# Persian Translation of Perception of Psychiatry Survey Questionnaire and Evaluation of its Psychometric Properties

**Valentin Artounian, MD**[1, 2]
**Behnam Shariati, MD**[1]
**Homayoun Amini, MD, MPH** [1, 2]
**Alireza Salimi, MD**[1]
**Ali-Akbar Nejatisafa, MD** [1, 2]

**1** Department of Psychiatry, Tehran University of Medical Sciences, Tehran, Iran
**2** Psychiatry and Psychology Research center, Tehran University of Medical Sciences, Tehran, Iran

**Corresponding author:**
Ali-Akbar Nejatisafa, MD
Associate Professor, Department of Psychiatry, Tehran University of Medical Sciences, Roozbeh Hospital, South Kargar Avenue, Tehran 13337, Iran.
Tel: +98-21-55412222
Fax: +98-21-55419113
Email: nejatisafa@tums.ac.ir

**Objective:** Test the psychometric properties of the Persian version of the Perception of Psychiatry Survey questionnaire , which is being used in a large multi-site international study, of which we were part. This instrument was designed to measure the attitudes of medical educators to psychiatry.

**Methods:** We used World Health Organization guideline as the methodological model for Persian translation. The Persian version of Perception of Psychiatry Survey questionnaire was administered to a convenience sample of 100 medical teachers at Tehran University of Medical Sciences and Azad University. The content validity, internal consistency, and test-retest reliability of the instrument were assessed.

**Results:** No item changed completely during the process of translation and cultural adaptation. The content validity of translation and back translation was 0.74 and 0.86 according to Feliss Kappa Statistic. The Cronbach's α coefficient was 0.76 for the Persian version and for its subdivisions ranged from 0.59 to 0.81. The inter class correlation (ICC) coefficient for test-retest reliability of the whole instrument was 0.89.

**Conclusion:** The Persian version of Perception of Psychiatry Survey questionnaire could be considered as a good cross-cultural equivalent for original English version. The instrument is a reliable instrument in terms of internal consistency and test-retest reliability.

**Keywords:** *Attitude, Medical faculty, Psychometrics, Questionnaires, Reproducibility, Social stigma, Translations*

**S**tigma is a negative assessment of a person as disgraceful and less valued on the basis of his or her particular condition like mental disorders, physical disabilities, ethnicity, etc. (1, 2). Stigma is a social construct produced by social interactions in which potentially stigmatizing attributes may impact on the expectations or behavior of both sides of interactions (3). More than half of patients with psychiatric disorders experience some kind of discrimination (4). Stigma of mental illness could be considered as an obstacle for improvement of patients because it has a negative impact on the help seeking behavior of patients and rehabilitation programs, and as a result, can lead to lower quality of life among patients (6-10). Stigma affects not only patients and their families, but also the health care professionals who work with the Patients (11). On the other hand, health professionals and physicians are usually an important source of Stigmatization (12). Several studies show that the attitude of doctors and medical students to mental

illness is similar to the public (13,14,15,16). Stigmatization thrives in the medical profession through the transmission of the culture of medicine in medical schools and the attitudes of colleagues (17, 18). Medical training including the quality of the psychiatric education as well as medical educators' attitudes toward psychiatry and psychiatric education has an important role in the formation of the attitudes of medical students toward mental illness(19).

Several attempts have been made to measure the attitude of medical students, psychiatrists, physician and other health care professionals to psychiatry (20), but there isn't any study that directly measured attitude of medical teachers toward psychiatry. To obtain information about the attitudes of medical educators the Association for the Improvement of Mental Health Programs in collaboration with the World Psychiatric Association's Stigma and Mental Health Scientific Section initiated a multi-site international survey. The Perception of Psychiatry Survey questionnaire was

created by the study directors (Heather Stuart and Norman Sartorius) to be the main data collection tool. Each participating site translated it for their use. Back translations were reviewed and approved by the study directors. The Department of Psychiatry at Tehran University of Medical Sciences is a participant in the larger study so translated the instrument into Persian. In this paper, we use the data collected as part of the larger project to assess the instrument's psychometric properties. A complete analysis of the multi-site data will be published separately .

## Materials and Method

### Original Questionnaire
Perceptions of Psychiatry survey is a 37 items questionnaire.. Items were adapted and modified from existing survey instruments developed by Balon et al. (21) and by Burra et al. (22). Additional items were added to address additional areas of interest to the international project. The instrument has six subdivisions: perceptions of psychiatry as a discipline (5-items); perceptions of the effectiveness of psychiatric treatments (7-items); perceptions of psychiatrists as role models (5-items); perceptions of psychiatry as a career (7-items); perceptions of psychiatric patients (7-items); perceptions about the quality of psychiatric training (6- items). Items were rated on a Likert-type agreement scale with four options: strongly agree, moderately agree, moderately disagree, and strongly disagree. In order to avoid response patterns, a number of items were reverse scored.

### Translation
We used World Health Organization guideline as the methodological model for Persian translation (23). In this model five distinct steps were followed by the researchers. In the first step, translation, two independent bilingual translators, competent in both English and Persian, translated the original questionnaire from English into Persian. They reached consensus on the translation of words, phrases and items .
The second step was cultural appropriateness and content validity testing, that was performed by nine independent academic psychiatrists and psychologists. They rated degree that each item of the instrument covers the content that it is supposed to measure as an index for representativeness and content validity. They also rated understandability and translation equivalence (semantic and content equivalence) between Persian and English version. A 5-point Likert scales in the ascending trend of "appropriateness " and "relevance" were used.
For Pilot testing in the target population and revision as the third step, the Persian version was reviewed by five non-psychiatrist medical educators to recognize words

and phrases that should be revised because of difficulty in understanding or ambiguity .
In the forth step the revised Persian version was back-translated by another bilingual translator who was blind to the original English version. This step assured that the meaning of Persian version was reflected in the back-translation version.
The final step was equivalence testing. In this step an expert panel consisted of eight academic psychiatrists and psychologist were asked to review and compare the original and back-translated versions of Perception of Psychiatry Survey questionnaire. They rated content equivalence in a 5-point Likert scale as a measure of quality of translation. Following this step the back-translation was compared with original questionnaire by the study directors and after some minor revisions, the Persian version was ready to use .

### Reliability Testing
The Persian version of Perception of Psychiatry Survey was tested for internal consistency and reliability using a convenience sample of 100 medical educators in Tehran University of Medical Sciences and Azad University. The participants were chosen from the list of academic members of both universities and a research assistant established a direct contact with them and asked them to complete the questionnaires. Cronbach's alpha was used to quantify the level of internal consistency. A random sample of 30 participants were chosen form original sample for a retest evaluation after 10 days of initial evaluation.

### Statistical Analysis
Descriptive statistical methods were used to characterize the participants. For determining the degree of agreement between expert panel members in the second and fifth steps of translation process, Fellis Kappa Statistic was calculated as an index for content validity. The test–retest reliability was quantified by means of the intraclass correlation coefficient (ICC) and internal consistency was quantified by Chronbach's alpha. Data analysis was performed using Statistical Package for the Social Sciences Version 16.

## Results

### Translation
No item thoroughly changed during the process of translation and cultural adaptation. Inter-rater agreement for each item of translation and back-translation version was calculated separately, using Feliss Kappa Statistic (Table 1). The average of these statistics were considered as an index for content validity for Persian version and an index of equivalence for back-translation. The average Feliss Kappa statistic for translation and back translation was 0.74 and 0.86 respectively.

**Table 1. Calculated Feliss Kappa Statistics for measuring the agreement among expert panel member's ratings. The number of expert raters for translation and back-translation was nine and eight respectively**

| Subscales | Items | Agreement Coefficient for Translation[†] | Agreement Coefficient for Back-translation[†] |
|---|---|---|---|
| Perceptions of psychiatry as a discipline | 1 | 1 | 0.74 |
| | 2 | 0.27 | 0.39 |
| | 3 | 0.61 | 1 |
| | 4 | 0.77 | 0.74 |
| | 5 | 1 | 1 |
| Perceptions of the effectiveness of psychiatric treatments | 6 | 0.77 | 1 |
| | 7 | 1 | 1 |
| | 8 | 1 | 0.74 |
| | 9 | 0.61 | 1 |
| | 10 | 0.27 | 1 |
| | 11 | 0.44 | 0.74 |
| | 12 | 0.77 | 0.57 |
| Perceptions of psychiatrists as role models | 13 | 0.66 | 0.74 |
| | 14 | 1 | 1 |
| | 15 | 0.77 | 0.74 |
| | 16 | 1 | 1 |
| | 17 | 0.61 | 1 |
| Perceptions of psychiatry as a career | 18 | 0.77 | 1 |
| | 19 | 0.44 | 0.74 |
| | 20 | 1 | 1 |
| | 21 | 0.61 | 0.74 |
| | 22 | 1 | 1 |
| | 23 | 1 | 1 |
| | 24 | 0.77 | 1 |
| | 25 | 0.61 | 0.32 |
| Perceptions of psychiatric patients | 26 | 0.27 | 0.74 |
| | 27 | 0.27 | 1 |
| | 28 | 1 | 1 |
| | 29 | 1 | 0.74 |
| | 30 | 1 | 1 |
| | 31 | 1 | 1 |
| Perceptions about the quality of psychiatric training | 32 | 1 | 0.74 |
| | 33 | 0.61 | 1 |
| | 34 | 1 | 1 |
| | 35 | 0.77 | 0.74 |
| | 36 | 0.33 | 1 |
| | 37 | 1 | 1 |
| Total [††] | | 0.74 | 0.86 |

† Feliss Kappa Statistics
†† Total coefficient is the average of items' coefficients. This measure could be used as an index for content validity for Persian version and an index for equivalence for back translation..

**Table 2. Pearson's correlations between Perception of Psychiatry Survey total and subscale scores, internal consistency (Cronbach's a) and test–retest reliability (intraclass correlation coefficient)**

| Variables[†] | Subscale-Total Correlation | Cronbach's α | Intraclass Correlation | | |
|---|---|---|---|---|---|
| | | | ICC | Confidence Interval | p-Value |
| Total | 1 | 0.76 | 0.89 | 0.79-0.97 | <0.0001 |
| Discipline | 0.85 | 0.64 | 0.92 | 0.60-0.95 | <0.0001 |
| Treatments | 0.90 | 0.68 | 0.86 | 0.58-0.94 | <0.0001 |
| Role models | 0.87 | 0.81 | 0.85 | 0.35-0.92 | <0.01 |
| Career | 0.89 | 0.71 | 0.77 | 0.76–0.97 | <0.0001 |
| Patients | 0.62 | 0.59 | 0.91 | 0.25–0.90 | <0.01 |
| Training | 0.74 | 0. 69 | 0.74 | 0.69–0.96 | <0.0001 |

†The Perception of Psychiatry Survey have 6 subscales: perceptions of psychiatry as a discipline (5-items); perceptions of the effectiveness of psychiatric treatments (7-items); perceptions of psychiatrists as role models (5-items); perceptions of psychiatry as a career (7-items); perceptions of psychiatric patients(7-items); perceptions about the quality of psychiatric training (6- items).

Six Items of translation and 3 Items of Back-translation had a Feliss Kappa below 0.6, which were reviewed again and revised by the expert panel.

### Psychometric Properties

Eighty-four of participants, completed the survey questionnaire. Twenty three percent of them were female. The mean age (±SD) of participants was 44.2 (±7.6) years for initial sample and 43.7 (±6.6) years for the re-test sample. Thirty two (38.1%) of initial sample and 11(36.7%) of the re-test sample were from surgical disciplines. Threre was no significant difference between demographic characteristics of the initial sample and re-test sample. Table 2 shows correlation coefficients between total and subscale scores, internal consistency (Cronbach's alpha) and test–retest reliability (intraclass correlation coefficient).

## Discussion

The results showed that the Persian version of the Perception of Psychiatry Survey questionnaire could be regarded as an acceptable instrument with regard to cross-cultural equivalence and understandability. According to Lynn, when there are six or more judges, the content validity index (CVI) should be more than 0.78 for an item to be judged acceptable (2). The average Kappa statistic as a measure of CV for the total and the six subdivisions for both translation and back-translation were in the acceptable range.

All Cronbach's α values, total and subdivisions, indicated the final instrument's satisfactory internal consistency. The ICC for the total and subdivisions also showed that the questionnaire had a very high level of reproducibility that reached the given limit in the previous literature (24).

Our ability to measure stigma has a pivotal role in promoting scientific understanding (2). Link et al. systematically reviewed 123 articles about the stigma of mental illness that were published between 1995 and June 2003 and evaluated the measures employed (20). According to this review four kinds of methods were employed in previous studies: non-experimental survey; experiment; qualitative and literature review (20). Although medical educators could have an important role in developing or reducing the stigma of mental illness, no instruments had focused on this group and the study populations were children and adolescents, general population, professional groups (health care providers/other), people with mental illness and families of people with mental illness (20). As a result, Perception of Psychiatry Survey questionnaire would have an essential role in future studies focused on stigma in medical teachers.

On the basis of the present study, the Persian version of the Perception of Psychiatry Survey questionnaire could be recommended to measure stigma in medical educators in Iran. It could also provide opportunity for comparison of the results of research on stigma in medical teachers in Iran with similar studies in other countries, such as the ongoing international project supervised by Stuart and Sartorius that Tehran University of Medical Sciences is one of its collaborating centers.

The study had several limitations including modest sample size for test-retest reliability and lack of comparable instrument for evaluation of convergent validity. Our sampling method could not be representative because we used convenience sampling and chose the participants from just two universities. The findings of the study need to be supplemented by future research focused on validity and factor analysis the Perception of Psychiatry Survey questionnaire.

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