The Moderating Effect of Achievement Motivation on Relationship of Learning Approaches and Academic Achievement

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Abstract

Background: Previous studies showed that learning approaches correlated to academic achievement and achievement motivation is related with Learning approaches itself. Purpose: The purpose of this study was to study the moderating role of achievement motivation on relationship of learning approaches and academic achievement. Method: In order to the research 200 college students (100 female and 100 male) including psychology and educational sciences students were selected randomly using simple random sampling. Learning approaches and achievement motivation questionnaire were administered, the last academic averages were gathered as academic achievement. Results: The findings revealed that the achievement motivation moderated relationship of learning approaches and academic achievement significantly (p<0.05). Conclusion: achievement motivation affect the selection of learning approaches and it will have considerable effect on academic achievements, that is, level of academic motivation affect the impact of learning approaches on academic achievement.

Keywords: Learning approaches, Achievement motivation, academic achievement, student;

1. Introduction

Academic achievement is an important issue. Many studies indicate that student achievement and academic success in any selected course of study is complex in nature and related to multiple variables (Carrick, 2010). The Carnegie council on adolescent development estimates that about one quarter of adolescent population are at risk of academic failure and other problem behaviours. One quarter are considered “moderately” at risk (Carnegie Council on adolescent development, 1989, p.8). So, it seems that academic achievement is an important issue for families and societies and individuals. One of the most important factors that relates to academic achievement is learning strategies a number of studies have examined the relationships between approaches to learning and academic achievement with some evidence found to support a positive relationship between the deep meaning approach to learning and academic achievement (Zeegers, 2004). Although for explanation of learning strategies, many models exist. (O’Malley and Chamin, 1990) but learning strategies play a main role in academic achievement.

Much of the recent research indicated that academic motivation is an important component in learning and achievement. Teresa et al. (2004) believe that one of the reasons that it is important to analyze academic motivation is its significant influence on learning at school. As a consequence, learning and motivation are two variables for joint analyses.

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In this research we have a new glance on the 3 variables, and we are interested in investigating the moderating effect of academic motivation on the relationship between learning strategies and academic achievement.

2. Method:

2.1. Participants

The sample was 200 university students (100 male and 100 female) in Isfahan that were selected by simple random sampling. The mean and standard deviation of their age were 21.4 and 3.2 respectively.

2.2. Measures

2.2.1. student approach to learning questionnaire

Student approach to learning was evaluated using items from the revised version (Zeegers, 2002). This instrument consists of 42 self-report items each with a 5-point Likert scale from 1 to 5. This version consists only two basic constructs, a surface approach and deep approach. The Farsi form of this instrument was validated on pilot sample (30 cases). Cronach’s alpha was well (α=0.89).

2.2.2. Academic achievement

The criterions for academic achievement are different. In this paper academic achievement is based on recorded annual grade point average for each student at the end of academic year. This index is the average of the grade achieved for all subject matters taken by the students during that academic year.

2.2.3. The academic motivation scale

Student academic motivation was measured using a 20 item instrument. Each with a 5-point Likert scale from 1 to 5. The reliability of this instrument was measured on a pilot sample (30 cases).

2.3. Statistical analysis

In order to perform the statistical analysis we used descriptive statistics and for investigating its moderating effect we used moderated hierarchical multiple regression.

3. Results:

The correlation among the study variables are presented in table 1. As it was expected the inter correlations showed that deep approach and academic motivation had a significant positive association with academic achievement (p<0.001), and surface approach had a significant negative association with academic achievement.

| Variable                  | 1.       | 2.       | 3.       | 4.       |
|---------------------------|----------|----------|----------|----------|
| 1- academic achievement   | -        | -        | -        | -        |
| 2- deep approach          | 0.48**   | -        | -        | -        |
| 3- surface approach       | -0.38**  | -0.32**  | -        | -        |
| 4- academic motivation    | 0.43**   | 0.37**   | -0.30**  | -        |

** p<0.01

The results of hierarchical multiple regressions are showed in table 2 and 3. This statistical method used to test the hypothesis that academic motivation could moderate the association between learning strategies (deep and surface approaches) and academic achievement. As results showed, after entering interaction term (moderating effect of academic motivation) in model 2 in the link between deep approach and academic achievement, 0.072 increase in R² (table 2) and furthermore in relationship between surface approach and academic achievement 0.06 increase in R² was indicated (table 3). That is, interaction effect explains 7.2% and 6% of variance, respectively.

Table 2. Shows the results of the hierarchical multiple regression for deep approach and academic achievement regarding academic motivation as moderating effect.
Table 2: Results of the hierarchical multiple regression for deep approach and academic achievement regarding to academic motivation as moderating effect

| Model | R   | R² | Adjusted R² | ΔR²  | ΔF   | P    |
|-------|-----|----|-------------|------|------|------|
| 1     | 0.45| 0.210 | 0.20 | 0.21 | 12.26 | 0.001 |
| 2     | 0.53| 0.282 | 0.26 | 0.072 | 7.56  | 0.001 |

Model 1: predictors: deep approach, academic motivation
Model 2: predictors: deep approach, academic motivation interaction (moderating effect)

Table 3 shows Results of the hierarchical multiple regression for deep approach and academic achievement regarding to academic motivation as moderating effect.

Table 3: Results of the hierarchical multiple regression for surface approach and academic achievement regarding to academic motivation as moderating effect

| Model | R   | R² | Adjusted R² | ΔR²  | ΔF   | P    |
|-------|-----|----|-------------|------|------|------|
| 1     | 0.55| 0.31 | 0.29 | 0.31 | 8.95  | 0.001 |
| 2     | 0.61| 0.37 | 0.34 | 0.06 | 4.21  | 0.002 |

Model 1: predictor: surface approach, academic motivation
Model 2: predictor: surface approach academic motivation, and interaction (moderating effect)

4. Discussion
In consistent with the literature and the common sense our findings showed that increasing the academic motivation leads to stronger relationship between learning strategies and academic achievement and about relationship of surface strategies and academic achievement this explanation is inverse. Over all, level of academic motivation affect the amount relationship between learning strategies and academic achievement. Academic motivation affects learning and that affects academic achievement itself.

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