

Academic identity status, goal orientation, and academic achievement
among high school students

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Abstract

The aim of the present study was to determine the relationship between academic identity status, goal orientations and academic achievement. 301 first year high school students completed the Academic Identity Measure and Goal Orientation Questionnaire. The average of 10 exam scores in the final semester was used as an index of academic achievement. Results showed that academic identity status and goal orientations are related to academic achievement. Diffuse academic identity, mastery-approach goal orientation, and foreclosed academic identity explained the greatest amount of variance in academic achievement. Boys were more likely than girls to have identity diffuse, and mastery-avoidance goal, and girls have higher academic achievement scores than boys. In general, academic identity status and goal orientations accounted for variance on academic achievement.

Keywords: academic identity status, goal orientations, academic achievement

1. Introduction:

One of the interesting issues in educational psychology is to identify the cognitive, social and motivational factors affected academic achievement. As Flores-Crespo (2007) noted identity as a non-cognition factor has a central role in research on education, since under certain conditions it may influence school choices, classroom behaviours, career performance, and the disposition of adolescents towards schooling.

Identity as an important issue of human life was first considered by Erikson. According to Erikson (1968), identity formation is the major task of adolescence, and emerges as the adolescent copes with social demands and developmental challenges and attempts to give meaning to his choices and commitments of his life. Although Erikson deserves immense credit for calling attention to identity formation as a key psychosocial task, his thoughts on the matter did not lend themselves easily to empirical research methods. In Erikson perspective, identity is considered as something completely related to the context.

Based on Erikson's theory and two dimensions of exploration and commitment, Marcia (1966) presented an identity status paradigm, in an attempt to render the concept of identity formation amenable to research. Marcia (1993) identified four identity statuses by which late adolescents and young adults

undertake identity defining decision in different domains and namely:
Achievement (commitment followings exploration), Moratorium (low
commitment, high exploration), Foreclosure (high commitment, low exploration)
and Diffusion (low commitment, low or without exploration).

Theory of identity status has been criticised (such as: Cote & Levine, 1988;
Luyckx et al., 2006), due to an emphasis on identity as a product of development
processes, and giving little attention to the evolution of the concept of making
some kind of identity and the limits of identity theory. Cote' and Levine (1988)
claimed the idea that the identity status model, as one the common paradigm, has
ignored the role of context and has viewed the identity status as agents within the
individual.

Based on a social-cognitive perspective Berzonsky (1993, 2003)
conceptualized identity as a self-theory. Self-theories serve as the frame of
reference for processing and interpreting self-relevant information, encountered in
the course of every day life. Individuals theorize about their self in different ways,
and they vary in how they meet the situations in which they should make
decisions, deal with personal problem, and process information (Berzonsky, 1990).
Berzonsky (1989) has identified three social-cognitive processing orientations or
styles: Informational, Normative and Diffuse-Avoidant. An informational style is
typical of Adolescents who seek out and evaluate self-related information actively.
Adolescents with a normative identity style rely on the expectations, values and

prescriptions held by significant others when confronting with identity relevant problems (Berzonsky, 1990). Adolescents with a diffuse-avoidant identity style, tend to have behaviour that is controlled and dictated by situational demands (Berzonsky, 1990). According to Berzonsky identity styles and identity status are related together and identity statuses could be considered as a product of identity styles. It should be noted that identity styles theory is a general theory on identity formation.

Kroger (2000) suggested that research should be carefully carried out in areas in which identity development grows and Lannegrand-Willems and Busma (2006) emphasized the important role of school context in identity development of students. Recently, Was and Isaacson (2008) proposed the concept of academic identity.

According to Was and Isaacson (2008) Academic identity is the special part of "ego identity" and a distinctive aspect of the identity development. As Marcia's identity status paradigm, Was and Isaacson (2008) proposed four academic identity statuses: Achieved, Foreclose, Moratorium and Diffuse.

Diffuse academic identity status refers to failure in exploration and commitment which often entails failing to decide academic values-related decisions. Foreclosed academic identity status is defined as the student's commitment to the academic values taken from important people. Moratorium academic identity status denotes the time in which the student is going through

academic uncertainty and is trying to reach a conclusion about academic goals and values. Achieved academic identity status signifies a commitment to a set of academic values formed after a period of exploration (Was & Isaacson, 2008; Was, Harthy, Odent & Isaacson, 2009).

Whereas the relationship between identity processing styles and academic achievement has been the subject of several researches, the relation between academic identity status and academic achievement is not investigated yet.

Hejazi, Shahraray, Farsinejad, and Asghary (2009) indicated that the informational style identity has positive effects on academic achievement and diffuse/avoidance identity style has a negative effect on academic achievement. Academic self-efficacy has mediated the role between identity style and academic achievement. According to Berzonsky and Kuk' findings (2005) there is no significant difference among the three identity styles and academic performance of college students.

Considering that the findings related to relations between identity styles and academic achievement are not consistent, and identity formation depend on the social context (school) in which individual is found, it seems that the academic identity can be a more appropriate predictor of academic achievement.

Generally, identity development is influenced by multiple factors and influences on multiple variables in individual. Currently, it is an accepted assumption that success and failure in academic tasks are fundamental building

blocks in the development of contemporary youth's identity components such as self-competence perceptions, personal values, intents and career goals (Kaplan & Flum, 2010; Wigfield & Wagner, 2005) on one hand and the motivation, particularly achievement goals on the other hand (Kaplan & Flum, 2010). Kaplan and Flum (2010) claimed a link between achievement goal orientations and identity formation styles and the findings of Was et al. (2009) confirmed the relation between achievement goals and academic identity status.

Achievement goal orientations theory is considered to be one of the most dominant frameworks for motivation in school (Pintrich & Schunk, 2002; Elliot, 1999). According to this theory, students construe meanings for achievement situations and that these meanings involve a comprehensive purpose for engagement in action (Dweck, 2000). As stated by Elliot and Murayama (2008), a goal is conceptualized as an aim that one is committed to that serves as a guide for future behaviour. This theory has been employed to predict and understand students' outcomes such as self regulation, interest in the subject matter and achievement (Kaplan & Maehr, 2007; Harackiewicz et al., 2002).

While several categories of achievement goal orientations have been suggested (Maehr & Nicholls, 1980; Ames, 1992; Dweck & Laggett, 1988), research in achievement goal theory focused on two competence-related purposes: mastery goals and performance goals.

Mastery goals refer to an orientation towards personal growth, deep learning, investing effort, approaching challenges and being imaginative (Ames, 1992; Nicholls, 1992; Kaplan & Flum, 2010). According to Elliot & Reis (2003), individual's capacity to adopt mastery goals can be said to be based on a fundamental human tendency for exploration.

Performance goals refer to an orientation towards demonstration of competence, engaging in tasks with the purpose of creating personal and public recognition and enhancing self worth (Ames, 1992; Dweck & Molden, 2005). As Leary (2007) mentioned, adopting a performance goal is based in motive for self enhancement.

Work on achievement goal orientations and the inconsistency in findings concerning performance goal, led to introduction of the distinction between approach and avoidance into achievement goal theory. As also, Elliot (1997), proposed performance-approach (to demonstrate ability personal) and performance-avoidance (to avoid demonstrate the inability).

Students who adopt approach goal orientation pay attention to their performance and see learning as a means to achieve their goal. Students, with an avoidance goal orientation, obtain positive judgments from others and also show his cleverness, in order to avoid punishment (Ryan & Pintrich, 1997). Was et al (2009), showed that achieved academic identity has a positive relation to mastery goals and negatively related to performance-avoidant goals. The relation between

academic moratorium identity and academic diffusion with performance-avoidant goals is positive. Foreclosed academic identity positively correlated with performance approach goal and performance-avoidant goal. These findings have revealed the link between academic identity status and trichotomous model of achievement goal orientations.

Recently, Elliot and McGregor (2001), proposed that mastery goal orientation may be divided into approach and avoid components. Individuals, who adopt a mastery-avoidance goal, work to avoid misunderstanding, are not interested in social comparisons and they are not ambitious in terms of self improvement. Mastery-approach goals are assumed to cause individuals to view the task as a challenge, elicit feelings of excitement and encourage cognitive and affective immersion in the activity for the sake of skill development and self-improvement (Elliot & Church, 1997; Elliot & McGregor, 2001; Rawsthorne & Elliot, 1999). It seems that the relations between academic identity statuses and this new model of achievement goal orientations are not explored.

There are a number of studies investigating the effects of goal orientations on academic achievement. The findings have shown that mastery-orientation and performance-approach orientation have a direct and positive relation with academic achievement (Elliot, McGregor & Gable, 1999) and performance-avoidance goal orientation is negatively (Elliot & et al., 1999) correlated with academic achievement.

As Kaplan and Flum (2010) argued, school plays a role in providing guidelines for environmental strategies that would encourage students to adopt adaptive achievement goal orientations. Schooling is also, an important context for identity formation. In addition achievement goals and identity influence academic achievement. Based on the aforementioned, the questions of interest are: Are identity statuses associated with achievement goal orientations? And can predict academic achievement?

The findings about sex differences in achievement goal orientations were not inconclusive. For example, in the study by Steinmary and Spinath (2008), learning goals differed between sexes in high school. Girls adopted learning goals more than boys and had lesser tendency to avoid work. There were no sex differences in performance-approach goals. In other study, Pekrun, Maier and Elliot (2006), showed that girls were higher in learning goals in German students but not in an American sample. According to the findings, it seems that adoption of achievement goals is related to the cultural context. Therefore, the other question of the present study is: are there sex differences in achievement goals?

As noted by Marcia (1980), there is no sex differences in the formation of identity development but male and female identity differ in content and field of identity. If we consider academic identity as a field of identity, are there sex differences in Iranian students' academic identity?

2. Method

2.1. Participants

Participants were 301 (159 male & 142 female) first year high-school students, at high schools in Azna city in Iran, selected through random cluster sampling. The average age was 15 years and 2 months with a standard deviation of 0.68.

2.2. Instruments

Two scales, that translated to Persian (English to Persian and Persian to English), were used; namely, the Academic Identity Style Measure and Goal Orientation questionnaire.

Academic identity status: The academic identity status measure (Was & Isaacson, 2008) employed in the present study contained four subscales, Moratorium ($\alpha = 0.79$), Foreclose ($\alpha = 0.51$), Diffuse ($\alpha = 0.52$) and Achievement ($\alpha = 0.81$), each with ten items. Results of exploratory factor analysis (KMO=0.874, Bartlett's Test of Sphericity=3269.278, $df = 780$, Sing=0.0001) indicated the considerable and significant contribution of each of the items in measuring academic identity status.

Goal orientation: The Goal Orientation Questionnaire (Elliot & McGregor, 2001) is comprised of 12 items, with three items composing each of the four types of goal orientations: mastery-approach goals ($\alpha = 0.61$); mastery-avoidance goals ($\alpha = 0.62$); performance- approach goals ($\alpha = 0.61$) and performance- avoidance goals ($\alpha = 0.48$). Indices obtained from confirmatory factor analysis ($X^2/df=1.55$, GFI=

0.96, AGFI= 0.93; RMSEA=0.043) Suggested the appropriate fit of the model with the data.

Academic achievement: The average of 10 exam scores in the final semester was considered as an index of academic achievement.

2.3. Procedure

A survey questionnaire composed of the Academic Identity Status Measure and The Goal Orientation questionnaire was distributed among participants during the second session. The data was analyzed by using Pearson coefficient correlation and stepwise regression.

3. Results

Table 1 shows mean, and standard deviation, of observed variables of the study based on sex. Considering Table 1, boys in the subscales of academic identity diffuse and foreclose and girls in subscales of academic identity moratorium, mastery -avoidance goal orientation and academic achievement have higher scores.

Table 1 Descriptive statistics of variables based on sex

Variable	Male		Female		Total	
	M	S	M	S	M	S
Academic identity	43.87	6.66	44.00	6.59	43.93	6.62
Moratorium identity	25.58	5.33	26.71	6.29	26.11	5.82
Diffuse identity	12.02	3.72	10.74	3.27	11.42	3.57
Foreclose identity	16.85	3.47	15.93	3.62	16.42	3.59
Mastery-approach	12.70	1.99	12.73	2.00	12.72	1.99
Mastery-avoidance	6.12	2.54	10.20	2.67	9.63	2.65

Performance- approach	11.40	2.23	11.74	2.21	11.56	2.23
Performance - voidance	9.07	2.44	9.49	2.49	9.27	2.47
Academic achievement	11.37	4.69	13.78	4.01	12.50	4.54

In other subscales, there is no difference between boys and girls. Correlation coefficients of variables are presented in Table 2.

Contribution of each variable to determine the academic identity and goal orientation in predicting academic achievement was used to carry out stepwise regression analysis.

Table 2 Correlation matrixes of variables

Variable	M	SD	α	1	2	3	4	5	6	7	8
Achievement identity	43.93	6.62	0.81	-							
Moratorium identity	26.11	5.82	0.79	-0.32**	-						
Diffuse identity	11.42	3.75	0.52	-0.24**	0.20**	-					
Foreclose identity	16.42	3.59	0.51	0.10 ^{ns}	0.20**	0.20**	-				
Mastery-approach	12.72	1.99	0.61	0.61**	-0.25**	-0.19**	-0.06 ^{ns}	-			

Mastery-avoidance	9.63	2.56	0.62	-0.16**	0.26**	0.03 ^{ns}	0.06 ^{ns}	-0.02 ^{ns}	-		
Performance-approach	11.56	2.23	0.61	0.47**	-0.09 ^{ns}	-0.15**	0.02 ^{ns}	0.45**	0.13*	-	
Performance -avoidance	9.27	2.47	0.48	-0.11 ^{ns}	0.31**	0.19**	0.26**	-0.12*	0.37**	0.05 ^{ns}	
Academic achievement	12.50	4.54	-	0.22**	-0.19**	-0.41**	-0.23**	0.23**	-0.04 ^{ns}	0.14*	-0.20**

**: $p \leq 0.01$, *: $p \leq 0.05$, ns=non significant

Table 3 shows the summary of results.

Table 3: Summary of stepwise regression analysis predicting academic achievement

Inter variables	R	R ²	f	b	β	t	p	a
Step1								18.479
Academic identity Diffuse	0.411	0.169	60.77	-0.523	-0.411	-7.790	0.001	
Step2								13.460
Academic identity Diffuse				-0.484	-0.381	-7.170	0.001	
mastery-approach orientation	0.439	0.193	35.630	0.360	0.158	2.98	0.001	
Step3								16.134
Academic identity Diffuse				-0.446	-0.350	-6.460	0.001	
mastery-approach orientation				0.355	0.156	2.97	0.003	
Academic identity foreclose	0.462	0.214	29.89	-0.186	-0.147	-2.790	0.006	

The results show that the most important variable in the academic identity subscale of the variance, in predicting academic achievement, is academic identity diffuse.

Based on this analysis 16.9 percent of the variance of academic achievement alone through academic identity diffuse is predictable.

In the second step and by the introduction of mastery-approach goal orientation as the second variable, the prediction of academic achievement increased to 19.3 percent.

In the third step academic identity foreclose as the third variable was introduced and with academic identity diffuse and mastery-approach orientation, 21.4 percent of achievement is explained. Other variable in the prediction were not able to increase the contribution significantly.

According to the regression coefficients obtained from Table 10, academic identity diffuse (-0.446) mastery- approach goal orientation (0.355), and academic identity foreclose (-0.186) explain the variance in academic achievement and significant coefficients related to the other components are not significant. Therefore, we conclude that academic identity subscales diffuse and identity foreclose the negative contribution, mastery - approach goal orientation has positive and significant contribution in predicting academic achievement.

For examining the differences between boys and girls in academic identity status multivariate analysis of variance were used.

Results of the test for equality of covariance matrices showed that the assumption of homogeneity of covariance matrices is established. In other words F obtained is not significant ($p < 0.05$). Results of the Levine test for equality of variances shows that other than academic identity foreclose assumption homogeneity of variance matrices is established.

Results of the Hotelling trace test showed that boys and girls are different in at least one academic identity status ($F = 5.177$, $p < 0.001$).

According to Table 4, which deals with investigating inter-group effects, boys and girls in diffuse and foreclose academic identity show significant difference.

Boys in diffuse academic identity (M=12.02) compared with girls (M=10.74), also in foreclose academic identity (M=16.85) compared with girls (M=15.49), achieved higher scores. In other identity statuses there is no significant difference between boys and girls.

Table 4 F-test for single variable effect of sex

Source	Dependent variable	SS	df	F	p
gender	Academic identity	1.236	1	0.028	0.867
	Moratorium identity	97.125	1	2.886	0.090
	Diffuse identity	122.697	1	9.934	0.002
	Foreclose identity	62.833	1	4.941	0.027

Results of the test for equality of covariance matrices showed that the assumption of homogeneity of covariance matrices is established. In other words, obtained F is not significant ($p < 0.05$). Results of the Levine test for equality of variances shows that for goal orientation assumption homogeneity of variance matrices is established.

Results of the Hotelling trace test showed that boys and girls of at least one goal orientation have different ($F = 3.387$, $p < 0.001$).

According to Table 5, which deals with investigating inter-group effects, only in mastery-avoidance goal orientation, boys and girls show significant difference.

Girls in mastery-avoidance goal orientation (M=12.02) compared with boys (M=10.74), achieved higher scores in the identity foreclose (M=10.20) and girls (M=9.12) scores more have been. In the other goal orientation isn't significant difference between boys and girls.

Table 5 F single-variable test to evaluate the effect of sex

Source	Dependent variable	SS	df	F	p
gender	Mastery-approach	0.094	1	0.024	0.878
	Mastery-avoidance	86.87	1	12.821	0.001
	Performance-approach	8.504	1	1.719	0.191
	Performance - avoidance	13.087	1	2.150	0.144

Independent t-test was used in order to differentiate achievement scores in boys and girls. One of its assumptions is the principle of homogeneity of variance. Levine test results show that this principle is violated. In this case, results are reported with the presupposition that the equality of variance is violated.

Table 6 T-test comparing boys and girls academic achievement

	Levene's Test for Equality of Variances		
	f	p	T
Equal variances assumed	5.678	0.018	-4.670
Equal variances not assumed			-4.802

T-test results show aspects of the academic achievement of boys and girls together are significantly different. Girls in academic achievement (M=13.78) compared with boys (M=11.37), achieved higher scores.

4. Conclusion

The purpose of this study was to investigate the relationship between academic identity status, goal orientations and academic achievement among students in the first year of high school. The results showed that generally, academic identity status, goal orientation and academic achievement are related.

Based on the findings, diffuse academic identity status predicts the highest proportion of variance in academic achievement. According to Was et al. (2009) diffuse academic identity is marked by the failure in exploration and commitment to academic values. As Berzonsky (2004) cited, individuals with a diffuse-avoidant identity have an inconsistent self-theory. This inconsistency influences their beliefs about their own capabilities and leads to feelings of low self-efficacy. In addition, this feeling of inconsistency, which is associated with ineffective cognitive strategy use, and lack of educational purpose (Nurmi et al., 1997; Berzonsky & Kuk, 2005), leads to a decrease in academic achievement. This finding is line with Hejazi et al. (2009) findings and confirm this view that students with diffuse academic identity lack stable and clear academic goals, possess low levels of

academic skills and academic self – regulation and are at an increase risk for academic problem.

The present findings indicated that foreclosed academic identity is related to academic achievement negatively. In explaining this result, it should be noted that people with foreclosed academic identity are not self-regulated but are other-regulated. And also make use of learning strategies offered by other important people (Was, Wessel & Isaacson, 2007). It seems that this academic identity status is not an adaptive strategy for achieving in school. Also, it should be noted that our sample were just entered to high school and were not still committed to school settings and therefore have not been able to internalize the new standards in new context.

According to the results of the present study, approach-mastery goal orientation is positively and significantly correlated with academic achievement and these results are consistent with the previous research (Elliot et al., 2005; Sideridis, 2005). However, the current results are also inconsistent with some other findings (e.g., Wolters, 2004; Elliot et al., 1999) which showed that approach-mastery goal orientation is not correlated with academic achievement. In explaining these results, it should be mentioned that students with approach-mastery orientation possess high internal motivation, improve their abilities in learning tasks, involve themselves in challenging tasks and as a result have high academic achievement.

Other findings of the present study are the significance (positive) relation between approach-mastery, performance-approach goals and achievement academic identity. These findings which are in line with previous finding (Was et al., 2009), confirm this claim that the mastery goal orientation and achievement identity have a common characteristic namely exploration which is important for achieving. Our findings also showed that diffused identity and foreclosed identity are related to mastery-avoidant and performance avoidant goals positively. This finding indicated that the failure of commitment and exploration (diffused identity) or normative commitment to others' values (foreclosed identity) lead to the non adaptive goal orientations. These findings have important implications for education of adolescents in Iran. The educational system in Iran focuses in academic achievement and encourages foreclosed identity. This system ignores other developmental needs of students like autonomy (exploration) and future orientation. Our findings clearly show that the schools should pay more attention to the development of identity and consider identity as an important variable in adopting goal orientations and achievement behaviour.

Results of the study show that in comparison with girls, boys in diffused academic identity get higher scores. Generally speaking, some studies indicated that boys in diffused identity (Yunus et al., 2010) and diffused-avoidance identity style (Berzonsky, 1994) significantly get higher scores. In generally, boys are often under the strain of unemployment and drug addiction and this might be a possible

cause of increasing number of boys in diffuse-avoidance identity style (Berzonsky, 1994). Besides, in academic fields, boys are facing dilemmas. On one hand, they are encouraged to take part in academic and scientific areas and on the other hand they have to confront the problem of unemployment facing new university graduates. Thus, it can be stated that boys are more diffused than girls. The results of the study show that boys have foreclosed academic identity more than girls. Possibly the reason for this difference is that girls attempt to exploring new and untraditional roles more than boys. Therefore, it seems that girls have more tendencies to make their own values in life and especially in education area and boys have more tendencies to stay in the traditional framework. These findings show the characteristics of Iran as a transitional society to modernity.

The results indicate that girls with the avoidance-mastery goal are more than boys. This difference is possibly due to the importance of education for girls considering it as a passage to social life. Furthermore, through the process of socialization, it is expected that girls be non assertive and be less competent than boys. Accordingly, they have more fear of failure and worry about it. Our results suggest that girls outperform boys in overall grade average and this can be attributed, on one hand, to the decreased of academic motivation in boys and, on other hand, to girls' positive attitude toward education. It seems that girls show much greater motivation and engaged in academic area more than boys.

Also the findings of the present study indicated that academic identity statuses should be considered like an effective variable on academic achievement and goals orientation among Iranian students. Due to the present results, we propose to study the relationship between identity styles, academic identity and achievement goal orientations in transition of high school to university.

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