

# The Relationship of Internal Motivation Components and Academic Achievement among High School Students

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Accepted: October 12, 2010      Published: November 24, 2011

doi:10.5296/ijhrs.v1i2.1111

URL: <http://dx.doi.org/10.5296/ijhrs.v1i2.1111>

## Abstract

The aim of this research was to determine the relationship between internal motivation and academic achievement among high school students. Using multi-stage cluster sampling 307 high school students were selected. Then internal motivation questionnaire administrated. To measure the academic achievement, their academic grade average was used. Using the Pearson correlation coefficient, stepwise regression analysis, and Z test Collected data were analyzed. Results showed that there is positive and significant relationship between internal motivation and academic achievement. There is positive and significant relationship between interest, competence, effort, lack of stress, selection, value and academic achievement. Between components of the internal motivation, competence, lack of stress and value explained about 24 percent of student academic achievement variance. The relationship of internal motivation and academic achievement among male and female students is no different.

## Introduction

Academic achievement is the degree of academic learning by the person (Soleiman Neghad & Shahraray, 2001). Academic achievement of student is the important indicators in evaluating the education. All efforts of this system accomplished to realize this event. In other words, society and particularly education, interested the fate of the individual, the successful development and place of him in his community, and expects that in the various aspects, including cognitive skills and achieving abilities and also in personality, emotional and behavioral dimensions, so should progress (Farahani, 1994, quoted Paiezi & et al, 2007).

In every education system, academic achievement of students is one of success indicators in scientific activities. Measuring academic achievement and factors affecting it are major issues that attentions of various researchers are attracted to (Gholami et al, 2005). Research conducted suggests that the academic achievement is affected by interaction between situational variables such as programs, training methods, emotional and physical environment,

school conditions, and attitudes toward teaching and learners achievement motivation (Sharifi, 2005).

Motivation is one of the most important elements of learning and achievement. Although intelligence and talent are the most important and determining factors of student learning, but other factors besides these important and effective factors exist. Including these factors can be cited motivational beliefs. Motivation is the internal process that activated, leads and maintained behavior over time (Murphy & Alexander, 2000; Pintrich, 2003; Schunk, 2000; Stipek, 2000). Students who are motivated to learn, in learning materials more use of higher cognitive process (Driscoll, 2000; Jetton & Alexander, 2001; Pintrich, 2003). Summary, two general types of motivation to learn and achievement exist, internal and external motivations. People are stimulated external when that they action to receive reward or to avoid punishment. In contrast, excitement is internal when that people because of internal desire to do the task successfully act, without considering rewards or punishment. The positive results of internal motivation are more than positive results of external motivation (Moore, 2009; Wright, 2009; Kruse, 2004; Ryan, & Deci, 2002).

External motivation refer to incentives received from environment of person, on the contrary, internal motivation resulted from within the individual (Bartolini & et al, 2009). Ryan , & Deci (2002) believes that people who have internal motivation to perform their activities have characteristics such as self - determination, or autonomy in choosing the type of activities, a high level of challenge par with high-level skills. Santrock (2008) knows competence motivation from qualities of people with internal motivation and believes people with competence motivation are motivated to effectively respond to their environment and to dominate their external world.

Those who are motivated internal, set goals for themselves and are trying to reach it. In fact, if they feel that in perform of their interested activities are under pressure, the level of motivation or inner interest is reduced (Bohranil, 2004).

That researches accomplished on the role of motivational factors in self-regulation and academic performance indicated relationship between internal motivation and task- oriented goals with self-regulated behaviors and academic achievement (Ghadampor and Sarmad, 2001)

Research conducted by Pintrich and De Groot (1990, quoted Sharifi, 2005) has shown that the following five factors can predict an important part of the changes in academic achievement: self- abilities, inner value, test anxiety, self-regulated learning strategies or self-monitoring.

Regardless of these factors, student motivation for academic achievement is one of teachers, researchers, and education professionals and families concerns. Thus, one of the school major challenges in the twenty-one century is that students motivated for further academic progress and achieved update skills, and foster ability of problem solving to be associated with rapid changes in their present age (Sharifi , 2005). Whitehead (2003) has shown that internal motivation more than external motivation predicts the student's success. Amini (2005) showed that self-regulation learning strategies with academic achievement are related. Soleiman Neghad and Shahraray( 2001) showed that students self-regulatory and

locus of control positively related to academic achievement, and locus of control in powerful people dimension and chance negatively related to academic achievement.

Due to degree of drop and academic achievement is one of the education system effectiveness criteria, the discovery and study of variables affecting academic performance, resulted to better understand and predict variables affecting school performance (Paiezi & et al, 1386). So in this research the relationship of internal motivation and academic achievement will be studied.

### Methodology

Method of study is a correlation.

**Population:** Population of study are all public high school students is the city of Karaj.

**Sample and sampling:** The sample in this study was 307 students that selected using cluster sampling. Of these 307 students, 152 were male students and 155 female.

**Measuring instruments:** To measure the internal motivation, internal motivation questionnaire used. This questionnaire provided by McAuley and colleagues (1991). The questionnaire included five subtests: interest / enjoyment (7 items), competence perceived (6 items), effort / importance (5 items), feelings of tension / pressure (5 items), perceived select (7 items), value / usefulness (7 items), communication (8 items). In this study the communication scale not used. Siu, K & Lopez (2010) reported Cronbach's alpha for the entire questionnaire, 0/79 and validation test - retest 0/66.

**Statistical methods:** to describe the data in this study of indicators of descriptive statistics were used. For test of hypothesis Pearson correlation coefficients and stepwise regression analysis, and Z test were used.

### Findings

Table1: descriptive indicators of studied variables

| variable             | component  | f   | minimum | maximum | mean   | s     |
|----------------------|------------|-----|---------|---------|--------|-------|
| Internal motivation  | interest   | 307 | 7       | 49      | 30/57  | 9/07  |
|                      | competence | 307 | 6       | 42      | 29/15  | 7/23  |
|                      | effort     | 307 | 8       | 35      | 24/52  | 7/95  |
|                      | tension    | 307 | 5       | 35      | 22/71  | 6/12  |
|                      | choice     | 307 | 18      | 49      | 37/26  | 6/92  |
|                      | value      | 307 | 7       | 49      | 40/98  | 7/27  |
| Academic achievement |            | 307 | 10/23   | 19/97   | 14/316 | 2/242 |

Table1 show descriptive indicators of variables.

**The first research hypothesis:** There is relationship between internal motivation and academic achievement of students.

Table 2: correlation coefficient of internal motivation and Academic achievement

| variables            | internal motivation |
|----------------------|---------------------|
| Academic achievement | 0/455**             |
| Level of significant | 0/000               |

Table 2shows that the correlation of internal motivation and academic achievement is significant. So we can conclude that there is positive and significant relationship between internal motivation and academic achievement of students .

**The second research hypothesis:** there is relationship between components of internal motivation (interest, perceived competence, effort, lack of feeling of tension, choice, the value of education) and academic achievement.

Table 3: Correlation coefficient of internal motivation components and achievement motivation

| variables            | value   | choice  | tension | effort  | competence | interest |
|----------------------|---------|---------|---------|---------|------------|----------|
| Academic achievement | 0/247** | 0/254** | 0/264** | 0/281** | 0/470**    | 0/285**  |
| Level of significant | 0/000   | 0/000   | 0/000   | 0/000   | 0/000      | 0/000    |

Table3 shows that correlation coefficient of internal motivation components (interest, perceived competence, effort, lack of feeling of tension, choice, the value of education) and academic achievement are significant at the level of a 0/01. So we can conclude that there is positive and significant relationship between components of internal motivation (interest, perceived competence, effort, lack of feeling of tension, choice, and the value of education) and academic achievement.

**The third research hypothesis:** A component of internal motivation predicts academic achievement.

In order to predict the academic achievement by internal motivation component s stepwise regression analysis was used that results presented following:

**Table 4: Multivariate correlation coefficients**

| model | R          | Adjusted square | R | Standard error |
|-------|------------|-----------------|---|----------------|
| 1     | a<br>0/47  | 0/219           |   | 1/981          |
| 2     | b<br>0/487 | 0/232           |   | 1/964          |
| 3     | c<br>0/501 | 0/244           |   | 1/949          |

a:pridictors(constant):competence, b:pridictirs(constant):competence, tension c: competence, tension value

Table 4 shows that in the first step, competence in order to stronger relationship with academic achievement entered the equation. Then lack of tension and value entered the equation. These components explain about 0/25 academic achievement variance. Components of interest, choice and effort don't able to predict and have been removed from equation. Using variance analysis(F test) the significant of R square examined that results are presented below:

**Table5: multivariate regression**

| model |                                     | Sum of squares                  | df              | Mean of squares  | F          | p          |
|-------|-------------------------------------|---------------------------------|-----------------|------------------|------------|------------|
| 1     | Regressi<br>on<br>Residual<br>total | 340/279<br>1197/870<br>1538/149 | 1<br>305<br>306 | 340/279<br>3/927 | 86/64<br>1 | a<br>0/000 |
| 2     | Regressi<br>on<br>Residual<br>total | 364/579<br>1137/570<br>1538/149 | 2<br>304<br>306 | 182/289<br>3/860 | 47/22<br>0 | b<br>0/000 |
| 3     | Regressi<br>on<br>Residual<br>total | 386/176<br>1151/973<br>1538/149 | 3<br>304<br>306 | 128/726<br>3/802 | 33/85<br>8 | c<br>0/000 |

a:pridictors(constant):competence, b:pridictirs(constant):competence, tension c: competence, tension value independent variable: academic achievement

Table5 shows that calculated F is significant in all steps.

Table 6: Standardized beta coefficients

| model                               | B                       | Standard error          | Beta                    | t                       | p                       |
|-------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1<br>competence                     | 0/146                   | 0/016                   | 0/470                   | 9/308                   | 0/000                   |
| 2<br>competence<br>tension          | 0/134<br>0/048          | 0/016<br>0/019          | 0/430<br>0/132          | 8/165<br>2/509          | 0/000<br>0/000          |
| 3<br>competence<br>Tension<br>value | 0/123<br>0/049<br>0/039 | 0/017<br>0/019<br>0/016 | 0/394<br>0/132<br>0/124 | 7/264<br>2/536<br>2/383 | 0/000<br>0/012<br>0/018 |

Table 6 shows the part of each variable in predicting academic achievement. The beta coefficients shows that changing a single unit in mentioned components equivalent with how much change in academic achievement. For example, the amount of beta in the first step is 0/470. This beta coefficient indicates that a unit change in score of competence equal 0/470 unit change in students academic achievement. Also a unit change in scores of competence, tension and value equals with 0/124 unit change in academic achievement scores.

**Fourth research hypothesis:** The relationship between internal motivation and academic achievement is different among male and female students.

Table 7: comparing correlation coefficients in groups

| variables                                                       | r     | Zr    | Calculated Z |
|-----------------------------------------------------------------|-------|-------|--------------|
| Internal motivation and academic achievement in male students   | 0/398 | 0/424 | -1/319       |
| Internal motivation and academic achievement in female students | 0/519 | 0/576 |              |

Table 7 shows that calculated z(1/319) is smaller than table z(1/96). So we can conclude that the relationship between internal motivation and academic achievement is no different among male and female students.

## Conclusion

Research results indicate a positive relationship between internal motivation and each of its components with academic achievement. And components of competence, lack of tension and value predicts academic achievement. The results of this research is consistent with research results of Whitehead (2003), Sharifi (2005), Amini (2006), Soleiman neghad and Shahraray (2001) that report significant relationship between internal motivation and self-regularity with academic achievement.

Called that internal motivations will have deeper influences in our live. So has the importance and growing role. An implicit theory in education is that internal motivation is interactive and interpersonal. On the basis whenever a teacher has internal motivation to study can be pass the motivation to their students (Arizi & et al, 2007). Maybe Like other psychological issues as reasons to specify the reasons causing the inner motives is not so simple and easy. However, the footprint shape the mativation in accordance with routine childhood can be searched. Training methods and parents, appropriate patterns of childhood that have high internal motivation, inform education and ... ,are the main factors affecting the formation of the inner motives. Although the formation and activity of these motivations can occur in all ages, but there is particular emphasis on childhood. Research shows that parenting practices based on democracy, rare most people with internal motivation. On the other hand, parents who organized their activities and programs based on their own inner motivation, often has children with high internal motivation. Education can also stream a major contribution in shaping internal motivation of people. If the implementation of educational programs based on extrinsic rewards ,necessary reinforcement on internal motivation will not be built.

Waterman and et al (2008) showed that people who have more internal motivation are happier and have higher endogenous levels of happiness. This researcher believes that individuals whose internal motivation is high, are more aware of their potential abilities, enjoy daily activities. Because their activities on basis internal stimulation and psychological needs , innate desire for involvement in behaviors that challenging and expanding personal competence and lead to learn , proper functioning and personal growth exist. Internal motivated behaviors is regulated by internal processes such as joy, interest and satisfaction and are fully autonomous without external association. Behavior is just because of personal interest and autonomous pleasure (Deci & Ryan, 2000).

Students that harbor doubts of their ability to succeed are not motivated to learn. Dividing tasks into chunks and providing students with early success is a method of developing confidence in the student. This is described by Driscoll (1994) as performance accomplishments, one of four possible sources of self efficacy. The other three she describes include vicarious experience, verbal persuasion and physiological states.

Competence is an intrinsic motive for learning that is highly related to self efficacy. Human beings receive pleasure from doing things well. Success in a subject for some students is not enough. For students who lack a sense of efficacy teachers must not only provide situations where success occurs but also give students opportunities to undertake challenging tasks on their own to prove to themselves that they can achieve. Learning a skill without an understanding of the process is doomed to be lost. External support, respect and encouragement are important for the student to achieve competence. The achievement of competence itself becomes the intrinsic motivating factor.

Therefore, according to results of this research, those involved in the education being proposed to strengthen the internal motivation of students and through way promote their academic achievement.

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