ATTITUDES OF PSYCHIATRISTS TOWARD PEOPLE WITH MENTAL ILLNESS IN HUNGARY

Ph.D. thesis

Dorottya Őri, M.D.

Semmelweis University Doctoral School
Mental Health Sciences Division

Supervisor: Zsuzsa Győrffy, Ph.D.
Thesis consultant: Sándor Rózsa, Ph.D.

Official reviewers: Kinga Farkas, M.D., Ph.D.
Márta Csabai, Ph.D.

Head of the Complex Examination Committee:
László Tringer, M.D., Ph.D.

Members of the Final Examination Committee:
Gábor Csukly, M.D., Ph.D.
Gyöngyvér Ferenczi-Dallos, M.D., Ph.D.

Budapest, 2024

1. Introduction

People with mental health conditions do not only experience stigma from the general public when seeking medical help, but can also face stigma from healthcare providers including mental healthcare professionals, despite growing evidence that discrimination and inequality affect the treatment plan and worsen physical and mental healthcare outcomes and serve as a barrier to recovery. Stigmatizing attitudes among mental health care providers can result in disparities in treatment access and quality, leading to delayed diagnosis, inappropriate treatment decisions, and reduced adherence to medication and therapy.

It is important to note that there has been limited research on mental health-related stigma among mental health professionals, particularly among psychiatrists. Although psychiatrists generally maintain positive attitudes toward individuals with mental illness, research indicates that their attitudes may not consistently differ significantly from those of other healthcare professionals or the general population. In Hungary, there is limited research on the measurement of mental health-related stigma, both in the general public and within the healthcare system.

2. Objectives

The general aim of this study was to explore and collect information about the stigma of Hungarian psychiatrists toward people with mental illness and to identify factors related to psychiatrist attitudes that could be targets of anti-stigma interventions.

The thesis sought to address the following:

1) Firstly, we aimed to investigate the psychometric properties of the Opening Minds Stigma Scale for Health Care Providers (OMS-HC), the stigma measurement we used in the study. We sought to test its Hungarian version by running confirmatory factor analyses on the three-dimensional model proposed by the scale authors. In cases where the fit indices were not within the acceptable range, we would run an exploratory factor analysis.

2) Secondly, after having an appropriate Hungarian version of the stigma measurement, we aimed to test our hypotheses on the stigmatizing attitudes of psychiatrists.

On the basis of the current literature, the specific hypotheses were as follows:

1) The lived experiences of psychiatrists are associated with more positive attitudes toward people with mental illness.

2) Experience in psychotherapy is related to less stigmatizing attitudes.

3) Participation in case discussion and supervision or Balint groups is associated with more favorable attitudes.

4) The attitudes of surrounding psychiatry colleagues affect the attitudes of psychiatrists toward people with mental illness.

3. Methods

A sample of general adult and child and adolescent psychiatric trainees and specialists was surveyed using an anonymous online questionnaire in a cross-sectional study design. The survey started with a short set of demographic and profession-related questions and the main outcome measure was the OMS-HC. This is a self-reported measurement, it contains 15 statements about feelings, thoughts, and beliefs about people with mental illness are scored on an ordinal scale from 1 to 5. The English version of the OMS-HC was translated into Hungarian and ten back-translated to English. Before the survey was more widely disseminated, a pilot study was conducted in which a group of seven psychiatrists completed the survey and provided feedback as a pilot study.

Factor analyses consisted of the following steps: 1. confirmatory factor analysis (CFA) for the three-correlated-factor model proposed by the scale authors, 2. determination of the number of factors to be extracted by considering multiple methods: Scree-test, Kaiser's criterion, and the parallel analysis, 3. exploratory factor analysis (EFA) to determine the items that make up each subscale, 4. confirmatory factor analysis to compare all possible versions of the scale and to confirm the structure suggested by the parallel analysis and the EFA outcome.

Then, we chose the Mental Illness: Clinician's Attitudes-4 (MICA-4) scale for convergent validity measures, provided model-based reliability coefficients for the proposed model, and calculated intraclass correlation coefficients for the test-retest reliability measures. Multiple linear regression analysis was performed using a stepwise method in 10 steps. The OMS-HC total and subscale scores were used as dependent variables, and sociodemographic and professional variables as independent variables.

4. Results

We received responses from a total of n=238 psychiatrists. As the completion rate was 89%; we used data from n=211 participants who completed the entire survey for the psychometric part and all subsequent analyses.

4.1 Investigation of the factor structure of the OMS-HC

First, we tested the three-factor model of the OMS-HC proposed by Modgil, author of the scale. Table 1 shows the fit indices for all models tested. Despite the acceptable absolute indices of the three-correlated-factor model, as its relative fit indices, the CFI and TLI were lower than the acceptable range, we decided to further investigate the structure of the scale by performing an EFA. Bartlett's spherical value was statistically significant ($p < 0.0001$) and the KMO measure of sampling adequacy was 0.718, indicating that the data were suitable for EFA.

Kaiser's criterion and Scree test were used to determine the number of initial unrotated factors to be extracted. As Kaiser's criterion and the Scree test yielded ambiguous results for the number of factors to be retained, we conducted a parallel analysis, which suggested the extraction of three factors. The results of the parallel analysis revealed that three factors

accounted for 25%, 11%, and 10% of the variance, altogether they explained 46% of the total variance.

Table 1. Results of the confirmatory factor analysis of the OMS-HC

	χ^2	χ^2/df	*RMSEA*	95% CI of RMSEA	CFI	TLI
Original 15-item scale	129.602	1.45	0.048	0.030-0.065	0.818	0.780
Unidimensional 15-item scale	173.562	1.93	0.066	0.051-0.081	0.642	0.583
Three correlated factors based on EFA results (15 items)	123.479	1.45	0.045	0.024-0.062	0.844	0.812
Three correlated factors with the deletion of 1 item based on EFA results (14 items)	103.475	1.39	0.043	0.021-0.062	0.867	0.836
Bifactor solution (14 items)	71.055	1.13	0.025	0.000-0.050	0.961	0.944

The confirmatory factor analysis was performed using the maximum likelihood estimation with robust standard errors and a mean- and variance adjusted.

We also performed EFA using the unweighted least-squares method with geomin rotation and a hierarchical Schmid-Leiman solution as well. The results indicated three relatively distinct dimensions using both methods, with acceptable factor loadings and some cross-loadings. Items 13 and 14 showed severe cross-loadings on different factors than would have been assumed. In addition, due to a poor loading on each factor, we decided to

remove item 11 from the scale. In the next step, we evaluated the model fit by performing CFA for all proposed models: the unidimensional, the three correlated factor model, the same with deleting the questionable item 11 and the bifactor solution for the 14-item version (Figure 1) with a general factor and three specific factors.

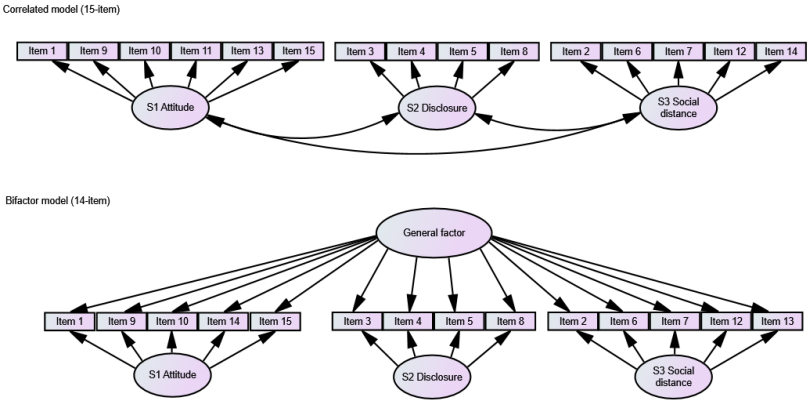

Figure 1. The correlated model of the 15-item version proposed by the authors of the scale and the bifactor model of the 14-item version of the OMS-HC

As presented in Table 1, the bifactor solution was considered the most appropriate model and showed the best fit of all, as all of its fit indices showed a good fit, and were in the predefined ranges.

4.2. Concurrent validity measure

Concurrent validity was assessed by simultaneously completing the MICA-4 scale. A statistically significant strong positive correlation was found between the total scores of both questionnaires (Spearman's rho= 0.68, $p<0.0001$).

4.3. Reliability measures

To verify the reliability of the bifactor model, we tested its model-based reliability. Poor model-based reliability was found for both the general factor, and the specific factors: general factor (ECV=0.43, ω=0.80, ωH=0.56), Attitude (ECV=0.18, ω=0.66, ωH=0.37), Disclosure and help-seeking (ECV=0.19, ω=0.68, ωH=0.44), and Social distance (ECV=0.19, ω=0.72, ωH= 0.37). The PUC value was 0.71 for the bifactor model with the three specific factors.

Test-retest reliability was measured on a subsample of participants (n=31) who completed the survey twice with a follow-up period of one month (median 28 days, IRQ: 26-30 days). Test-retest reliability was excellent for the general factor and good for all specific factors between the two completions of the OMS-HC.

4.6.2. Distribution of responses for the scale items

Respondents tended to have a positive attitude toward people with mental health problems, as responses for both attitude and preferred social distance dimensions skewed toward positive responses. The results for disclosure and help-seeking statements were closer to a uniform distribution. One half of the subjects agreed, whereas the other half was neutral or disagreed with the following statements: “I would be reluctant to seek help if I had a mental illness” and “If I were under treatment for a mental illness, I would not disclose this to any of my colleagues”.

4.4. Lived experiences of participants

As shown in Table 2, almost two-thirds (59%) of the sample had a friend or family member affected by mental health condition; 46% of them sought help, and one in five psychiatrists (19%) received medical treatment for any mental health condition in their lifetime. Three-quarters of the sample (74%) has experience in psychotherapy.

Table 2. Lived experiences of participants

Variables	Answer	n (%)
Ever experienced negative discrimination on the grounds of working as a psychiatrist	Yes	91(43)
	No	119 (57)
Having friends or family members with mental illness	Yes	124 (59)
	No	77 (36)
	I do not know	9 (4)
Ever sought help for mental health conditions	Yes	98(46)
	No	111(53)
Ever received medical treatment for any psychiatric conditions	Yes	41 (19)
	No	169 (80)
Ever been participating in psychotherapy for any reason	Yes	156 (74)
	No	50 (24)

Where the percentages were less than 100%, the participant chose not to answer the question in the other cases.

In the multiple regression analysis, presented in Table 3, we focused on how the professional and personal variables related to the OMS-HC total and subscale scores.

Table 3. Standardized beta coefficient estimates representing the analysis of OMS-HC total and subscales scores adjusted for professional and personal factors.

	Standardized Beta	p-value	95%CI	R^2
Attitude				
Stigmatizing attitudes of close psychiatry colleagues	0.235	0.004	0.168-0.858	0.104
Actively provides psychotherapy	0.179	0.025	0.099-1.425	
Has experienced negative discrimination on the grounds of working as a psychiatrist	0.163	0.042	0.024-1.364	
Disclosure and help-seeking				
Ever sought help for own mental health problems	0.202	0.011	0.248-1.925	0.070
Stigmatizing attitudes of close psychiatry colleagues	0.169	0.033	0.038-0.908	
Social distance				
Has experienced negative discrimination on the grounds of working as a psychiatrist	0.245	0.002	0.439-1.931	0.090
Ever been medically treated for a mental health problem	0.184	0.019	0.185-2.063	
14-item total				
Stigmatizing attitudes of close psychiatry colleagues	0.191	0.016	0.188-1.843	0.067
Being open to participating in case discussion groups*	0.166	0.037	0.178-5.886	

* Case discussion groups, supervision or Balint-groups. Multiple linear regression analysis using stepwise method. 95% CI = 95% Confidence interval, r^2=Rho square. Only statistically significant results are presented ($p \leq 0.05$).

5. Conclusions

In conclusion, we translated the OMS-HC, examined its psychometric properties, and investigated factors related to stigmatizing attitudes among psychiatrists. The Hungarian version of the OMS-HC contains 14 items, as one item had to be deleted from the scale due to a poor fit in the model. On the basis of exploratory and confirmatory factor analyses, and after a

comparison of different models, the bifactor model best explains the scale structure consisting of a general factor and three specific factors; however, its model-based reliability is lower than estimated. Therefore, we recommend using the total score as the primary measure and employing the subscale scores with caution. Nevertheless, subscale scores are useful for determining which dimension contributes to an elevated overall total score. The test-retest reliability and concurrent validity measures ensure adequacy and usability of the OMS-HC for assessing stigma among healthcare providers in Hungary.

In the current study, we focused on the following hypotheses:

1) The lived experiences of psychiatrists are associated with more positive attitudes toward people with mental illness.

Their own lived experiences of any mental disorders, including prior help-seeking behavior and medical treatment for a mental illness, were related to the scores on the subscales Disclosure and help-seeking, as well as the Social distance of the OMS-HC, which indicates their current willingness to seek help, and a decreased social distance from those with mental illness.

2) Experience in psychotherapy is related to less stigmatizing attitudes.

Active psychotherapy predicted the scores of the subscale Attitude in the regression model, indicating more favorable attitudes toward people with mental illness.

3) Participation in case discussion and supervision or Balint groups is associated with more favorable attitudes.

Whereas openness to case discussion, supervision or Balint groups were associated with the total score of the OMS-HC, there was no statistically significant relationship in the regression model for participation in case discussion groups.

4) Attitudes of surrounding psychiatry colleagues affect the attitudes of psychiatrists toward people with mental illness.

The OMS-HC total scores and the scores of the subscales Attitudes and Disclosure and help-seeking were related to the chance to work together with less stigmatizing psychiatry colleagues.

The study found that psychiatrists with lived experience of mental illness, active psychotherapeutic practice, supportive colleagues, and openness to case discussion groups had more positive attitudes toward individuals with mental illness. It suggests incorporating these practices into training programs and everyday practice.

6. Bibliography of the candidate's publications

Publications related to the thesis:

Őri D, Rózsa S, Szocsics P, Simon L, Purebl G, Győrffy Z. Factor structure of The Opening Minds Stigma Scale for Health Care Providers and psychometric properties of its Hungarian version. BMC psychiatry. 2020;20(1):1-9.

Őri D, Szocsics P, Molnár T, Ralovich FV, Huszár Z, Bene Á, et al. Stigma towards mental illness and help-seeking behaviors among adult and child psychiatrists in Hungary: A cross-sectional study. PLOS ONE. 2022;17(6):e0269802.

Publications not directly related to the thesis but relevant as they pertain to mental health-related stigma:

Őri D, Szocsics P, Molnár T, Motlova LB, Kazakova O, Mörkl S, Wallies M, Abdulhakim M, Boivin S, Bruna K, Cabaços C, Carbone EA, Dashi E, Grech G, Greguras S, Ivanovic I, Guevara K, Kakar S, Kotsis K, Ingeholm Klinkby IM, Maslak J, Matheiken S, Mirkovic A, Nechepurenko N, Panayi A, Pereira AT, Pomarol-Clotet E, Raaj S, Prelog PR, Soler-Vidal J, Strumila R, Schuster F, Kisand H, Reim A, Ahmadova G, Vircik M, Kafali HY, Grinko N, Győrffy Z, Rózsa S. Attitudes of psychiatrists towards people with mental illness: a cross-sectional, multicentre study of stigma in 32 European countries. EClinicalMedicine. 2023;66:102342.

Őri D, Szocsics P, Molnár T, Bankovska Motlova L, Kazakova O, Mörkl S, Wallies M, Abdulhakim M, Boivin S, Bruna K, Cabacos C, Carbone EA, Dashi E, Grech G, Greguras S, Ivanovic I, Guevara K, Kakar S, Kotsis K, Klinkby IMI, Maslak

J, Matheiken S, Mirkovic A, Nechepurenko N, Panayi A, Pereira AT, Pomarol-Clotet E, Raaj S, Rus Prelog P, Soler-Vidal J, Strumila R, Schuster F, Kisand H, Hargi A, Ahmadova G, Vircik M, Yilmaz Kafali H, Grinko N, Győrffy Z, Rózsa S. Psychometric properties of the Opening Minds Stigma Scale for Health Care Providers in 32 European countries – A bifactor ESEM representation. Frontiers in Public Health. 2023;11.

Őri D, Vass E, Vajsz K, Vincze K, Sztancsik V, Szemán-Nagy A, Simon L. Psychometric validation of the Reported and Intended Behaviour Scale (RIBS) in Hungary with a particular focus on 'Don't know' responses and further scoring recommendations. BMC public health. 2023;23(1):1773.

Őri D, Molnár T, Szocsics P. Mental health-related stigma among psychiatrists in light of Covid-19. Asian J Psychiatr. 2021;58:102620.

El Halabi S, Fish E, Boroon M, de Filippis R, El Hayek S, Larnaout A, **Ori D**, Pinto da Costa M, Ramalho R, Ransing R. The role of arts in moderating mental health-related stigma: views of early career psychiatrists and trainees from different parts of the world. Front Psychiatry. 2024;15:1293142.