

CROSS-CULTURAL ADAPTATION OF ACADEMIC MOTIVATION SCALE OF VALERAND(AMS-HS 28) FOR

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Abstract: This research aimed to investigate the psychometric features of Academic motivation scale of valerand(AMS-HS28) for Iranian population. This scale assesses the motivation types of students, and includes 7 sub-scales and 28 items that should be answered in 7 point likert-type scale. The participants consisted of 701 undergraduate students of Tehran state universities selected Using cluster random sampling. The results of factor analysis showed that this scale has reliability and validity for Iranian population. All 28 items are maintained with 5 sub-scales.

Key words: cross-cultural, Iranian population , academic motivation.

1 Introduction

Processes that strengthen and guide the behavior arise from individual and the environment forces. Motivation is an inner process that guides and strengthens the behavior. Motivation is an inherent phenomenon affected by four factors, including location (environment and external stimuli), temperament (the inner state of the organism), and goal (goal of behavior, intention, and orientation) and tools (tools to achieve the goal) (Rio, 2009, translated by Yahya Seyed Mohammadi, 2009). Motivation is considered as the "why" of infrastructure of the behavior (Valerand, Piliter, Bellis, Breyer, Senecal and Valirris, 1992). There are various approaches, definitions, and concepts on motivation. Large number of theories has explained the motivation. The most known definition of them include the

reduction of drive theory, Maslow's hierarchy of needs theory need theory, McClelland's need for success theory, Hunter's intrinsic and extrinsic motivation theory, Festinger's social comparison theory, Festinger's cognitive dissonance theory, and motivational cycle of learning and self-regulation theory of Deci and Ryan (Kalafat, 2004; Onen and Tuzin, 2005, Yaparel, 1995). Deci and Ryan (2000) have differentiated types of motivation. This differentiation was performed based on the perceived source of causality and it includes intrinsic motivation and extrinsic motivation. Deci and Ryan have provided very delicate intrinsic motivation. A person motivated intrinsically performs the activities for themselves to obtain the pleasure of the activity. Intrinsic motivation transformation depends on social environment support of innate psychological needs, including autonomy, independence, and competence of the people. In other words, if the behavior is not motivated by external pressures, individuals can experience actions in the form of self-determiner. Intrinsic motivation refers to performing the activity in order to gain real satisfaction of their activities. Key words describing intrinsic motivation include interest, pleasure, and real satisfaction. People are freely participated in such activities. In contrast, extrinsic motivation is associated with behaviors that occur due to external causes. The extrinsic cause can be reward or punishment: "people behave in order to obtain favorable outcomes such as tangible rewards or avoiding threatening punishment" (Deci and Ryan, 2000, p 236).

Deci and Ryan (2000) provided a self-regulation continuum in which lack of motivation is located at one end of continuum, different types of extrinsic motivation are located at the middle of the continuum, and intrinsic motivation is located at the other end of the continuum. Lack of motivation describes a situation in which a person's behavior occurs completely under the external pressure and out of the personal control (Cokley, 2000, p 561).

Table 1 - Self-regulation theory (Deci & Ryan, 2000)

Behavior	Lack of self-regulation	Extrinsic motivation				Self-regulation
Motivation	Lack of motivation	Extrinsic motivation				Intrinsic motivation
Regulation practices	Lack of regulation	External regulation	Internal regulation	Specified regulation	Integrated regulation	internal regulation
Source of perceived causations	Lack of regulation	Extrinsic	Relatively extrinsic	Relatively intrinsic	Intrinsic	Intrinsic
Relevant regulatory processes	Without goal Lack of value Lack of commitment Lack of control	Committed Goal-oriented external reward and punishment	Self-controller Self-oriented Goal-oriented internal reward and punishment	Self-controller Self-oriented Goal-oriented internal reward and punishment	Self-controller Self-oriented Goal-oriented internal reward and punishment	Inner pleasure Real satisfaction

Many studies have discussed on students' motivation by considering learning components and their psychological processes (Murton et al., 2008, Paulson and Feldman, 2005; Wall et al., 2003, Salili et al., 2001, Bures et al., 2000). Academic motivation is close to "learning motivation". Learning process is naturally part of academic education and academic motivation. Major part of educational psychology literature related to learning motivation with an emphasis its instruction. However, learning motivation is not mixed with academic motivation. Educational motivation can be defined as required energy for the educational activities that it varies from one theory to other theory depending on to sources of this energy. These differences are shown in measuring the motivation. Therefore, the educational motivation can be considered as decision motivation for beginning and continuing education. Academic achievement motivation is comprehensive tendency to evaluate performance according to his all-round performance

evaluation approaches according to upmost effort criteria to success in the performance and having the pleasure associated with success in performance (Westland and Archie, 2001). In the case of students, academic achievement motivation has particular importance. With this motivation, people follow required mobility to achieve successful schooling, achieve a goal or a certain degree of competence so that they can obtain required success in learning and studying (Yousefi, Ghasemi and Firouznia, 2009). There are different measurements for evaluating the motivation (Amabile, Hennessey & Tighe, 1994; and Dicitio & Gee, 1995; Donohue & Wong, 1997). Academic motivation responds to the question "why you go to university?" (Valerand, Piliter, Belis, Berrier, Senecal and Valeries, 1992, p 1008). Based on the educational motivation theories, especially self-determination theory of Deci and Ryan, some studies have been conducted regarding the assessing the validity and reliability of the students' academic motivation scale (Harter,

1990, 1980; Gottfried; Stinnett; Aohler, 1991, Cokley, 2000 and 2001; Farchyld et al., 2005 and Barcocks et al., 2008). Regarding the assessment of students' academic motivation, some scales have been constructed, for example, Pearson and Carey (1995) developed students' academic motivation scale. This test measures students' overall academic motivation and valerand et al. (1992) developed the university students' academic motivation scale based on the self-determination theory of Deci and Ryan. This scale is a paper and pencil test, measuring seven factors of intrinsic motivation with three levels, extrinsic motivation with three levels, and lack of motivation. Valerand et al (1992, 2008) used self-regulation theory as the theoretical foundation of their research on students' academic motivation. They developed academic motivation scale (AMS) to assess the motivation of students that it was validated later by Cokley (2000). The main research aim is investigating the validity and reliability of academic motivation scale. For this purpose, the following questions were examined.

The main questions:

1. Does valerand students' academic motivation questionnaire have reliability for Iranian students?
2. Does valerand students' academic motivation questionnaire have validity for Iranian students?

2 Method

This study was conducted to examine the validity and reliability of the students' academic motivation questionnaire and it is considered among the descriptive-correlational studies. Confirmatory factor analysis is a model assuming that experimental data are explained based on relatively small number of parameters (Kerlinger 1986).

2.1 Sampling method

Using cluster random sampling, Al-Zahra University, Shahid Beheshti University and the Allameh Tabatabaie University were selected randomly among state universities.

2.2 Population and sample of study

The study population consisted of male and female undergraduate students of Tehran state universities in 2011-2012 and 2012-2013. Among the mentioned universities, engineering, basic sciences, humanities, physical education, and art departments were selected. In addition, among these departments, class was selected as sampling unit and the academic motivation test was implemented on students.

Out of 800 questionnaires implemented, after excluding incomplete questionnaires, 701 questionnaires were selected as sample.

2.3 Research tools

Valerand et al translated academic motivation scale from French to English language in 1992 in order to identify the type of

academic motivation of students. It includes 28 items and 4 phrases dedicated to each sub-scale.

This test is a self-report tool and each subject should score the items in a 7-point Likert scale (from not at all=1 to completely=7). Each of the

2.4 Scoring practice

To obtain the score of each sub-scale, the scores of all items related to sub-scale are summed up.

2.5 External reliability and validity of test

Reliability: Valerand reported the Cronbach's alpha coefficient of the academic motivation test sub-scales between 0.83 and 0.86, and only the alpha coefficient of matching extrinsic motivation sub-scale was not in this range and it was 0.62. Reliability coefficient obtained by Test retest method for academic motivation test subscales during one month was reported between 0.71 and 0.83.

Validity: Confirmatory factor analysis results proved 7-factor structure of the scale and they suggest construct validity of the academic motivation scale.

Researcher-made questionnaire: researcher-made questionnaire was used to assess demographic data such as age, education, field of study, and living place.

3 Results

Out of 701 people selected as sample of the current study, 279 were males and 422 were females (39.8 and 60.2 percent, respectively). The highest distribution of the people in terms of fields of study with 108 patients (15.4 percent) related to engineering field of study, followed by 98 patients (14 percent) in the basic sciences, 480 patients (68.5 percent) in humanities, 8 patients (1.1%) in physical education, and 7 patients (1%) in the art fields of study. The mean age of participants was 20.94 with SD of 1.89 years.

1. Does valerand students' academic motivation questionnaire have validity for Iranian students?

Exploratory factor analysis using principal component analysis was performed on data gathered from the implementation of the questionnaire and results are presented here. In order to evaluate the adequacy of sampling and significance of the data matrix, KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) and Bartlett's Test of Sphericity were used. KMO value was obtained 0.929 and Chi-square was obtained approximately 10016.79 in degree of freedom of 378 ($P < 0.01$). Factor analysis using principal component analysis led to the 5-component solution, which explained 62.29% of total variance. Matrix of components after 10 varimax rotations is shown in Table (2).

Table 2 - Matrix of components after rotation

	Components				
	1	2	3	4	5
22	.802				
8	.775				
17	.736				
10	.699				
1	.629				
15	.585				
24	.560				
3	.534				.431
18		.829			
11		.822			

25		.706			
23		.599			
27		.494	.447		
28			.783		
21			.780		
7			.739		
14			.610		
20		.437	.469		
26				.836	
19				.813	
12				.782	
5				.781	
9		.405			.644
6					.610
4					.609
13					.608
2		.437			.603
16		.461			.497

Components extracted from the table above are summarized in Table 3.

Table 3 - Components extracted from principal component analysis

Component number	Number of items
1	1 3 8 10 15 17 22 24
2	11 18 23 25 27
3	7 14 20 21 28
4	5 12 19 26
5	2 4 6 9 13 16

Component 4 was fully corresponding with the first sub-scale of lack of motivation, and the first component includes exactly the items of intrinsic / regulation and intrinsic motivation / matched. Four items out of five items of the third component include the extrinsic motivation of the five items, four items as well as external motivation / projection. However, the second and fifth

components include items of intrinsic motivation / drive experience, intrinsic / knowing and intrinsic / drive to move in the direction of progress.

Mean and standard deviation of these constituents are reported in Table 4.

Table 4 - Descriptive statistics of extracted components

	range	minimum	maximum	mean	Mean standard error	SD
Component 1 (intrinsic motivation-knowing)	46	10	56	01/41	37/0	81/9
Component 2 (external regulation)	30	5	35	39/21	27/0	11/7
Component 3 (projection regulation)	30	5	35	42/23	26/0	03/7
Component 4 (lack of motivation)	24	4	28	97/10	25/0	56/6
Component 5 (intrinsic motivation-experiencing drive and drive for progress)	36	6	42	58/29	28/0	53/7
Total score	133	52	185	37/126	91/0	23/24

Correlation coefficient between the total score of the questionnaire and its subscales of and total average of students

was used as an evidence of test validity. These values are reported in Table (5).

Table 5 - Convergent validity through the correlation between the components of questionnaire and total average

	Component 1	Component 2	Component 3	Component 4	Component5	Total score
Correlation coefficient with average	104/0**	207/0**	106/0**	225/0**-	251/0**	151/0**
Sig.	006/0	0001/0	0001/0	0001/0	0001/0	0001/0

As seen, all components have direct and significant relationship with average and there is significant and reverse relationship between component 4 and average that it was expected according to content of this component.

1- Does students' academic motivation questionnaire of Valerand have reliability for Iranian students?

To assess the internal consistency reliability and questionnaire reliability, Cronbach's alpha coefficient was calculated for the

total scale and its subscales. Alpha reliability coefficient was calculated 0.877. This coefficient indicates high accuracy of the questionnaire. Loop method to remove items with low reliability showed that removal of none of the items was associated with increased reliability of total score.

The reliability of the subscales derived from factor analysis is shown in the Table (6).

Table 6 - The reliability of the subscales

	Component 1	Component 2	Component 3	Component 4	Component 5
Cronbach's alpha	855/0	847/0	824/0	844/0	834/0

These coefficients show the appropriate reliability of test and its subscales.

4 Discussion and conclusion

The first hypothesis study showed that students' academic motivation questionnaire of Valerand has good validity and high reliability. Items 5, 12, 15, and 26 had a negative correlation with the total score that this issue should be considered according to the content of the items. It means that items in fact assess the lack of motivation (as opposed to academic motivation). Therefore, we can say that all the items are appropriate and removal of none of them leads to improved total reliability. The results of exploratory factor analysis showed that five distinct factors in this questionnaire in Iranian society are separable. The first factor is "intrinsic motivation-knowing", which includes the items of intrinsic motivation / regulation and intrinsic motivation / matched. The second factor was "external regulation" and the third factor was "projection regulation". The fourth component corresponded to Valerand questionnaire sub-scale named "lack of motivation", and fifth component was named intrinsic motivation-drive experience and drive for progress, since second and fifth components included the items of intrinsic motivation/driver experience and move toward progress. The reason for the reduction of 7 scales to 5 scales in Iranian population could be due to differences in linguistic features since the concept one word in English is multiple and several meanings are evoked that are separable, but when the word is translated into Persian language it contains one main concept. Therefore, the understanding of respondents of some items was similar. However, intrinsic and extrinsic main components and lack of motivation have been separated in Iranian students' population, indicating that questionnaire can be applied in Iranian population in 5-component form.

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