



Perceived parenting styles, academic achievement and academic motivation: A causal model

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Abstract

Introduction: Based on the self-determination theory (SDT) the relationship between perceived parenting styles (involvement, autonomy-support, and warmth), academic motivation and academic achievement was investigated.

Materials and methods: In correlational design, 412 Iranian sophomore high school students were selected randomly and completed 2 scales: Academic Motivation Scale (AMS) and Perceptions of Parents Scale (POPS). Path analysis was used to analyze the data.

Results: Results indicated that perceived parenting styles had an effect on academic achievement through mediation of academic motivation. The parents' autonomy-support perceived had an indirect and parents' warmth perceived had a direct effect on academic achievement.

Conclusion: The results suggested the importance of family context on motivation and academic achievement.

1. Introduction

Understanding individual differences in school achievement is central to designing educational environments which maximize each student's learning and success (Eccles, 2006). One of the variables that explain these individual differences is self-determined motivation (Grolnick et al., 1991; Guay and Vallerand, 1997; Grolnick, 2009; Weinstein et al., 2012). Self-determined motivation is generally defined as the extent to which individuals engage in an activity out of personal choices and pleasure (Blais et al., 1990; Grolnick and Ryan, 1987; Vallerand and Bissonnette, 1992). According to self-determination theory (SDT) (Ryan and Deci, 2000a; 2000b; Deci and Ryan, 2011), people who engage primarily for the enjoyment inherent in the task (intrinsic motivation) or because they value the activity (identified regulation), reflect the possession of a more self-determined motivational orientation (Amoroso and Anderson-Butcher, 2007). Positive cognitive, affective and behavioral outcome is associated with a more self-determined motivational orientation (Ryan and Deci, 2000a; Vallerand and Losier, 1999; Vallerand and Ratelle, 2002). A positive relation exists between self-determined motivation and academic achievement (Grolnick and Ryan, 1987; Guay and Vallerand, 1997). There exists a negative relation between extrinsic motivation and academic achievement (Lavender, 2005; Vansteenkiste et al., 2004). Ailly's findings (2003) indicated that cultural factors could influence the relation between self-determined motivation and achievement. For example in Taiwan, it is extrinsic motivation that has a positive effect on academic achievement. Therefore our question is: Has a direct effect of self-determined motivation on academic achievement of Iranian students?

According to SDT, the maintenance and enhancement of self-determined motivation and the vitality and effectiveness of the activity it spawns, is dependent on the satisfaction of three primary psychological needs: competence, autonomy and relatedness (Ryan et al., 1995; Ryan and Deci, 2000a). By supporting versus thwarting these needs, parenting context can facilitate or forestall self-determined motivation. Based on SDT (Grolnick et al., 1997; Deci and Ryan, 2011) and

other studies (e.g. Leung et al., 2004; Hassan, 2013) three parental styles can be identified: autonomy support, involvement and warmth. Autonomy support refers to parents who encourage children to develop their own schedules for doing their activities and participate in decision-making. Involvement represents parent's practices related to school activities, children's academic endeavors, and talking with children about academic issues. Warmth is parental expression of enjoyment and love toward children. According to Bong (2008), children's perception of family context relies on how they subjectively interpret it. This interpretation has more effect on motivational orientation than concrete context. For this reason, the most research on SDT, have examined the effect of perception of parenting styles on personal motivation (Fortier et al., 1995; Grolnick et al., 1991; Guay and Vallerand, 1997).

A body of research's findings has revealed a positive relationship between parents' autonomy support, involvement and warmth perceived on self-determined motivation (Attaway and Bry, 2004; Deci et al., 1993; Guay et al., 2001; Guay and Vallerand, 1997; Niemiec et al., 2006; Ryan et al., 1994; Vansteenkiste et al., 2005; 2006).

The direct effect of parenting styles perceived on academic achievement has been the subject of much research (Bronte-Tinkew et al., 2006; Chen et al., 2000; Gregory and Weinstein, 2004; Grolnick and Ryan, 1989; Kim and Rohner, 2002; Soenens and Vansteenkiste, 2005). Chen et al (2000) showed that just, parents' warmth is able to predict academic achievement. Soenens and Vansteenkiste (2005) found a positive relation between mother's autonomy support perceived and academic achievement. This relation was not significant for father's autonomy support. Guay and Vallerand (1997) proposed to take account self-determined motivation as a mediated variable between the relation between parenting style perceived and academic achievement. Their findings approved this mediating role. In Iran, Tanhaye-Reshvanloo and Hejazi (2012) showed that parenting styles perceived are able to predict students' self-esteem. Father's autonomy support and mother and father's warmth perceived have high relation to self

–esteem.

The motivational orientations are influenced by individuals' perception of social –psychological environment, in which they function (Eccles et al., 1993). One of these environments is parent –child relation (Park et al., 2004). Based on SDT, this study would examine the mediating effect of self-determined school motivation (SDM) on the relationship between parenting perceived and academic achievement among the high school students. For this reason, one structural model was developed (figure 1). This model hypothesizes the relationship between the two constructs-parenting perceived and academic achievement- as being direct and indirect by mediated role of SDM.

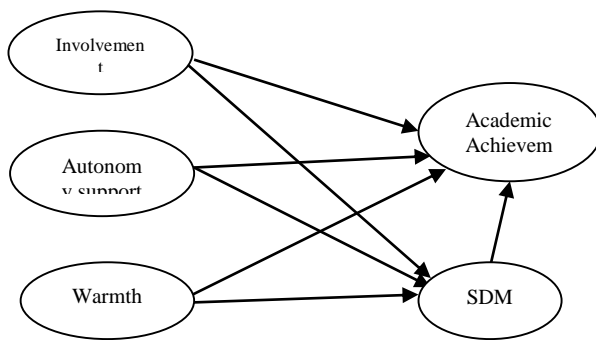


Figure1. Conceptual model parenting perceived and academic achievement mediated by self –determined school motivation

2. Method

2.1. Participants

The sample which is comprised of 412 (216 male &196 female) sophomore high school students in Qouchan (in Razavi Khorasan province, Iran) were selected through random cluster sampling. The average age was 16 years and 2 months with a standard deviation of 1.42.

2.2. Measurement

Two scales were translated to Persian (English to Persian and Persian to English), were used; namely, the Academic Motivation Scale (AMS) and the Perception of Parents Scale (POPS).

2.2.1. *Academic Motivation Scale (AMS)* developed by Vallerand et al. (1992). This scale assesses students'

motivational orientation toward education. This instrument is composed of seven subscales of four items each, assessing three types of intrinsic motivation (IM-knowledge, IM-stimulation, and IM- accomplishment), three types of extrinsic motivation (identified, introjected, and external regulation) and amotivation(see Vallerand et al., 1992 for a definition). Responses were made on a 7-point Likert type scale, ranging from 1(*Does not correspond at all*) to 7(*Corresponds exactly*).

In this study, confirmatory factor analysis (CFA) was used to examine the adequacy of model fit in this sample. CFA results suggested that the 7-factors fit the data obtained and indicated a suitable –fitting model; $\chi^2 = 348.16$, ($df= 312$; $p=0.04$), RMSEA= 0.05, GFI= 0.93 and CFI= 0.96.

The reliability coefficients (internal consistency) based on Cronbach Alpha were 0.71,0.77, 0.86, 0.68, 0.70, 0.78 and 0.85 for IM-knowledge, IM-stimulation, IM- accomplishment, identified,Introjected, external regulation, and amotivation respectively. The coefficient for total items was 0.75.

Self-determined school motivation (SDM) was obtained by integrating the information from different motivational subscales. This was done by computing four separate indexes. Each index was obtained by ascribing each item a specific weight and then summing the product (+2 for intrinsic motivation, +1 for identified regulation,-2 for amotivation, and -1for external regulation).Consequently, self-determined motivation was computed by the following formula:

$$[(2 \times (\text{IMknowledge} + \text{IM-stimulation} + \text{IM-accomplishment}) / 3 + 1 \text{ identified regulation}) - (1 \text{ external regulation} + 2 \times (\text{amotivation}))].$$

Introjected regulation items were not included in this formula since the specific weights have to be equally balanced between non self-determined types of motivation and self-determined ones. Several studies (e.g. Guay and Vallerand,1997; Vallerand and Bissonnette, 1992).

2.2.2. *Perceptions of Parents Scale (POPS)* has made by

Robbins (1994) and has 42 items (21 items for assessing maternal parenting styles and 21 items for paternal styles). Responses were made on a 7-point Likert type scale, ranging from 1(*not all true*) to 7(*very true*). It is designed to measure six subscales including maternal involvement, father's involvement, maternal autonomy support, father's autonomy support, maternal warmth and father's warmth. Confirmatory factor analysis (CFA) was used to examine the adequacy of model fit in this sample. CFA results suggested that the six factors fit the data obtained and indicated a suitable –fitting model; $\chi^2 = 741.21$, ($df = 681$; $p = 0.29$), RMSEA = 0.06, GFI = 0.90, CFI = 0.94. The reliability coefficients (internal consistency) based on Cronbach Alpha were 0.82, 0.89, 0.83, 0.91, 0.87 and 0.90, for maternal parenting styles and father's parenting styles respectively. The coefficient for total scale was 0.82.

2.2.3. For academic achievement, students' grade point average (GPA) in final exam at the end of school year was taken into account as principal measure of academic achievement.

2.3. Procedure

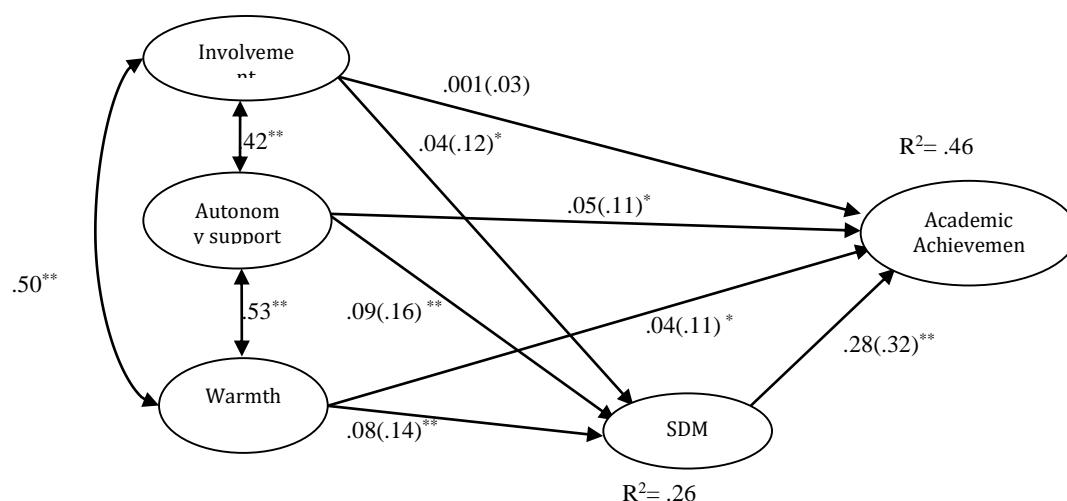
A survey questionnaire composed of the AMS and POPS was administrated to the students during the second session in class by a graduate teaching assistant. Two forms of the questionnaire, with the subscales in different order, were administrated to distribute effects on scales (to minimize any effects that one scale may have on another scale).

3. Results

Table 1 shows the correlation matrix, Means and Standard Deviations of observed variables. The Maximum likelihood method for estimating the models and their respective parameters are shown in figure 2.

Table1. Correlations, Means, and standard Deviations for the Model Variables

Variables	1	2	3	4	5
1. Parental Involvement	-				
2. Parental autonomy support	0.42**	-			
3. Parental Warmth	0.50**	0.53**	-		
4. Self-determined school motivation	0.37**	0.36**	0.37**	-	
5. Academic achievement	0.43**	0.34**	0.35**	0.48**	-
Mean	33.64	33.09	33.24	16.14	16.11
Standard Deviation	7.41	5.17	5.68	2.22	1.85



$$\chi^2 = 13.06 (P = 0.11), GFI = 0.92, AGFI = 0.89, RMSEA = 0.05$$

Figure2. Path coefficients regarding the relationship between parents' parenting perceived and academic achievement through mediating role of SDM.

Figure 2, shows the standardized path coefficients relating the parents' involvement perceived to Academic achievement indirectly is statistically significant by mediating of SDM. Others path coefficients relating the parents' support autonomy and warmth perceived to academic achievement and SDM directly and indirectly are statistically significant. In general, model has explained 46 percent of academic achievement, and 26 percent of SDM.

4. Discussion

Overall, the results of the present study are consistent with our hypothesis that the parenting styles have an important effect on SDM.

Our findings revealed that the relationship between parents' involvement has been argued to enhance students' achievement in school (Grolnick et al., 1999; Pomerantz et al., 2005; Grolnick, 2009). As indicated, when parents are involved in their children's academic lives, they highlight the value of school to children (Hill and Taylor 2004), they may make children more familiar with school tasks (Grolnick and Slowiaczek, 1994), and provide them motivational resources. In general parents' involvement is associated with taking interest in child's activities and devoting time and resources to the child. The findings showed that parents' involvement has not effect on SDM and academic achievement.

As findings showed parents' warmth perceived influences academic achievement and SDM, directly and indirectly. This finding is consistent with the previous research (Chen et al., 2000; Grolnick et al., 1997; Kim and Rohner, 2002; Repinski and Shonk, 2002). Parents' warmth shows the expression of love and caring toward children. It seems that this aspect of parent-child relation provides a context that arise the children's feelings of relatedness and this feeling facilitates intrinsic motivation (Ryan and Deci, 2000a; 2000b; Deci and Ryan, 2011).

Another finding of this present study is the significance of direct and indirect effect of parent's autonomy support perceived on SDM and academic

achievement. According to Pomernantz et al (2007), parents' autonomy support is defined as allowing children to explore their environment, initiate their own behavior and take an active role in solving their problem. This aspect of parent-child relation facilitates the feeling of autonomy and competence.

The findings of the present study have important implications for education as well as motivational orientations of adolescents. Based on these findings, when adolescents perceive their parents, warmth that support their autonomy, demonstrate a high level of SDM and academic achievement.

In this study, the effect of gender on parenting perceived was not investigated. We propose a consideration of this variable in future studies. We propose to replicate this study among elementary students. It is possible that effect of parenting perceived on SDM and academic achievement among younger students is different of the adolescents.

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