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Procedia Social and Behavioral Sciences 15 (2011) 738–742

Procedia
 Social and Behavioral Sciences

WCES-2011

Developing Academic Identity Statuses Scale (AISS) and Studying its Construct Validity on Iranian Students

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Abstract

The aim of the present study was to develop a new scale named "Academic Identity Statuses Scale" (AISS) for Iranian high school students. Using two criteria including exploration and commitment in the context of school students, 16 items were developed. The 16 items were added to Farsi form of Extended Objective of Measure Ego Identity Statuses (EOM-EIS-2). 2202 High school students (mean age=15.75, SD=2.75) were selected randomly from Tehran, Iran. The participants were asked to complete the form. Of the 2022 participants about 50% of students (n=1079) were selected randomly for performing Exploratory Factor Analysis (EFA) and the remaining (n=1123) were selected for doing Confirmatory Factor Analysis (CFA). The results of the factor analysis provided an acceptable fit to the model. The indices of fitness on 4 factors showed fitness as $X^2/df=2.92$, GFI=0.97, AGFI=0.96, RMSEA=0.04. For studying convergent and divergent validity, correlations between four academic identity statuses and their similar concepts on ideological ego identity status (EOM-EIS-2) were calculated. Also Cronbach's alpha and test-retest coefficients revealed the acceptable reliability of the scale. The results indicated that AISS is a valid and reliable scale for assessing identity status in Iranian high school students.

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Keywords: Ego Identity; Academic Identity; validity; Reliability; Students

1-Introduction

The main developmental task of adolescence is establishing a coherent sense of ego identity (Erikson, 1968). In expanding the theory of identity development, Marcia (1966) used two criteria including exploration (presence or absence) and commitment as well as a combine of these two criteria to introduce four identity status including identity achievement, moratorium, foreclosure and diffusion. The operational definition of ego identity of Marcia (1966) is well accepted by many researchers in the field of identity development (Schwartz, 2001). The need for objective assessment of ego identity status caused to develop some scales for assessing the construct. For example, Adams and Shea (1979) developed a paper and pencil questionnaire called Objective Measure of Ego Identity Status (OM-EIS). Also a questionnaire called EOM-EIS-2 was developed by Adames, Benion and Hug (1987). This scale consisted of ideological identity (include politics, purpose of life and religious issues) and interpersonal identity

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(include recreation, friends, sex roles as spouse and dating). In place of dating, Rahiminezhad (2006) has used a different analogy with respect to opposite sex pertaining to the Islamic culture of Iranian students.

Usually academic achievement can influence positively the future direction of life for students. The role of high school as contextual variable on identity formation has been considered by Lannegrand-Willems and Bosma (2006). There is a necessity to develop the ego identity to specific realm as academic identity. For example, recently Roeser and Lau (2002) mentioned that academic identity refers to academic behaviors, competency and self-efficacy. Was and Isakson (2008) proposed four academic identity status compatible with Marcia's categorization of ego identity. Considering the important role of investigation on academic identity in high school students, developing a scale for measurement of academic issues in framework of ego identity is our concern.

In this study, on the basis of Marcia's paradigm of ego identity status, a short scale (16 items) of academic identity is developed and is carried out on Iranian high school students. The main goals of this study include:

- 1- How many factors the academic identity status entails?
- 2- To what extent, our scale has similar factors to that of Marcia?
- 3- Do the academic identity statuses have enough evidence for convergent and divergent validity?
- 4- Does the new scale have an acceptable reliability?

2-Method

1.2. Participants

In this study 2202 high school students were selected randomly from different districts of Tehran, the capital of Iran (mean age =15.75 & SD=2.75 years old).

2.2. Instruments

1.2.2. *Farsi form of EOM-EIS-2*: This tool has 64 items and was translated to Farsi by Rahiminezhad (2000) and carried out on college students, the validity and reliability of this scale were acceptable. In present study, the reliability of subscales is shown in table 4.

2.2.2. *Academic Identity Status Scale*: This instrument includes 16 items and is developed in this study. It include four academic identity status (i.e., achieved, moratorium, foreclosure and diffused in the content of academic issues).

3. Finding

1.3. *Exploratory factor analysis*: For finding the number of factors of AISS, exploratory factor analysis with principle component analysis was done. Using the criteria of eigenvalue more than one, and factor loading more than 0.40 yielded 4 factors. As shown in table 1 item 3 and item has cross load on two factors and item 6 did not meet the factor loading criteria. For the purpose of studying the amount of variance explained in this analysis, after omitting items 3 and 6 the EFA reanalyzed. The table 2 shows important finding of this analysis. The total variance explained in the second factor analysis increase 5 %.

Table 1: Rotated factor matrix for all 16 items (n=1079)

Item number	1 Moratorium	2 Achievement	3 Foreclosure	4 Diffusion
7	0.73			
15	0.70			
11	0.69			
3	0.45	0.43		
4		0.68		
8		0.68		
16		0.64		
12		0.55		
10			0.77	
2			0.77	
6			0.75	
14				
5				0.70
9				0.69
1				0.64
13				0.48
Eigen value	2.26	2.04	2.03	1.87
Variance explained	%14.18	%12.76	%12.69	%11.73

Total variance explained	%14.18	%26.94	%39.63	%51.37
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Note: factor loadings below 0.40 are omitted. KMO=0.80, Determinant=0.05, Bartlett test=2997.75, df=120, Sig=0.000

Table 2: Rotated factor matrix for 14 remaining items (n= 1079)

Item number	Academic statuses			
	1 Moratorium	2 Achievement	3 Foreclosure	4 Diffusion
7	0.56			
11	0.74			
15	0.74			
4		0.71		
16		0.67		
8		0.65		
12		0.62		
2			0.78	
10			0.77	
6			0.76	
5				0.70
9				0.68
1				0.65
13				0.49
Eigen value	2.10	1.97	1.90	1.84
Variance explained	%15.06	%14.07	%13.61	%13.16
Total variance explained	%15.06	%29.13	%42.74	%55.91

Note: factor loadings below 0.40 are omitted. KMO=0.79, Determinant=0.07, Bartlett test=2729.91, df=91, Sig=0.000

2.3. *Confirmatory factor analysis*: confirmatory factor analysis on the remained half of the sample was done Amos 18 Arbuckle(2009).As the indices of fitness is shown in the table 3, the 4 factor model(14 items) is well to the sample data.

Table3: Model fit indices for remaining half of sample:

χ^2/df	CFI	GFI	AGFI	RMSEA
2.92	0.95	0.97	0.96	0.04

Note: (n=1123)

3.3 *Convergent and divergent validity*: In order to determine the convergent and divergent validity of the AI the zero order correlations between the academic identity statuses and their similar identity statues (EOM-EIS- were calculated (Ozcinar, 2006; Ozdamli, 2009). The result is presented in table 4. The amount of correlations four academic identity statuses with their compatible concepts in ego identity statuses is from 0.40 to 0.54 for ideological and from 0.26 to 0.56 for interpersonal identity status that are acceptable. Low correlation of non-compatible variables in two sets of identity tools show divergent validity of AISS.

Table 4: Descriptive statistics and correlations of ideological and inter-individual statuses to academic statuses

ID and IN statuses	M	SD	α	Academic statuses			
				Foreclosure	Diffusion	Moratorium	Achievement
ID Foreclosure	33.08	7.02	0.73	0.54**	0.31**	0.24**	-0.01 ^{ns}
ID Diffusion	30.78	5.96	0.53	0.06**	0.43**	0.22**	-0.14**
ID Moratorium	21.75	5.57	0.53	0.11**	0.26**	0.40**	-0.08**
ID Achievement	21.89	5.77	0.61	0.05*	-0.18**	-0.22**	0.54**
IN Foreclosure	33.23	7.31	0.76	0.56**	0.12**	0.14**	0.05*
IN Diffusion	28.44	5.54	0.49	0.14**	0.35**	0.19**	-0.10**
IN Moratorium	24.83	6.24	0.60	0.15**	0.19**	0.26**	0.13**
IN Achievement	20.5	5.74	0.63	0.01 ^{ns}	-0.2 ^{ns}	-0.09**	0.41**

** : P<0.001, **:P<0.05, ns:P>0.05. **ID**: Ideological status. **IN**: inter-individual status

4.3. *Reliability*:For determining reliability, Cronbach’s alpha and test-retest in a four weeks interval were used. Table 4 demonstrates these coefficients. These coefficients represent high reliability of the scale.

Table4: Descriptive statistics and reliability coefficients for academic statuses

Academic status	N of items	Min-Max	M	SD	α	Test-retest
Foreclosure	3	3-18	12.59	3.60	0.70	0.59**

Diffusion	4	4-24	17.87	4.32	0.60	0.64**
Moratorium	3	3-18	11.19	4.05	0.72	0.62**
Achievement	4	4-24	10.04	3.96	0.65	0.58**

Note: **: $P \leq 0.01$, N for descriptive statistics and Cronbach's alpha was 2202 and for test-retest sample was 222

4. Discussion

In this study a new instrument in the field of ego identity is developed. Paralleled with the concepts of four ego identity status in Marcia's (1966) paradigm, we introduce four academic identity status on Iranian students population. The results of both EFA and CFA revealed suitable construct validity of the AISS. Convergent and divergent validity of the new scale were also satisfied. As the evidences of psychometrics indices of AISS in this research demonstrated, we conclude that AISS structure is compatible with Marcia's structure of ego identity status. The amount of reliability coefficients of our scale was high and suitable. These results indicate that AISS scale has acceptable validity and reliability in Iranian students and could be use in educational and investigational applications. This new scale is needed more research for predicting academic performance. For future research, studying correlation of AISS and other similar tools like Was'es and Isakson's (2008) academic identity instrument is recommended.

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Appendices:

English translation of AISS (Items) :

- 1-I don't know how studying impacts on securing my future.
- 2-My parents know best on what field I should study and I acknowledge their judgment.
- 3-I often try to understand how studying at school would weight on my future occupation
- 4-I know best what to study and I have determined this for myself after much examination.

- 5-I do not know and do not care why I should study.
- 6-If I take the [university] general entrance examination; I will choose my field in accordance with my parents' wishes.
- 7-I very much like to learn what field of study is the best fitted to my aptitude but it is still unclear for me.
- 8-I spent a lot of time concerning what field of study I should carry on, and I have finally come to a decision.
- 9-I have no interest in studying.
- 10-In selecting my high school major I always act in accordance to my parents' wishes
- 11-I often think about the field I should study but I'm still undecided.
- 12-Following my investigation and talking it over with various people, my study goal for future has become clear.
- 13-I have no other plans for my life just now. So I would go to school for the time being.
- 14-I will continue in a field of study identified by the school counsellor or my favourite teachers.
- 15-I believe all fields of studies can be interesting but I have not chosen my favourite field of study yet.
- 16-I spent much effort to identify my scholastic aptitude and now I know what field I should choose for my studies.

Farsi form of AISS (original form):

1. نمی‌دانم درس خواندن در تامین آینده من چه تاثیری دارد.
2. والدینم بهتر از هر کسی می‌دانند من در چه رشته‌ای باید تحصیل کنم و من نظر آن‌ها را قبول دارم.
3. اغلب تلاش می‌کنم بدانم تحصیل در مدرسه در انتخاب شغل آینده من چه تاثیری دارد.
4. من بهتر از هر کسی می‌دانم در چه رشته‌ای باید تحصیل کنم و این موضوع را پس از بررسی‌های زیاد برای خود مشخص کرده‌ام.
5. من نمی‌دانم چرا باید درس بخوانم و برایم اهمیتی ندارد که بدانم.
6. در صورت شرکت در کنکور طبق نظر والدینم انتخاب رشته خواهم کرد.
7. خیلی دوست دارم بدانم استعداد من برای تحصیل در چه رشته‌ای مناسب است ولی هنوز برای خودم روشن نشده است.
8. من مدت زیادی بررسی کرده‌ام در چه رشته‌ای ادامه تحصیل دهم و بالاخره تصمیم خود را گرفته‌ام.
9. من علاقه‌ای به درس خواندن ندارم.
10. من در مورد انتخاب رشته تحصیلی در دبیرستان بیش از همه به نظر والدینم عمل می‌کنم.
11. اغلب فکر می‌کنم که در چه رشته‌ای ادامه تحصیل دهم ولی هنوز تصمیم نگرفته‌ام.
12. پس از بررسی‌های خود و گفتگو با افراد مختلف هدفم از تحصیل برای آینده مشخص شده است.
13. چون در حال حاضر برنامه دیگری برای زندگی‌ام ندارم فعلا به مدرسه می‌روم.
14. من در رشته‌ای ادامه تحصیل می‌دهم که مشاور مدرسه یا معلمان مورد علاقه‌ام برای من مشخص می‌کنند.
15. به نظر من همه رشته‌های تحصیلی می‌توانند جالب باشند اما من هنوز رشته مورد علاقه خود را برای ادامه تحصیل انتخاب نکرده‌ام.
16. من تلاش زیادی کرده‌ام تا استعداد تحصیلی خودم را بشناسم و اینکه می‌دانم چه رشته‌ای را برای ادامه تحصیل انتخاب کنم.