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Validity and Reliability Study of the Turkish Form of the 4th Version of the Mental Illness: Clinicians' Attitudes (MICA) Scale

Ruhsal Hastalıklara Karşı Klinisyen Tutum Ölçeği 4. Uyarlaması Türkçe Formunun Geçerlik ve Güvenirlik Çalışması

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ABSTRACT

Objective: The purpose of this study is to adapt the Mental Illness: Clinician Attitude scale version 4 (MICA-v4) into Turkish, conduct validity and reliability study.

Method: The Turkish version of MICA-v4 was administered to 249 healthcare workers, including medical students, nurses, and physicians, and responses were collected in sealed envelopes. Exploratory and confirmatory factor analyses (EFA and CFA) were employed to assess the structural validity of the scale. Cronbach's alpha coefficients were calculated to demonstrate reliability. The Beliefs Toward Mental Illness scale (BTMI) was used to assess criterion-related validity.

Results: EFA yielded a three-factor solution explaining 53.88% of the total variance. Subscales were named MICA-Care (attitudes towards health/social care and views on mental illnesses), MICA-Stereotypes (stereotypes about mental illnesses), and MICA-Social interaction (social interactions with individuals with mental illnesses). Item factor loadings ranged from 0.469 to 0.852. Model fit indices calculated through CFA were at an acceptable level. The scale demonstrated good internal consistency with a Cronbach's alpha coefficient of 0.774. Significant correlations were observed between MICA scores and BTMI scale scores.

Conclusion: The findings of the study indicate that the Turkish version of MICA-v4 is valid and reliable. It is considered a useful tool for studies addressing stigma towards mental illnesses among healthcare workers in Türkiye.

Keywords: Mental disorders, stigma, healthcare workers, validity, reliability

ÖZ

Amaç: Bu çalışmanın amacı Ruhsal Hastalıklara Karşı Klinisyen Tutum Ölçeği 4. Uyarlaması'nın (RUKTÖ-v4) Türkçe'ye uyarlanması ve geçerlik ve güvenirlik çalışmasının yapılmasıdır.

Yöntem: RUKTÖ-v4 Türkçe formu tıp fakültesi öğrencileri, hemşireler ve hekimlerden oluşan 249 katılımcıya ulaştırıldı ve yanıtlar kapalı zarf içinde alındı. Ölçeğin yapı geçerliğinin değerlendirilmesi için açımlayıcı ve doğrulayıcı faktör analizleri (AFA ve DFA) uygulandı. Güvenirliğin gösterilmesi için Cronbach alfa iç tutarlılık katsayıları hesaplandı. Ölçüt bağımlı geçerliğin değerlendirilmesi için Ruhsal Hastalığa Yönelik İnançlar Ölçeği (RHYİÖ) kullanıldı.

Bulgular: Yapılan AFA ile toplam varyansın %53,88'ini açıklayan üç faktörlü çözüm elde edildi. Alt ölçekler RUKTÖ-Bakım (sağlık/sosyal bakım alanı ve ruhsal hastalıklar hakkında görüşler), RUKTÖ-Kalıp Yargı (ruhsal hastalıklar hakkında kalıp yargı) ve RUKTÖ-Sosyal mesafe (ruhsal hastalığı olan bireylerle sosyal mesafe) olarak isimlendirildi. Madde faktör yükleri 0,469-0,852 arasında değişiyordu. DFA ile hesaplanan model uyum indeksleri kabul edilir düzeydeydi. Ölçeğin Cronbach alfa iç tutarlılık katsayısı 0,774 bulundu. RHYİÖ ölçek puanları ile korelasyonlar anlamlı düzeydeydi.

Sonuç: Çalışmanın bulguları RUKTÖ-v4 Türkçe formunun geçerli ve güvenilir olduğunu göstermiştir. Sağlık çalışanları ve Tıp Fakültesi öğrencilerinde ruhsal hastalıklara yönelik damgalanma konusunda ülkemizde yapılacak çalışmalar için kullanışlı bir ölçek olduğu düşünüldü.

Anahtar sözcükler: Ruhsal hastalıklar, damgalanma, sağlık çalışanları, geçerlik, güvenirlik

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Introduction

Mental illnesses are characterized by clinically significant impairment in individuals' cognition, emotion regulation or behavior (Wang et al. 2019). At the same time, mental illnesses are known to be associated with significant difficulty in social, occupational or other important areas and loss of workforce (Telles-Correia et al. 2018). It is thought that recognizing the conditions that will create obstacles in the treatment and recovery of mental illnesses and appropriate interventions will positively affect the functionality and prognosis of patients (Walker et al. 2015).

Stigmatization has been shown to be one of the main factors affecting treatment response, functionality and prognosis in mental illness (Hoftman 2016, Deres et al. 2020). Especially individuals with chronic psychiatric diseases such as schizophrenia and bipolar disorder are exposed to stigmatization (Corrigan and Watson 2002, Arboleda-Flórez and Stuart 2012, Grover et al. 2019). Numerous studies in patients with schizophrenia have shown that stigmatization is associated with depression, decreased insight and negative symptoms (Lau et al. 2017, Rossi et al. 2017, Barlati et al. 2022). A recent meta-analysis found that patients with bipolar disorder and their families experienced significantly more feelings of being disrespected, ignored, and discriminated against in society (Latifian et al. 2023). It has also been shown that in both schizophrenia and bipolar disorder, families often choose social isolation and withdrawal to cope with the negative effects of stigma, depriving themselves and the patient of treatment by hiding the illness and delaying treatment seeking (Nehra et al. 2005, Grover et al. 2019, Richard-Lepouriel et al. 2022). For these reasons, anti-stigma programs are being developed, emphasizing the importance of education and awareness of misconceptions about mental illness (Arboleda-Flórez and Stuart 2012).

Unlike the rest of the society, healthcare workers (HCWs) need to have a higher level of awareness and knowledge about stigmatization in order to provide services without judging patients and to remain in an empathetic position (Arboleda-Flórez and Stuart 2012). On the other hand, since HCWs are also a part of the society, they may exhibit stigmatizing attitudes towards patients, and these attitudes may cause disruptive effects in treatment (Knaak et al. 2017). HCWs, including general practitioners, psychiatrists and clinical psychologists, have been shown to have similar or more negative attitudes towards individuals with mental illness (Chaplin 2000, Rao et al. 2009, Hori et al. 2011). In studies conducted in different countries, people diagnosed with mental illness reported feeling devalued, rejected, and confronted with stigmatizing language by many HCWs (Clarke et al. 2007, Thornicroft et al. 2009, Hamilton et al. 2016). This may disrupt the patient-physician relationship and lead to negative treatment responses (Phelan et al. 2023). Therefore, it is thought to be critical to identify and intervene in factors associated with stigmatizing attitudes in clinicians (Beaulieu et al. 2017, Clement et al. 2015). Factors determining stigmatization by HCWs include lack of knowledge about mental illnesses, pessimism about the course of illnesses and lack of skills (Sukhera and Chahine 2016, Beaulieu et al. 2017, Knaak et al. 2017). These factors are emphasized in stigma-related interventions (Beaulieu et al. 2017, Knaak et al. 2017). In a double-blind randomized controlled study, it was shown that training given to primary care physicians significantly reduced stigma (Beaulieu et al. 2017). Studies conducted in medical students in Turkey have shown that psychiatry education is beneficial in reducing stigmatization (Çilingiroğlu and Erbaydar 2010, Aydın et al. 2016). A study involving nurses working in regional hospitals in Turkey, revealed that HCWs' beliefs about mental illnesses were similar to those of the general population, and that two variables, namely their "perception of safety" and "having taken a psychiatric nursing course or training before" affected these beliefs (Çam and Arabacı 2014). Safety perception and fear are also thought to be related to lack of knowledge and skills (Arboleda-Flórez and Stuart 2012, Knaak et al. 2017). Indeed, a recent study revealed that psychiatrists exhibited lower levels of stigmatization compared to non-psychiatric physicians and medical students (Oliveira et al. 2020). At the same time, the presence of relatives with psychiatric illness was found to be associated with lower stigmatization (Oliveira et al. 2020).

Stigmatization of mental illnesses is an obstacle for health care professionals to seek psychiatric help (Clement et al. 2015). It has been shown that the rate of seeking psychiatric help among medical students is lower than the general population and this is associated with fear of stigmatization (Givens et al. 2002, Chew-Graham et al. 2003). In studies involving specialist physicians (SPs), fear of stigmatization was also found to be an obstacle to seeking mental help (Weiss et al. 2021, Wijeratne et al. 2021).

Scales have been developed to investigate stigmatizing attitudes in health professionals and trainees. These scales are suitable for screening stigma in specific groups such as emergency mental health center workers, nurses and nursing students (Corrigan et al. 2003, Sevennson et al. 2011). The 2nd Adaptation of the Clinician Attitudes Toward Mental Illness Scale (MICA-v2) was developed to assess medical students' attitudes towards people with mental illness and the mental health field (Kassam et al. 2010). The statements of MICA-v2 were

modified to develop a version suitable for individuals studying and working in the health field, resulting in a third adaptation (MICA-v3) (Gabbidon et al. 2010). The current MICA-v4 scale was created after the research group decided that a generic version for students and professionals within the health discipline was more appropriate than measures with items for specific professions (Gabbidon et al. 2010, Siddiqua and Foster 2015). The MICA-v4 allows for the investigation of stigmatization in students and, additionally, in health professionals. The importance of this scale is that it addresses aspects of stigmatization specific to HCWs. The scale evaluates stigmatizing attitudes towards people diagnosed with a mental illness in the health care process. Although there are scales that assess stigmatization in mental illnesses in our country, there is no measurement tool that can be used to measure stigmatization, especially in professional HCWs. Therefore, there is a need for a scale that includes questions specific to the assessment of stigmatizing attitudes towards patients during medical care. MICA-v4 also includes items assessing HCWs' beliefs about mental illness in their colleagues. The aim of this study was to adapt the MICA-v4 into Turkish and to investigate its validity and reliability in a sample of medical students, nurses and physicians.

Method

Sample

The study included 256 HCWs who gave consent after reading the informed consent form among senior medical students studying at Başkent University Ankara Hospital and nurses, resident physicians (ResPs) and SPs working at the same hospital. Participants were reached by snowball sampling method. All HCWs who gave written informed consent for participation and were actively involved in patient examination and/or health care were included in the study, while physicians working in basic medicine departments were excluded because they were not in contact with patients and were not in the position of healthcare professionals who primarily provide medical care. Data from 7 participants who completed the scales incompletely or carelessly were excluded from the analysis. As mentioned earlier (see "Procedure" section), data from 80 randomly selected participants (Sample 1) were used to determine the factor structure of the scale, while data from 169 participants (Sample 2) were used to confirm the factor structure.

Procedure

This study was approved by Başkent University Medical and Health Sciences Research Board and Ethics Committee (Ethics committee approval date and number: 30.05.2022/KA22/222). The study was conducted in accordance with the principles of the Declaration of Helsinki.

First, permission was obtained from the developer of the scale via e-mail before the Turkish translation. The scale was then translated by two researchers (E.M. and Z.B.). After being back-translated by two psychiatrists who had a good command of English and were blinded to the original scale items, these translations and back-translations were compared by two researchers (Y.H.A. and H.B.E.) and the final agreed Turkish form was created. The final version of the scale at this stage and the original form were sent to two different psychiatrists who were considered competent in the field of stigmatization for expert opinion. In accordance with the suggestions made, the final version of the scale was given to 30 specialists for face validity assessment. No negative feedback was received regarding the comprehensibility and applicability of the scale items, except for the sixth item, whose relationship to stigma was difficult to understand. Contextual ambiguity was not thought to be related to translation, and this item was not removed to evaluate its contribution to the scale structure.

Then, for the analysis of the psychometric properties of the final version of the scale, the study forms were delivered to a larger group of participants who were not included in the pilot study. Since the study forms were planned to be delivered by hand, it was aimed to reach the minimum sample size suitable for the analysis. It was planned to uncover the factor structure with exploratory factor analysis (EFA) on part of the data obtained and to confirm the factor structure obtained with confirmatory factor analysis (CFA) on the other part and to measure the generalizability of the data. It was aimed to have at least five participants per item number for EFA and to reach at least 230 participants, as the minimum sample size recommended for conducting CFA is 150 (Gorsuch 1997, Muthén & Muthén 2002). Among the 256 participants included in the study, the factor structure was obtained by analyzing the data of 80 health workers randomly selected from among 249 participants whose data were deemed suitable for analysis with EFA. Data from the remaining 169 participants were analyzed using CFA. Since the scale was found to be valid and reliable, the sample size was not increased.

The Beliefs about Mental Illness Scale was used for similar scale validity. The research forms consisting of sociodemographic data form, informed consent form and scales were delivered to the participants who accepted the offer to participate in the study by two researchers (Z.B and H.B.E) in sealed envelopes and the completed forms were collected on the same day or the next day. In order to minimize response bias about stigmatizing attitudes, participants' names, surnames, and departments where they worked were not collected.

Measures

Sociodemographic Data Form

In addition to sociodemographic characteristics such as age, gender, marital status, years of education, years of experience in profession, personal and family history of any psychiatric diagnosis, personal history of previous psychiatric treatment, history of self destructive behavior and suicide attempt were obtained.

Mental Illness: Clinician Attitude Scale version 4 (MICA-v4)

Gabbidon et al. (2013) demonstrated the validity and reliability of MICA-v4, which was created by modifying the second adaptation of the Clinician Attitude Towards Mental Illness Scale (MICA-v2) developed by Kassam et al. (2010) to assess medical students' stigmatizing attitudes towards psychiatric illnesses and mental health (Kassam et al. 2010, Gabbidon et al. 2013). The scale is a 6-point Likert-type self-report scale (1: completely disagree-6: completely agree) and items 1, 2, 4, 5, 6, 7, 8, 13, 14 and 15 are reverse scored.

Exploratory factor analysis revealed that the 5-factor model represented 53.07% of the total variance. "Views of health/social care field and mental illness" subscale (4 items), which evaluates caregiving attitudes towards patients with mental health and views about mental illnesses, and "Knowledge of mental illness " subscale (4 items), which evaluates the characteristics of people with mental illness, The scale consists of 5 subscales and a total of 16 questions, including the "Disclosure" subscale (2 items), the " Distinguishing mental and physical health " subscale (3 items) and the "Patient care for people with mental illness" subscale (3 items), which assess the individual's attitude towards disclosing a possible diagnosis of mental illness to other people. The scale was found valid in terms of discriminant validity. At the same time, Cronbach's alpha value of 0.72 was found to be reliable.

Beliefs Towards Mental Illness Scale (BMI)

The Turkish validity and reliability study of the scale developed by Hirai and Clum (2000) was conducted by Bilge and Çam (2006) (Hirai and Clum 2000, Bilge and Çam 2006). The scale is a 6-point Likert-type self-report scale and the response options to the questions asked range from 0, which corresponds to completely disagree, to 5, which corresponds to completely agree. The scale consists of 3 subscales and a total of 21 items: "Dangerousness" subscale consisting of 8 items related to the view that mental illnesses and patients are dangerous, "Helplessness and poor interpersonal skills" subscale consisting of 11 items measuring the beliefs about the impact of mental illnesses on interpersonal relationships and related helplessness, and "Shame" subscale consisting of 2 items evaluating the belief that mental illness is a shameful situation. Cronbach's alpha value of the Turkish version of the scale was found to be 0.82. It was also shown to be valid in terms of construct validity and convergent validity.

Statistical analysis

Data were analyzed using SPSS 23.0 (SPSS, Chicago, IL, USA) and AMOS 26.0 (Byrne BM, London, England). Data with skewness and kurtosis values between -1.5 and +1.5 were considered to have a normal distribution (George and Mallery 2020). The rate of missing data for both scales (MICA-v4 and BMI) was less than 1%. One-way analysis of variance (ANOVA) was used for intergroup comparisons of normally distributed continuous variables. Because homogeneity of variances between groups was ensured for all normally distributed variables, the Tukey test was used for post hoc analyses.

Mann-Whitney U and Kruskal-Wallis tests were used to compare continuous variables that were not normally distributed between groups. Chi-squared test was used for between-group comparisons of categorical variables. For the analysis of the construct validity of the scale, the face validity of which was assessed by receiving feedback from the participants in the pilot study phase, criterion dependent validity and the principal components method of EFA were used.

In the EFA, which was conducted using the varimax rotation method, factors with an eigenvalue greater than 1 according to the Kaiser criterion were considered in determining the number of factors. Items with factor

loadings greater than 0.3 were retained (Kaiser 1960, Guadagnoli and Velicer 1988). Items that loaded less than 0.1 on two factors simultaneously were removed due to overlap (Taherdoost et al. 2014).

CFA was used to test the obtained factor structure. Correlations with BMI total score and subscale scores were analyzed to assess criterion dependent validity. Spearman correlation analysis was used for correlations with the BMI Shame subscale score, which did not have a normal distribution, while other correlations were analyzed using Pearson correlation analysis. In reliability analyses, Cronbach's alpha internal consistency coefficient and item-total correlations were calculated for the scale and subscales.

Results

Sociodemographic Data

The participants included in the analysis consisted of 40 undergraduate medical students in their final year of medical school, 73 ResPs, 78 SPs, and 58 nurses. There was no significant difference between sample 1 and sample 2 in terms of HCW group ratios [$\chi2(3)=1.038$; $p=0.792$]. Similarly, there was no difference between sample 1 and sample 2 in terms of age [$t(243)=-0.519$; $p=0.604$], gender [$\chi2(1)=0.07$, $p=0.79$], marital status [$\chi2(2)=2.49$, $p=0.29$], years of education [$t(243)= -1.21$, $p=0.22$), years of experience ($t(247)=-0.36$; $p=0.72$), personal history of mental illness ($\chi2(1)=1.96$, $p=0.16$), and family history of mental illness ($\chi2(1)=0.006$, $p=0.94$). Table 1 presents the sociodemographic characteristics of all participants and their families' history of mental illness.

Factor Analysis and Construct Validity

The Kaiser-Mayer-Olkin (KMO) test criterion was 0.71 in the analyses performed to evaluate the suitability of the data for factor analysis. Bartlett's test of sphericity was significant [$\chi2=350.57$, $df=120$, $p<0.001$]. The correlation matrix determinant was 0.028. The values obtained showed that the sample was suitable for factor analysis (Tavşancıl 2002, Tabachnick et al. 2007). The contributions of the items to the common variance (communalities) ranged between 0.33-0.75. The communality values of all items were above the threshold value of 0.3 (Zeller 2005).

Exploratory Factor Analysis

EFA was performed with principal component analysis to determine the factors. The factor structure obtained was different from the original scale. In the factor analyses, a three-factor model was found to be appropriate considering the intra-factor pattern of the attitudes explained by the scale items. After the Varimax rotation method, items 8 and 16, which did not load above 0.4 in any factor after the Varimax rotation method, were excluded. Although item 15 showed overlap in two factors, it was considered to be important in terms of views about the health/social care field, so it was not removed and left in the factor with higher loading. In the reliability analysis, since the item-total correlation of item 6 (0.08) was below the acceptable value, this item was removed. In the factor analysis conducted with the remaining 13 items, the 3-factor structure explained 53.88% of the total variance. The factor loading values of the items constituting the factors ranged between 0.47-0.85.

The first factor, which consisted of five items, was composed of item 3 in the " Views on health/social care and mental illness" dimension of the original scale, items 9 and 11 in the "Patient care for people with mental" subscale, and items 13 and 15 in the "Distinguishing mental and physical health" subscale. Since these items investigated the views on giving care to individuals with mental illness as well as attitudes during caregiving, this factor was named as the "Views on mental health care and attitudes towards health care" subscale (MICA-Care).

Another factor included items 1, 2 and 5 in the "Knowledge of mental illness" dimension of the original scale and item 14 in the "Distinguishing between mental and physical health" subscale. Since the factor items assessed beliefs about obtaining information about mental health and diagnostic approach in addition to the beliefs that people with mental illness cannot be cured and are dangerous, this factor was named as the "Stereotypes about mental illness" subscale (MICA-Stereotypes).

The third factor consisting of items 10 and 12 in the "Views of health/social care and mental illness" dimension and items 4 and 7 in the "Disclosure" dimension of the original scale was named as the "Social distance towards individuals with mental illness" subscale (MICA-Social distance). The factor loadings, communalities, eigenvalues and variance ratios explained by the subscales are given in Table 2.

Table 1. Sociodemographic and clinical characteristics of participants						
	All Sample (n=249)		**Sample 1 (n=80)**		**Sample 2 (n=169)**	
	M	SD	M	SD	M	SD
Age	33.55	9.55	33.1	9.75	33.78	9.46
Years of education	19.41	3.86	18.98	3.37	19.62	4.07
	n	%	n	%	n	%
Gender						
Female	174	69.9	55	68.8	119	70.4
Male	75	30.1	25	31.2	50	29.6
Marital status*						
Married	104	41.9	28	35	76	45.2
Single /divorced	144	58.1	52	65	92	54.8
Personal history of mental illness*						
Yes	112	45.2	31	38.8	81	48.2
No	136	54.8	49	61.3	87	51.8
Psychiatric treatment history*						
None	151	60.6	55	68.8	96	57.1
Pharmacotherapy	46	18.5	15	18.8	31	18.5
Psychotherapy	14	5.6	5	6.3	9	5.4
Pharmacotherapy and psychotherapy	37	14.9	5	6.3	32	19
Distribution of mental illness diagnoses						
MDD	47	41.9	14	45.2	33	40.7
BPD	2	1.8	1	3.2	1	1,2
AD	25	22.3	6	19.3	19	23.4
ADHD	7	6.3	4	12.9	3	3.6
Other	10	8.9	3	9.7	7	8.6
Unknown/unspecified	21	18.8	3	9.7	18	22.4
History of self-destructive behavior						
Yes	18	7.2	2	2.5	16	9.5
No	231	92.8	78	97.5	153	90.5
History of suicide attempt						
Yes	7	2.8	0	0	7	4.1
No	242	97.2	80	100	162	95.9
Presence of mental illness in the relatives*						
Yes	79	31.7	25	32.1	54	32.5
No	165	66.3	53	67.9	112	67.5
Closeness degree of the relative diagnosed with any mental illness*						
First degree relatives	46	58.2	15	60	31	57.4
Second degree relatives	18	22.8	4	16	14	25.9
Third and/or fourth degree relatives	15	19	6	24	9	16.7
Distribution of mental illnesses in the family*						
MDD	32	40.5	10	40	22	40.7
BPD	7	8.9	2	8	5	9.2
AD	20	25.3	4	16	16	29.6
Schizophrenia	2	2.5	1	4	1	1.9
OCD	5	6.3	2	8	3	5.5
ADHD	3	3.8	2	8	1	1.9
Eating disorders	1	1.3	1	4	0	0
Conduct disorder	1	1.3	0	0	1	1.9
Dementia	2	2.5	1	4	1	1.9
Unknown/Unspecified	6	7.6	2	8	4	7.4

*There are missing data; MDD: Major depressive disorder, BPD: Bipolar mood disorder, AD: Anxiety disorder, OCD: Obsessive compulsive disorder, ADHD: Attention deficit and hyperactivity disorder; M: Mean, SD: Standard deviation

Confirmatory Factor Analysis

To test the obtained 3-factor structure, CFA was applied using the maximum likelihood method with AMOS 26.0. The results showed that the ratio of chi-squared statistic to degrees of freedom ($\chi 2/df$) was 1.12 ($\chi 2=96.7$, df=60); the comparative fit index (CFI) was 0.91; the goodness of fit index (GFI) was 0.92; the adjusted goodness of fit index (AGFI) was 0.87; the standardized root mean square residual (SRMR) was 0.06; and the root mean square error of approximation (RMSEA) value was 0.06. Among the fit indices, $\chi 2/df$ was excellent and the others

were at acceptable levels (Baumgartner and Homburg 1996; Schermelleh-Engel et al. 2003). According to CFA, the factor loading of the 14th item was below 0.3 (0.28). On the other hand, it was not removed from the scale because removing this item would affect the fit values and the item was considered useful. The factor structure of the scale is shown in Figure 1.

Table 2. Factor structure of the scale, factor loadings of ıtems, common variance values and reliability measures

	Factor Loadings				**Reliability**	
	MICA-Care	MICA-S	MICA-SD	h^2	CITC	CAID
Item 1	0.151	0.731	0.071	0.562	0.310	0.769
Item 2	0.066	0.775	0.291	0.689	0.530	0.746
Item 3	0.692	-0.029	0.148	0.502	0.417	0.758
Item 4	0.021	0.172	0.775	0.631	0.508	0.747
Item 5	0.042	0.694	-0.024	0.484	0.413	0.758
Item 7	0.024	0.116	0.852	0.740	0.403	0.759
Item 9	0.690	0.046	-0.032	0.480	0.302	0.768
Item 10	0.422	0.131	0.551	0.516	0.469	0.752
Item 11	0.752	0.140	0.010	0.585	0.449	0.755
Item 12	-0.009	0.110	0.627	0.406	0.325	0.766
Item 13	0.703	0.171	-0.022	0.523	0.438	0.755
Item 14	0.097	0.597	0.253	0.430	0.244	0.774
Item 15	0.469	0.403	0.220	0.456	0.385	0.761
Explained variance (%)	28.91	14.55	10.41			
Eigenvalue	3.76	1.89	1.35			

h^2: Common variance of the item, CITC: corrected item-total correlations, CAID: Cronbach alpha if item deleted; MICA-Care: Views on mental health care and attitudes towards health care; MICA-S: Stereotypes about mental illness; MICA-SD: Social distance towards individuals with mental illness

Criterion Dependent Validity

To test the criterion-dependent validity of the scale, correlations were calculated with the scale scores of the BMI (Table 3). There were significant positive correlations between all subscale and total scores of the MICA and BMI (r=0.22-0.62, all p values <0.001).

Reliability Analyses

The internal consistency coefficient and corrected item-total correlations (CITC) were calculated in the whole sample to analyze the reliability of the scale. The CITC values were in the range of 0.24-0.51 (Table 2). Cronbach's alpha values were 0.78, 0.72, 0.54 and 0.67 for the scale and its subscales, namely MICA-Care, MICA-Stereotypes and MICA-Social Distance, respectively.

Table 3. Correlations between scores of the MICA and the BMI

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
(1) MICA-Care	-	0.238**	0.227**	0.599**	0.224**	0.224**	0.419**	0.273**
(2) MICA-S	0.238**	-	0.444**	0.703**	0.506**	0.491**	0.263**	0.541**
(3) MICA-SD	0.227**	0.444**	-	0.794**	0.519**	0.422**	0.348**	0.526**
(4) MICA Total	0.599**	0.703**	0.794**	-	0.575**	0.527**	0.448**	0.616**
(5) BMI HIP	0.224**	0.506**	0.519**	0.575**	-	0.704**	0.386**	0.935**
(6) BMI Danger	0.224**	0.491**	0.422**	0.527**	0.704**	-	0.405**	0.902**
(7) BMI Shame	0.419**	0.263**	0.348**	0.448**	0.386**	0.405**	-	0.508**
(8) BMI Total	0.273**	0.541**	0.526**	0.616**	0.935**	0.902**	0.508**	-

(1) MICA-Care: Views on mental health care and attitudes towards health care, (2) MICA-S: Stereotypes about mental illness, (3) MICA-SD: Social distance towards individuals with mental illness, (4) MICA Total score, (5) BMI Helplessness and poor interpersonal skills, (6) BMI Dangerousness, (7) BMI Shame, (8) BMI Total score; ** p<0.001

Comparison of Stigmatization Scale Scores in Healthcare Workers

Significant relationships were found between stigma scale scores and sociodemographic characteristics. A very weak negative correlation was detected between years of education and MICA-Care score in the entire sample (r=-0.16; p=0.015). There were very weak correlations between years of experience and age and scores of BMI HIP, MICA-Stereotype and MICA total score (r=0.13-0.24; p<0.05). There were no significant differences regarding gender on any scale score.

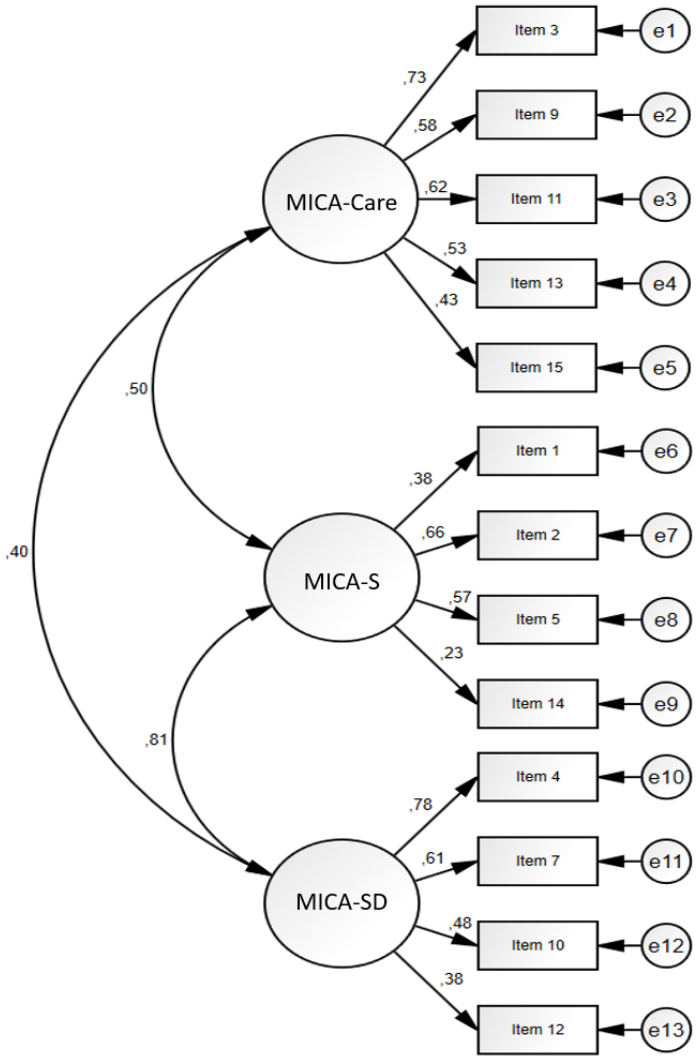

Figure 1. Factor structure of the 4th Version of the MICA Scale

MICA-Care: Views on mental health care and attitudes towards health care; MICA-S: Stereotypes about mental illness; MICA-SD: Social distance towards individuals with mental illness

MICA-Care [t(246)=2.81; p=0.005], BMI HIP [t(246)=2.77; p=0.006] and BMI total scores [t(246)=2.49; p=0.01] was significantly higher in those who had not previously applied to a psychiatric outpatient clinic. MICA-Care [t(246)=2.57; p=0.008] and MICA-Stereotype [t(246)=2.17; p=0.03] subscale scores and MICA total score [t(246)=2.50; p=0.01] was found to be lower than those without any psychiatric treatment history. At the same time, BMI HIP [t(246)=3.41; p=0.001] and BMI Dangerousness [t(246)=2.51; p=0.01] subscales and BMI total score [t(246)=3.292; p=0.001] was higher in those who had not received any psychiatric treatment before.

Participants with a family history with any psychiatric diagnosis have lower scores of MICA total score [t(242)=2.31; p=0.02], BMI HIP subscale score [t(242)=2.13; p=0.03], BMI dangerousness subscale score [t(242)=2.93; p=0.004], BMI shame subscale score (U=5273; p=0.006) and BMI total score [t(242)=2.81; p=0.005] than participants with no family history When the history of psychiatric illness in relatives was examined according to the degree of relationship, those with a first-degree relative diagnosed with a psychiatric illness have lower MICA total score [F(3,240)=2.65; p=0.05] and BMI HIP subscale score [F(3,240)=2.56; p=0.004].

In comparisons between HCW groups, significant differences were found in terms of the scores of MICA-Care [H=16.54; p=0.001], MICA-Stereotype [F(3,245)=4.04; p=0.008], MICA total scale [F(3,245)=3.05; p=0.03], BMI HIP [F(3,245)=3.53; p=0.016]; BMI Dangerousness [F(3,245) = 6.89; p<0.001] and BMI total scale [F(3,245)= 5.26; p=0.02]. In post-hoc comparisons, MICA-Care scale scores were found to be higher in nurses than in the other three groups, while there was no significant difference between ResPs and SPs. While BMI Dangerousness subscale score were similar for ResPs, SPs, and nurses, medical students have the lowest scores. No significant

differences were found between ResPs and SPs in terms of any scale scores. In addition, MICA-Social distance and BMI Shame scores were similar in all groups. In the analyzes performed by combining physician groups (ResPs and SPs) MICA-Stereotype, BMI HIP and Dangerousness subscales and BMI total score were found to be similar in physicians and nurses, while medical school students had the lowest scores (Table 4).

Table 4. Comparison of medical students, physician and nurse groups in terms of stigma scores towards mental illnesses

	MS (n=40)	ResP (n=73)	SP (n=78)	Nurse (n=58)	Statistics	Post- hoc
MICA-Care	2 (0-14)	2 (0-13)	3 (0-9)	5 (0-16)	H=16.54 p =0.001	Nurse>ResP = SP = MS Nurse>Physician = MS
MICA- S	7.13±3.09	8.37±3.9	9.23±3.55	9.36±3.45	F(3.245)=4.04 p = 0.008	SP = Nurse > MS Physician=Nurse MS
MICA-SM	8.37±3.65	8.62±3.79	8.99±3.66	7.57±4.22	F(3,245)=1.59 p = 0.191	-
MICA Total	18.05±7.68	18.98±7.23	20.87±6.89	22±8.4	F(3,245)=3.05 p = 0.029	Nurse > MS
BMI HIP	17.6±8.05	20.31±8.48	22.83±9.03	22.17±9.66	F(3,245)=3.53 p = 0.016	SP=Nurse > MS Physician=Nurse > MS
BMI Danger	14.8±6.43	18.91±7.21	19.79±8.49	20.98±7.31	F(3.245)= 6.89 p <0.001	ResP=SP = Nurse > MS Physician=Nurse > MS
BMI Shame a	0 (0-7)	0 (0-6)	0 (0-4)	0 (0-10)	H=1.748 p = 0.626	-
BMI Total	33.2±14.42	40.07±15.24	43.58±14.72	44.39±16.56	F(3,245)=5.26 p =0.02	SP = Nurse > MS Physician=Nurse > MS

[a] Median (min-max), [b] Statistical coefficients of all group comparisons, [c] Physician group includes ResP and SP; MICA-Care: Views on mental health care and attitudes towards health care, MICA-S: Stereotypes about mental illness, MICA-SD: Social distance towards individuals with mental illness, BMI HIP: Helplessness and poor interpersonal skills subscale of Beliefs Toward Mental Illness Scale; MS: Medical students, ResP: Resident Physician, SP: Specialist Physician; H: Kruskal -Wallis test statistic, F: F statistic, p: significance coefficient

Discussion

The findings obtained from the study show that the MICA-v4 Turkish form is valid and reliable. In the EFA conducted to examine construct validity, it was found that the three-factor model explained 53.88% of the total variance. In social sciences, it is stated that it is acceptable for the variance explained to be between 40-60% (Gorsuch 1997). The factor loadings of the items ranging between 0.47-0.85 are also at acceptable levels (Tavsancıl 2002). At the same time, the CFA conducted to confirm the obtained factor structure revealed that the model was statistically significant with acceptable fit indices. Therefore, the construct validity of the scale is ensured.

The MICA-v4 Turkish form was found to have different factor structures from the original scale and its Spanish and Portuguese versions (Gabbidon et al. 2013; Vistorte et al. 2023). In the Turkish version of the scale, the MICA-Care subscale consists of items assessing the tendency of individuals with mental illness to attribute physical symptoms to mental illness, the use of stigmatizing language, and perceiving the field of mental care as worthless. In support of the subscale structure, there is evidence that people with mental illness receive poorer care for medical problems (Druss et al. 2000, Lawrence et al. 2003, Sullivan et al. 2006, Daumit et al. 2006). People with mental illness and ischemic heart disease requiring hospitalization have been shown to be less likely to undergo revascularization and cardiac procedures (Druss et al. 2000, Lawrence et al. 2003, Mather et al. 2013). Similarly, people with a diagnosis of mental illness and diabetes mellitus presenting to the emergency department were found to be less likely to be hospitalized for diabetic complications than those without mental illness (Sullivan et al. 2006). Another study found that patients with schizophrenia admitted to surgical units had significantly higher rates of infection, postoperative complications including death, and increased length of stay (Daumit et al. 2006). These findings suggest that the quality of care may be lower for people with mental illness (Howard and Thornicroft 2008). In our study, item 15 (I would use the terms "crazy", "nutter", "mad", etc. to describe to colleagues people with mental illness that I have seen at work), which was included in the MICA-Care subscale but in the original version of the scale was included in the "Distinguishing between mental and physical health" subscale, was thought to be more related to attitudes during caregiving. Indeed, a recent study of nursing students showed that the tendency to use stigmatizing language ("crazy," "insane," etc.) toward people with mental illness was associated with devaluation during caregiving (Valentim et al. 2023). Beliefs that people with mental illness are dangerous may also negatively affect the caregiving process. In our study, a significant relationship was found between the MICA-Care subscale score and the BMI Dangerousness subscale score. In

support of our findings, it has been shown that health care professionals working in general medical settings perceive themselves in danger while caring for patients with mental illness, and this is associated with avoidant attitudes (Feldman et al. 2007, Giandinoto et al. 2015).

Another subscale, MICA-Stereotype, consists of item 5, which refers to the belief that people with mental illnesses are dangerous; item 1, which assesses mental health literacy; item 2, which assesses the belief that people with mental illness can never be cured; and item 14, which refers to the belief that individuals with psychiatric symptoms are not expected to be evaluated comprehensively by general practitioners. Stereotypes about mental illness are defined as the negative beliefs that people with mental illness are dangerous, incompetent, untreatable and unpredictable (Lauber et al. 2006, Corrigan et al. 2014). Participation in stereotypes, which is the knowledge dimension of stigmatization, and negative emotional reactions characterize prejudice, which corresponds to the attitude dimension of stigmatization (WHO 2002). Stereotypes about mental illnesses have been shown to be inversely related to health literacy (Kvaale et al. 2013, Haslam et al. 2015, Fleary et al. 2022). At the same time, stereotypes may also affect the diagnosis and evaluation processes of the physicians (Oliveira et al. 2020, Hallyburton 2022). The belief that a patient with psychiatric symptoms will not be evaluated in detail indicates discrimination (Thornicroft et al. 2007). Physicians' prejudices about individuals with mental illness have been shown to cause avoidance of comprehensive examination (Jones et al. 2008). In a recent study using qualitative analysis, it was revealed that stereotypes in primary care physicians were associated with discrimination (Cunningham et al. 2023).

Healthcare professionals have been shown to increase their social distance from individuals with mental illness (Knaak et al. 2017, Abdulla et al. 2022, Öri et al. 2022). In a study conducted in Greece, it was revealed that healthcare professionals were less inclined to adopt a positive attitude towards the treatment of mental illnesses, to suggest improving the quality of services provided, and to motivate patients to participate and be included in society on an equal basis (Porfyri et al. 2022). The MICA-Social distance subscale of the Turkish version of MICA-v4 consists of items on social distance with individuals with mental illness and concerns about being treated differently if one has a mental illness. In line with the factor structure of the MICA-Social distance subscale, a significant relationship was found between concerns about disclosing one's mental diagnosis and social distance with individuals diagnosed with mental illness (Modgill et al. 2014, van der Maas et al. 2018, Öri et al. 2023).

BMI was used to examine the criterion-related validity of the scale. Positive significant correlations were found between MICA-v4 total and all subscale scores and BMI total and all subscale scores. BMI Dangerousness assesses the belief that people with mental illness are dangerous, and BMI HIP evaluates the belief that people with mental illness are incurable and have negative interpersonal and personality traits, such as breaking promises, not being a good parent, not being punctual, not being able to make friends, low self-efficacy (Hirai and Clum 2000, Bilge et al. 2008). These two BMI subscale scores showed a similar pattern to the MICA-Stereotype subscale score, which assesses the dangerousness of mental illness and the belief that it will never be cured, in comparisons between HCW groups and in relation to a personal history of psychiatric treatment. At the same time, significant correlations were found between BMI Dangerousness, BMI HIP, and MICA-Stereotype scores. MICA-Social distance, which includes items about social distance from people with mental illness and concerns about the person's social position in case of possible mental illness, is similar in content to BMI-HIP. In fact, a moderately significant relationship was found between MICA-Social distance and HIP and other subscales of BMI. In support of this finding, studies have shown that people with mental illness are dangerous, that the illness depends on character pathology, and that the belief that they cannot recover is associated with increased social distance (Corrigan et al. 2001, Grausgruber et al. 2007, Jorm and Oh 2009, Lee et al. 2014, Chekuri et al. 2018, Valentim et al. 2023). At the same time, two items of the MICA-Social distance subscale address the fear of disclosing one's disease diagnosis. Fear of disclosure is associated with internalized stigma and shame (MacDonald and Morley 2001, Corrigan and Rao 2012). In fact, a significant relationship was found between MICA-Social distance and BMI Shame subscale scores. At the same time, both MICA-Social distance and BMI shame subscale scores showed a similar pattern in comparisons of HCW groups. No differences were observed between HCW groups on either subscale. These results indicate that the scale has criterion-related validity.

The internal consistency coefficient was calculated to test the reliability of the scale. The Cronbach's alpha internal consistency coefficient of the entire scale is 0.774, which is at an acceptable level. The Cronbach's alpha value of the original scale is 0.79, while the Spanish and Portuguese adaptations were found to be 0.76 and 0.72, respectively (Vistorte et al. 2023). Therefore, the Turkish adaptation was found to have a similar level of internal consistency to other versions of the scale. In our study, the internal consistency coefficients of the subscales ranged from 0.54 to 0.72 and were at weak- adequate levels (Sekaran and Bougie 2010). On the other hand, a Cronbach's alpha value above 0.5 is considered acceptable (Pallant et al. 2010, Goforth et al. 2015). Internal

consistency coefficients of the subscales have not been reported in other versions of the scale (Gabbidon et al. 2010, Vistorte et al. 2023). Although the internal consistency of the MICA-Stereotype subscale was found to be weak, it was considered valuable because it assesses stereotypes, which are one of the fundamental components of stigma toward mental illnesses.

Our study also examined factors associated with stigmatizing attitudes and judgments and differences between professional groups. While there were no significant gender differences in the analyses for any of the scale scores, there was a very weak negative correlation between years of education and the MICA-Care score. In addition, there were very weak correlations between years of experience and age and the MICA-Stereotype, MICA-Total, and BMI-HIP scores. Some previous studies reported that younger age, higher level of education and female gender were associated with more positive attitudes towards people with mental illness among healthcare professionals (Arvaniti et al. 2009, Douki et al. 2019, Porfyri et al. 2022, Ghuloum et al. .2022). In some other studies, no significant association was found between physicians' stigmatizing attitudes and gender, age, and years of education (Vistorte et al. 2019, Dalky et al. 2020, Kigozi-Male et al. 2023). The protective effect of familiarity with mental illness on stigmatizing attitudes has been consistently demonstrated (Angermeyer et al. 2004, Arboleda-Flórez and Stuart 2012, Çam and Arabacı 2014, Sathyanath et al. 2016, Knaak et al. 2017, Oliveira et al. 2020). In this study, consistent with the literature, MICA-Care, MICA-Stereotype, BMI HIP, and BMI Dangerousness scores were found to be lower in those with a personal history of psychiatric diagnosis or treatment.

In our study, significant differences were found between groups in the scores of the MICA-Care and MICA-Stereotype subscales. The results showed that nurses had higher MICA-Care scores than other groups, regardless of age, gender, years of experience, and familiarity with mental illness (presence of a diagnosis of mental illness in themselves or in a family member). While interpreting the discrepancies between our findings and the literature, it is necessary to take into account the structural characteristics of the scales used and the ways in which results are reported in other studies. In scales assessing stigmatizing attitudes and thoughts towards mental ilness, excluding MICA, it is observed that attitudes related to healthcare are not evaluated as a separate dimension. Instead, relevant questions are included in sub-scales that inquire about the dimensions of stereotype and prejudice (Cohen et al. 1962; Yanos et al. 2017; Öri et al. 2023). Additionally, in studies comparing HCW groups using MICA-v4, only total scores have been reported (Dalky et al. 2020; Babicki et al. 2021; Ghuloum et al. 2022; Kigozi-Male et al. 2023). This situation makes difficult to discuss the results related MICA-Care. A study conducted in South Africa involving nurses revelaed nurses previously worked in psychiatric services had lower stigmatizing attitudes towards mental health services (Kigozi-Male et al. 2023). In another recent study, the stigma levels of surgions were found to be higher compared to medical school students and non-surgical physicians (Babicki et al. 2021). In the same study, it has been demonstrated that, consistent with our findings, individuals who have had contact with psychologists, psychotherapists, or psychiatrists had lower MICA-v4 total scores. In a study in Qatar involving nurses and physicians, nurses were found to have higher MICA-v4 total scores (Ghuloum et al. 2022). Conversely, in another study, MICA-4 total scores of physicians were found to be higher than nurses (Dalky et al. 2020). There is a need for further research exploring stigmatization related to mental health services and attitudes across different professional groups.

This study revelaed that the MICA-Stereotype subscale score was similar in physicians and nurses and lowest in medical students, regardless of age, gender, years of experience and familiarity with mental illnesses. Findings on the differences in stereotypes between HCW groups is contradictory, and evaluations were made using different scales in the literature (Arvaniti et al. 2009, Fernando et al. 2009, Chang et al. 2017, Smith et al. 2017). A study conducted in Singapore showed that nursing students' negative stereotype levels were higher than medical students (Chang et al. 2017). Another study that levels of prejudice of nurses were higher than physicians and other healthcare professionals (Arvaniti et al. 2009). In a study conducted in Sri Lanka, the prejudice levels of medical faculty students were found to be higher than physicians (Fernando et al. 2009). HCW groups related to mental health differ in terms of stereotypes. In a study comparing healthcare professionals from different fields in the United States, the negative stereotype levels of psychiatrists and psychiatric nurses were found to be similar to primary care physicians and nurses (Smith et al. 2017). The study showed that stereotype levels of psychologists were the least. The results were interpreted as physicians and nurses trained under the medical model may be more inclined to focus on the patients' dysfunctions, therefore negative stereotypes are higher in these groups. Given the conflicting results and findings in the literature, there is a need for multicenter studies with large sample sizes that compare levels of stigma among different HCW groups using different measures and taking into account sociocultural characteristics.

There are some potential limitations in this study. We attempted to reach participants with printed surveys rather than using an Internet-based online survey application to ensure more accurate responses. As a result of

this approach, a large sample size could not be achieved. The relatively small sample size may have affected the strength of statistical power and generalizability. The second limitation is that the scale contains general items about mental illness. Assessment at the level of specific psychopathologies may provide more specific results. Third, no clinical interview was conducted with the participants included in the study, and information about the presence of current or previous mental illness history was based on self-report. This made the results more susceptible to response bias in terms of familiarity with mental illness. Fourth, no test-retest analysis was performed. Fifth, physician specialty information was not obtained. There are studies showing that physicians in different specialties have different stigmatizing attitudes toward mental illness. It may be useful to consider this situation in future studies. In addition to these limitations, to the best of our knowledge, our study is the first to compare stigmatizing attitudes among health care professionals in our country. At the same time, to minimize response bias, participants' names and information about the units in which they worked were not collected, and survey responses were received in sealed envelopes. It is believed that the Turkish version of the MICA-v4, which has been shown to be valid and reliable, will be a useful scale in studies investigating stigma and related factors among health care professionals in our country.

Conclusion

Stigma against mental illnesses is common among the HCW. Stigmatizing attitudes lead to negative consequences in care, diagnosis and treatment. Knowing the situations and risk groups associated with stigmatizing attitudes will enable the creation of a roadmap for intervention approaches. Indeed, training and intervention programs for HCWs with different levels of stigmatizing attitudes may need to be structured differently. In this regard, large-sample and multicenter studies comparing stigmatization among different professions and specialty groups in our country will provide clearer conclusions. Nationwide standardized intervention programs, to be planned in the light of the information obtained, will also make it possible to evaluate the impact of education towards stigmatization. Examining stigmatizing attitudes in a multidimensional way and investigating the factors related to the dimensions can also guide the planning of training on stigmatizing attitudes. At the same time, scenario-based qualitative studies to understand the perspectives and attitudes of HCW may be valuable. It would be useful in future studies to use instruments that assess the specific aspects of mental illness stigma for health professionals. The MICA-v4 is a self-report scale developed for this purpose. In our study, the Turkish form of the scale was found to be valid and reliable.

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Addendum 1. Turkish Version of Scale

Turkish Form of the 4th Version of the Mental Illness: Clinicians' Attitudes (MICA) Scale

Please check only one box for each question. The term mental illness here refers to conditions where an individual may be seen by a psychiatrist.

	Kesinlikle katılıyorum	Katılıyorum	Kısmen katılıyorum	Kısmen katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
1.Ruh sağlığı hakkında sadece mecbur kaldığım zaman bilgi edinirim ve bu konuda fazladan materyal okumak için uğraşmam						
2.Ciddi ruhsal bir hastalığı olan insanlar hiçbir zaman kaliteli bir hayat yaşayacak kadar iyileşemezler						
3.Ruh sağlığı alanında çalışmak sağlık ve sosyal bakım hizmetlerinin diğer alanlarında çalışmak kadar saygıdeğerdir						
4. Eğer ruhsal bir hastalığım olsaydı, bunu asla "**arkadaşlarıma"** itiraf etmezdim, çünkü farklı muamele görmekten korkardım						
5. Ciddi ruhsal hastalığı olan insanlar ruhsal bir hastalığı olmayan insanlara göre çoğu zaman daha tehlikelidirler						
6.Sağlık/sosyal hizmet çalışanları ruhsal bir hastalık için tedavi gören insanların yaşamları hakkında o insanların aile fertleri ve arkadaşlarından daha bilgilidir						
7.Eğer ruhsal bir hastalığım olsaydı, bunu asla "**iş arkadaşlarıma"** itiraf etmezdim, çünkü farklı muamele görmekten korkardım						
8.Ruh sağlığı alanında sağlık ya da sosyal bakım hizmetleri uzmanı olmak gerçek bir sağlık ya da sosyal bakım hizmeti uzmanı olmaya benzemez						

9.Eğer kıdemli bir meslektaşım bana ruhsal bir hastalığı olan kişilere saygısızca davranmamı söylerse bu talimatlarına uymazdım						
10,Ruhsal hastalığı olan biri ile konuşurken, fiziksel hastalığı olan biriyle konuşurkenki kadar rahat hissederim						
11. Ruhsal hastalığı olan bir kişiyle ilgilenen her sağlık ya da sosyal bakım hizmeti uzmanı aynı zamanda o kişinin fiziksel sağlığının da değerlendirildiğinden emin olmalıdır						
12.Toplumun ağır ruhsal hastalığı olan bireylerden korunmasına gerek yoktur						
13.Eğer ruhsal hastalığı olan bir kişi fiziksel semptomlardan yakınırsa (göğüs ağrısı gibi), bu durumu onun ruhsal hastalığına bağlarım						
14.Pratisyen hekimlerin psikiyatrik semptomları olan kişiler için kapsamlı bir değerlendirme yapmaları beklenmemelidir çünkü bu kişiler psikiyatriste yönlendirilebilirler						
15.İşteyken gördüğüm ruhsal hastalığı olan kişileri meslektaşlarıma tarif ederken "deli", "çatlak", "manyak" vb. terimler kullanırım						
16.Bir iş arkadaşım bana ruhsal hastalığı olduğunu söyleseydi, yine de onunla çalışmak isterdim						

Note: Items 6, 8 and 16 were excluded from the Turkish version of the scale.

Scoring of the Scale

Items 1, 2, 4, 5, 6, 7, 8, 13, 14 and 15 are reverse scored

MICA-Care 3,9,11,13,15

MICA- Stereotypes: 1,2,5,14

MICA-Social distance: 4,7,10,12