

CONSTRUCTION OF THE MYANMAR VERSION OF HARI STRESS INVENTORY- SHORT FROM (HSI-SF)

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Abstract

This paper reports an endeavor to construct the Myanmar version of Hari Stress Inventory-Short Form (HSI-SF). Firstly, the original HSI-SF was taken and studied to translate their items into Myanmar. The HSI-SF contains 56 items and it is a 5-point scale. Then, translated items were arranged as booklet forms to be subjected to item analyses for the scales. A group of 200 under graduate students from Yadanapon University were used as subjects to carry out an item analysis for the HSI-SF. According to the results, 45 items were significant at .05, .01, or .001 level and 11 items were not significant at any level. Therefore, the Myanmar versions of Hari stress inventory-Short Form consists of 45 items. The HSI-SF had a Cronbach's alpha reliability coefficient of 0.83.

Keywords: Stress, Item analysis, Test Construction

Introduction

We intended to present the construction of a psychological instrument designed to measure the stress of people in various settings. Stress often has a negative connotation. Failure, illnesses, distress are often marked as stress. Stress can also be a result of factors like job, promotion, transfers, first love and the like. Ivancevich and Matteson (1980) defined stress as an adaptive response mediated by individual characteristic or psychological process that is a consequence of any internal action, situation or event that places special physical or psychological demands upon the person. As seen above different psychologists have given different definitions to stress. Bourne and Ekstrand (1982) define stress as "any state during which the body tends to mobilize its resources and during which it utilizes more energy than originally would produce." According to Shanmugham (1981) stress is any condition that strains the coping capacities of the person.

Stress can also lead to physical disorders because the internal body system changes in order to cope with stress. Some physical disorders have short term effect such as an upset of stomach and others have longer term effects such as stomach ulcer. Stress over a prolonged time also leads to degenerative disease of hearing, kidneys, blood vessels and others part of the body. Researchers have found out sure personality variables which make the person to be more vulnerable to stress. Certain occupations were also found offering more stress. Lachman (1983) has cited examples of experiencing higher work stress by nurses in intensive care units as compared to those on general duty. Dharmangadan (1988) reported that policemen score significantly higher on stress than other occupational groups.

Stress among college students, leaving home for the first time and going away for school, can be very difficult for some people. In many cases for college freshman this is their first time being away from their home and parents. Many times they get home sick and want to isolate themselves. They have to get into a new routine of going to school, and change can be very difficult. It is definitely hard to get into the swing of college. They have to navigate through classes in a new format while living away from all the comforts of parents. A college student's life usually consists of attending classes, long hours of studying, working at a job (sometimes), and having a social life. Some students work at a job or study harder than others, but they are all trying to get degrees so may be one day they will have meaningful and significant lives. It is a constant struggle for everyone who is trying desperately to make him

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or herself into a success. And every college student wants to be involved with something in order to further their education, or just have fun.

There are lots of new opportunities out there. The struggle consists of demands on time, financial pressures, parental pressure and conflicts, interpersonal conflicts, managing freedom, peer and academic pressure and the transitional period to a new academic environment. All of these factors combined can cause emotional disturbances and one of the most common is stress. For most students, college is the first experience living away from home, family and friends. When things become difficult, their support system (including family and friends) may be miles away and their surroundings unfamiliar. This may bring feelings of homesickness, loneliness and isolation. Many students find college more academically demanding than they anticipated and feel stressed or anxious about not performing well.

Several studies have attempted to identify and explore different areas and dimensions of stress. Based on the writing of James (1982), Sutherland and Cooper (1990) and Pohorecky (1991), Hari identified 8 areas of stress measures the global stress of the individual subject.

1. Stress as a predisposition: The concept of viewing stress as a predisposition evolved over many years in response to experimental findings, clinical observation, theory formulation and prospective validation. Friedman and Roseman (1974) observed a pattern of behavior particularly in young coronary patients, which later came to be known as Type A Behavior. Type A people are those who are engaged in a relatively chronic struggle to obtain more and more in shorter time.
2. Source of stress in family: House can be a potential source of stress. Both regular and unexpected situations demand adaptive and coping style of the individual. Interpersonal relationships, marriage, communication barriers, unexpected incidents like shifting of the residence, illness or bereavement of a family member add stress to persons.
3. Source of stress in occupation: Occupation is another potential source of stress. Working for low wages, insecurity of job, lack of appraisal from the employer, receiving contradictory directions from higher authorities are stressful to any individual. Along with these, loss of employment, delayed payments and strained interpersonal relations among the colleagues also cause stress.
4. Subjective assessment of situations: Individual's subjective assessment about a situation is important in labeling a situation as stressful. A situation which is highly stressful for a person, for example a transfer in job, may be viewed as an opportunity to meet new people and see new places by another.
5. Somatic outcomes of stress: Somatic outcomes like migraine headache, angina, loss of appetite, constipation, respiratory problems, excessive sweating are often regarded as indices of stress.
6. Psychological outcomes: Psychological outcomes like insomnia, nightmares, irritability, and hopelessness, anger towards criticism, anxiety, tiredness, excessive smoking and substances abuse can be counted as to reflect stress.
7. Specific patterns of responding to stress: Individual's patterns of response to stress are an indicator of his personality. Some persons show hatred and irritability in stressful situations whereas some others become desperate and confessing.
8. Engagement in tension reduction activities: In day to day life, people come across a number of situations which arouse stress. Deliberate or unconscious desire to get out of stress is obvious in the increased rate of interest shown in sports and games, joining clubs, rearing of pets, watching movies etc.

In order to fulfill the purposes of the present study, we will need to construct Myanmar versions of the Hari Stress Inventory. This paper describes how the researcher endeavored to construct these scales.

Scales Development

Writing the items

Firstly, the original test, the Hari Stress Inventory Short Form (HSI-SF) developed by Hari Shandran.(2006), was studied to construct Myanmar version of HSI-SF. Actually, the fifty-six question HSI-SF is based on the long form of the HSI. The long form of the HSI consists of 66 items. The HSI-SF that was answered on a 5-point scale ranging from (1) "Full agree" to (5) "Full disagree". The 16-items (item No.2, 4, 6, 8, 11, 13, 14, 16, 17, 30, 36, 38,39,50,54 and 55) are reverse-coded. After the studying of Hari Stress Inventory - Short Form (HSI-SF), these original items were translated into Myanmar and the translated items were arranged as a booklet form to conduct an item analysis.

Item Analysis

In general, it is expected that each item will be answered more correctly by high-scoring individuals than by low-scoring individuals. When this does not occur it alerts us to the possibility that something may be wrong with the item. To check the relation of item response to total scores the performance of a group of high-scoring on the basic of total test scores. In a normal distribution sample, it has been shown that optimum groups for the purpose consist of the upper 27 percent and the lower 27 percent of the case (Anastasi, 1982).The present study followed the above method to carry out an item analysis.

Participants

The sample was selected by using random sampling method. The sample consisted of 200 undergraduate students within the age bracket of 17-22 from various undergraduate departments of Yadanapon University. Out of 200 undergraduate students 57 were male and 143 were female.

Procedure

The preliminary tests were given to the participants. Before responding the items by the participants, the test instruction was read to them. The responses of the participants were scored to calculate the total scores for each participant. And then, the total scores of participants were obtained and arranged in descending order. Out of these, the upper 27 %(54 respondents) was taken as high scoring individual group and lower 27 %(54respondents) as low scoring individual group in this analysis. Next, the Chi-Square method were used to find out whether or not there were any significant differences between the two groups on each item. This Chi-Square (χ^2) method was computed by using the following formula;

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Results and Discussion

According to the results of item analysis, all of 56 items in the Hari stress inventory was shown in Table (1). For this inventory, it was found that all of the items on the inventory were significant at .05 or .01 or .001 levels, except for items 2, 4, 5, 7, 10, 11, 13, 16, 30, 36, and 39 (see Table1). Owing to a lack of variance, these eleven items were deleted in this study. These results show that the remaining 45 items can discriminate between high-scoring individuals and low-scoring individuals on the scale.

Table 1
Showing the chi-square values for the Hari Stress Inventory

Item No.	Item statement	Chi-Square Value	Significance Level
1	I do things in a hurry.	17.92	.001
2	I like to travel slowly. (R)	3.27	ns
3	I eat food faster.	11.81	.05
4	I never interrupt when others that. (R)	7.85	ns
5	I want to finish works it neatness and perfection.	3.43	ns
6	I speak slowly. (R)	35.25	.001
7	Seeing lazy people I get angry.	1.86	ns
8	I never bet with others. (R)	10.35	.05
9	I feel tensed on thinking about my responsibilities.	11.55	.05
10	I am not happy to wait in a queue.	6.35	ns
11	I always consider the feelings of others while talking.(R)	1.69	ns
12	I take intoxicants.	10.25	.05

Item No.	Item statement	Chi-Square Value	Significance Level
13	I pray regularly. (R)	6.71	ns
14	I am interested in religious books. (R)	16.26	.01
15	My daily life is not satisfactory.	32.31	.001
16	I watch movies and plays. (R)	3.33	ns
17	I practice meditation. (R)	25.44	.001
18	I don't reveal secrets to others.	17.87	.001
19	I can't stay away from home.	10.34	.05
20	I felt tensed on unexpected arrival of a guest.	19.02	.001
21	I feel disturbed on an unexpected expenditure.	25.16	.001
22	I have debts.	20.01	.001
23	I quarrel frequently with spouse.	31.87	.001
24	I feel that some of my family members are against me.	30.66	.001
25	I am not properly understood.	42.92	.001
26	I feel devaluated in society.	15.95	.01
27	I can't plan my financial budget properly.	30.84	.001
28	I am not being loved.	14.39	.01
29	I have a lot of family problems.	26.52	.001
30	I discuss my problems with family members. (R)	8.11	ns
31	I have experiences of losing job unexpectedly.	24.09	.001
32	I don't like in engaging in love affairs.	16.11	.01
33	I get angry soon.	34.58	.001
34	I had to bear injustice silently.	16.45	.01
35	I get angry soon.	22.17	.001
36	I don't lose opportunities to help others. (R)	1.68	ns
37	I believe and spread rumors.	11.22	.05
38	I am a patient listener. (R)	14.02	.01
39	I am willing to accept my faults. (R)	7.31	ns
40	At times I feel like destroying everything.	11.72	.05
41	I suffer from headache.	12.17	.05
42	I have frequent attacks of chest pain.	25.08	.001

Item No.	Item statement	Chi-Square Value	Significance Level
43	I have poor appetite.	10.22	.05
44	I sweat without reason.	15.73	.01
45	I don't get adequate sleep.	18.26	.01
46	I have nightmares.	23.19	.001
47	I lose control soon.	44.82	.001
48	I hate criticism.	19.87	.001
49	I feel anxious.	11.87	.05
50	I feel calm. (R)	32.05	.001
51	I usually regret for what has happened.	10.84	.05
52	I feel sorry.	15.14	.01
53	I feel frustrated.	31.59	.001
54	I am happy. (R)	16.81	.01
55	I am confident. (R)	26.99	.001
56	I feel worthless.	29.06	.001

Reliability Evaluation

Reliability, as it is applied to tests, has two distinct meanings. One refers to stability over time, the second to internal consistency. Most psychometric test constructors aim to make their psychological tests as internally consistent as possible. There is a sensible rationale for this demand for internal consistency since if one part of a test is measuring one variable, then, the other parts, if internal consistency is low, cannot be measuring that variable. Thus, if a test is to be valid, i.e. measure what it is intended to measure, then internal consistency must be high. Many test constructors use increasing internal consistency as a criterion for retaining items in a test (Kline, 2000, p-11). In this study, internal consistency reliability was employed. Nunnally (1970) and Cronbach (1958) both consider that coefficient alpha is the best index of internal consistency reliability. Cronbach (1958) developed the rationale of alpha and formula for the alpha coefficient is:

$$r_{kk} = \frac{k}{k-1} \left[1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right]$$

Where r_{kk} = the alpha coefficient of a test of k items, k = the number of items,

σ_i^2 = the item variance and σ_t^2 = the test variance

Participants

In order to examine internal consistency reliability, the responses of the sample participated in the item analysis study were used.

Procedure

In order to examine internal consistency reliability of the Hari Stress Inventory-Short Form, the data was entered onto a database in the Statistical Package for the Social Science (SPSS, 22.0 versions). Then, coefficient alpha available in SPSS was calculated to determine the internal consistency reliability of the HSI-SF.

Results and Discussion

As a result of internal consistency reliability analysis on the Hari Stress Inventory-Short Form, the coefficient alpha was found as mentioned below.

Table 2. Showing the internal consistency reliability coefficient (Cronbach's alpha) for the Hari Stress Inventory-Short Form

No.	Test	Alpha
1.	HSI-SF	.83

Conclusion

The present research examined the development of the Myanmar version of Hari Stress Inventory-Short Form (HSI-SF) based on a translation of the original instrument. To construct the final version of the HSI-SF, the data was analyzed using item analysis program. For each test item, the Chi-Square was used to find out the significant level. The reliability of the HSI-SF is high enough to warrant a safe application.

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