorial style	7.54	1.99
Attitude of democratic	37.89	6.31	Creativity	134.44	23.11
Attitude of non-responsible	36.68	6.09	Fluency	23.07	4.93
Attitude of dictatorial	33.97	7.15	Flexibility	48.97	11.65
Democratic style	6.79	1.81	Innovative	37	6.91
Responsible style	6.87	1.64	Elaboration	25.40	5.52

**Table 2.** Correlations among self-efficacy, learning strategies, self-esteem and personality traits

Variables	self-regulated learning strategies	Self-esteem	Neurotic	Extraversion	Openness	Agreeable	Conscientious
Self-efficacy	0.43*	0.40*	-0.26*	0.39*	0.17*	0.31*	0.39*

\*p<0.01

**Table 3.** Learning strategies, self-esteem and personality traits as predictors of self-efficacy

Criterion variable	Predictor variables	MR	RS	F(p)	Coefficients		
					self-regulated learning strategies	Conscientious	Agreeable
Self efficacy	Self-regulated learning strategies	0.43	0.18	33.65 (0.001)	Beta=0.43 T=5.80 P<0.001		
	Conscientious	0.52	0.28	28.60 (0.001)	Beta=0.35 T=5.003 P<0.001	Beta=0.31 T=4.40 P<0.001	
	Agreeable	0.56	0.31	22.50 (0.001)	Beta=0.32 T=4.55 P<0.001	Beta=0.22 T=2.96 P<0.005	Beta=0.21 T=2.78 P<0.005

**Table 4.** Self-regulated learning strategies as predictors of self-efficacy

Criterion variable	Predictor variables	MR	RS	F(p)	Coefficients		
					Note taking	Self-evaluation	Goal setting
Self-efficacy	Note taking	0.32	0.10	17.003 (0.001)	Beta=0.32 T=4.12 P<0.001		
	Self-evaluation	0.39	0.15	13.82 (0.001)	Beta=0.24 T=3.13 P<0.002	Beta=0.24 T=3.10 P<0.002	
	Goal setting	0.42	0.18	10.94 (0.001)	Beta=0.20 T=2.46 P<0.001	Beta=0.21 T=2.63 P<0.009	Beta=0.17 T=2.63 P<0.05

**Table 5.** Personality traits as predictors of self-efficacy

Criterion variable	Predictor variables	MR	RS	F(p)	Coefficients	
					Extraversion	Conscientious
Self-efficacy	Extraversion	0.39	0.15	27.96 (0.001)	Beta=0.39 T=5.28 P<0.0001	
	Conscientious	0.46	0.21	20.65 (0.001)	Beta=0.27 T=3.41 P<0.001	Beta=0.27 T=3.37 P<0.001

**DISCUSSION**

The results of this study indicated that learning strategies was significantly related to students self-efficacy. In addition, high efficacy students used more behavioral-cognitive strategies, such as note-taking, self-evaluation and goal setting, as compared to low self-efficacy students. The results also supported the notion that high efficacy students used more high-level cognitive strategies than low-level cognitive strategies.

Self-efficacy, the key variable in self-regulated learning for personal influences, was significantly related to feedback behaviors and high-level learning strategies. To promote effective learning behaviors, some suggestions for raising efficacy beliefs have been made (Pintrich and Schunk, 2002; Wang & Lin, 2007, cited on Wang and Wu, 2008). For example, in summarizing Pintrich and Schunk’s (2002) review of the roles of goal setting on self-efficacy, Wang and Lin (2007, cited on Wang and Wu, 2008) stated that specific and proximal (close-at-hand) goals are more likely to enhance self-efficacy, since progress is easier to estimate; moderately difficult goals which convey more clear information about students’ capabilities are also effective in enhancing self-efficacy.

In addition to goal setting, research suggests that vicarious experience has critical effects on self-efficacy (Bandura, 1986). Observing others’ success, rewards, or failures makes observers to believe that they are very likely to experience similar outcomes when acting out the same behaviors (Pintrich and Schunk, 2002, cited on Wang and Wu, 2008). Indeed, observing similar peers complete a task successfully generates a sense of self-efficacy that helps to

improve performance. Particularly, the more similar individuals’ capability and background are, the stronger the effects of vicarious experience. This lends support to why the peer model exerts greater influence in student learning than the adult model (Schunk and Hanson, 1985, cited on Wang and Wu, 2008). Verbal persuasion is also effective for raising self-efficacy, but the persuasive message should be consistent with the learners’ actual academic achievement. According to Schunk et al. (2007, cited on Wang and Wu, 2008), students who have self-efficacy slightly over their actual skills should be most adaptive for their learning. Because self-efficacy is strongly related to students’ learning behaviors, teachers can apply these strategies to raise students’ self-efficacy, and possibly have direct or indirect effects on student academic achievement.

Without discounting the assumption that academic self-regulated learning strategies and self-regulated learning in general are learnable characteristics, amenable to change with appropriate training and efforts, the results of the present study suggested that educators should be aware of the personality predispositions each student brings to a specific learning situation (Snow et al., 1996). It could be further hypothesized that the learnability or ease of the development of self-regulatory skills could be either mediated or moderated by those stable personality predispositions. While the present study uses personality variables as predictors, future research can set up self-regulation training as a treatment or intervention, and use personality variables as moderators to see whether certain personality characteristics indeed facilitate or impede

the acquisition of self-regulatory skills under the treatment condition.

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