

CONSTRUCTION AND VALIDATION OF MENTAL STRESS SCALE

K. SUDHA

Ph.D. Research Scholar,
Department of Education,
Annamalai University
Annamalainagar, Tamilnadu in Indian.

&

Dr.D.MOHANA

Professor,
Department of Education,
Annamalai University,
Annamalainagar, Tamilnadu in India.

Abstract

The purpose of this paper is to construct and validate the tool to measure mental stress of higher secondary students. 70 statements were prepared for this purpose. The study was carried out in Villupuram District of Tamilnadu, India. A sample of 100 higher secondary students were taken.

Key words: Mental Stress Scale, Higher Secondary Students

1. Introduction

A form of mental stress that occurs because of how events in one's external or internal environment are perceived, resulting in the psychological experience of distress and anxiety. Mental stress is often accompanied by psychological responses. Mental stress is most often induced in the laboratory by demanding and noxious stimuli, involving motivation to meet a performance criterion and social-evaluative threat, or interpersonal interaction, particularly those involving conflict. Common mental stress tasks include preparing and giving a speech, performing arithmetic, tracing around star with only a mirror image as a guide, performing a reaction time task and discussion a disagree upon topic with another person.

2. Construction of the Mental Stress Scale

The aim of the present study is to measure the mental stress of higher secondary students. For this the investigator constructed, and validated a Mental Stress Scale (2018). 70 statements were framed. It was designed as a Likert type five point rating scale. Each statement as been given expressions as Always, Frequently, Sometimes, Rarely and Never. The students were asked to put a tick mark (✓) in any one of the options which they considered the most appropriate. The scale contains both positive and negative statements. The positive statements were assigned scores as 5,4,3,2 and 1 respectively for 'Always', 'Frequently', 'Sometimes', 'Rarely' and Never and the negative statements scores is reversed.

3. Item Analysis

One of the important steps in the standardization of the scale is item analysis and is to find out the 't' value for each item, which forms the basis for item selection. The individual scores for the entire 100

respondents were calculated and arranged in the descending order from the highest to the lowest score. From the arranged scores, only the upper 27% of the sample constituting the high scores and the lower 27% constituting the lower scores were selected for the purpose of item selection. The high and low groups, thus selected formed the criterion groups.

4. Items selection

To select the items of the mental stress scale, the 't' value for all the 70 items has been calculated using the formula suggested by Allen Edwards (1957). Items with 't' value equal or greater than 1.75 were accepted and those with 't' value below 1.75 were rejected. The 't' value for all the 56 items out of 70, was found equal or greater than 1.75. Therefore 40 items were retained in the mental stress scale for the purpose of final study. Thus the 't' values for all the 70 statements are shown in the table 1.

Table-1

't' Value for the Statements of Mental Stress Scale

Statement No.	't' – value	Statement Selection	Item No. in the Final Draft of MSS
1	2.99	Selected	1
2	0.73	Not Selected	-
3	3.35	Selected	2
4	3.59	Selected	3
5	1.52	Not Selected	-
6	4.52	Selected	4
7	3.14	Selected	5
8	0.15	Not Selected	-
9	2.24	Selected	6
10	3.68	Selected	7
11	1.48	Not Selected	-
12	2.42	Selected	8
13	1.45	Not Selected	-
14	0.78	Not Selected	-
15	0.37	Not Selected	-
16	3.29	Selected	9
17	2.18	Selected	10
18	1.48	Not Selected	-
19	3.34	Selected	11
20	2.24	Selected	12
21	3.95	Selected	13
22	2.02	Selected	14
23	4.84	Selected	15
24	1.18	Not Selected	-

25	4.80	Selected	16
26	3.44	Selected	17
27	1.02	Not Selected	-
28	0.19	Not Selected	-
29	4.92	Selected	18
30	3.35	Selected	19
31	1.47	Not Selected	-
32	3.95	Selected	20
33	4.30	Selected	21
34	3.55	Selected	22
35	1.22	Not Selected	-
36	3.35	Selected	23
37	0.39	Not Selected	-
38	5.36	Selected	24
39	4.84	Selected	25
40	0.83	Not Selected	-
41	3.38	Selected	26
42	1.53	Not Selected	-
43	3.05	Selected	27
44	0.95	Not Selected	-
45	4.4398	Selected	28
46	2.1638	Selected	29
47	1.69	Not Selected	-
48	5.7758	Selected	30
49	0.1912	Not Selected	-
50	1.46	Not Selected	-
51	2.75	Selected	31
52	1.89	Selected	32
53	1.08	Not Selected	-
54	0.55	Not Selected	-
55	0.98	Not Selected	-
56	4.62	Selected	33
57	5.76	Selected	34
58	1.02	Not Selected	-
59	3.18	Selected	35
60	1.66	Not Selected	-
61	3.66	Selected	36
62	2.58	Selected	37
63	0.15	Not Selected	-
64	0.38	Not Selected	-

65	2.17	Selected	38
66	0.88	Not Selected	-
67	1.03	Not Selected	-
68	1.24	Not Selected	-
69	4.00	Selected	39
70	3.46	Selected	40

3.11.6 Reliability and Validity

The reliability of the Mental Stress Scale was determined by the split-half method. The scale was divided into two halves and each half was treated as a separate test. The statements were numbered from 1 to 40. The odd numbered items were made into a test and the even numbered items were made into another test. The reliability of the test by split-half technique (consistency) followed by applying of Spearman-Brown prophecy formula was found to be 0.78. The reliability was tested with 't' test. The 't' value 31.68 was significant at 0.01 level. Thus the reliability was highly significant at 0.01 level. Thus the validity of this test is 0.83. The validity was tested with 't' test. The 't' value 27.11 was significant at 0.01 level. Thus from the two co-efficient it may be inferred that this test is highly reliable and valid.

Norms and Interpretation of Data

The interpretation given in the table 2

Table-2
Interpretation of Scores for Mental Stress Scale

S. No.	Percentiles	Value	Level of Stress
1	P ₂₅	126 & Below	Low Stress
2	P ₂₅₋₇₅	127-166	Average Stress
3	P ₇₅	167 & above	High Stress

7. Conclusion

The investigator constructed, and validated a Mental Stress Scale 70 statements were framed. The pilot study was undertaken for a sample of 100 higher secondary students. After finding out the 't' value of 70 statement, 40 statement were selected for final study. It be used to measure mental stress of the students irrespective of age, sex, subject specialization and grade level worldwide.

8. References

- Agarwal, Y.P. (1986). *Statistical Methods Concepts, Application and Computation*, Delhi: Sterling Publishers.
- Bernstein, D.A. et al. (2008). *Psychology* (8th edition). New York: Houghton Mifflin Company Boston.

- Edwards L. Allen, (1957). *Techniques of Attitude Scale Construction*, New York: Irvington Publishers, Inc. p149-170.
- Henry E Garret, (2008). *Statistics in Psychology and Education*, Delhi: Surjeet Publications.
- Sindhu, P. (2016). Impact of stress on academic achievement among engineering students. *The international journal of Indian psychology*, 4(1), 9-14.

