CONSTRUCTION AND STANDARDISATION OF MENTAL HEALTH SCALE (MHS)

Maninder Kaur[1] & N.R. Sharma[2], Ph.D.

[1] *Research Scholar, Department Of Education, Panjab University, Chandigarh*

[2] *Principal, Guru Gobind Singh College of Education, Gidderbaha.*

Abstract

The paper deals with the development and standardization of Mental Health Scale for undergraduate students. At the initial stage, the scale consisted of 140 items. Then the number of items was reduced to 85 after extensive scrutiny by the subject experts. Subsequently item analysis was carried out. Finally, a set of 60 items was retained for the final scale. The final version of the Mental Health Scale consists of positive and negative items. The test-retest reliability was found to be 0.74. The concurrent validity of the scale was assured by evaluation from subject experts.

Key Words: *Mental Health, Undergraduate Students, Standardization.*

Introduction

The word mental health is commonly used to describe either a level of cognitive or emotional well-being or absence of mental disorder. The WHO (2005) defined mental health as " a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is also able to make contribution to his/her community." The concept of mental health includes subjective well-being, perceived self-efficacy, competence, autonomy, intergenerational dependence and recognition of the ability to realize one's intellectual and emotional potential. Mental health is a psychological state of well-being, which is characterized by self-acceptance, continuing personal growth, a sense of purpose in life and positive relations with others.

Singh and Gupta's Model of Mental Health Battery (2008)

There are many popular models on Mental Health. For tool construction on Mental Health, the researcher has followed Singh and Gupta's Model on Mental Health. Singh and Gupta developed a framework for Mental Health with six domains along with its 130 items. The dimensions wise division of Mental Health Battery is shown in Table 1.

Table 1: Singh & Gupta's Model of Mental Health.

Part I	Area	Total No. of Items
I	Emotional Stability (ES)	15
II	Over-all Adjustment (OA)	40
III	Autonomy (AY)	15
IV	Security-Insecurity (SI)	15
V	Self-Concept (SC)	15
VI	Intelligence (IG)	30
	Total	**130**

Construction of Items

Singh & Gupta view Mental Health as a set of competencies that can be measured by the Mental Health Battery (MHB). It includes 130 items arranged in six dimensions viz. Emotional Stability, Overall Adjustment, Autonomy, Security-Insecurity, Self-Concept and Intelligence.

In the developing countries, people face lots of challenges to sustain in a competitive and changing environment in various fields. People have to be mentally prepared to take up new challenges intelligently through hard work so as to achieve prestigious position for better living when we talk about mental health of the students, we can say, that in today's competitive world, students have to deal with societal/cultural issues, family dysfunctions, academic pressures and other psychological problems. In the detailed report of WHO, it has been emphasized that mental health issues are expected to increase by 15% by 2020. Additionally, the number of cases documenting mental health problems among university/college students are on the rise every year (Zivin, Eisenberg, Gollisst and Golberstein, 2009). The students studying in higher education institutions are more at risk of development of mental health problems as compared to their peers of similar age group in the general population (Hamdan-Mansour, Halabi and Dawani, 2009; Stewart-Brown, Evans, Patterson, Paterson, Doll, Balding and Regis, 2000, Humphry, et al, 1998).The investigator, thus made an attempt to construct Mental Health Scale which could measure the mental health of undergraduate students in the context of present scenario.

Discussions with eminent scholars in the field of education and psychology were done and previous studies carried out in the field were thoroughly examined to frame the items for Mental Health Scale.

Six dimensions of mental health on the lines of Singh and Gupta (2008) Mental Health Battery were framed. Initially 140 items were written. Then these items were discussed with the experts in the field repeatedly to determine the relevance of various items. Efforts were also made to improve the language of items and to remove ambiguity in the items enabling the sample to understand the items without much difficulty in the first attempt.

Item Selection

In order to make the scale efficient and useful, the relevance of a particular item was determined in terms of its relationship with various dimensions of Mental Health. The items were thoroughly screened and edited. The items which were overlapping were carefully examined.

Pre-tryout was attempted on 100 students. The administration of the scale was done with the view to know the deficiencies and difficulties of the students in answering the items. The language of the sentences was also improved with reference to sentence structure and vocabulary. After making these changes, 85 items were shortlisted from 140 items.

Expert Opinion

Scholars in the field of Education validated the items. They were requested to judge the suitability of the items. Out of 85 items, 25 items were rejected by most of the judges. There were at least ten items in each dimension which were identified by the experts as the relevant and the suitable items to measure the mental health of undergraduate students. These ten items were then retained by the investigator in each dimension. Now the scale of Mental Health consists of 60 items. Dimension-wise distribution of 60 items is given in Table 2.

Table 2: Dimension-wise distribution of items of Mental Health Scale

S No.	Domains of Mental Health	Total No. of Items
I	Emotional Stability	10
II	Self Concept	10
III	Autonomy	10
IV	Security-Insecurity	10
V	Adjustment	10
VI	Mental Capacity	10
	Total	**60**

Pilot Study

Now the scale with 60 statements measuring six dimensions of Mental Health was ready for administration. For the pilot study, this scale was administered on the sample of 100 students studying in different colleges of affiliated to GNDU, Amritsar. The items were to be responded in 'Yes' or 'No' form or choosing the correct response from the given alternatives. Scoring key was made and scrutinized. The answers of those items (in each part) which tallied the answers given in the scoring key was given a score of +1. If they didn't tally, they were given a score of zero.

The responses of the subjects were scored as per allotted weightage. The weighted score for each item and for each subject were summated. On the basis of total scores, 27% subjects with high scores i.e. high group and 27% with low scores i.e. low group were identified. Their scored responses in terms of weighted scores for each item were worked out. Item analysis was carried out by employing the t-test for 85 items for group with high and low scores. The t-ratio was computed for the higher and lower score groups to find discriminating power of each item. Thus, the significance of difference between the means of scores of high and low groups was worked out to find out the discriminating power of each item i.e. how well each statement could be distinguished on the basis of the value of t-ratio, between students with high and low scores on mental health scale. Items with positive and significant t-value at 0.05 level of confidence were selected for the scale. The t-ratio of 20 items was found to be insignificant even at 0.05 level of significance and remaining items were found to be significant at 0.01 level of significance. The t-ratios of 85 items have been placed in Table 3.

Table 3 t-ratio of the second draft of Mental Health Scale

Item No.	t-ratio	Item No.	t-ratio	Item No.	t-ratio
1.	2.86**	31.	2.39*	61.	5.00**
2.	2.87**	32.	3.00**	62.	6.63**
3.	3.96**	33.	2.59**	63.	3.94**
4.	0.00	34.	3.94**	64.	1.17
5.	0.65	35.	3.23**	65.	1.11
6.	4.66**	36.	3.05**	66.	2.82**
7.	0.82	37.	3.61**	67.	2.00*
8.	2.66**	38.	2.67**	68.	0.63
9.	2.79**	39.	3.00**	69.	5.24**
10.	4.39**	40.	3.05**	70.	2.40*
11.	3.56**	41.	3.49**	71.	3.05**
12.	4.09**	42.	2.82**	72.	5.24**
13.	4.19**	43.	4.56**	73.	3.06**
14.	0.21	44.	0.40	74.	2.92**

15.	0.38	45.	0.94	75.	2.79**
16.	3.11**	46.	2.22**	76.	6.63**
17.	3.23**	47.	2.95**	77.	5.24**
18.	1.74	48.	0.00	78.	3.41**
19.	3.66**	49.	0.67	79.	1.28
20.	3.06**	50.	3.94**	80.	0.21
21.	1.33	51.	3.61**	81.	3.39**
22.	1.53	52.	2.01*	82.	3.61**
23.	2.92**	53.	1.11	83.	1.53
24.	4.71**	54.	2.04*	84.	0.82
25.	4.08**	55.	3.39**	85.	0.17
26.	1.74	56.	5.00**		
27.	1.11	57.	3.64**		
28.	3.48**	58.	4.29**		
29.	2.03*	59.	1.53		
30.	2.00*	60.	1.89		

* Significant at .05 level

** Significant at .01 level

(Critical value 2.00 at .05 level and 2.67 at .01 level, df =52)

Final Draft: The final draft of the Mental health Scale consisting of 60 items, measuring six dimensions of mental health which the experts opined were assessing the Mental health of the undergraduate students was now ready for administration .

- **Final Try Out and Evaluation:** In this try out, Mental Health Scale was administered to 60 students drawn from the government and government-aided colleges. The purpose of this trial was to fix the time limit for the test and to see if instructions were clear to the students.

Reliability Analysis of Mental Health Scale

Reliability refers to the accuracy of the data in the sense of their stability or precision. The reliability of the scale was established by the test-retest method and Cronbach's alpha method. The test-retest reliability was found to be 0.74. Cronbach alpha method was found to be 0.79. Therefore the scale possesses adequate reliability.The reliability values are given in Table 4.

Table 4: Reliability Coefficient of Mental Health Scale

S. No.	Reliability Method	No. of Sample	Reliability Value
1.	Test-Retest Method	100	0.74
2.	Cronbach's Alpha Method	100	0.79

Validity Analysis of Mental Health Scale

The validity of a test, or of any measuring instrument, depends on the fidelity with which it measures what it purports to measure (Garrett, 2011). There are different types of validity

including content validity, criterion validity and construct validity (Koul, 2007). For the construction of Mental Health Scale, content validity and concurrent validity was measured.

Content Validity

The content validity of a scale involves the systematic evaluation of test content to determine whether it covers a representative sample of the behavior to be measured. The scale was shown to experts for obtaining their verdict on validity and only those items were included on which the experts agreed. Besides these items of the scale were selected after carefully scrutinizing the definitions of mental health and its dimensions, hence scale has fair degree of content validity.

Concurrent Validity

Concurrent validity is correlation of the test scores with another set of criterion scores. The concurrent validity of the tool was established by administering the Mental Health Scale prepared by the investigator and also Mental Health Battery developed and validated by Singh and Gupta .Both tests were administered on a sample of 100 students. The coefficient of correlation between the two scores was found to be 0.77. So the correlation coefficient revealed that the scale of Mental Health possesses reasonable level of concurrent validity.

Uses of the Scale

The uses of the scale are:

1. The scale can be used for research and survey purposes.
2. It can also be used for individual assessment.
3. It is self-administering and does not require the service of highly trained testers.
4. It is suitable for group as well as individual testing.

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