
Relationship between self-determination and academic identity in the elementary students

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To cite this article:

Manijeh Shehni Yailagh, Mohammad Abbasi, Nasser Behrozi, Sirus Alipour, Alireza Haji Yakhchali. Relationship between Self-Determination and Academic Identity in the Elementary Students. *Psychology and Behavioral Sciences*. Vol. 3, No. 2, 2014, pp. 51-54. doi: 10.11648/j.pbs.20140302.13

Abstract: Self-determination and academic identity have been suggested as being associated with positive learning outcomes. The relationship between self-determination and academic identity as associated with academic achievement among elementary school children (sixth and fifth grade) was examined in this study. Statistical population comprised of all students in elementary schools (sixth and fifth grade) in Ahwaz Iran, during the 2013-2014 academic year. Students were randomly selected. Hundred students (mean age 11.9 years) were recruited from elementary schools (sixth and fifth grade). The student completed the Self-Determination Student Scale (SDSS) and Academic Identification Scale (AIS). Data were analyzed using a Pearson's r bivariate correlation and structural models. The results showed that the relationship between self-determination and academic identity among elementary students appeared to be strong, positive, and significant at the .01 level with a standardized path coefficient value of .58. The results also indicate that academic identity in the elementary students may be viewed as mediating the relationship between self-determination and academic achievement as measured by GPA.

Keywords: Self-Determination, Academic Identity, Academic Success, Iran

1. Introduction

Self-determination which is defined by Field and Hoffman (1) as "the ability to identify and achieve goals based on a foundation of knowing and valuing oneself". When students can identify goals, achieve them, and feel proud of their accomplishments, then they are employing self-determination skills (2). Coleman (3) states that a sense of purpose and destiny facilitates positive outcomes. Successful people assess their needs, determine their goals, plan actions, act, monitor their performance, and make any needed adjustments (4).

Self-determination is evidenced when a person knows his/her strengths and weaknesses, can plan actions, evaluate options, make and act upon decisions, and adjust as necessary during this process (1,5). Researchers found that persons with adequate self-determination skills accomplished more positive life experiences and lived a better quality of life than those who had better lives than people without self-determination skills (6, 7). Self-determination has been

associated with a broad range of positive outcomes in students with disabilities, including enhanced physical and psychological health, higher self-esteem, and improved general wellbeing (2, 1, 6). Additionally, Self-determination is a critical set of skills which experts suggest has an influence on success at the college/university level and in adult environments (8, 9, 10, 11).

Additional data suggest that increased self-determination also relates to academic success. Houchins (12) found a positive correlation between scores on self-determination assessment and academic achievement scores for students who were incarcerated (jailed in juvenile detention). Sarver (13) found a positive relationship between scores on self-determination assessment and grade point average for postsecondary students with learning disabilities. Finally, research has indicated that children who help choose school activities show enhanced motivation to perform tasks related to those activities and are more likely to achieve their goals.

On the other hand, Self-determination emerges across the life span as children and adolescents learn skills and develop

attitudes which enable them to become causal agents of their own lives. Self-determination have been positively associated with academic identity. According to Was and Isaacson (14) Academic identity is the special part of "ego identity" Students with self-determination skills are able to identify when it is necessary or favorable for them to disclose the challenges they face. Conversely, the literature showed that students who failed to demonstrate self-determination behaviors lacked positive motivational characteristics and showed negative characteristics instead (e.g., negative beliefs, learned helplessness, lack of interest or effort, passive learning, dependency, and avoidance behaviors). These negative attitudes and behaviors about learning and school can continue into adulthood with serious deleterious consequences. A recent study conducted by Anctil, Ishikawa, and Scott (15) investigated how self-determination influenced students' academic identity development. The authors found that persistence, competence, career decision-making and self-realization were components of self-determination which could then predict students' success in transitioning to postsecondary education.

Finally, theorists and researchers involved in the study of motivation such as Deci and Ryan (2), Mook (16), Boggiano et al. (17), and Cameron and Pierce (18) have described intrinsic motivation as an important energizer of human behavior, which is believed to be based on the individual's need for competence and effective self-determination skills.

1.1. Purpose of Research

The purpose of this study was to examine the relationship between self-determination and academic identity in the elementary students and its association with academic achievement. The distinguishing factor in this study is that the relationship between self-determination and optimism and how this relationship is associated with academic achievement was examined simultaneously by employing structural equation modeling. To achieve the purpose of the current study, two research questions were examined as follows:

1. What is the relationship between self-determination and academic identity?
2. How is the relationship between self-determination and academic identity associated with academic achievement?

2. Method

2.1. Participants and Procedures

This study was a correlation design. Hundred students (mean age 11.9 years) were recruited from elementary schools (sixth and fifth grade) in, Ahwaz, Iran. The students were randomly selected. The procedure for choosing the respondents involved 4 public elementary schools were randomly selected among the public elementary schools in, Ahwaz, Iran. After data were collected, some items were

recoded and reversed per instrument instructions. All analyses were performed in AMOS (v. 8.00).

2.2. Analysis

To answer the first, question, a Pearson's r bivariate correlation was calculated between the total scale scores. To answer the second research question, structural models were employed. Four indices reflecting fit were reported: the chi-square (χ^2) test statistic, the Tucker Lewis Index (TLI) also known as the Non-Normed Fit Index (NNFI); the Comparative Fit Index (CFI); and the root mean square error of approximation (RMSEA). The researchers then modeled the indirect effect of academic identity among students as a mediator in the relationship between self-determination and GPA.

2.3. Research Instruments

Participants filled out a short information form about their gender, ethnicity, and self-reported GPA. Also, two different measures were used to examine variables: academic perceived competence, and Self-Determination Student Scale (SDSS). Each of these measures and their statistical characteristics are discussed in the following paragraphs.

Academic success: Academic success is understood to mean doing well and progressing toward a degree in the academic environment. While academic success has many indicators such as number of credits earned, grade point average (GPA), or class ranking, etc., in this study, academic success is measured by cumulative GPA. GPA is used in the current study because: it is the most popular measure of academic success, it is easily accessible, and it provides an objective and efficient means of comparison between students. Self

Determination Student Scale (SDSS): This 92-item measure was developed by Hoffman, Field, and Sawilowsky in 2004, based on Field and Hoffman's (19) model of self-determination. This model contains five components: know yourself (16 items), value yourself (16 items), plan (19 items), act (25 items), and experience outcomes and learn (16 items). Each item is a statement participants answer as "That's me" or "That's not me." One such item is: "I can be successful even though I have weaknesses." The SDSS was normed on 251 youth ages 15-22, half of whom had disabilities, and found to be internally consistent and reliable with a Cronbach's alpha of .91 for the scale. For each subscale, the Cronbach's alpha was: know yourself (.70), value yourself (.13), plan (.66), act (.32), and experience outcomes and learn (.70).

This measure, while developed for use with high school students, was used previously in a study with university students with LD (Sarver, 2000) and the scale reliability was roughly the same (.91) as compared to the consistency when normed. In this study, Self-Determination Scale was carefully translated and corresponded to the main scale by the authors. Then, to examine its validity, confirmatory

factor analysis was carried out on its items and its reliability was calculated. Results indicate that the scale has appropriate psychometric qualities to be used in Iran. SDSS internal consistency reliability using Cronbach alpha was 0.79 for composite subscales.

Academic Identification Scale (AIS): This 10-item measure was developed by Woodruff (20), based on modifying the items from the Athletic Identity Measure Scale (21) to fit with the academic domain. For example, one item from the AIMS, "Sports is the only important thing in my life," was modified to say, "My classes are the only important thing in my life." A 10-item scale using a 5-point Likert scale thus was created to measure how students defined themselves within the academic domain. As a measure of reliability, Cronbach's Alpha was calculated: coefficient alpha for the scale was .84. In this study, Academic Identification Scale was carefully translated and corresponded to the main scale by the authors. Then, to examine its validity, confirmatory factor analysis was carried out on its items and its reliability was calculated. Results indicate that the scale has appropriate psychometric qualities to be used in Iran. AIS internal consistency reliability using Cronbach's alpha was 0.77.

3. Results

In answering the first research question, the relationship between self-determination and academic identity was strong, positive, and significant, $r = .66$, $p < .01$. This result indicates that as self-determination become more sophisticated academic identity among elementary students also increase.

To answer the second and final research question, the researchers hypothesized that academic identity in the elementary students may mediate the relationship between self-determination and achievement as measured by GPA. First, the researchers evaluated the fit of this model as represented in Figure 1. The chi-square goodness of fit statistic was not significant, $\chi^2(2) = 27.94$, $p = .009$, indicating that the model may fit the data. The root mean square error of approximation (RMSEA) compensating for the effects of model complexity was 0.042, which according to Browne and Cudek (21) indicates an acceptable fit of the model being less than or close to 0.05. The value of Tucker Lewis Index (TLI) was .96, also known as the Non Normed Fit Index (NNFI) was .97 and value of the Comparative Fit Index (CFI) was .98. Hu and Bentler (21) note that fit index values of .95 or better are indicative of good fit. In evaluating model fit, these results indicate that the proposed model may fit the data.

After determining that the model may fit the data, the researchers next examined the results of the model in terms of standardized path coefficients. The relationship between self-determination and academic identity among elementary students appeared to be strong, positive, and significant at the .01 level with a standardized path coefficient value of .58. This path value indicates that, as

self-determination become more sophisticated, academic identity also increase among elementary students. The relationship between academic identity and GPA was positive and significant at the .01 level with a standardized path coefficient value of .81. This path value indicates that as academic identity increase achievement as measured by GPA also increases. The relationship between self-determination and GPA was not significant, indicating no significant relationship between these two variables.

The indirect effect from self-determination to academic identity as the mediator to achievement was estimated by GPA among elementary students (the dashed paths a & b from Figure 1). In modeling the indirect effect of paths a and b, academic identity as a mediator appeared to be small but statistically significant with a standardized path coefficient value of .293. The a and b paths represented by the dashed lines in the Figure 1 below are to indicate the direction of the indirect effect as calculated. This result indicates that academic identity may be viewed as positively mediating the relationship between self-determination and GPA.

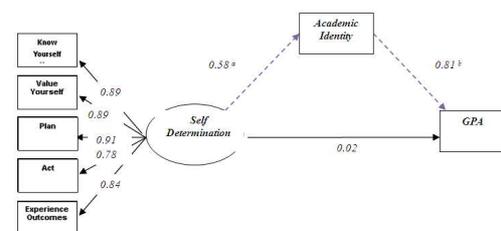


Figure 1. Path diagram for Self-Determination and Academic Identity.

4. Discussion and Conclusion

Self-determination is evidenced when a person knows his/her strengths and weaknesses, can plan actions, evaluate options, make and act upon decisions, and adjust as necessary during this process (1,5). Self-determination is a critical set of skills which experts suggest has an influence on success at the college/university level and in adult environments (8, 9, 10, 11). The results of the current study suggest a significant relationship between the self-determination and the academic identity of elementary students. By employing structural equation modeling techniques, the impact of the relationship between self-determination and academic identity on academic achievement among elementary students was examined as a whole. The results of this study indicate that academic identity in the elementary students may be viewed as mediating the relationship between self-determination and academic achievement as measured by GPA. These results are consistent with Wehmeyer & Schwartz (6); Sarver (13), Houchins (12); and Shogren, Lopez, Wehmeyer, Little, & Pressgrove (23).

Accordingly, Students who are self-determined are more likely to engage in goal-directed autonomous behavior that can lead to successful outcomes. the results of this study highlight areas in which students and parents can discuss

strategies for identifying needed resources and using such resources (like DS) to maximize academic success. Further, results of this study are important in program planning and evaluation (by educators, counselors, DS staff and administrators) for students. Therefore, allowing students to help choose school activities can enhance their motivation to perform those tasks and goals. Educators should put forth curricula that will encourage students to develop self-determination, enabling the students to perform effective problem solving skills and accomplish their goals.

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