



## Planning and Standardizing of Stress Questionnaire Based Upon Transactional Model

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### Abstract

The importance of stress amongst the teachers, on one hand, and lack of a valid and reliable instrument to measure the stress based on Lazarus and Folkman Transactional Model, on the other hand, made us to provide a instrument for Iranian teachers to apply. The aim of this study was planning and standardizing of Stress Questionnaire Based upon Transactional Model. This survey is a descriptive- analytical one, which its sample population includes in Yazd teachers of primary schools. The total sample, 100 people, has been selected using categorical sampling. A primary 64 -questions list was provided to plan the questionnaire, first. Content validity, and CVR, CVI approaches; construct validity by confirmatory factor, criterion-related validity by Pierson Correction, Cronbach's alpha coefficient, and correlation matrix were applied to study internal validity and adaption. SPSS 15 and Amos 21 were used to analyze the data collected. Planning 62-questions questionnaire was followed by validity and reliability processes. Content validity index appeared 0.85, which was acceptable. The results of the study of construct validity, came out of the analysis of confirmatory factor, represented relatively goodness of fit of the model used. In addition, criterion-related validity showed a significant estimation power for the instrument,  $r=0.75$ , ( $p<0.001$ ). Cronbach's alpha results ( $\alpha=0.87$ ) conformed the reliability of the instrument. According to the results, applying this instrument to recognize the people and their problems and removing the stress amongst them is recommended.

**Keywords:** Transactional model, validity, reliability.

### Introduction

Stress is considered as one of the major causes of diseases and threats to physical and mental health among all people and of all ages<sup>1-3</sup>. Stresses are increasing dramatically today, so people must be aware of their signs, and try to prevent them before affecting their lives. Stress has both mental and physical effects on people<sup>4,5</sup>. It is of worth mentioning that the stress can be negative or positive and both of them may increase depression<sup>6</sup>. Job stress is one of the most important common ones among people. According to reports, job burnout, desertion, high absenteeism, lower production and increased health care cost hundreds million dollars for nations, annually<sup>5</sup>. Although every job has its own particular stresses, but the teachers experience special stresses which can be seen little in others<sup>7</sup>. planning for teaching various courses, too busy to work, time limitation, assessment, educational atmosphere, ambiguous future of the job, create a discipline in the class, difficult to learn learners, insufficient income, being in conflict with colleagues, improper work conditions, and stresses due to gaining promotion are considered as stress sources of teachers. The teachers feel exhausted by these stresses along with personal, family and

social stresses of life, which badly affect teacher- learner relationships, teaching quality, and teacher responsibility<sup>7-8</sup>. Lazarus and Folkman Transactional Model has been reported as one of the most completed models concerning stress which combined psychological and coping processes together<sup>9-10</sup>. The importance of stress amongst the teachers and lack of a valid and reliable instrument to measure the stress based on Lazarus and Folkman Model, made us to provide a instrument for teachers to apply. Planning and validation processes of this instrument have been studied in this paper.

### Material and Methods

This survey is a descriptive- analytical one that was performed on teachers of primary schools in Yazd City in Iran. Two-hundred patients have been selected using categorical sampling. After approving the study by Ethical Committee of Shahid Sadoughi University, confidentiality of information was examined. Data analysis was performed using SPSS software and amous 21.

Lazarus and Folkman Model have been followed to perform the survey. The processes are as follows:

**Planning the Questionnaire:** First, referring to the books and articles related, and interviewing experts, a draft was planned. The foundation of the draft was Lazarus and Folkman Transactional Model: primary appraisal, secondary appraisal, coping efforts, meaning-based coping, adaptation and moderators. Later, experts studied content validity of each question, correct structure of the speech, and the transmitting clearness of messages to audiences. Then, the questionnaire was answered by 30 teachers of 3 primary schools. They were also asked to underline the ambiguous items. The outcome was a 62-questions questionnaire.

**The study of Instrument Validity: The study of Instrument Content Validity:** The content validity of the instrument was determined by using a quantity approach consisting of content validity ratio coefficient, and content validity index<sup>11</sup>. Model of content validity ratio was applied to determine content validity ratio<sup>11</sup>. The questionnaire was presented the panel group, including experts in the field of content validity, and they agreed to participate in the study. However, the Lawshe approach requires at least four people to participate, but we selected 10 people to prevent some possible problems, e.g. giving up and do not returning the questionnaire (table-1). They were asked to give their views on each item: necessary, useful but unnecessary, unnecessary.

**Table 1**  
**Arrangement and status of the panel members**

Rank	No.	PhD
Psychologist	4	4
Health education	5	5
Occupational Health	1	1

Calculating CVR, views of panel group members concerning necessary choices were quantified by content validity ratio<sup>7</sup>.

$$CVR = \frac{ne - n/2}{N/2} \quad (1)$$

Ne=the number of panel members checked the necessary choice, N/2= Total number/2

#### **The Study of Content Validity Index**

The experts evaluated the content validity criterion regarding the relevance of each item to the construct concerned, clearness of each and simple diction of them .Then, the corrections done anymore.

CVI of the CVRs' mean, validated in the instrument or model. CVI represented the complete evaluation regarding validity or applicability of the model, test or final instrument. In the final content validity, the CVI turns toward 0.99 and vice versa.

$$CVI = \frac{\sum_n^1 CVR}{\text{Remained questions}} \quad (2)$$

Remained questions

**The Study of Construct Validity:** The results analysis of confirmatory factor was obtained by Amos version 21. In addition, X2/df, GFI, AGFI, CFI indices and PRATIO were calculated.

**Chi-square ( $\chi^2$ ) Index:** The Chi-Square is an absolute index for evaluation of fitness of the model<sup>12</sup>. Analyzing confirmatory factor, the statistically chi-square non-significance value ( $P < 0.05$ ) shows good fitness of model, but this index is significant in larger samples so, it is not usually considered as a proper index of fitness. To solve this problem we can use the relative chi-square ( $\chi^2/df$ ) index. In addition, the Chi-Square value in small samples may not discriminate between good fitness models and poor fitness ones<sup>13</sup>. Due to the restrictions of the Chi-Square model, researchers have sought alternative indices to assess model fitness. One of the general indices to consider free factors is fitness index. The index is obtained via dividing  $\chi^2$  by df. The values between 2-5 are usually considered as acceptable<sup>14</sup>.

**Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI):** Goodness of fit index (GFI) evaluates the relative value of variance and co-variance via model. Values for the GFI also range between 0 and 1 that shows more fitness when its value is much closer to 1<sup>15-16</sup>. Adjusted goodness of fit index (AGFI) is the GFI adjusted value for degree of freedom. The value of this index is also between 0 and 1.

**Comparative Fit Index (CFI):** The Comparative Fit Index<sup>17</sup> is one of the indices due to increasing the fitness value. The index examines the improvement values via comparison an independent model, which there is no relationship between its variables, with the suggested model<sup>18</sup>. The values between 0-1 are acceptable, but values closer to 1.0 indicates more goodness of fit of the model<sup>8</sup>.

**PRATIO:** The index of economy ratio or PRATIO is considered as a thrifty fitness index that is not considered a fitness index per se, but it indicates the extent to which the researcher has spent the free parameters definition. The index is obtained by measuring the ratio of degree of freedom of given model to degrees of freedom of the independence model. This value is usually between 0 and 1, and smaller value indicates more cost the researcher spent to free parameters. There is no agreement on the values of these parameters, but the more value of the index the more commodious of the fitness<sup>19</sup>.

**The Study of Criterion-related Validity:** Criterion-related Validity means the correlation between the scores obtained an instrument and the criterion one<sup>11</sup>. Cohen Stress Questionnaire (PSS) and Pierson correlation test were used as criterion instrument and criterion-related validity<sup>20</sup>.

**The Study of Instrument Reliability:** Cronbach alpha and correlation matrix were used to evaluate instrument reliability. The value of  $\alpha$  less than 0.6, more than 0.7 and 0.4-0.7 were

considered as weak, very good, and good reliability respectively<sup>21</sup>.

## Results and Discussion

Two-hundred people (78 males and 112 females) with a mean age of  $41.65 \pm 5.7$  participated in this study. Most participants were married, received BA in primary education, and being taught more than 20 year. After the validity and reliability processes ended, the 62-questions questionnaire was planned. CVR values and the results of "Agree" or "Don't agree" choices, have shown in table-2. Content validity index value was calculated 0.85 by equation [2], which represented

acceptable validity of the instrument. Also, by analyzing confirmatory factor, the results of construct validity obtained.

$\chi^2$ / degree of freedom of model ratio value is less than 5, which conformed criteria concerned. PRATIO index equals 0.95, represents good of model fitness (table 3). The results of criterion-related validity, also shows a significant value for estimation power i.e., 0.75 ( $p < 0.001$ ). Correlation matrix and Cronbach alpha coefficient were measured 0.72-0.80 and 0.87 for criterion components and questionnaire the whole, respectively, which considered as good (table -4).

Table-2

CVR values and the results of Agree/Don't agree choices of the stress questionnaire based on Transactional Model

Constructs	Questions	CVR	Agree/Don't agree
Primary appraisal	1. In the face of stressful situations, I feel vulnerability.	1	Agree
	2. In the face of stressful situations, I lose my physical and mental balance.	1	Agree
	3. In the face of stressful situations, all my life plans deteriorate.	1	Agree
	4. In the face of stressful situations, my physical status (heart rate, breathing, digestion) get confusion.	1	Agree
	5. In the face of stressful situations, I lose my mental balance (appointment, willing to do the tasks).	1	Agree
	6. In the face of stressful situations, I feel fault, depression.	1	Agree
	7. In the face of stressful situations, I replace another reason instead.	0.8	Agree
Secondary Appraisal	8. In the face of stressful situations, I feel unable to remove it.	1	Agree
	9. In the face of stressful situations, I get too anxiety to accurately concentrate and think.	1	Agree
	10. In the face of stressful situations, I can control negative emotions (e.g. fear, anxiety).	1	Agree
	11. In the face of stressful situations, I try to bear trouble regardless how bad it is.	1	Agree
	12. In the face of stressful situations, I try to control my anxiety.		
	13. In the face of stressful situations, I feel I can remove it.	1	Agree
	14. In the face of stressful situations, I try to gain more or better skills to cope with.	1	Agree
Problem Management	15. In the face of stressful situations, I can think, recognize the situation and do it.	1	Agree
	16. In comparison with my other colleagues, I feel I can remove the stressful situation, later and harder.	1	Agree
	17. In the face of stressful situations, I try to find the reasons.	1	Agree
	18. In the face of stressful situations, I recognize different ways to meet the problems.	1	Agree
	19. In the face of stressful situations, believing in inability to remove it, I do nothing.	1	Agree
	20. In the face of stressful situations, I apply my previous experiences.	1	Agree
	21. In the face of stressful situations, I try to apply logical and relevant solutions.	1	Agree
Regulation Emotion	22. In the face of stressful situations, I try to gain more information to remove it.	1	Agree
	23. In the face of stressful situations, I don't know how and where I can obtain the necessary information.	1	Agree
	24. In the face of stressful situations, I seek help from family, friends or consulting agency.	1	Agree
	25. In the face of stressful situations, I decide fast although my information lack.	1	Agree
	26. In the face of stressful situations, I angrily treat offender.	0.8	Agree
	27. In the face of stressful situations, I apply great rarely dangerous opportunities.	0.4	Don't agree
	28. In the face of stressful situations, I try to change my behavior against the offender.	1	Agree
on	29. In the face of stressful situations, I think how correctly I can do to represent a good pattern for others.	1	Agree
	30. In the face of stressful situations, I treat so that others do not aware of.	1	Agree

	31. In the face of stressful situations, I try do not behave hasty.	1	Agree
	32. In the face of stressful situations, I try to forget everything.	1	Agree
	33. In the face of stressful situations, I do aggressively, disappointedly and uneasily.	1	Agree
	34. In the face of stressful situations, I do as if it happened nothing.	1	Agree
	35. In the face of stressful situations, I often feel isolated.	1	Agree
	36. In the face of stressful situations, I meet someone (a friend or one of my relatives).	0.8	Agree
meaning-based coping	37. After the face of stressful situations, I try to take it as a good omen and use it in the way of improvement.	0.8	Agree
	38. After the face of stressful situations, I change doing creative activities.	1	Agree
	39. After the face of stressful situations, I go forward more desirably than the past.	1	Agree
	40. In the face of stressful situations, I go the holy places (mosque, shrine).	1	Agree
	41. In the face of stressful situations, I worship or pray.	1	Agree
	42. In the face of stressful situations, I consider it as an act of God and an opportunity to progress.	0.8	Agree
	43. In the face of stressful situations, I rely on God and try to remove it.	1	Agree
	44. In the face of stressful situations, I prefer participating in social friendly meetings than religious ones.	0.8	Agree
	45. In the face of stressful situations, I just seek help of God.	1	Agree
	46. In the face of stressful situations, I consider it inevitable part of my life and accept it.	1	Agree
Adaptation	47. After coping with stressful situations, I feel healthier.	1	Agree
	48. After coping with stressful situations, I feel agitation and let my emotions appear in privacy.	0.8	Agree
	49. After coping with stressful situations, I let my emotions appear in privacy.	0.4	Don't agree
	50. After coping with stressful situations, I feel agitation.	1	Agree
	51. After coping with stressful situations, I write some of my emotions on my private notebook.	1	Agree
	52. After coping with stressful situations, I try more to improve my job, life, family and social relations.	1	Agree
	53. In the face of stressful situations, I try to rest or calm down myself.	1	Agree
	54. After coping with stressful situations, I improve my physical activity, food and private health to care of myself.	1	Agree
	55. In the face of stressful situations, I exercise.	1	Agree
	56. In the face of stressful situations, I spend more time on paying attention on book, TV, internet, music, play, festivals, shopping or others, than usual.	1	Agree
	57. In the face of stressful situations, I eat something to feel better.	1	Agree
	58. In the face of stressful situations, to escape the trouble, I smoke or drink.	1	Agree
Moderators	59. In the face of stressful situations, I try to see its positive aspects.	1	Agree
	60. In the face of stressful situations, my family is willing to help me.	1	Agree
	61. In the face of stressful situations, I feel I can trust on my family members, relatives and friends to help me.	1	Agree
	62. In the face of stressful situations, I have among my relative who give me calm.	1	Agree
	63. In the face of stressful situations, my friends really try to help me to remove the trouble.	1	Agree
	64. In the face of stressful situations, I consult someone else about the trouble.	1	Agree

**Table-3**  
Statistics of the fit of the confirmatory factor analysis

PRATIO	CFI	AGFI	GFI	$\chi^2/df$	df	$\chi^2$	Index
0.95	0.947	0.866	0.905	3.35	1808	6066.394	Value obtained

**Table-4**  
**Results of Cronbach alpha questionnaire of Transactional Model**

Components	Cronbach alpha
Primary appraisal	0.80
Secondary Appraisal	0.74
Problem Management	0.72
Emotional Regulation	0.77
meaning-based coping	0.73
Adaptation	0.76
Moderators	0.75
Total	0.87

**Discussion:** One of the most interesting issues regarding individual behavior in the face of stressful situations is that the people, who have experienced the same stressful situations, manage and control stresses in different ways<sup>22</sup>. Therefore, the people respond mental stresses in different ways. Applying a proper approach allows the people to control mental stresses avoiding physical and mental damages<sup>23</sup>. Considering physical and mental health has resulted in many researches concerning stress. In using a standard instrument to recognize and plan the treatment, cultural and social knowledge psychologically is important. Questionnaires set based on cultural conditions are effective ones to recognize the problem and choose a proper approach resulting in the improvement of mental health of the society. The major goal of this study was to plan a Lazarus and Folkman Model- based instrument to estimate stress. First, instrument content range was determined by using the model. Then, experts planned the relevant questions. In addition, CVI and CVR were applied which CVI value represented the questionnaire acceptable validity<sup>24</sup>. Criterion- based validity is determined by correlation of the test results and of the tests simultaneously done. In this study, the correlation coefficient results represented desired test validity.

## Conclusion

The results of confirmatory factor and other indices concerning questions reliability confirmed other researches results. Therefore, the questionnaire was planned based on Lazarus and Folkman Transactional Model. Then, its validity was estimated and normalized for the sample. According to the findings, it is recommended the officials to recognize the problems using this instrument and show the teachers how to remove their stresses throughout the life, resulting in physical and mental health improvement of the society.

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