SELF-REGULATED LEARNING: THE ROLE OF ENVIRONMENTAL PERCEPTIONS AND MOTIVATIONAL BELIEFS

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Summary.—To examine the correlations among environmental perceptions, motivational beliefs, and self-regulated learning of Tehran third-year high school boys based on a proposed model, multistage cluster-sampling method gave a sample of 685 students. The Motivated Strategies for Learning Questionnaire (Pintrich & De Groot, 1990), Students’ Achievement Goal Orientations (Midgley, Kaplan, Middleton, Maehr, Urdan, Anderman, et al., 1998), Students’ Perceptions of Classroom Activities (Gentry, Gable, & Rizza, 2002), and Perceptions of Parents Scales (Grolnick, Deci, & Ryan, 1997) were administered. Analysis showed relations among components of self-regulated learning, family environmental perceptions, perceptions of classroom activities, and motivational beliefs. Structural equation modeling indicated the proposed model had an acceptable fit to the data. All paths or structural coefficients of the proposed model were statistically significant.

The purpose of this study was to assess a comprehensive model of self-regulated learning and its relationships with perceptions and motivational beliefs. The various theories of self-regulation are reviewed below, and a model is proposed for testing in a large group of Iranian high school students.

Cognitive Processes

Self-regulation of learning has been studied using the definition of strategies for regulating cognitive processes with which students may control and monitor their learning, including goal-setting, planning, executing, managing, monitoring, self-evaluating, and modifying incorrect information (Pintrich, 1999). The components of self-regulated learning according to this definition would be cognitive, metacognitive, and resource-management strategies.

Social Learning and Influences

Environments and social situations have important effects in reinforcing and shaping self-determination and self-regulation (Reeve, 1998). In this respect, researchers have tried to study factors relating to or affecting self-regulation, including autonomy, support, involvement, and warmth (Grolnick, Deci, & Ryan, 1997) which are critical variables affecting perceptions and motivational beliefs of students, and thus, their self-regulat-

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activities are critical variables and include interest, choice, challenge, and joy (Andreamo & Midgley, 1997). According to other researchers, these include perceptions of the tasks and authority, how performance is evaluated (Ames, 1992), the difficulty of the tasks, and the type of evaluation system (Church, Elliott, & Gable, 2001). In particular, studies show that these are positive correlations between students' perceptions of class structures and their chosen goal orientations (Andreamo & Midgley, 1997). Research indicates some potential causal relationships: students' perceptions of environmental constructs affect their goal orientations, and in turn, their self-regulated learning and other related cognitive and motivational components.

Eccles and Wigfield (2002) reported that high school students who perceive their teachers as controlling, giving them little opportunity for creativity, would have lower self-efficacy and motivation. Ames (1992), in reviewing studies about goal orientations, pointed to class constructs (perceptions of class activities) and their effects on goal orientations, and mastery goals which may lead to self-regulated learning and other academic performances. Class constructs include designing tasks and evaluations, experiential opportunity, and teachers' use of authority.

Parenting Styles

Parents' perceptions are affected by their beliefs, behaviors, and parenting styles (Grolnick, et al., 1997). These include autonomy support, structure, involvement, and monitoring (Grolnick & Grolnick, et al., 1997). Grolnick and Ryan (1999) have indicated that motivational styles of parents and their support are related to self-regulated learning and self-efficacy.

Proposed Model

The present study focused on the role of environmental perceptions in motivational beliefs and self-regulated learning. Although families and schools and other factors and processes are critical to academic achievement and self-regulated learning (for example, Hill, 2001), children's perceptions of the learning environment are important (Ames, 1992; Grolnick, et al., 1997; Church, et al., 2001). In the present study, the focus is children's perceptions of parents and aspects of the classroom. These perceptions have effects on self-regulated learning, goal orientations, and self-efficacy as proposed by Piirto (1999).

It has also been argued that goal orientations and self-efficacy are two mediators between environmental perceptions and self-regulated learning (Schuh & Zimmerman, 1997). Therefore, relations among self-regulated learning, goal orientations, and self-efficacy with respect to perceptions of parents and classrooms are not simple, but involve direct and indirect relationships and effects. Therefore, structural equation modeling was chosen as the analysis method. Based on the model derived from various theories, the related environmental perceptions and self-regulated learning were examined with an emphasis on the mediating roles of goal orientations and self-efficacy. Although the theoretical foundations of the proposed model have been developed and partly examined by other researchers, these have not been examined simultaneously. In the proposed model (see Fig. 1), self-regulated learning includes cognitive, metacognitive, and resource management strategies. Motivational beliefs include goal orientations and self-efficacy. Environmental perceptions include perceptions of parents and of classroom activities. The perceptions of parents include support for autonomy, involvement, and warming which the classroom perceptions include interest, choice, challenge, and joy.

![Proposed model for the structural relationships between environmental perceptions, motivational beliefs, and self-regulated learning.](image)

**ENVIRONMENTAL PERCEPTIONS, SELF-REGULATED LEARNING**

**Figure 1** Proposed model for the structural relationships between environmental perceptions, motivational beliefs, and self-regulated learning.
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TABLE 2
Multiple Correlation Indices in Predicting Variables of Self-Regulated Learning

| Statistic  | Mastery | Study Skills | Motivation | Effort | Self-Efficacy | Perceived 
|------------|---------|--------------|------------|--------|--------------|----------
| R         | 0.70    | 0.65         | 0.72       | 0.62   | 0.63         | 0.59     |
| R²        | 0.49    | 0.42         | 0.52       | 0.39   | 0.39         | 0.34     |
| F         | 30.42   | 19.83        | 27.89      | 23.72  | 23.72        | 20.72    |
| p         | <.01    | <.01         | <.01       | <.01   | <.01         | <.01     |

Note: R = multiple correlation coefficient; R² = multiple coefficient of determination; F = F statistic; p = significance level.

Results

Research findings are presented here in two forms: descriptive and correlation analysis. Table 1 summarises the means, standard deviations, and Pearson correlations for students' perceptions of control, goal setting, and self-efficacy. The results show a significant relationship between self-efficacy, goal setting, and control perceptions. The significant relationship between goal setting and self-efficacy is further supported by the correlation analysis, which indicates a moderate positive correlation between these variables. These findings suggest that students with higher self-efficacy are more likely to set challenging goals and are better at achieving them.

The multiple regression analysis confirms these findings, with self-efficacy and goal setting being significant predictors of control perceptions. The results also indicate that control perceptions are not significantly related to gender, age, or prior academic performance, suggesting that these factors do not play a major role in shaping students' perceptions of control.

The path analysis further supports these findings by showing a direct effect of self-efficacy on goal setting (β = 0.45, p < .01) and control perceptions (β = 0.52, p < .01). The effect of goal setting on control perceptions is also significant (β = 0.37, p < .01). These findings highlight the importance of both self-efficacy and goal setting in shaping students' control perceptions.

Environmental perceptions, self-regulated learning, and goal setting (β = 0.22) were high and statistically significant (p < .01). Coefficients from latent variables to observed variables are shown in Fig. 2. All path coefficients are statistically significant (all t > 2, p < .05), except for the relationship between environmental perceptions and self-regulated learning (t = 1.2, p = .12). Path coefficients from motivational beliefs to its components were high and statistically significant (all t > 3.2, p < .01, except from environmental perceptions to the components were high and statistically significant (all t > 3.2, p < .01). Path coefficients from family perceptions to its components were high and statistically significant (all t > 3.2, p < .01). Path coefficients from father's and mother's involvement, which their correlation coefficients with other variables were low and statistically nonsignificant (p > .05).