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The Undergraduate Student Stress Inventory for Fars Province University Students: Factor Structure and Confirmatory Factor Analysis

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The purpose of this study was to examine the validity and reliability of the USSI among Fars province university students by using exploratory and confirmatory factor analysis. The results showed that the two factors (Inter & Intra Personal Stress and Academic stress) were significant related to the USSI general factor. The Goodness-of-Fit Index, the Adjusted Goodness-of-Fit Index, and the Root Mean Square Error of Approximation were significant. These indices supported theoretically that the construct of University Students Stress Inventory is psychometrically sound and fit the model. Concurrent validity showed that the scores of mental health and its factors such as bodily symptoms, anxiety, disorder in social function and depression are significantly relate to Inter & Intra Personal Stress and Academic stress factors. The Cronbach coefficient alpha values and test-retest correlations were satisfactory for total scores' USSI and its subscales. The results showed that the USSI is a reliable and valid measure of assessing stress level among Iranian university students.

Keyword: stress level, inter & intra personal stress, academic stress

Attending university is a major life transition for late adolescent or adults that include a number of potentially stressful events. The university

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environment confronts students with many new pressures, some expected or some unexpected (American College Health Association, 2006; Ellard, Barlow & Mian, 2005). Students may experience high stress at predictable times each semester due to academic commitments, financial pressure, and lack of time management skills (Dolbier, Smith & Steinhardt, 2007; Ryan & Twibek, 2000). When people perceive stress negatively or it becomes excessive, it may affect health and academic performance (e.g., Veeser, Blakemore 2006; the national Alliance for Mental Health, 2005; Misra & Mckean, 2000). If university personnel want to effectively promote students' adjustment to graduate school, they need to be aware of students' stress level. Furthermore, it is important to find out what they see as stressful and perhaps as an obstacle to their personal adjustment. Faculty and administrators are often unaware of how their own professionalism and association with the education system may contribute to an alienating and stressful environment for students.

Lazarus and Folkman (1984) argued that a person's perceptions play a substantial role in what some may call objectively stressful events, and, in this theory, behavior is a function of the interaction between the person and her or his environment and the appraisal of potentially threatening or challenging events. This perspective assumes that stress occurs when both (a) the situation is appraise as challenging or demanding, and (b) insufficient resources are available to cope with the situation. The causal event is the cognitively mediated emotional response to the objective event, not to the objective event itself.

The assumed centrality of the cognitive appraisal suggests the desirability of measuring perceived stress as opposed to and in addition to the objective stress. This assumption increases the importance of an instrument that measures perceptions of stress. Given the importance of emotional integration into the undergraduate education, the centrality of perceptions in mediating stress, and the cost efficiency of self-report, we developed a measure of perceived stress for the undergraduate student population.

Having a valid and reliable stress inventory to identify potential perceived stress level of undergraduate students would be important for

undergraduate program coordinators. Despite, many stress scales that have been developed and used to study university students (e.g., Konduri, Gupchup, & Worley, 2006; Heins, Fahey, & Leiden, 1984; Rocha-Singh, 1994; Mendoza, 1981), Lee, Kang, & Yun (2005) emphasized the need to recognize cultural differences in stress level and stress management. However, the valid stress scales in published studies that explored the effects of stress in students, lack the potential to measure the stress level in Iranian students. We hope that the Undergraduate Student Stress Inventory (USSI) could measure the stress level of the Iranian students while undergoing their academic pursuance.

Development of the Undergraduate Student Stress Inventory (USSI)

We conducted a literature review to locate suitable concepts, inventories done by previous researchers, and ideas used to develop items for the Undergraduate Students Stress Inventory (USSI). The USSI was based on research that examined the academic climate, social integration, and concerns of students (Rocha-Singh 1994; Konduri, Gupchup, & Worley, 2006). Konduri and his collogue (2006) modified the stress questionnaire developed by Heins and his collogue (1984) for pharmacy administration graduate students. This stress questionnaire addressed the following stress categories: 1. Academic stress (e.g., stress about classes, examination, and faculty members), 2. Time stress (e.g., long hours in class, time spent in studying, no time for self), 3. Fear of failing stress (e.g., poor graders, failing out of the program), 4. Classroom stress (e.g., lack of positive feedback, being ‘put down’ by a professor), 5. Economic stress (e.g., inflation, student loans), 6. World stress (e.g., terrorism, nuclear war), and 7. Environmental stress (e.g., moving to new city/country, looking for roommates).

Rocha-Singh's (1994) research specified three general areas: (a) how individuals perceive their academic responsibilities, (b) how individuals perceive their university environment, and (c) how individuals perceive their financial and familial responsibilities. Furthermore, Mendoza's research (1981) on perceptions of stress for undergraduate students defined four dimensions (academic, financial, family, personal). These dimensions

provided the general categories for items, which are also relevant to undergraduate student experiences in handling their sources of stress. Moreover, Lee, Kang, and Yum (2005) reported the most frequently stressors in personal and academic dimensions. These were "finance" and "future career plan," (personal stressors) and "grades and competition" and "being equipped for future career success," (academic stressors). Subsequently, we generated USSI items using these domains with elements defined as important to undergraduate students' life. After defining the initial items, we theorized that Lazarus and Folkman's (1984) process of cognitive appraisal of stressful events would play an integral part in whether or not students identify specific events as stressful. Lazarus's (1999) notion of measuring perceived stress is desirable because it is the students' perceptions that affect their decisions to persist in school and to take steps in helping themselves achieve their desired goals. The USSI items, then, examine external events and assess internal stress levels.

Purpose of the study

The present study, taking into consideration the work of Konduri and his colleague (2006), Rocha-Singh (1994), Mendoza (1981), Lee, Kang, and Yum (2005) and the stress theory of Lazarus and Folkman (1984), developed the USSI to use it with Iranian students. The purpose of designing The Undergraduate Students Stress Inventory (USSI) was to identify and assess specific levels of intra/inter-personal and academic stress that affect mental health in association with poor health and physical pain. The USSI, then, is a theory-driven, economical, easily scored scale for administeration in 20 – 25 minutes.

The two major purposes of the investigation were to examine the factor structure of the USSI and the validity of the scale. Reliability and validity estimates of the USSI derived from data on one sample of undergraduate students who study in Fars province universities.

Method

Population and sample

The population of the study consists of all the undergraduate students in the private and state universities of Fars province in Iran who enrolled in

academic year of 2008/2009. The samples of the study were randomly selected form the population. Every individual within the population has a known nonzero chance of being included in the sample. The stratification involved: type of university (private & state), academic year (undergraduate), specialization and gender.

Participants

Four hundred and twenty-nine university students (152 men and 277 women), between the ages of 19 and 48 (*M*=23.20, SD=4.77, based on *n*=425 as 4 did not report age), participated voluntarily in the study. These students were either full-time or part-time students enrolled during the spring semester 2008/2009. All students responded in small groups to the 28-item USSI. We developed the profile of the respondents based on the following demographic variables: university, gender, specialization and locality. The distribution of the students in the study's sample is shown in Table 1. A sub-sample of 70 students (32 men and 38 women), aged between 20 and 47 (*M*=25.43, SD=5.22) also completed USSI for the second time and the 28-item General Health Questionnaire (GHQ-28; Goldberg & Williams, 1988) to examine test-retest reliability and the validity of USSI.

Table1
Distribution of Respondents according to Demographic Variables

Demographic Variables	Characteristics	N	%
University	Private university	228	53
	Government university	201	47
Gender	Male	152	35
	Female	277	65
Specialization	Human Science	122	28
	Basic Science	117	27
	Engineering	98	23
	Medical Science	92	22
Locality	No local	270	62
	Local	159	38

Instruments

University Students Stress Inventory (USSI). The initial USSI form was a 28-item self-report scale intended to assess the respondent's perception of stress events. Two sub-scale scores and a global score can be obtained from the 28 scored items of the inventory. The two scales are: Inter & Intra Personal Stress and Academic stress. In completing the USSI, respondents were requested to rate their degree of agreement to statements describing how events made them "feel stressed, upset or worried at least two or three times a week for the past one month." Students rated how much each event "bothered" them from not at all (1) to always (4). The USSI can be hand-scored in about 5 minutes by using the scoring template on the answer sheet. Examiner can enter the raw scores for each subscale and the overall in the appropriate areas at the bottom of the profile. Higher scores indicate greater self-reported stress level.

General Mental-Health Questionnaire. Mental health was assessed using the 28-item General Health Questionnaire (GHQ-28; Goldberg & Williams, 1988). Respondents rated how much they agree with each statement, with a higher score indicating greater self-reported psychological distress. Each item assessed on a four- point Likert-type scale, which assesses how a person has been feeling over the past few weeks. Cronbach's alpha for the GHQ-28 in this study was 0.89. The Persian version of GHQ, being translated and adapted for Iranian medical student by Bahmany and Askary (2007), was used in the present study. Table 2 exhibits Cronbach's alpha and split-half estimates of the internal consistency of General Health Questionnaire (GHQ) and its sub-scalesS. Many studies have found that stress has associated with a variety of ailments and health outcomes in adolescents, including poor general physical health (Baldwin, Harris, & Chambliss, 1997; Chida, Hamer, Wardle, & Steptoe, 2008), depressive symptoms (Unger, Li, Johnson, Gong, Chen, Li, Trinidad, Tran, & Lo, 2001), and anxiety (Chida, Hamer, & Steptoe, 2008). The General Health Questionnaire (GHQ) measures general health in overall and its sub-scales measure physical symptoms, anxiety, social dysfunction and depression. In this regard, GHQ was used to determine the validity of USSI.

Table 2
Number of Items, Means, Standard Deviation, and Reliability Coefficients for the General Health Questionnaire

Construct	N of Items	Mean	Sd	Alpha	Split-half
Physical symptoms	7	8.51	4.33	.77	.77
Anxiety	7	10.30	3.79	.79	.76
Social Dysfunction	7	9.65	4.73	.76	.70
Depression	7	6.54	4.45	.75	.72
Overall Scale	28	33.60	13.68	.83	.81

Procedure

The constructed inventory was first pilot tested among a sample of one hundred undergraduate students of Shiraz and Arsenjan Universities. The purpose of the pilot study was to evaluate face and content validity of inventory and identify some unclear items of inventory. We also posed an open-ended question to the respondents to gauge additional ideas that could be used to improve the inventory. Respondents' comments from the pilot study used to make changes to the inventory. The researchers administered the final Undergraduate Student Stress Inventory and General Health questionnaire (GHQ) to a sample of Iranian students, using the GHQ to determine the validity of USSI. The Ss completed USSI and GHQ in a random order during a class period. We summed and recorded the values of the two inventories. For the second time, seventy students (38 female and 32 male) completed the USSI two weeks after its initial administration to assess test-retest reliability.

Results

Item Analysis

We employed item analysis to decide which items to include or to exclude from the USSI. The objective of item analysis is to select a set of items that yield a summed score more strongly related to the construct of

interest than any other possible set of items (Green, Salkind, Theresa, 1997). Based on the result of the analysis of USSI items it appeared that items 1, 7, 11, 15, and 21 were somehow different from the rest of the items. These items dropped from the initial USSI because they correlated with overall scale lower than .35. All of these five items measured physical stress. Accordingly, we repeated the reliability procedure without these items and created a reduced USSI with the remaining 23 items.

Factor Analysis

The researchers conducted an exploratory factor analysis to determine how the developed scale relates to the underlying latent variable (Bentler, 1992). In the study, we performed the exploratory factor analysis with varimax rotation on the developed scale to answer this question; what are the underlying constructs and sub-constructs that explain the stress of the Iranian university students.

We explored the factor structure of the reduced 23-item scale by means of two types of factor analyses. The first was a principal component analysis with an orthogonal varimax rotation, and the second was an oblique factor analysis. It appeared that a two-factor varimax Maximum Likelihood Extraction (MLE) solution was the best approximation of a simple structure. The criterion was Eigenvalues ≥ 1.00. The rule used was to retain only items with factor loadings of at least .35 for interpretation of a factor (Hair, Anderson, Tatham, & Black, 1998). This criterion resulted in the retention of 20 items. Based on these findings, two the hypothesized domains, inter personal and intra persona, were combined. Table 4 contains the reduced 20 items and presents the item loadings on each component for the 20 items in USSI, the explained variance associated with each component, and the factor correlation matrix. Factor 1 was named as Inter & Intra Personal Stress and factor 2 as Academic Stress.

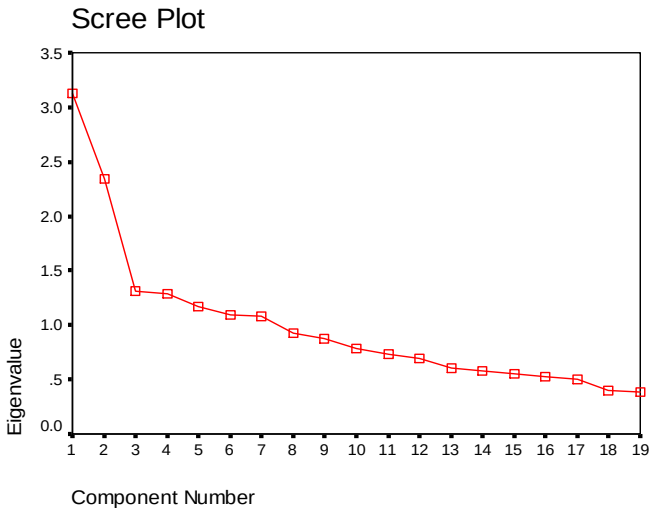

Diagram 1.The Scree plot of USSI

Table 3
Sub-Construct, Item Number and Eigenvalue of Undergraduate Student Stress Inventory

Sub-Construct	Item Number	Eigenvalue
Inter/Intra Stress	6, 8, 9, 12, 14, 16, 17, 20, 22, 26	16.4
Academic Stress	2, 4, 5, 10, 13, 18, 19, 24, 25, 28	12.4

The two components accounted for 28.8% of the explained variance. The percentage of total variance explained by each factor is as follows: Factor one, 1 6.4; and Factor 2, 12.4. Tables (3, 4) show the characteristics of two components of USSI. Three items in initial USSI had cross-loading to two components as follow: 1) give and receive affection regularly; 2) I worry about my future job; and 3) people and family expect me a lot. Therefore, we deleted these items from USSI and a clean component solution obtained. Items on physical status (eating, smoking, exercise and sleep patterns) received low eigenvalues. Therefore, all of these items dropped from the inventory.

Table 4
Two-Factor Orthogonal and Oblique MLE Solution for the Set of 24 USSI Items

	Factor	
Student Stress Inventory (USSI Items)	**1**	**2**
Inter & Intra Personal Stress		
6. I think that my life has meaning and direction	.65	
8. I am confident in my ability to make big decisions	.69	
9. I have a network of friend and acquaintances	.59	
12. I have one or more friend to confide in about personal matters	.70	
14. I set aside time for personal reflection, meditation and/or prayer	.67	
16. My career choice/major contributed to my personal well-being.	.59	
17. I am able to speak openly about my feelings, when I am angry or worry.	.58	
20. I am confident in my ability to make choices consistent with my value	.64	
22. I am able to organize my time effectively.	.58	
26. I like to meet with those friends who have the same religion.	.52	
Academic Stress		
2. I feel I am making the best use of my time as a student right now		.65
4. I obligate myself to repay academic loans		.59
5. One or two difficult courses take all my time, no time left for any thing else.		.67
10. I have difficulty to repay my tuition.		.69
13. I have an income adequate to meet basic expenses.		.73
18. I worry about money and financial.		.64
19. I don't take positive feedback for my work.		.61
24. I don't have mutual agreement with my supervisor.		.58
25. I get different feedback from different professors.		.62
38. have I problems in writings homework a report?		.49
Items which had cross-loading to two factors		
3. I give and receive affection regularly.	.36	.37
23. I worry about my job future	.36	.36
27. People and family expect me a lot	.35	.35
Factor correlation matrix		
Factor 1 – Inter / Intra Personal Stress	1	.29
Factor 2 – Academic Stress	.29	1

Confirmatory factor analysis of USSI

We conducted A confirmatory factor analysis model to examine the construct of University Student Stress Inventory (USSI). This construct has two dimensions; Inter/Intra personal stress and Academic stress. We computed the inter-correlations for the two components (Inter/Intra

personal and Academic stress) and the total USSI score. Table 5 exhibits the inter-correlations along with the means and standard deviations for the Inter/Intra personal stress, Academic stress and total USSI. As shown in Table 5 correlation coefficients were significant ($p<.001$). The highest correlation ($r = .83$) was between the scores on academic stress and total USSI, the lowest correlation ($r = .28$) was between the scores on Inter/Intra personal stress and Academic stress. Ten items loaded high on the first factor (Inter / Intra personal stress) and another ten items loaded high on the second factor (Academic stress). The subsequent analysis adequately fit that model and all the indices suggested that model was psychometrically fit. These indices included X^2/df, GFI, AGFI, CFI, and RMSEA. The result of the measurement model generated fit indices, which exceeded the recommended critical value of .90. More specifically, the fit were GFI (.97), AGFI (.96), CFI (.96) and RMSEA (.064). The value X^2/df was less than three which indicated that the measurement model was adequately fit. These indices supported theoretically that the construct of Coping Responses is psychometrically sound and fit the model (see Figure1 and Table 6).

Table 5
Interrelationships' Means and Standard Deviations Among Inter/Intra personal stress, Academic stress and total USSI

	IPS	**ACS**	**USS**
Inter & Intra personal stress	1		
Academic stress	.28	1	
University student stress	.81	.83	1
Mean	21.53	17.48	33.91
Standard Deviation	11.56	11.31	17.48

IPS= Inter & Intra personal stress ACS= Academic stress
USS=university student stress

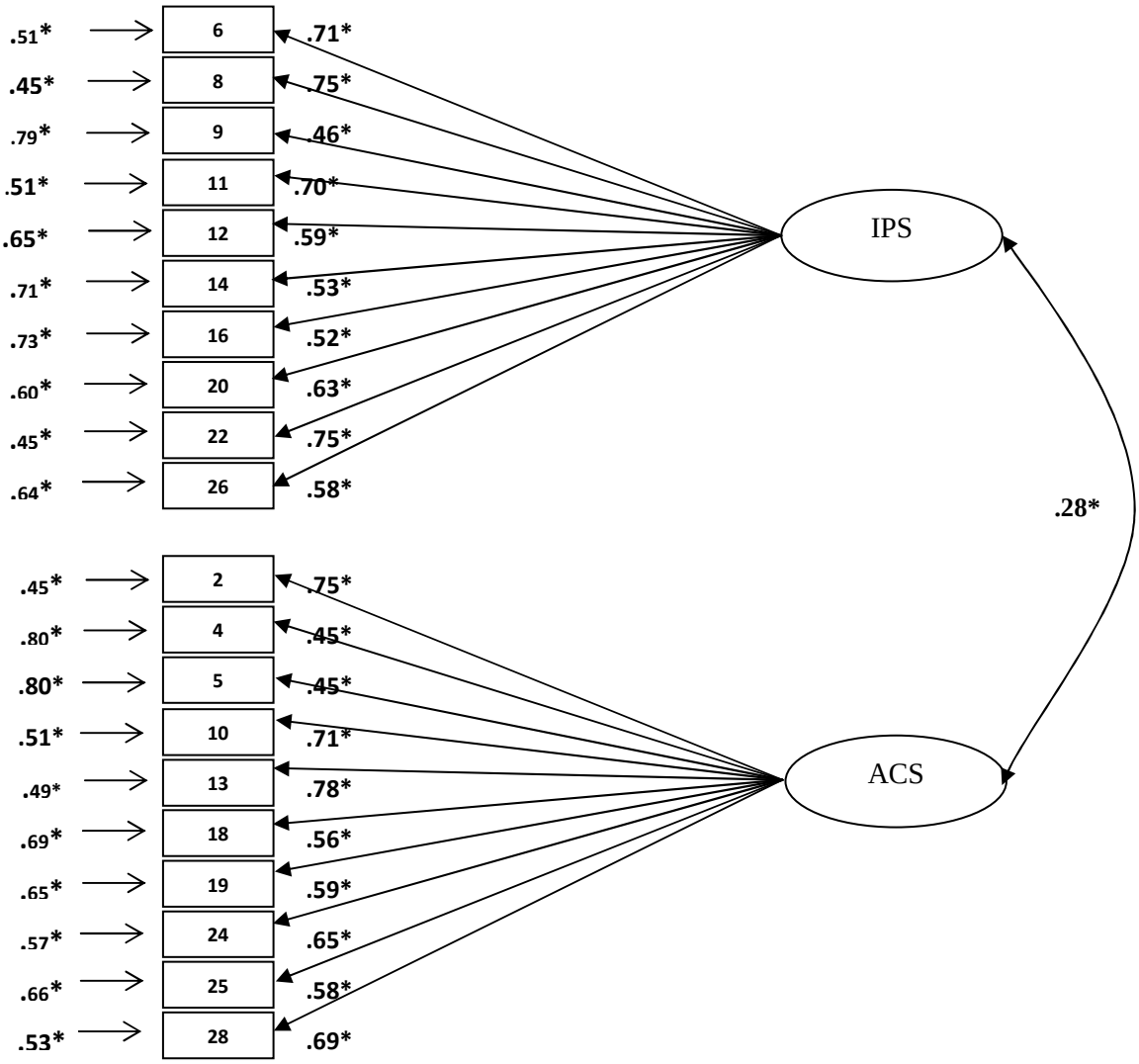

Figure1. Demonstrate CFA for USS

Table 6
Good-of-fit summaries of USSI

Goodness of fit summary				
Df	X^2	GFI	AGFI	RMSEA
151	117.283	.97	.96	.064

GFI=Goodness of fit index greater than 90 indicates adequate fit, AGFI=adjusted goodness-of-fit Index greater than go indicates adequate fit, RMSEA=root mean square error approximation less than indicates adequate fit (Hu, & Bentler,1998).

Reliability of (USSI)

Table 7 presents the estimates of the internal consistency of USSI and its subscales based on Cronbach's alpha and test-retest. Cronbach's alpha for the subscales and overall scale were adequate (.81, .80, .78 respectively). These results suggest that the USSI has high internal consistency and reliability. Sequence, split-half coefficient is conducted. In splitting the items are taken into account the sequencing of the items as well as whether the item indicated control of stress or expression of stress. The first half included items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, while the other half items 11, 12, 13, 14, 15, 16, 17, 18, 19, 20. The split-half coefficients were .79 for overall scale, and .83 and .81 for Inter / Intra personal stress and Academic stress respectively. The Cronbach's alpha and split-half coefficient and reliability test-retest values for two components range from .70 to .77. These results clearly indicate that the USSI and its subscales have sufficient reliability. The Cronbach's alpha and split-half coefficient and test-retest reliability values for USSI, indicating that this inventory is reliable measure of self-reported stress for Iranian University students.

Table 7
Number of Items, Means, Standard Deviations, Reliability Coefficient for the University Student Stress Inventory and its Subscales

Construct	N. of Items	Mean	Sd.	Alpha	Split-half	Retest
Inter/Intra personal stress	10	19.40	6.07	.81	.83	.79
Academic Stress	10	20.32	5.77	.80	.81	.80
Overall scale	20	39.76	9.29	.78	.79	.78

The Validity of University Students Stress Inventory (USSI)

Table 8 presents the concurrent validity results. The total stress score for the USSI was positively and significantly related to the total general health score for the GHQ ($r = 0.51$, $p < 0.001$). This indicates that students who had higher stress scores had higher physical and mental illnesses. Mental illness also was positively associated with higher levels of inter-intra personal and academic stress. Additionally, the Academic stress and Inter-

The intra personal stress components were positively and significantly related to the physical symptoms, anxiety, social dysfunction, depression and overall general health. The correlation values are from 0.22 to 0.84. These results are in the expected direction and provide evidence of validity of the University Student Stress Inventory. Moreover, the highest correlation was found between overall stress (USS) and anxiety (r=.83, p≤.001). This result also confirms that the USSI is a valid instrument to measure stress levels.

Table 8
Correlation Matrixes Between USSI and GHQ and Their Subscales

	IPS	ACS	USS	Phy	Anx	Sdf	Dep	GH
IPS								
ACS	.28							
USS	.81**	.83**						
Phy	.34**	.21**	.82**					
Anx	.28**	.25**	.84**	.31*				
Sdf	.43**	.16**	.65**	.28*	.22*			
Dep	.40**	.24**	.80**	.22*	.23*	.23*		
GH	.47**	.28**	.51**	.38*	.41*	.48*	.45*	

** correlation is significant at the 0.1 level (2-tailed)
* correlation is significant at the 0.5 level (2-tailed)
IPS= Inter & Intra personal stress, ACS= Academic stress,
USS=university student stress,
Phy=Physical disorder, Anx=Anxiety, Sdy=social dysfunction,
Dep=depression, GH=General Health

Discussion

The purpose of the current study was to develop undergraduate students stress inventory to use in a sample of Iranian university students. The other students stress questionnaires identified several components: academic stress, time stress, fear of failing stress, classroom stress, economic stress and familial/monetary stress. This study identified two components in the student stress inventory. We named the newly identified components Inter/Intra personal stress and Academic stress. These new components suggest that certain aspects of stress from the perspective of Iranian university students are different from those of other students. Although, the

identification of an Academic stress component in the present study is consistent with other studies (Misra, & McKean, 2000; Konduri, Gupchup, & Worley, 2006; Dutta, 2001; Roch-Sing 1994; Lee, Kang, & Yum, 2005). However, the Inter/Intra personal stress in this study appears unique to Iranian university students, as other stress scales do not contain inter-intra personal stress as a major component.

The result of USSI item analysis showed five items were somehow different from the rest of the items so, these items dropped from the initial USSI. These items were on eating, drinking, smoking, exercise and sleep patterns, which measured physical states. The physical status as measured by student's responses to inventory items did not appear in this study because probably these stressors are less important for Iranian students. In contrast, psychological stress is more important than physical stress for these students. Thus, physical stress component dropped out from the USSI.

It was hypothesized that the two factors (inter/intra stress and academic stress) would be related to the USSI general factor. The findings confirmed the hypotheses. The conclusion based on the indices of goodness fit since indices such as GFI, AGFI, CFI, and RMSEA reached the accepted level of .90 and above. All of the indices supported the construct validity of the general USSI factor, which was composed of the two factors; inter-intra stress and academic stress (see Table 3 and Figure 1). The result of the GFI indicates that student stress data collected from Iranian university students fit this model.

The value of the validity of the items for the instrument was .51, for measurement of academic stress and the intra/inter personal stress they were .47, and .28, respectively. The above results demonstrate that the instrument has achieved a higher degree of internal validity for both of domains of academic stress and Inter Intra personal stress.

The Cronbach alpha coefficient value for the total USSI (20 items) was 0.78, an indication of a high internal consistency. The coefficient alpha value for the intra/inter stress was 0.81 and that of academic stress was 0.80. Split-half coefficient values for the total USSI, Inter/Intra stress and academic stress were also as follow: 0.83, 0.81, and 0.79. Test-retest

correlations were satisfactory for the total scores of the USSI inter/intra stress as well as academic stress. The cronbach's alpha and split-half coefficient and test-retest reliability values for USSI indicate that this inventory is a reliable measure of self-reported stress for Iranian University students. A cronbach' alpha value of 0.70 was considered acceptable when developing instruments (Nunnally, 1978). However, Ware, Kosinski, and Keller (1998) have suggested that scales with reliability of 0.50 to 0.70 are considered sufficiently reliable for use in-group comparisons (Ware, et al., 1998).

In order to increase the confirmation of validity in constructing the measurement, the researchers were used the criterion-related validity where it was measured by the use of GHQ which explores the symptoms of mental illness. The current validity results obtained for the stress inventory and its components were significant. The relations of the total stress score as well as the intra/inter personal and academic stress to the general mental illness and its subscales were positive. These correlations were in the expected direction.

Gupchup, Borrego, and Konduri (2004) showed that stress among professional pharmacy students related negatively to the mental component. Damush, Hays, and Dimatteo (1997) and Hudd (2000) also reported that stress among college students related negatively to mental health and self-esteem, respectively. Additionally, previous studies have shown that stress negatively affects academic success among graduate students and medical students (Hodgson & Simoni, 1995; Hicks, & Miller, 2006). Chida, and Hamer(2008) also, discussed that psychological stress is associated with a variety of illness.

In conclusion, this study provided some evidence of a reliable and valid measure of undergraduate students' perceptions of stress in two domains: a) inter/intra-personal stress, and b) academic stress. The USSI has the potential to assist university counselors in the identification of problem areas in a student's life that may contribute to maladjustment or unhealthy stress, often leading to difficulty in school performance or personal functioning. Results obtained from the USSI may be used in planning

strategies that might alleviate stress; thereby improving health – related quality of life and academic success.

Limitations and Suggestions

Although this study provided useful results for the reliability and validity of the USSI, we need to consider some limitations for future use of the USSI. First, we conducted this study with a sample of students representing only one area of Iran, namely, Fars Province. There are several provinces in Iran. It is unclear whether the psychometric properties of the USSI will be valid in these other areas. Second, GHQ was used to determine the validity of USSI in this study. Konduri and his collogue (2006) used health-related quality of life (HRQOL) inventory and modified perceived academic success scale (MPASS) to determine the validity of modified stress questionnaire. He found that the total stress score for the modified stress questionnaire relates negatively and significantly to the HRQOL score and MPASS score. This indicates that students who had higher stress scores had lower mental component scores and lower perceived academic success scores. The use of the HRQOL and MPASS for determining the validity of USSI could be the focus of future studies. Additionally, the capability of the questionnaire to differentiate among graduate students who have benefited from stress management programs also should be investigated. Finally, all the measures were self-report, which could create some significant error in report of the occurrence of life events and the prevalence and severity of symptoms of physical and mental illness.

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