Extended Abstract

A Psychometric Study of the Academic Self-Efficacy Beliefs Questionnaire

Dr. O. Shokri
Shahid Beheshti University

S. Toolabi
Tarbiat Moallem University

Z. Ghanaei
Azad University, Saveh Branch

A. Taghvaeinia
Shahid Chamran University

Dr. K. Kakabaraei
Azad University, Kermanshah Branch

K. Fouladvand
Tarbiat Moallem University

Introduction

Zajacova, Lynch, & Espenshade (2005) first reported the results of the factorial structure and psychometric properties of the academic self-efficacy beliefs questionnaire. In their study, result of the principal component analysis using oblimin rotation showed that ASEBQ consisted of four factors: confidence in academic performance in class, confidence in academic performance outside of class, confidence in interaction at school and confidence in ability to manage work, family and university.

On this basis, being aware of the necessity of careful investigation of the dimensional structure of the Persian version of ASEBQ in the process of recognition of the organized factors of academic self-efficacy beliefs among university students, the researchers of the present study aimed to investigate the factorial structure of this questionnaire among Iranian university students.

Undoubtedly, more certain results taken from the repetition of factorial analysis of ASEBQ in its Persian version can prove that the factorial structure of ASEBQ does not differ significantly among different cultures. Then, it is of great importance to study the factorial structure of a questionnaire which can measure the factors of academic self-efficacy beliefs in Iranian culture. This questionnaire should have appropriate properties considering its administration, scoring, and analysis; in addition, it should be in line with the cultural, social and economical status of Iran.

Method
Participants

The Participants of this research were 284 (100 males and 184 females) BA students of education and psychology faculty in Tarbiat Moallem University. These participants were selected based on a multistage cluster sampling method in which students were selected at three levels: 1) faculty, 2) educational group, and 3) class.

Academic Self Efficacy Beliefs Questionnaire

Zajacova, et al. (2005), first reviewed the results of previous studies about the academic self efficacy beliefs. Then, they developed an academic self-efficacy beliefs questionnaire based on some of the existing measures of academic self-efficacy such as the Academic Milestones Scale (Lent et al., 1986) or the College Self-Efficacy Inventory (Solberg, O'Brien, Villareal, Kennel, & Davis, 1993). This scale contains a list of 27 tasks such as ''writing term papers,'' ''asking questions in class,'' and ''managing both school and work.'' For each task, students were asked to rate on an 11-point Likert scale how confident they are that they could successfully complete them (from 0 = not at all confident to 10 = extremely confident). In Zajacova, Lynch & Espenshade's study (2005) which aimed to examine the factorial structure of academic self efficacy beliefs questionnaire, the results of exploratory factor analysis showed that demotivation questionnaire consisted of four factors. In the study, the

Cronbach's alpha coefficients for global factor of ASEBQ and it's factors consisting confidence in academic performance in class, confidence in academic performance outside of class, confidence in interaction at school and confidence in ability to manage work, family and university were 0.94, 0.88, 0.85, 0.83 and 0.72, respectively.

Perceived Academic Stress Questionnaire

Zajacova, et al. (2005), developed the perceived academic stress questionnaire in order to measure perceived academic stress among university students. This scale contains a list of 28 tasks such as ''writing term papers,'' ''asking questions in class,'' and ''managing both school and work.'' For each task, students were asked to rate on an 11-point Likert scale how stressful they found the task, (from 0=not at all stressful to 10= extremely stressful). In Shokri, Kormi Nouri, Farahani & Moradi's study (2011) result of the principal component analysis using Oblimin rotation showed that ASEBQ consisted of four factors: difficulty with interaction at school, difficulty with academic performance outside of class, difficulty with academic performance in class, and difficulty with managing work, family, and school.

Research Method

The present study is corelational. In this research, data analysis was done based on Classic Test Theory (CTT). Preserving or deleting the items of questionnaire was performed based on the statistical properties of factorial analysis. Reliability was calculated using Cronbach alpha coefficient formula. Validity of the questionnaire was also checked through factorial validity calculations (principal component analysis, oblimin rotation).

Translation

In this study, in order to use the Persian version of ASEBQ, the back translation method was used. First, the English version of this questionnaire was translated into Persian by a bilingual person to be used among Iranian students. Then, to preserve the linguistic and

conceptual equivalence, another bilingual person translated the Persian version into English again (Marsella & Leong, 1995). Finally, through "repetitional reviewing process", the difference between the two versions was reduced. Accordingly, the equivalence of the translated versions with the original version was carefully studied. Then, some faculty members of universities studied these questionnaires and confirmed their content validity and cultural consistency.

Data Collection and Analysis

First of all, participants were asked to take part in this study voluntarily. Then, the goals of the study were briefly explained to them emphasizing the basic concept of "academic self efficacy beliefs". In this study, participants filled out the questionnaires in groups. Then, considering the number of items, 15-20 minutes were allocated for the students to answer the items. Finally, after gathering the data, the data analysis was performed using the statistical software of SPSS.

Results

Before performing the exploratory factor analysis, Kaiser-Meyer-Olkin measure of sampling adequacy index was calculated as 0.95 and by Bartlett's test of sphericity (P<0.001), x^2 (351N=284) was equal to 3969.88, indicating that the sample and correlational matrix were appropriate for this analysis. In line with Zajacova, et al. (2005), considering the correlation between the factors, to extract the factors, an Oblimin rotation procedure was performed. In other words, in order to specify the most appropriate factors, considering the Scree plot, Eigenvalue and variance percentage of each factor, the mentioned factors were extracted by principal component analysis and oblimin rotation.

In the present study, the results of exploratory factor analysis indicated that the four factors explained 55.29 % of the general factor variance of academic self efficacy beliefs among students (Table 1).

Table 1: Statistical properties of ASEBQ using PC method for a 4-factor structure

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage
1. confidence in academic performance in class	10.11	37.45	37.45
2. confidence in academic performance outside of class	2.04	7.26	44.71
3. confidence in interaction at school	1.69	6.25	50.96
4. confidence in ability to manage work, family and university	1.20	4.33	55.29

Discussion

The present research was conducted to investigate the factor structure of ASEBQ. The results of principal component analysis using Oblimin rotation showed that ASEBQ consisted of four factors. Moreover, results showed that Cronbach alpha coefficients of the multidimensional factors of ASEBQ were acceptable.

The results of the present study, in line with the results of Zajacova, et al. (2005), provided the adequate support for the multidimensional structure of academic self efficacy beliefs of Iranian students by repeating the 4-factor structure of ASEBQ. In addition, the similarity between the results of this study and Zajacova, et al. (2005) regarding factor structure of ASEBQ indicates that the components of the basic model of academic self efficacy beliefs in Iranian and non-Iranian samples follow similar models. Therefore, the results of this study show that in Iranian and non-Iranian samples, the effective factors on self efficacy beliefs are similar.

In other words, based on a holistic method and focusing on the factor structure of ASEBQ, the similarity of the results of this study and the results of Zajacova, et al. (2005) indicates that the principal fundamental structure and the causal theoretical mechanisms of

academic self-efficacy in Iranian and non-Iranian samples follow general principles. However, a comparison of the different levels of academic self efficacy in different samples shows that the amount of academic self efficacy report is different in different educational situations. Therefore, in spite of the structural similarity, investigating the parameter of "intensity" of academic self efficacy among different samples is academically of great importance.

The results of the present study should be interpreted considering some inevitable limitations. It should be stated that these limitations make the generalization of this study difficult. First, because of using a self-report instrument instead of studying the real behaviour of participants, this study, like many other studies, may have forced the students to use some strategies to gain social confirmation and avoid becoming notorious because of lack of individual competence. In other words, behavioural observation and other clinical indices were not used to confirm the scales of self-reporting. Second, although the participants of present study included both males and females, study of the factor structure of ASEBQ in different sex groups and consequently, comparing the significance of the difference between the goodness of fit indices in two sexes were not investigated.

In spite of the above mentioned limitations, the results of this study supported the factor structure of ASEBQ in an Iranian sample. As a result, considering the fact that one of the important indices in evaluating the concepts and structures is their implication, the results of the present study, confirming the results of previous researches, support the international implication of ASEBQ and its suitability to be used in researches related to academic self-efficacy beliefs.