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Validity and Reliability of the Parents' Internalized Stigma of Mental Illness Scale

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SUMMARY

Objective: The purpose of this study is to investigate the validity and reliability of PISMI-TR, the Parents Internalized Stigma of Mental Illness scale, which had been previously adapted to the Turkish.

Method: The data of this methodological study were acquired between June 2017 and August 2018 from the parents of 281 individuals who were diagnosed with a mental disorder and followed up at the adult psychiatry polyclinics of a university hospital, by means of an Information Form, the PISMI-TR scale and the Beliefs toward Mental Illness (BMI) scale. SPSS 22.0 and LISREL 8.89 were used for data analysis. The content and the construct validities were determined for the scale validity and the internal consistency values were calculated for the reliability.

Results: The Cronbach's alpha coefficient was 0.87 for the total score of the scale, and it varied in the 0.69-0.81 range for the subscale scores. The confirmatory factor analysis validated a 5-factor structure for the PISMI-TR scale tested on the participants of this study; and the adaptive ad statistical values were at an acceptable level. The factor loading was found to range between 0.34 and 0.74.

Conclusion: The validity and reliability analyses carried out indicated that the PISMI-TR scale is both valid and reliable. The scale can be used to evaluate the internalized stigma in parents, who play an important role in adherence to treatment of the mentally ill offspring.

Keywords: Stigmatization, reliability and validity, mental disorders, parents

INTRODUCTION

Stigmatization diminishes the worth of individuals by causing the family and/or the society to perceive them as less desirable or unwanted (Bilge and Çam 2008). Although stigmatization and discrimination exist in many situations, those most prone to stigmatization in all societies are individuals with mental illnesses (Taşkın 2007). These individuals encounter the adverse effects of stigmatization and discrimination in many areas of life, from the place of work to their family and social lives (Corker et al. 2015).

Not only the people suffering from mental illness but also their friends and families experience loneliness and are misunderstood because of stigmatization. Labelling individuals with mental illness significantly reduces their compliance with treatment, lowers their quality of life, distances them from the community and increases the care burden of their families (Akdede et al. 2004).

Considering the conditions of individuals with mental disorders, such as not being able to get married and inability to secure a job and to live alone, the burden of the parents do not diminish over time; on the contrary, their responsibilities increase with time under the obligation to maintain their parenting duties (Zisman-Ilani et al. 2013). Even though patients or their relatives do not have the experience of tangible discrimination, they may place a distance between themselves and the society because of the internalized stigma (Taşkın 2007), which is regarded as an adoption of the stigmatizing

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views of a society by the mentally ill individual (Çam and Çuhadar 2011). This situation causes the symptoms of the patient to be aggravated and prolongs the recovery period (Tel and Pınar 2012). Parents of the mentally ill may feel guilty and ashamed with the notion that they have transmitted the causative genes to their offspring. They may think of not having been good parents and believe in the concealment of this situation. Also, the attitudes of the society towards the mentally ill also exacerbates the self stigmatization by the family, such that the effects of reflecting this or the internalized stigma to the patients can be more damaging than what they perceive socially (Yıldız et al. 2012, Yıldız et al. 2018). While adversely affecting the improvement and the treatment compliance of the patients, the internalized stigma of the parents also causes symptoms of anxiety and depression in the care givers and increases their burden; such that significant correlations have been shown between this cause and its effects (Gümüş et al. 2017). Therefore, the internalized stigma of the families as well as that of the patients should be evaluated and alleviatory psychosocial interventions should be planned (Ersoy and Varan 2007).

Self-report scales have been available in Turkey for assessing internalized stigma of the mentally ill (Ersoy and Varan 2007), and evaluating the attitudes and beliefs on mental illness (Bilge and Çam 2008). At the time of planning this study there had not been an available scale for rating the internalized stigma of the parents of the mentally ill. A literature survey made later revealed that the validity and reliability of the Parents' Self-Stigma Scale (PSSS), applicable to all relatives of the mentally ill, had been determined by making use of the Self-Stigma Questionnaires (Corrigan and Rao 2012, Ochoa et al. 2015) and the Internalized Stigma of Mental Illness Scale (ISMI) (Ersoy and Varan 2007) as references, particularly in determining the items of the PSSS (Yıldız et al. 2018). After discussing the items determined for the PSSS in a focus group including the relatives of 18 mentally ill patients, the 19-item and five-point Likert-type scale that can be applied on parents, siblings, spouses, and children was analyzed for validity and reliability by Yıldız et al. (2018).

Considering that individuals with mental disorders rarely get married and have children, and often live with their parents, there is need for a new scale that measures the internalized stigma of parents who play a major role in psychiatric treatment and suffer most of the burden of the disease. In the relevant literature, the internalized stigma experienced by parents of the mentally ill is measured by the Affiliate Stigma Scale (ASS) (Mak and Cheung 2008). Zisman-Ilani et al. (2013), having criticized the one-factor structure of the ASS and arguing that the multi-factor structure of the ISMI would be better in evaluating internalized stigma and related factors, reported that although they were able to conduct the validity and reliability study of the PISMI by adapting some of the ISMI items, they could not do confirmatory factor analysis for not having a sufficient sample size.

ISMI is a scale widely used throughout the world for assessing internalized stigma and it was previously adapted to the Turkish language (Ersoy and Varan 2007). This study has aimed to determine the validity and reliability of the Parents Internalized Stigma of Mental Illness scale in the Turkish language (PISMI-TR) after re-arranging the items of the ISMI-TR, in order to provide an assessment tool for evaluating the internalized stigma experienced by parents of the mentally ill.

METHOD

Place and Time of the Study

The data of this methodological study were collected between July 2017 and August 2018 at the psychiatry polyclinics of a university hospital.

Participants of the Study

The participants of this study were recruited from the parents of patients consulting the psychiatry polyclinics of the medical school hospital of a university. The participants consisted of mothers and/or fathers who volunteered to join the study as the parents of patients at and above 18 years of age and being followed up with the diagnosis of a psychiatric disorder. Parents with a history of psychiatric diagnosis were excluded from the study. As it had been pointed out that statistical analyses of the validity and reliability of a measurement scale in medical research should be based on experimental subjects no less than 5-10 times the number of items included in the scale (Akgül 2005), this study was planned to include 290 parents. However, the results were based on data from 281 participants or 9.68 times the number of items in the PISMI-TR scale, since 9 parents were excluded for failure to fill out the scale forms completely.

Data Collection Tools

Information Form: This is a sociodemographic questionnaire based on the relevant literature and prepared by the researchers. The form included 18 questions to obtain information about the parents' age, gender, educational status, marital status, and the diagnoses made on their offspring, duration of illness, number of hospitalizations, drug use and others.

The Parents' Internalized Stigma of Mental Illness (PISMI) Scale: The PISMI-TR is a re-arranged form of the Internalized Stigma of Mental Illness (ISMI-TR) scale, originally developed by Boyd-Ritsher et al. (2003) to determine the internalized stigma of individuals with mental illness. This four-point Likert-type scale includes 29 items, and the validity and

reliability study of the ISMI-TR was conducted by Ersoy and Varan (2007). The scale has five subscales: "Alienation" (items: 1, 5, 8, 16, 17, 21); "Stereotype Endorsement" (items: 26, 10, 18, 19, 23, 29); "Perceived Discrimination" (items: 3, 15, 22, 25, 28); "Social Withdrawal" (items: 4, 9, 11, 12, 13, 20) and "Stigma Resistance" (items: 7, 14, 24, 26, 27). The response options on the scale are "strongly disagree (1 point)", "disagree (2 points)", "agree (3 points)" and "strongly agree (4 points)". The items associated with the "stigma resistance (7, 14, 24, 26, 27) subscale are reverse-scored. The total possible score on the ISMI, determined by summing the five subscales, ranges from 29 to 116, and there is no cut-off score. Higher scores indicate that the individual's internalized stigma is more severe and negative. Cronbach's alpha coefficient of the original version of the scale was reported to be 0.93. In this study, in place of the personal expressions used for the ISMI-TR items, expressions, like "my child" were used (Zismani-Ilani et al. 2013) to make the expressions more relevant to parents. For example, "*Having a mental illness spoiled my life*" was modified as "*My child has a mental illness, and this has spoiled my life*."

The Beliefs toward Mental Illness (BMI): This scale was developed by Hirai and Clum (2000) in order to evaluate beliefs about mental illness. The validity and reliability of the scale in the Turkish language (BMI-TR) was determined by Bilge and Çam (2008). This six-point Likert-type scale includes three subscales: i) Dangerousness, ii) Incurability and poor social and interpersonal skills, and iii) Shame. Raised scores on the scale and subscales indicate greater degree of negative beliefs. Cronbach's alpha coefficient of the original version of the scale was reported to be 0.82. In this study, Cronbach's alpha coefficient for the total score of the scale was found to be 0.90.

Data Analysis

The acquired data were analyzed using the SPSS 22.0 and LISREL 8.80 software programs. Evaluations on the sociodemographic questionnaire were expressed in terms of number, percentage, mean, and standard deviation. Scoring on the PISMI and individual characteristics were analyzed using the student-t test or the One-way ANOVA. The relationship between numerical variables and scores on the PISMI-TR was analyzed using the Pearson correlation test. Kendall's Coefficient of Concordance (W) was applied for the scope validity. The factorial structure validity was based on confirmatory factor analysis (CFA), as in the original adaptation work. Cronbach's alpha reliability coefficients were calculated for each subscale, and psychometric properties were re-evaluated for the reliability analyses. Predictive validity of the PISMI-TR was based on the Pearson correlation analysis. The Cronbach's alpha, Spearman Gutmann, and split-half reliability tests were performed for internal consistency analyses as part of the reliability analysis. Item analysis was carried out using the Pearson Product Moment Correlation analysis. Results were evaluated at the 95% confidence interval with $p < 0.05$ as the indicant of significance.

Ethics

Prior to conducting the study, permission to use the scale was obtained by e-mail from Jennifer Boyd (Ritsher), who had developed the scale. Permission was also obtained from Mehmet Akif Ersoy, the researcher who performed the validity and reliability study of the ISMI-TR. Approvals from the Non-Interventional Ethics Committee of the associated university (approval no. 148/23.06.2017) and from the institution where the study would be carried out (approval no. 72496/10.08.2017) were obtained before starting the study. Written informed consent to participate in the study was received from all participants.

RESULTS

Characteristics of the Participants

The mean age of the participants was 49.6 (± 9.34) years. The mean duration of the mental illness of their offspring was 4.05 (± 4.15) and the mean number of hospitalizations was 1.0 (± 2.24). Among the participants, 54.4% were female (mother); 29.9% had completed primary school; 96.4% were married; 57.6% did not work and 69% perceived their economic status as moderate. The predominant diagnosis on their offspring was bipolar disorder followed by anxiety disorder, schizophrenia, and other psychotic disorders. The mean total PISMI score of the participants was 59.57 ± 12.53 (min: 34 - max: 106).

Investigating the correlations between the sociodemographic details of the parents, the clinical observations on their offspring and the mean PISMI-TR score demonstrated significant correlations between the mean PISMI-TR score and the family history of similar psychopathology, the treatment compliance of the afflicted offspring, the education level and the economic state of the parents.

Result of the post-hoc Tukey analysis showed that the total PISMI-TR scores of the participants who were literate and of those who had completed primary school education were significantly higher than the scores of the university graduate parents. Also, the total PISMI-TR scores of the parents perceiving their economic situation as being poor or those perceiving it as being moderate were significantly higher than that of the parents perceiving their economic situation as being good. Post-hoc analyses on the scores related to each psychiatric diagnosis on the offspring could not be made as the number of samples for each condition was not adequate (Table 1).

Table 1. Sociodemographic Characteristics of the Parents

Characteristics	M ±SD	Min -Max	Statistics	P
Age	49.6±9.34	45-81	*r: 0.29	0.64
Duration of Mental Illness of the Offspring Receiving Care	4.05±4.15	1-26	*r: 0.16	0.09
Number of Hospitalizations of the Offspring Receiving Care	1.0±2.24	0-26	*r: 0.12	0.49
	N	**%**		
Gender				
Female (Mother)	153	54.4	**t= 1.48	0.13
Male (Father)	128	45.6		
Education Level				
Illiterate[1]	50	17.8	***F: 2.82 3>6 2>6	0.017
Literate[2]	30	10.7		
Primary school[3]	84	29.9		
Secondary school[4]	14	5		
High school[5]	63	22.4		
University degree or higher	40	14.2		
Marital Status				
Single	13	4.6	**t: -0.78	0.43
Married	268	96.4		
Working Status				
Working	119	42.4	**t: -1.21	0.22
Not working	162	57.6		
Economic Status				
Good[1]	37	13.2	***F: 8.92 3>1 2>1	0.00
Moderate[2]	194	69		
Poor[3]	50	17.8		
Diagnoses				
Schizophrenia and Other Psychotic Disorders	47	16.7	***F: 2.811	0.08
Bipolar Disorder	110	39.1		
Anxiety Disorder	56	19.9		
Obsessive Compulsive Disorder	28	10		
Postpartum Depression	1	0.4		
Alcohol and Substance Addiction	1	0.4		
Do not know	38	13.5		
History of Similar Illness in the Family				
Yes	75	26.7	**t: 2.96	0.03
No	206	73.3		
Regular Medication Use				
Yes	129	45.9	**t: -4.16	0.00
No	152	54.1		

PISMI: Parents' Internalized Stigma of Mental Illness scale
M ± SD: Mean ± Standard Deviation, † Min-Max: Minimum-Maximum,
* Pearson Correlation Analysis, ** Student t test, *** F Test (ANOVA)
p<0.05 was accepted as significant.

Table 2. Confirmatory Factor Analysis Results of PISMI-TR

	Subscales						
	Alienation	**Stereotype endorsement**	**Perceived discrimination**	**Social withdrawal**	**Stigma resistance**	**R^2**	**t**
Items in the PISMI-TR	**Standardized Factor Loads**						
Pismi1	0.35					0.15	12.84*
Pismi2		0.34				0.13	12.6*
Pismi3			0.51			0.36	16.95*
Pismi4				0.51		0.38	18.36*
Pismi5	0.38					0.24	13.00*
Pismi6		0.43				0.24	15.67*
Pismi7					0.61	0.49	12.69*
Pismi8	0.38					0.25	13.87*
Pismi9				0.52		0.32	18.89*
Pismi10		0.47				0.22	16.63*
Pismi11				0.45		0.22	16.70*
Pismi12				0.57		0.41	20.23*
Pismi13				0.53		0.35	19.09*
Pismi14					0.74	0.60	14.22*
Pismi15			0.58			0.36	18.88*
Pismi16	0.56					0.36	18.24*
Pismi17	0.57					0.36	18.32*
Pismi18		0.53				0.33	18.48*
Pismi19		0.48				0.30	17.18*
Pismi20				0.61		0.46	20.97*
Pismi21	0.56					0.30	18.46*
Pismi22			0.62			0.49	19.52*
Pismi23		0.56				0.43	19.48*
Pismi24					0.73	0.59	13.87*
Pismi25			0.54			0.40	17.59*
Pismi26					0.39	0.18	8.93*
Pismi27					0.74	0.64	14.06*
Pismi26			0.56			.36	18.25*
Pismi29		0.54				0.30	18.84*

PISMI-TR: Parents' Internalized Stigma of Mental Illness Scale- the Turkish's language version
R^2: Multiple Determination Coefficient
* p< 0.01

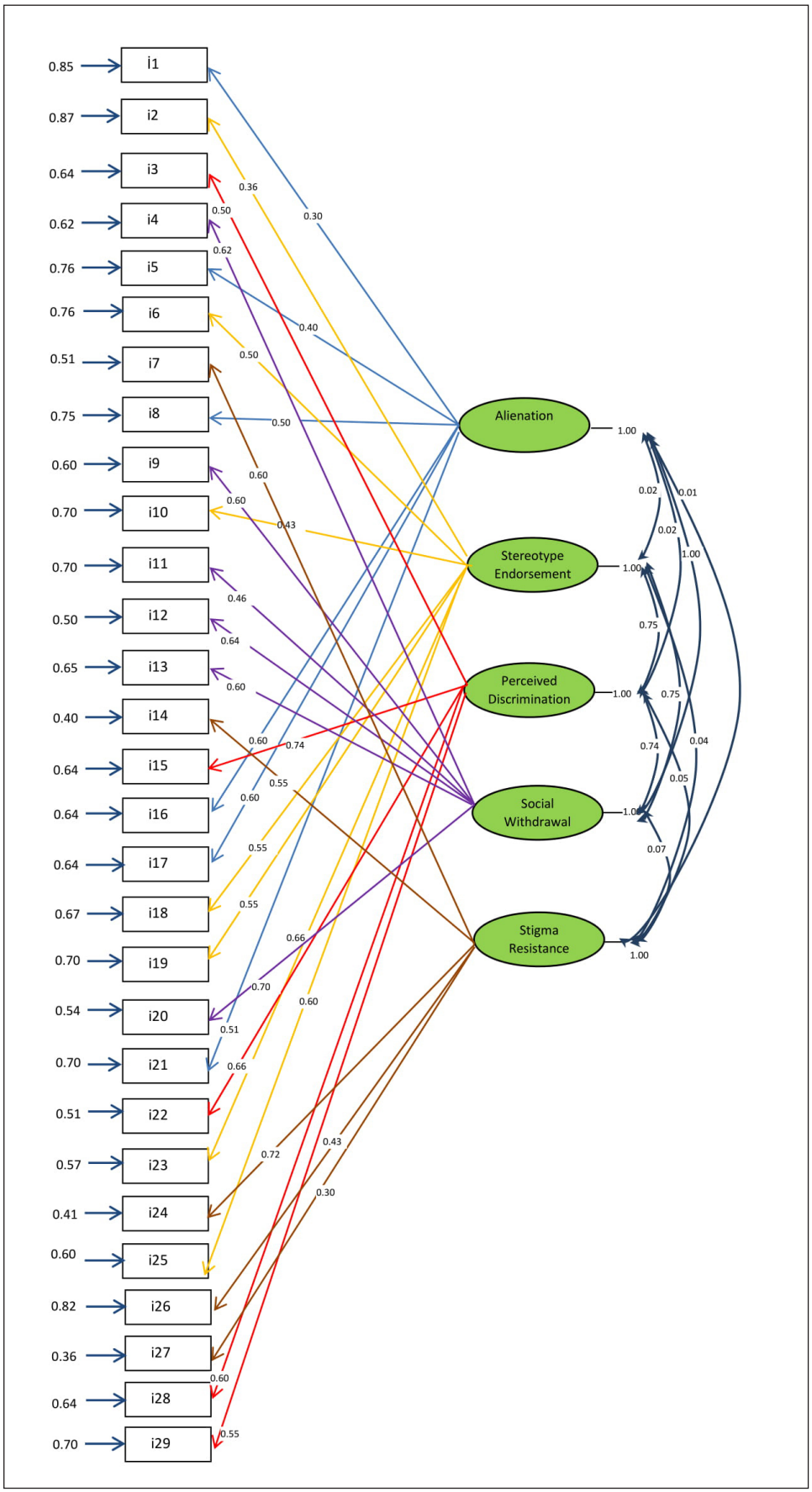

Figure 1. Trace Diagram of Confirmatory Factor Analysis of the Parents' Internalized Stigma of Mental Illness Scale-the Turkish Language Version (PISMI-TR) (with Standardized Values).

Validity Analyses

Content Validity: Translation-back translation of the PISMI was not performed as the ISMI-TR, it was based on, was already available. In order to determine the conformity of the altered wording in ISMI-TR with the purpose of representing the parents in the PISMI-TR, 9 experts including 5 psychiatry specialists and 4 academic psychiatric nurses were consulted.

The experts were asked to evaluate the suitability of each assessment item on the four-point Likert-type scale by noting: 1- strongly disagree, 2- disagree, 3- agree, and 4- strongly agree. Analysis by Kendall's Coefficient of Concordance (W) showed that the given expert opinions did not differ (W=0.19, p=0.011). In compliance with the expert opinions to ensure integrity of meaning and simplicity of the language, the expressions in some of the items were modified with additions and removals without impairing the context and the nature of the scale.

Predictive Validity: Investigation of the relationship between PISMI-TR and BMI-TR by the Pearson correlation analysis showed and a weakly positive correlation (Çoşansu 2014) of statistical significance (r: 0.37, p: 0.00).

Table 3. Analysis of PISMI-TR Items

	Scale Score Average When an Item was Eliminated	Scale Variance When an Item was Eliminated	Item Scale Total Correlation	Cronbach's Alpha Coefficient When an Item was Eliminated
Pismi1	57.96	145.084	.263*	.870
Pismi2	57.65	145.322	.251*	.871
Pismi3	57.99	141.821	.479*	.865
Pismi4	58.02	140.935	.520*	.864
Pismi5	58.24	144.177	.369*	.867
Pismi6	57.90	142.587	.317*	.867
Pismi7	57.15	153.518	.126*	.879
Pismi8	58.09	143.957	.414*	.867
Pismi9	57.92	140.575	.456*	.865
Pismi10	57.58	142.515	.347*	.868
Pismi11	57.63	143.469	.324*	.869
Pismi12	57.68	139.984	.493*	.864
Pismi13	57.78	141.080	.432*	.865
Pismi14	57.22	153.671	.199*	.881
Pismi15	57.56	141.440	.382*	.867
Pismi16	57.77	140.287	.446*	.865
Pismi17	57.76	139.882	.447*	.864
Pismi18	57.54	141.563	.351*	.866
Pismi19	57.88	142.438	.399*	.866
Pismi20	57.83	139.390	.599*	.863
Pismi21	57.48	141.422	.412*	.867
Pismi22	57.91	140.771	.583*	.864
Pismi23	58.01	140.786	.577*	.864
Pismi24	57.36	154.475	.266*	.881
Pismi25	57.93	141.963	.430*	.865
Pismi26	57.21	149.961	.329*	.875
Pismi27	57.12	150.314	.288*	.876
Pismi28	57.68	142.033	.434*	.867
Pismi29	57.68	141.348	.424*	.867

PISMI-TR; Parents' Internalized Stigma of Mental Illness Scale-the Turkish language version
p< 0.05

Construct Validity: Firstly, the Kaiser-Meyer-Olkin (KMO) and the Bartlett's tests were performed to determine whether the sample size was sufficient before investigating the PISMI factor structure. The KMO coefficient of 0.88 was high enough and there were statistically significant differences in variances according to the Bartlett's test ($p = 0.00$). This was followed by the factor analysis. The model developed with subscales *(alienation, stereotype endorsement, perceived discrimination, social withdrawal, stigma resistance)* was tested for model-data fit by calculating the GFI (Goodness of Fit Index), AGFI (Adjusted Goodness of Fit Index), RMSEA (Root Mean Square Error), SRMR (Standardized Root Mean Square Residual) and the χ^2/sd indeces with assessment on the specified criteria. The results for the 5-dimensional structure were 2.49 <3 for χ^2/sd, 0.96 ≥ 0.90 for GFI, 0.95≥ 0. 90 for AGFI, 0.073≤0.08 for RMSEA and 0.06≤0.08 for SRMR, demonstrating a good mode-data fit (Schumacker and Lomax 2004) (Figure 1). Factor loading of the items varied between 0.34 and 0.74, and the t values of the factor loads of all items were found to be statistically significant at $p<0.01$. The item reliability R^2values of all items on the scale were high (Table 2).

Reliability Analyses

Internal Consistency: The Hotelling's T^2 test value of the scale was found to be statistically significant ($T^2 = 787.45$, $p = 0.00$). Internal consistency Cronbach's alpha coefficients were 0.87 for the entire scale and 0.69 for *alienation*, 0.72 for *stereotype endorsement*, 0.76 for *validation of the stereotypes*, 0.76 for *perceived discrimination*, and 0.81 for *social withdrawal* subscales. The Guttman Split-Half value was 0.80, and the Spearman-Brown Coefficient was 0.80.

Item analysis: Item-total and score correlations analyses of the scale are shown in Table 3. The item-total score correlations of PISMI-TR were between 0.26 and 0.60, except for items 7 and 14. These correlation coefficients were statistically positively significant ($p <0.05$). Although item-total correlations were below 0.20; factor loads for items 7 and 14 were 0.61 and 0.74, respectively; the Cronbach's alpha coefficient of the scale did not change (Tavşancıl 2005); R^2 values were high and t values were statistically significant; therefore, these two items were not eliminated.

DISCUSSION

In determining the validity and reliability of a psychometric tool that evaluates the internalized stigma of the parents of individuals diagnosed with mental illnesses, the sociodemographic details of the participating parents showed that they were mostly primary school graduate women who did not work outside the home and perceived their economic status as a moderate. It was reported that 80% of the caregivers of the mentally ill were females who were generally the spouses, mothers or the daughters of the afflicted individuals (Chan 2011). Another study by Gümüş et al. (2017) also reported that the caregivers of the mentally ill individuals were mostly women and perceived their economic states as being moderate.

The prominence of females as the caregivers may be the attribution of this responsibility to the females by the society and its general acceptance as the role of the females. The characteristics reported for caregivers in other studies were found to be similar to those observed in this study (Yıldız et al. 2018, Koschorke et al. 2017, Hasson-Ohayon et al. 2011). Significant differences were found in the PISMI-TR scores of the parents when grouped on the basis of education, economic status, compliance of their patient with the drug therapy and family history of psychiatric diagnosis. The participating parents with low economic and education level, and with a family history of mental illness and low treatment compliance of the patients they cared for, were determined to have a higher level of internalized stigma. Although there is not a definite point of view in the reported studies on the subject of labelling and being stigmatized, it has been emphasized that factors of gender, family history of mental illness, economic status, educational status, and medication use may affect stigmatization (Çam and Çuhadar 2012, Beyazyüz et al. 2015, Aylaz and Kılınç 2017, Gümüş et al. 2017, Kök and Demir 2018). Others also reported a higher level of internalized stigma by patients of low income (Çam and Çuhadar 2012). Schizophrenia patients with low economic level, having literacy but not knowledge able of the diagnosis and not attending the follow up controls regularly also experienced a high level of internalized stigma (Kök and Demir 2018). In the present study, the high internalized stigma seen in the parents with poor education and economic status suggests that the living conditions, social activities and the means of access to treatment may be restricted as compared to the general population, since education is expected to increase the knowledge related to health.

Since it appeared that health literacy, access to and consultation and compliance with treatment increased with increased education level (Arslantaş et al. 2010), the available data were thought to be interrelated. Observing high level of internalized stigma in parents reporting low economic status in contrast to better access to medicare and encouragement of the offspring to adhere to drug therapy with increasing income (Aylaz and Kılınç 2017) suggested that improvement of sociocultural and socioeconomic conditions of the parent would result in lower stigmatization by the condition of the offspring. The burden of stigmatization on the patient and the patient's family is one of the major obstacles to

successful treatment since it was reported by 67.1% of the relations that the patients they cared for failed to comply with regular use of the prescribed medication after discharge from hospital (Tel et al. 2010). Significant relationships were found between internalized stigma of the care givers and disease and treatment durations, the number of hospitalizations and the duration of care giving (Brohan et al. 2010, Park and Seo 2016, Gümüş et al. 2017). Observing that patients complying with treatment protocols did not increase the care burden of the families, bringing the symptoms under control and preventing awareness of others and reducing the sense of shame by the family members (Taşkın 2007) may be the cause of less internalized stigma. The presence of another family member with a history of similar illness may be related to the increase in the care burden and negative feelings of shame and guilt experienced by the parents. Not comparing the total PISMI-TR scores of the parents in relation to the types of psychiatric diagnoses on their offspring is a limitation imposed by the nonhomogeneity of the sample population. It can be recommended that internalized stigma of the parents should be compared with respect to the types of diagnosis made on the patients under their care.

The results reached by calculating the internal consistency of the PISMI-TR support the reliability of this version translated to the Turkish language. The Cronbach's alpha coefficient for the total score of the PISMI-TR was 0.87, and the coefficients for the scores of the subscales ranged between 0.69 and 0.81. The previous investigation by Zisman- Ilani et al. (2013) on the validity and reliability of the PISMI they formed by adapting some of the ISMI items had shown a Cronbach's alpha coefficient of 0.76 for the total score of the scale.

The Cronbach's alpha coefficients for the total score of the ISMI-TR and was reported as 0,93 and the coefficients for the subscales were in the range 0,63-0.84 range (Ersoy and Varan 2007). Also, the Cronbach's alpha coefficient for the PSSS was found to be 0.88 (Yıldız et al. 2018). The recommended reliability level for measurement scales to be used in medical research is ≥0.70 (Büyüköztürk 2007). Hence, it can be concluded that given the internal consistency of the scale and the easily understood and answered items, the PISMI-TR has a good level of reliability. Item-total and item-point correlations were significant, indicating that all items of the scale were interrelated and had a complementary effect.

The negative thoughts and attitudes directed to mental illness cause discriminatory and stigmatizing behaviors towards individuals with psychiatric disorders. When a reference is made to a person with a mental disorder, firstly these beliefs come to the mind. In particular, believing that people with mental disorders are dangerous, unpredictable and irresponsible arouses prejudices that cause the individuals to experience feelings of anger and fear. Hence, individuals who arouse negative emotions in others are often excluded and alienated.

On the other hand, internalizing these adverse generalized beliefs about mental illness by the patients and their relatives may cause them to feel embarrassed, inadequate or worthless (Bilge and Çam 2008, Taşkın 2007). In this very context, when ISMI-TR was used in the predictive validity analysis of PISMI-TR a positive correlation was found between the two scales. The positive correlation between negative beliefs of parents about mental illness and internalized stigma was an expected result and supported the predictive validity of the scale. The calculated correlation value of > 0.30, can be considered to be indicative of the test validity (Büyüköztürk 2007).

Results of the CFA analysis supported the internal validity of the PISMI-TR. The three sub-scales *social withdrawal, concealment of the illness, and perceived devaluation* of the Parents' Self-Stigma Scale (PSSS) scale: were determined by Yıldız et al. (2018). In the validation of the PISMI designed in Israel by Zisman-Ilani et al. (2013), the number of items were reduced resulting in three subscales, namely, *stereotype endorsement*, *social withdrawal and alienation, and discrimination experience*, after reducing the number of items based on expert opinions. It should be noted, however, that CFA could not be performed on this scale since the required number of samples were not reached. In the validity and reliability study of the ISMI-TR, the identified subscales consisted of *alienation, stereotype endorsement, perceived discrimination, social withdrawal* and *resistance to stigmatization* (Ersoy and Varan 2007). In this study as well, the conformity of the PISMI-TR model to a five subscale structure indicates its validity for use on the parents. The stereotype endorsement subscale included expressions showing that myths perpetuated by society regarding mental illnesses were internalized by parents. The PISMI designed by Zisman-Ilani et al. (2013), also included the stereotype endorsement and the perceived discrimination subscales included items on the stigmatization experiences of the parents. The scale included the perceived discrimination experiences subscale as well. However, the study conducted by Yıldız et al. (2018) did not include questions on the experiences of the parents, but rather, impressions that parents had about stigmatization. The social withdrawal and alienation subscale reported in the studies by Yıldız et al. (2018) and; Zisman-Ilani et al. (2013) included the items of PISMI-TR indicating that parents were prevented from experiencing many events and situations due to mental illness of their children, experiencing alienation and staying away from many social events in which they would have otherwise actively participated. A subscale, similar to the stigma resistance subscale, for assessing the individual's ability to cope with internalized stigma is not available in either of these scales.

Among the reverse-coded items on the stigma resistance subscale, the item-scale total score correlations of the 7th item (*I think that people with mental illness can make important contributions to society*) and the 14th item (*Being seen with someone whose mental illness is clearly understood in society does not bother me*), were found to be low. On part of the parents/relatives of the patients in Turkey, this may be related to feeling helpless against stigmatization and not taking effective actions against it. The *concealment of the illness* subscale of the Parents' Self-Stigma Scale (PSSS): was determined by Yıldız et al. (2018). In the qualitative study carried out in Turkey by Dikeç et al. (2019), all of the parents of the inpatients of the child and adolescent psychiatry clinic declared that they had never disclosed that their children had been hospitalized after diagnosis with psychiatric disorders.

PISMI-TR does not include an item on concealment of the illness. Inclusion of this subscale in the ISMI-TR after the focus group discussion organized Yıldız et al. (2018) indicates the suitability of the new scale with the Turkish culture. Next to the national and international uses of the ISMI, evaluation of the stigmatization experiences of the parents and of the internalized stigma on a larger scale indicate the stronger aspects of the PISMI-TR compared to other scales.

Limitations of the Study

Being carried out at a single center and not including test-retest analysis are the main limitations of this study. Another limitation is not having used comparatively another scale that measures internalized stigma in parents. This study is also limited by including only the parents of adult psychiatry patients although it is believed to be suitable for use with the parents of children and adolescents followed up with mental illnesses.

CONCLUSION

PISMI-TR is a valid and reliable tool for assessing the internalized stigma of parents of individuals with mental illness. Results of the validity and reliability analyses of the PISMI-TR show similarities with those of research using the original formats. Mental health workers can make use of this form of the widely used ISMI in future studies with the parents of mentally ill individuals. Studies can be made with PISMI for assessment and comparison of internalized stigma in psychiatry patients and their parents. It is a standardized psychometric tool to be used particularly in studies on interventions to reduce the stigma internalized by the parents or to evaluate the family dimension of compliance with treatment.

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