The Norm Profile for "The Thai Mental Health Questionnaire"

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Abstract

The purpose of this study was to develop the Norm Profile for the Thai Mental Health Questionnaire. The survey samples were 700 samples consisted of normals, psychiatric outpatients, and psychiatric inpatients. Data collected from the Thai Mental health Questionnaire was developed from criteria based on the DSM-IV. The results of this study showed that the final test composed of 70 items – was found to be significantly different at the .001 level between those people with mental disorders and normal people. Then the TMHQ Profile was developed by using the Standard T-score. **J Psychiatr Assoc Thailand 1999; 44(4): 285-297.**

Key words : Thai Mental Health Questionnaire, norm profile

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Introduction

The Thai Mental Health Questionnaire (TMHQ) is a 70-item self-report screening scale that was originally developed to indicate the possible presence of psychopathology for the Thai in the setting of a community or of a medical out and in-patient clinic.

The TMHQ was designed to assess a domain of functioning. It is factor-analyzed to identify separable dimensions, representing theoretical constructs, within the domain[1]. Psychometricians strongly recommend that test developers should begin by factor analyzing the items[2-5]. The specific information was obtained through the use of factor analytically divided subscale scores. Then these factors were obtained the logically and empirically by using exploratory approaches: principal components, extracting factors, varimax rotating factors procedures[5-11]. The factor-analytically derived dimensions then serve as subscales. The factor analysis was used to deduce the 94 items on the TMHQ by eliminating items that fail to load on any factor. After this procedure, the items were deduced into 70 items which loaded into five factors. The five factors are Somatic, Depression, Anxiety, Psychotic, and Social function. The factors were estimated to explain the covariances among the items[6]. The five factors account for 55.8% of the total variance with confirm to Streiner's view point[12] that factors should explain at least 50% of the total variance. Therefore, the TMHQ is a multifactored scale to assess psychopathology[1].

Jansen and Haynes[13] suggested that many questionnaires actually measure several factors and the use of a single index with a multifactored scale is inappropriate. In the same way, Fisher and Corcoran[14] suggested that using items that group together empirically on the basic of factor analysis will make all subdimensions of a multidimensional measure have good reliability and validity, and the multidimensional instrument can be as useful as several unidimensional measures, and perhaps more efficient.

The reliability coefficients for the Alpha were range from 0.80 to 0.92, and the reliability coefficients for the Split-half ranged from 0.80 to 0.90[1]. This showed that the reliability coefficients are in the middle to high values[15]. The acceptable internal consistency of a psychological instrument should be 0.7[16]. Alpha and Split-half reliability coefficients are an index of the homogeneity of the measuring instrument and also exhibit acceptable internal consistency[16]. In addition, when an instrument has an adequate reliability it means that the items are tapping a similar domain, and, hence, that the instrument is internally consistent[13].

Thailand is faced with the problems of rapid social and cultural changes that are responsible for increasing mental health problems. Meanwhile, the proportion of mental health professionals to the population is inadequate. So, a future mental-health policy must be well thought out. Because mental-health treatment in the hospitals is neither sufficient nor effective, health promotion and education in the community

must be considered in order to find ways to prevent mental illness before professional treatment is required. Moreover, psychiatric instruments which can be easily used in the community must also be considered. The use of rating scales to detect mental disease is useful. The standard in psychiatric practice is usually a class of persons, such as psychotic, neurotic, normal or other reference group. Many clinicians have found that a schedule of items covering a variety of observable symptoms and relevant questions concerning patients' attitudes, feelings, and behaviors helps to assure a more thorough and complete psychiatric interview or examination. There is less likelihood that possibly significant phenomena may be omitted or overlooked. This is useful, whether or not the information so derived is later reduced to numerical form for another purpose. Also, ratings are more likely to be interpreted within the same semantic frame of reference. Clinicians with different backgrounds and holding different theoretical views find it valuable to have on record information gathered in a systematic and common format[17,18]. In addition, rating scales are very easy to use and their flexibility and face validity recommend them highly [14].

This study was directed at developing an effective mental health questionnaire survey which has standard norm profile. The result will be a more direct and meaningful application of an instrument to detect the mental health illness in the Thai community with a Thai standard norm profile.

Materials and methods

The developing TMHQ items were collected from a review of the literature in which all the items based on the Diagnostic Criteria from the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV).

The next stage was collecting data from the survey samples. Results were summarized and then the completed TMHQ was printed. This included the test administration, test items, scoring summary, factorized score, and TMHQ Profiles.

Samples

Survey samples require persons who can read and write a mark. The sample size was calculated from the total test items which was conducted from the information of the symptoms which have the criteria from the DSM-IV. So, total sample size of this study came from the total test items multiplied by a factor of five which was the effective sample size to analyze the multivariate statistic (Factor Analysis) that was used in this study[19]. Therefore, the total samples in this study were 700 (normal samples = 350; psychiatric patient samples = 350). The sample was stratified on the variables of sex, age, occupation, and education.

Instruments

The Thai Mental Health Questionnaire (TMHQ) was developed from designs to record the presence of almost any symptom or group of symptoms of psychopathology. It was based upon a system analytic model of the DSM-IV. It was composed of 70 items. Each item is directed to indicate the extent to which the sample has been bothered or distressed by the problems or complaints represented by each of the 140 items, over a specified time interval, usually a one month period. The degree of distress ranges from "Not at all" to "Extremely".

Results

The results of the study are presented as follows: The general description of the sample followed by the results the TMHQ norm profile. All the data were analyzed by using SPSS for Windows. Subjects comprised 700 samples from two main groups: 350 normals and 350 psychiatric patients, includes 321 males and 379 females age between 15 to 60 years. The samples distributed by sex, age, occupation, income, and education.

Table 1 Description of the Sample (N = 700)

Demographic variable	*N*	%
Type of case		
normal	350	50.00
psychiatric outpatient	175	25.00
psychiatric inpatient	175	25.00
Sex		
male	328	46.86
female	372	53.14
Age (year)		
15-20	212	31.29
21-30	202	28.86
31-40	135	19.29
41-50	96	13.71

51-60	55	7.85
Occupation		
Unemployed	34	4.86
Student	188	26.86
Government officer	87	12.43
Private employee	128	18.29
Business	75	10.71
Farming	161	23.00
Others	27	3.85
Income/month (Baht)		
no-income	121	17.29
1,000- 5,000	68	9.71
5,001-10,000	266	38.00
10,001-20,000	204	29.14
20,001-30,000	24	3.43
30,001-40,000	9	1.29
40,001-50,000	8	1.14
Education		
Primary school	196	28.00
Secondary school	269	38.43
College	131	18.71
University	72	10.29
Others	32	4.57

The TMHQ and its usages

The TMHQ bases construction and manual will be concluded as follows:

1. The symptoms which the TMHQ measures based on DSM-IV are:

Somatizarion: This dimension reflects distress arising from perceptions of bodily dysfunction. Complaints focus on cardiovascular, gastrointestinal, respiratory, and other symptoms with strong autonomic mediation. Headaches, pains, and discomfort localized in the gross musculature are also components, as are other somatic equivalents of anxiety.

Depression: Symptoms of dysphoric affect and mood are represented, as are signs of withdrawal of interest in life events, lack of motivation and loss of vital energy. The dimension mirrors feelings or hopelessness, worthlessness, meaninglessness, pessimism, loneliness, downheartedness, or discouragement. Several items are included concerning thoughts of death and suicidal ideation.

Anxiety: General indications such as restlessness, nervousness, and tension are included as are additional somatic signs. Items measuring free-floating anxiety, and panic attacks are an integral aspect of this dimension.

Psychotic: Florid, acute symptomatology, as well as behaviors typically viewed as more oblique, less definitive indicators of psychotic process are represented. In addition, secondary signs of psychotic behavior and indications of a schizoid life style are also represented.

Social function: General indications in interpersonal relationships and contact with other people in the social.

2. The TMHQ Items. The principal components analysis was carried out 70 items. Therefore, the final TMHQ is composed of 70 items[1].

All TMHQ items were found to be significantly different at $p \leq .001$. That means the TMHQ has sufficient power to discriminate between those with mental disorders from normal people. (Table 2)

3. Administration. The standard instructions of the person at the top of the scale, and the items language, are in very basic Thai, so literacy level is rarely a problems.

4. Scoring and interpretation. Special answer sheets have been developed that can be read and scored. Each of the 5 scoring categories consists of from 10 to 20 items. By transferring the item responses to a separate scoring sheet the responses that make up a scoring category are added, and then divided by the number of items in that category. As a result, the score on any category can have a value ranging from 0, indicating no problem at all, to a maximum of 4, when there is an extreme problem (this is for the negative items, but for the positive items, the score is conversed). And, since all categories are interpreted the same way, screening of even a large number of examinees' records can be quickly accomplished just by scanning the raw scores.

5. Scoring summary. A summary score is a quantitative index of the degree to which a particular problem area is relevant to a client. The TMHQ's scoring summary is as follows:

Somatization scale: Total score devised by 10

Depression scale: Total score devised by 20

Anxiety scale: Total score devised by 15

Psychotic scale: Total score devised by 10

Social function scale: Total score devised by 15

6. The TMHQ Profiles: To characterize each item in the symptom scale by means quantitative index, the five scales are:

"0" NOT AT ALL: No stress reported.

"1" A LITTLE BIT: Some stress but infrequent and of low intensity.

"2" MODERATELY: Somewhat regular stress of mild or moderate intensity.

"3" QUITE A BIT: Regular stress of moderate to high intensity.

"4" EXTREMELY: Examinees experiences extreme stress associated with these symptoms due to frequency, intensity or both.

For the positive questions, the score must be conversed.

The TMHQ's Profile was created in an easily construct profile. The user can visualize it because it is translated numerical values into a plotted profile.

The normal range is between the T-score 40 to 60.

Table 2 presents mean, standard deviation, and t-test between the high and low groups.

Table 3, 4 and 5 showed the scoring summary of the TMHQ, Factorized Score, and The TMHQ Norm Profile.

Table 2 Mean, Standard deviation, and t-test between the high and low group *

Item	High group (n= 350)		Low group (n= 350)		t	Item	High group (n= 350)		Low group (n= 350)		t
	M	SD	M	SD			M	SD	M	SD	
1	2.21	.74	3.26	.74	-17.50*	36	3.36	.59	2.31	.63	8.00*
2	3.13	.74	2.15	.79	14.00*	37	2.35	.88	3.34	.63	21.00*
3	3.00	.64	1.94	.89	15.14*	38	3.06	.56	2.14	.80	14.14*
4	2.98	.68	2.08	.75	15.00*	39	2.20	.74	3.06	.66	-15.33*
5	3.27	.61	2.17	.93	18.33*	40	2.88	.61	2.14	1.01	14.33*
6	3.27	.52	2.27	.85	16.67*	41	2.19	.75	3.48	.78	10.57*
7	3.14	.69	2.31	.81	11.86*	42	2.02	.80	3.25	.73	18.43*
8	3.16	.62	2.27	.67	17.80*	43	3.48	.65	2.10	.83	17.57*
9	3.10	.86	2.11	.73	14.14*	44	2.18	.67	2.87	.85	-19.71*
10	2.25	.91	3.43	.30	-19.67*	45	2.19	.69	2.80	.75	-10.17*
11	3.59	1.50	1.98	.83	16.10*	46	2.75	.85	2.19	.76	8.00*
12	2.32	.73	1.17	.76	19.17*	47	3.05	.87	2.12	.86	13.29*
13	2.89	1.16	2.18	.76	8.88*	48	3.21	.73	2.09	.84	16.00*
14	3.06	.75	2.23	.78	11.86*	49	3.17	.92	2.19	.76	14.00*
15	3.18	.67	2.18	.68	16.67*	50	2.70	.63	1.93	1.06	13.86*
16	3.09	.76	2.06	.86	14.71*	51	3.08	.84	2.18	.76	12.86*
17	3.27	.61	2.32	.73	19.00*	52	2.65	.63	1.52	.88	16.14*
18	3.40	.74	2.10	.83	18.57*	53	2.89	.82	1.92	1.01	12.13*
19	3.00	.58	2.21	.74	15.80*	54	3.25	.59	2.18	.76	17.83*
20	2.92	.78	1.18	.73	12.33*	55	2.28	.79	3.17	1.59	-8.90*
21	3.24	.62	2.09	.84	16.43*	56	1.77	.99	2.70	.99	-7.75*
22	2.81	.77	1.05	.69	12.67*	57	2.35	.88	3.34	.63	21.00*
23	2.98	.82	2.74	.69	4.00*	58	2.31	.63	3.06	.76	-12.50*
24	2.95	.77	2.01	.81	13.43*	59	3.06	.66	2.20	.74	15.33*
25	2.62	.68	2.02	.80	10.00*	60	2.92	.78	1.18	.73	12.33*
26	3.48	.50	2.24	.78	20.67*	61	2.18	.75	3.48	.78	10.57*
27	3.02	.80	2.16	.78	21.67*	62	2.81	.77	1.05	.69	12.67*
28	3.36	.61	2.28	.66	12.29*	63	2.18	.76	2.89	1.16	-8.88*
29	3.27	.54	2.07	.77	21.60*	64	2.75	.75	2.98	.68	-15.00*
30	3.16	.63	2.17	.76	20.00*	65	2.06	1.00	2.62	.72	-6.83*
31	3.41	.63	2.08	.92	16.33*	66	2.75	.85	2.19	.76	-12.50*

32	3.25	.86	2.23	.89	22.17*	67	2.31	.81	3.14	.69	-11.86*
33	2.58	.96	2.24	.70	12.88*	68	1.18	.73	2.92	.78	-12.33*
34	2.63	.63	2.22	.81	4.71*	69	2.14	1.01	2.88	.61	-14.33*
35	2.62	.72	2.06	1.00	6.83*	70	2.22	.81	2.63	.63	-4.71*

* $P \leq .001$ in every item

Table 3 Scoring summary of the TMHQ

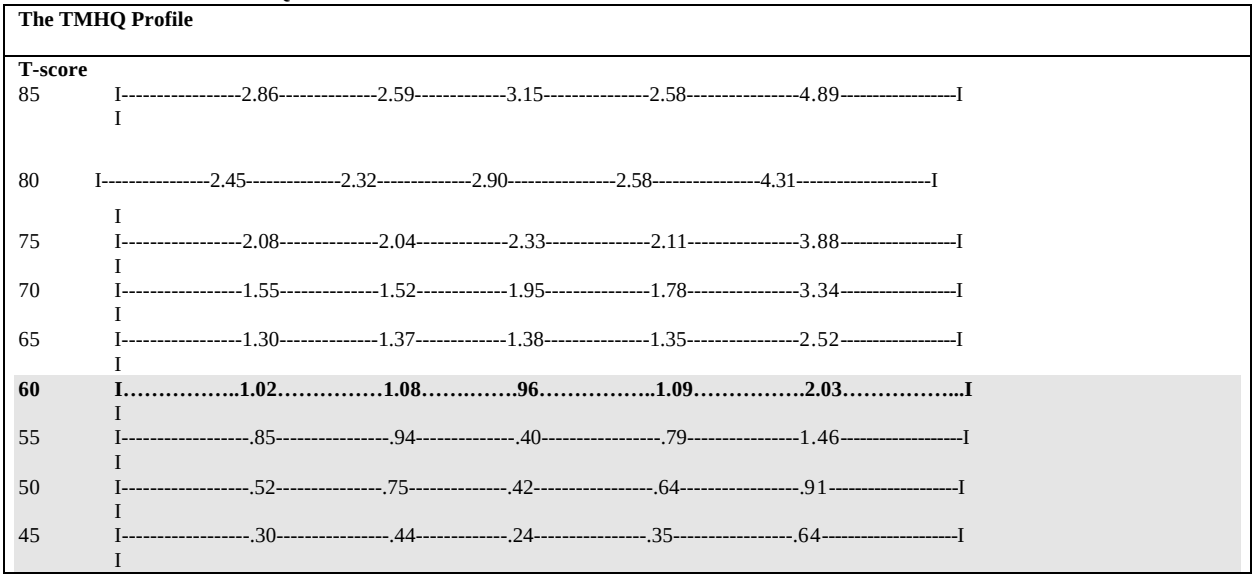
Somatization Item no.	Score	Depression Item no.	Score	Anxiety Item no.	Score	Psychotic Item no.	Score	Social Item no.	Score
1*		11		31		46		***56****	
2		12		32		47		57	
3		13		33		48		***58****	
4		14		34		49		59	
5		15		35		50		60	
6		16		36		51		61	
7		17		37		52		62	
8		18		38		53		***63****	
9		19		***39****		54		***64****	
10*		20		40		***55****		***65****	
		21		41				***66****	
		22		42				***67****	
		23		43				***68****	
		24		***44****				***69****	
		25		***45****				***70****	
		26							
		27							
		28							
		29							
		30							
Total = ÷ 10		Total = ÷ 20		Total = ÷ 15		Total = ÷ 10		Total = ÷ 15	

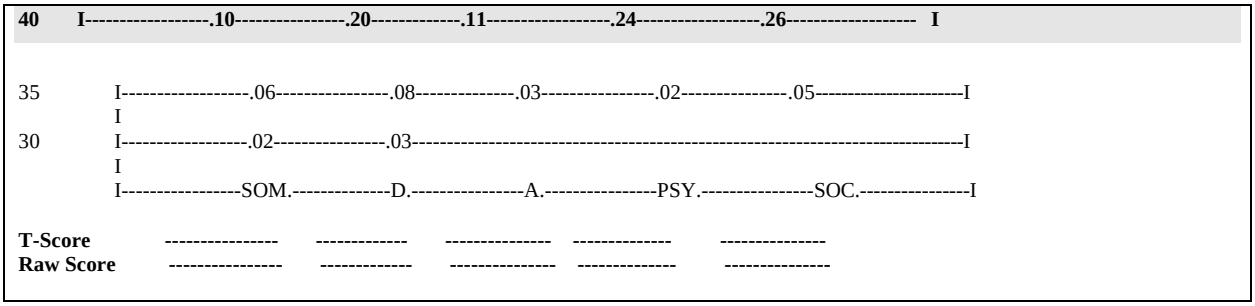
***Remark**: *converse item*

Table 4 Factorized Scale Score

Factor	Scale Score
1. Somatization 2. Depression 3. Anxiety 4. Psychotic 5. Social function	*Fill with examiner's score from Table 2*

Table 5 The TMHQ Norm Profile





Discussion

All the TMHQ items exhibited a reasonable spread of responses to discriminate between those with mental disorders from normal people. In the assessment of psychological distress, a primary indicator of mental health should be discriminated between the mental disorders from normal people[2]. In this study, all of the TMHQ items were found to be significantly different between the high and low responses group. Therefore, the 70 items of the TMHQ met the criteria for discriminant validity.

The TMHQ was designed to assess a domain of functioning. It is factor-analyzed to identify separable dimensions, representing theoretical constructs, within the domain. Psychometricians strongly recommend that test developers should begin by factor analyzing the items[3,4,5,6].

The TMHQ Items. The principal components analysis was carried out 70 items. Therefore, the final TMHQ is composed of 70 items. The number of items in a rating scale can vary from one (in particular global scales) to several hundred (such as MMPI). Investigations with intent structure analysis have demonstrated that 5-10 items are usually sufficient when the total score of the scale is utilized as a measurement of the final rating or evaluation[16]. According to Bech et al., the number of items in the TMHQ are sufficient to measure multidimensional psychopathology.

Administration. The standard instructions of the person at the top of the scale, and the items language, are in very basic Thai, so literacy level is rarely a problems. Use of the scale is simple enough so that the examinee does not usually need any more explanations. That is the basic principle of item writing[20]. The examinee is directed to indicate the extent to which he/she has been bothered or distressed by the problems or complaints represented by each of the 62 items over a specified time interval, usually a one month period. That is the same as other symptom scales as screening or diagnosis scales such as PSE (Present State Examination), GHQ (General Health Questionnaire), and SCL-90 (Symptom Distress Check-List), for example. It normally takes about 15 to 20 minutes to complete the TMHQ's scale.

Scoring and interpretation. The TMHQ scores can be interpreted in three ways. First, they can be regarded as a measure of the severity of psychological disorder. Second, they can be used to estimate the prevalence of psychiatric illness. Third, they can be regarded as an indicator of morbidity.

The TMHQ Profiles: To characterize each item in the symptom scale by means of a quantitative index, the five scales are: No stress reported, Some stress but infrequent and of low intensity, Somewhat regular stress of mild or moderate intensity, Regular stress of moderate to high intensity, and Examinees experiences extreme stress associated with these symptoms due to frequency, intensity or both. Likert [20] found that five degree categories were optimal, and Fridenberg [21] supported this. The TMHQ's Profile was created in an easily construct profile. The user can visualize it because it is translated numerical values into a plotted profile.

The limitation of the TMHQ for diagnosis purposes. The TMHQ nomothetic indices may be appropriate for screening purposes or to indicate areas in need of further assessment. However, it does not provide sufficiently specific information concerning the parameters of situational determinants of the problem behavior. Therefore, other behavioral assessment methods (e.g., interviews, self-monitoring, observational procedures) also contribute to the assessment function. Questionnaires could be of more value to target problem description and specification than is using only one measurement. Moreover, increased emphasis on issues of the multimodel nature of behavior problems would be beneficial in clinical[13].

Conclusion

The Thai Mental Health Questionnaire has sufficient discriminant power, adequate construct validity, adequate reliability, ant the Norm Profile. The result will be a more direct and meaningful application of an instrument to detect the mental health illness in the Thai community.

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áººÊÍºÇÑ´ÊØ¢ÀÒ¾¨Ôµ¤¹ä·Â (The Thai Mental Health Questionnaire : TMHQ)

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à¸ÃÕªÑ§ÒÁ·ÕèÇÔ¨ÑÒ¾.º.*
¡¹¡ÃÃÑ•ÊØÃµ§ÐÐ Ç·.Á.*

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¤ÍÊ¤ÑÞ áººÇÑÊÇÀÒ¾¨ÔÐÒËÃÑ¹ä·Â à¡³±»¡µÔ

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