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Stigma and Discrimination Towards Mental Illness: Translation and Validation of the Turkish Version of the Attribution Questionnaire-27 (AQ-27-T)

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Abstract
The stigmatization towards mental illness has significant effects on the quality of life both for the people with a psychiatric disorder and their families. The aim of this study was to translate the Attribution Questionnaire-27(AQ-27) to the Turkish language, and to evaluate the reliability and validity of new Turkish version on a multi-centered selected adult sample. Cultural adaptation was implemented according to the internationally suggested method. The Turkish version of AQ-27 (AQ-27-T) was applied to a total of 424 participants (221 females) included to study. As a result; a good internal consistency was obtained with a Cronbach's alpha of 0.88 for the total scale and ranging between 0.86 and 0.89 for the items, and a statistically significant test–retest reliability was detected ($r = 0.79$; $p < 0.05$). Fit indices of the model supported the factor structure and paths. AQ-27-T was determined as a reliable and valid questionnaire assessing stigmatization toward mental illness in Turkish population.

Keywords Attribution Questionnaire · Psychometric properties · Reliability · Turkish adaptation · Stigma

Introduction

Stigma can be defined as a significant obstacle that negatively affects benefiting from health services effectively by people with mental illness, the result is often negative in terms of social, political, economic and individually psychological outcomes (Baumann 2007). Therefore, reducing stigma towards psychiatric disorders become a worldwide goal by politicians, organizations and professionals (Corrigan and Penn 1997; World Health Organization 2015; Del Olmo-Romero et al. 2018). Each cognitive, emotional and behavioral component of the stigma such as labeling, prejudice, stereotyping, separation, status loss and discrimination consist a social process (Link and Phelan 1999), that stigma becomes existent in society when these elements emerge in a state when the person allows them and stigmatization becomes clearly visible in the conditions of avoidance and social rejection (Dovidio et al. 2000). Stigmatization can also be conceptualized as a type of interaction between the individual and the social environment, including complex cognitive and behavioral components (Norman et al. 2010), which can also be invisible (lack of eye contact etc.) and generate a discomfortable interaction between the person with mental illness and the others (Hebl et al. 2000).

Stigmatization is a modifiable environmental risk factor, people with mental illness affect directly, also their support system, provider network and community resources are affected. Integration of approaches against stigma in treatment and social interaction represent the cost-effective way to reduce the risk of relapses and poor outcome is considered as the result of chronic exposure to

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stigma (Baysal 2013). Knowing that a mental illness and cultural relevance can moderate the effects of stigma, to reduce the negative impact on care seeking and treatment engagement to understand stigma is important (Corrigan et al. 2014).

Severe mental illness such as major depression, bipolar disorder, schizophrenia, etc. mainly create two types of problems. One is the burden of the psychiatric symptoms and skill deficits caused by the disease, which negatively affects the quality of life while preventing the individual from displaying of social roles and participation (Corrigan and Penn 1997). The other is the stigmatization and discrimination that prevents acquisition of a social role in the society and gaining an opportunity for independent living from others. However, well known rehabilitation strategies for both reducing/resolving the psychiatric symptoms and skill acquisition are not sufficient for people with mental illness to continue their life independent from others. So it is important to make the necessary arrangements in society for raising awareness for the negative impact of stigma and discrimination on these people (Corrigan et al. 2014).

Attribution is their experience apart from the disease of people, which leads to isolation, feelings of guilt and shame, a more limited life and delayed help-seeking behavior. The distress of attribution generated on the patient and family is one of the biggest obstacle to care seeking and theraphatic engagement (World Health Organization 2001; Corrigan et al. 2010; National Mental Health Action Plan 2011), so stigma's burden on the psychiatric patients and their families is the biggest problem on the successful treatment of mental illness (Balhara et al. 2011). The stigmatization is exacerbated by the fact that the person with mental illness is considered responsible for his/her illness by employees and employers (Corrigan et al. 2010). Therefore, the issue of stigma in mental illness has great practical and research implications. The importance of the issue of stigma in mental illness is highlighted in the fact that during the last decade, stigma reduction has become an increasingly important topic for research, public health campaigns, clinical care, advocacy and policy development (World Health Organization 2001).

At the highest level of the existence of stigma socially, each society creates its own attitudes and behaviors against mental illnesses and these stigmatizing approaches vary according to time and culture (Tang and Wu 2012), and several measures have been developed to evaluate public attitudes toward mental illness (Putman 2008). Therefore, we focused on the assessment of the Turkish perspectives on the public stigma, that can make a positive contribution to the approaches targeting a raise on the benefit from the health services of psychiatric illnesses and compliance rates of psychiatric treatments. The current study aims to evaluate the factor structure of the Turkish Version of the Attribution Questionnaire (AQ-27-T) and examine the validity and reliability of the AQ-27-T on Turkish population.

Methods

Design and Participants

This was a multi-center study composed of four different centers in Turkey and started by Hacettepe University, Faculty of Health Science, Department of Occupational Therapy. Being age over 18, absence of a well-defined mental illness in participants and their any first- or second-degree relatives, and understanding, reading and writing Turkish language were defined as the inclusion criteria of the study.

A total of 854 people had visited as relatives of patients in the state hospitals in Ankara (2 center) and Kastamonu (2 center) in Turkey between 3rd January and 22nd November 2015, and the volunteers who were matching the inclusion criteria (n = 424, 221 female, 203 male, and mean age 36.9 ± 12.7 years) were selected according to simple randomization method via SPSS program for the application of this study (Table 1).

After explaining the purpose and procedure of the research, a written informed consent was obtained from all the participants prior to the initiation of the study. This study was approved by the Ethical Committee for Clinical Research of Hacettepe University and performed in accordance with the ethical standards laid down in the revised Declaration of Helsinki (GO13/286).

Table 1 Demographic data

Age (year); mean ± SD (min–max)	36.9 ± 12.7(18–65)
Gender; n (%)	
Male	203 (47.9)
Female	221 (52.1)
Marital status; n (%)	
Married	257 (60.6)
Single	167 (39.4)
Educational status; n (%)	
Primary	32 (7.5)
High school	107 (25.2)
University	285 (67.2)
Vocational status; n (%)	
Unemployed	106 (25.0)
Employed	268 (63.4)
Retired	49 (11.6)
Total; n (%)	424 (100.0)

Measures

Information about the demographic properties of the participants, including age, gender, marital status (single/married), educational status (primary school/high school/university degree), vocational status (employed/unemployed) was recorded. Individual face-to-face interviews were then conducted. After recording the demographics, the AQ-27-T were performed by the participants on their own.

The Attribution Questionnaire-27

The questionnaire used for the study was The Attribution Questionnaire-27 developed by Corrigan. It was built as a 27-item questionnaire that makes assessment across nine domains; responsibility, pity, anger, dangerousness, fear, help, coercion, segregation and avoidance. The respondents were required to read a case vignette describing a case of 30-years-old single man with schizophrenia and then registered their responses with the 27 brief statements on a nine point (from 1 "not at all" to 9 "very much") Likert scale in which they were asked to rate how much they agree with each statement written about the case (Balhara et al. 2011). The questionnaire has shown to have high reliability and factor structure (Corrigan et al. 2002, 2003). In this study, we choose a history as follows; *Hasan is a 30-year-old single man with schizophrenia. Sometimes he hears voices and becomes upset. He lives alone in an apartment and works as a clerk at a large law firm. He had been hospitalized six times because of his illness.*

Cultural Adaptation of the AQ-27-T

Permission was obtained from the original author of AQ-27 before initiating the translation process. The cultural adaptation of the AQ-27 was conducted according to the standardized procedures that were outlined by Beaton et al. (2000).

- *Forward translation:* Four independent translators, two with a medical background and two without a medical background translated the survey items and instructions into Turkish. The translations were compared to create one translation by researchers. A detailed report was written about the problems encountered related to the translation.
- *Back translation:* Two native English speakers without a medical background translated the translated Turkish version of the survey back into English in order to control for linguistic errors. Only minor differences were found between the original and back translated versions.
- *Expert Committee:* An expert committee examined all translations, reports, and the original version of the survey and developed the penultimate version of the pre-test questionnaire.
- *First pre-test:* To determine whether the survey was intelligible and appropriate for the Turkish culture, it was administered to 30 participants during a pilot study. The inclusion criteria were the same as that of the participants for the full study. The average age of the participants was 33.6 ± 10.4 years. After completing the questionnaire, the participants were interviewed individually about the lucidity of the items in the survey, the accuracy of the reflection of general stigma in the survey, and the usefulness and the length of the survey. Among the participants in this pilot study, 73% of the respondents said that they did not understand some of the items in question form. Moreover, 33,3% of the respondents said that they were confused when they found the answer of the questions, and 63,3% of the respondents said that the traceability of the questionnaire was difficult due to the form of the items. Whereas the construct validity of the questionnaire was controlled, internal consistency for items in question form was detected as more problematic than those of items in statement form, that consistent with the lower results of Cronbach's alpha for items in question form (*Cronbach's alpha for items in question form: 0.38–0.52; Cronbach's alpha for items in statement form: 0.72–0.84*). Then, the items in question form were converted to their statement forms by taking care to preserve the original meaning, *with help of the consultation of the author developing the original version of the questionnaire.*
- *Cultural adaptation:* The original basis of the survey was preserved during the forward and backward translation, but in order to preserve the meaning, in item-4, the phase *How angry would you feel at Harry?* was amended to read, *I would feel angry around Harry*. Item-11, the phase *How controllable, do you think, is the cause of Harry's present condition?* was amended to read *The cause of Harry's present condition is under control*. Item-12, the phase *How irritated would you feel by Harry?* was amended to read *I would feel irritated around Harry*. Item-13 *How dangerous would you feel Harry is?* was amended to read *I would feel he is dangerous*. Item-14, the phase *How much do you agree that Harry should be forced into treatment with his doctor even if he does not want to?* was amended to read *Harry should be forced into treatment with his doctor even if he does not want to*. Item-17, the phase *How much do you think an asylum, where Harry can be kept away from his neighbors, is the best place for him?* was amended to read *I think an asylum, where Harry can be kept away from his neighbors, is the best place for him*. Item-19,

the phase *How scared of Harry would you feel?* was amended to read, *I would feel scared of Harry*. Item-20, the phase *How likely is it that you would help Harry?* was amended to read, *It is likely that I would help Harry*. Item-22, the phase *How much sympathy would you feel for Harry?* was amended to read *I would feel sympathy for Harry*. Item-24, the phase *How frightened of Harry would you feel?* was amended to read, *I would feel frightened of Harry*. Item-27, the phase *How much concern would you feel for Harry?* was amended to read *I would feel concern for Harry.* was amended to read in order to convey the same meaning.

- *Second pre-test:* To determine whether the questionnaire was intelligible and appropriate for the Turkish culture with last form, it was administered to 52 participants during the second pre-test. The inclusion criteria were the same as that of the participants for the full study. The average age of the participants was 36.3 ± 9.5 years. After completing the questionnaire, the participants were interviewed individually about the lucidity of the items in the survey, the accuracy of the reflection of general stigma in the survey, and the usefulness and the length of the survey. Among the participants in this pilot study, 22% of the respondents said that they did not understand some of the questions, while 12% of the respondents said that they were confused when they found the answer of the questions. After the completion of the second pre-test and the interviews, the answers given by the participants were examined, and controlled the construct validity one more time. Then, the value of Cronbach's alpha was detected as acceptable (*Cronbach's alpha for items in question form: 0.63–0.85; Cronbach's alpha for items in statement form: 0.71–0.89*). Therefore, the final version was accepted in this way.

In this study, the final version of the AQ-27-T was applied twice to 230 people, with an interval of 15 days.

Statistical Analysis

For data analysis the Statistical Package Social Sciences (SPSS) version 24.0 and Amos version 18.0 were used. Cronbach's alpha was used to estimate instrument reliability. The test–retest reliability of AQ-27-T items and total scores were tested by correlation coefficients. Confirmatory factor analysis was used to confirm that the factor structure of AQ-27-T is the same as it was determined for the original version: to test the fit of the correlation matrix against two or more causal models, path analysis which is an extension of the regression model was used. The model is usually depicted in a circle-and-arrow figure whereas single-headed arrows indicated causation.

χ^2, goodness of fit index (GFI>0.90), root mean square error of approximation (RMSEA<0.10) and adjusted goodness of fit index (AGFI>0.90) were the indices of fit in the assessed model fitness. For testing the path model the same indices were combined with beta's. For the test–retest reproducibility evaluation the intra-class correlation coefficient (ICC) was used and the value of 0.65 was accepted as adequate reliability for a group of patients.

Results

Internal Consistency and Test–retest Reliability

After the pretest, final version of test administered to 236 participants. The AQ-27-T scale's internal consistency reliability was 0.880. Table 2 presented the Cronbach's alpha coefficient (ranging from 0.86 to 0.89) of each item. The test administrated for the second time at an interval of 15 days

Table 2 Cronbach's alpha coefficient and test–retest reliability for each item of AQ-27-T

AQ-27-T	Test–retest reliability	Cronbach's alpha
AQ-27_1	0.683	0.868
AQ-27_2	0.597	0.867
AQ-27_3	0.721	0.865
AQ-27_4	0.600	0.877
AQ-27_5	0.376	0.878
AQ-27_6	0.700	0.868
AQ-27_7	0.589	0.892
AQ-27_8	0.483	0.874
AQ-27_9	0.589	0.881
AQ-27_10	0.351	0.883
AQ-27_11	0.375	0.868
AQ-27_12	0.636	0.866
AQ-27_13	0.776	0.874
AQ-27_14	0.608	0.871
AQ-27_15	0.661	0.874
AQ-27_16	0.601	0.870
AQ-27_17	0.540	0.867
AQ-27_18	0.607	0.885
AQ-27_19	0.733	0.890
AQ-27_20	0.553	0.884
AQ-27_21	0.750	0.882
AQ-27_22	0.542	0.866
AQ-27_23	0.397	0.874
AQ-27_24	0.639	0.876
AQ-27_25	0.608	0.882
AQ-27_26	0.572	0.877
AQ-27_27	0.524	0.875
AQ-27 Total	0.793	0.880

to measure test–retest reliability. According to the Pearson correlation coefficient there was an acceptable test–retest reliability measured for total score which was 0.79. Correlation coefficients of each item (ranging from 0.35 to 0.77) are also displayed in Table 2.

In addition, the relationship among the sub-scales were examined. A high correlation was found between the dangerousness and the anger, fear. The overall survey was strongly correlated with the dangerousness, fear, anger and segregation subscales and weakly correlated with the help and blame subscales (Table 3).

Confirmatory Factor Analysis

Figure 1 showed that the connection is related to attributions of personal responsibility for mental illness. Weiner's attribution theory (Weiner 1988) described the personal responsibility (10, 11, 23), pity (9, 22, 27), help (8, 20, 21), anger (1, 4, 12), coercion (5, 14, 25) and segregation (6, 15, 17), the 12 items were loaded as six different latent factors. Although χ^2 (130) = 359.062 (P\0.001) does not support the fit the χ^2/df ratio = 2.76, the findings were partly estimated by fit. The "GFI = 0.893" and "AGFI = 0.848" were both a little below the criterion levels on the other hand RMSEA was satisfying (0.09) (Table 4).

In Fig. 2 the indices for the path model representing the theory of dangerousness (Paterson and Neufeld 1987; Edwards and Endler 1989) is shown. The theory defines nine factors in three subscales: dangerousness (2, 13, 18), fear (3, 19, 24) and avoidance (7, 16, 26). Statistical Chi Square test did not support fit [χ^2 (25) = 74.736 (P\0.001), χ^2/df ratio = 3.98]. Moreover, while the "GFI = 0.915" and "RMSEA = 0.111" met the criteria; "AGFI = 0.847" was only a little below the criterion level. All the AQ-27 items significantly filled the corresponding factors. Correlations between the factors were wide; ranging from 0.57 to 0.92.

Discussion

The increasing awareness of the stigma towards mental illnesses will affect the lives of different age groups positively as expected, which creates a need of producing valid and reliable measurement methods like tests or questionnaires for mental illnesses to understand and learn the state and attitude of community. AQ-27 was a useful tool for assessing the stigma and worked reasonably well in different versions of different cultures and contexts (Corrigan et al. 2002; Pingani et al. 2012; Sousa et al. 2012; Munoz et al. 2015). This study was conducted to translate, adapt and examine the reliability and validity of the Turkish version of the AQ-27. Overall, the findings supported the first prediction that the AQ-27 would show a similar and sound factor structure in the Turkish sample as well. Moreover, we examined the relationships among components of the public stigma towards people with mental illness.

First of the several findings of the study was that the questionnaire showed well defined theoretical constructs, which include the responsibility and dangerousness factors and their impacts on stigma. Path analyses were performed for the validation of AQ-27-T. General fit indices were equivocal through individual AQ items filled the corresponding latent factors significantly (Corrigan et al. 2002, 2003, 2004, 2005). Beta's representing relationships among factors were mostly parallel with the findings of other studies conducted with the English, Italian and Spanish versions (Corrigan et al. 2002; Pingani et al. 2012; Munoz et al. 2015).

In terms of the attribution model (responsibility model) (Weiner 1988), attributing blame or the perception of low personal responsibility had a moderate negative relation with the pity which increased with positive relations to actions of help to the affected people, in contrast to the expected result that blame could decrease pity. Although perception of high responsibility for mental illness was found as it was

Table 3 Inter-corelations for subscales

	Blame	Anger	Pity	Help	Dangerous	Fear	Avoidance	Segregation	Coercion	Total
Blame	1									
Anger	0.186*	1								
Pity	−0.222**	0.201*	1							
Help	−0.264**	−0.347**	0.413**	1						
Dangerous	0.110	0.839**	0.310**	−0.304**	1					
Fear	−0.002	0.772**	0.397**	−0.242**	0.887**	1				
Avoidance	0.128	0.519**	0.020	−0.494**	0.499**	0.449**	1			
Segregation	0.007	0.622**	0.287**	−0.197*	0.669**	0.600**	0.516**	1		
Coercion	−0.137	0.425**	0.368**	−0.097	0.468**	0.474**	0.364**	0.603**	1	
Total	0.113	0.818**	0.534**	−0.098	0.878**	0.857**	0.590**	0.801**	0.661**	1

*p < 0.05, **p < 0.01

Fig. 1 Model for six factors

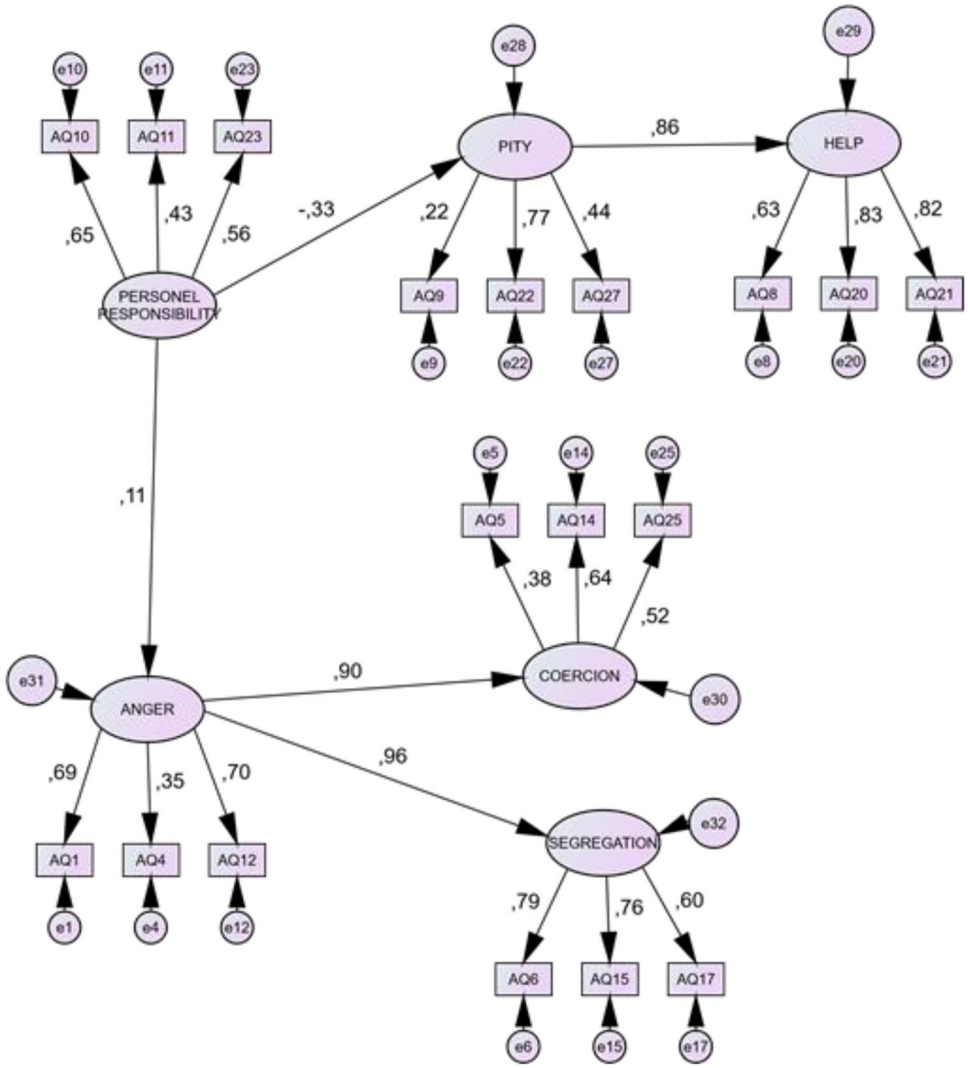

Table 4 Results of structural equation modeling

	AQ-27-T/6 factors	AQ-27-T/3 factors	Standard values
χ^2/df	3.82	2.76	< 5
GFI	0.80	0.91	> .90
RMSEA	0.10	0.05	< .08
CFI	0.74	0.94	> .90
NFI	0.76	0.92	> .90
AGFI	0.83	0.90	> .90

GFI goodness of fit index, *RMSEA* rout mean squared error of approximation, *CFI* comparative fit index, *NFI* normed fit index, *AGFI* adjusted goodness of fit index

related to the emotions of anger, the anger hugely predicted the coercion and segregation towards the affected people. In the functioning of anger, our results are similar to the results of Italian and Spanish versions, in which more complex structure than that initially proposed by Corrigan's original English version was found. The relationship between the personal responsibility and pity is different in all prior versions. These variables are practically independent (−0.02) in the original English version, the relationship is clearly positive (0.70) in the Italian version and the relationship is negative both in the Spanish version (−0.28) and our Turkish version (−0.33). These differences between the versions belonging to different cultures may be caused by the differences of the community samples. Thus, as expected because of the similarity of the results, our sample is similar to the Spanish sample in terms of nearly equal gender distribution and the mean age. However higher educational level of our sample is similar to the American sample which, in turn, includes mostly youths, females with great cultural diversity. The independence between perceived responsibility, pity and consequently helping people with mental disorders in the Corrigan's English version may be explained by the cultural variability and higher educational level of the American sample. In contrast to these findings of American sample,

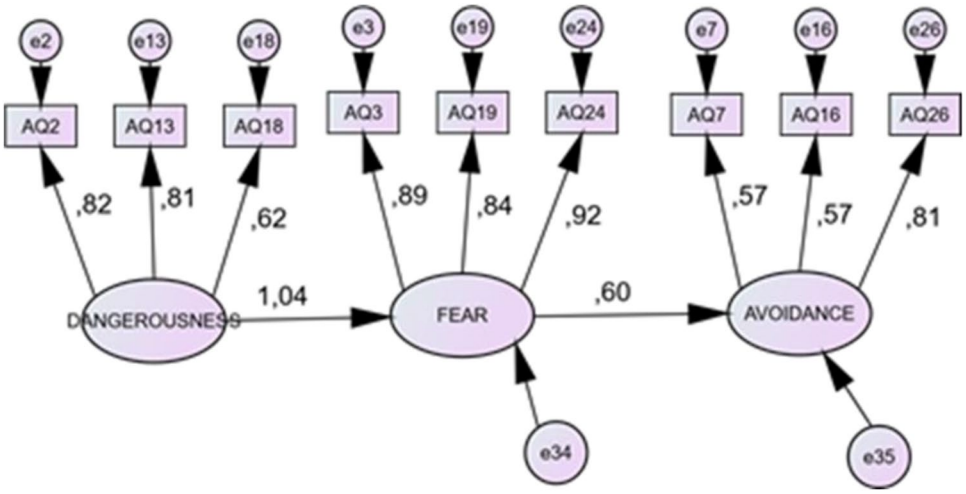

Fig. 2 Model for three factors

we found a moderately negative relation between perceived responsibility and pity, although high educational level of our sample was similar to American's.

In the second path model (dangerousness model), the perception of the dangerousness of people with a mental illness is directly and positively related to fear, which, in turn, was associated with avoidance of these people. This result of our study supported the results of the second path models of English, Italian and Spanish versions (Corrigan et al. 2002; Pingani et al. 2012; Munoz et al. 2015).

According to the results of inter-correlations for subscales in our study, the most correlated subscales were found as anger with dangerousness (r = 0.83), anger with fear (r = 0.77), segregation with dangerousness (r = 0.67), and anger with segregation (r = 0.62) in Turkish sample. Therefore, according to the religious beliefs of Turkish people, the sensation of pity towards mental illness is more expected than anger, and the consciousness that the illness is not caused by the aggrieved individual also prevents the formation of blame and anger feelings.

Secondly, satisfactory internal consistency of the instrument was pointed out by the highly acceptable overall Cronbach values for AQ-27-T. When we compared with previous versions (Pingani et al. 2012; Munoz et al. 2015), in regards of the stability of the instrument, score's test–retest reliability was also acceptable with the correlation scores for the total scale (0.79) and items exceeding 0.52 (excepted for 5, 8, 10, 11, 23).

Consequently, the Turkish version of AQ-27 showed well-articulated theoretical constructs and the impact on the severity of the stigma of pity, fear and dangerousness factors, and supported the results of other versions (Corrigan et al. 2002; Pingani et al. 2012; Munoz et al. 2015). However, the initial feelings attributed towards the individual with mental illness are still not understood, such as anger or pity or not known. Given the path analysis, the scores of pity and aggression were quite low, which could be interpreted as the contribution of some other feelings not considered. So, the emotions or thoughts underlying the different behaviors in the issue of stigmatization should be examined in a different qualitative analysis. Future studies are required for creating different models adapted to different cultures. Moreover, we have experienced that making similar forms of expression in order to improve the intelligibility of expressions is an effective and meaningful step for cultural adaptation. So, in this context, this research can serve as an example for other version studies about the importance of the optimization of expressions' intelligibility.

First of the limitations of this study is the high educational level of our sample may limit generalizing the findings due to the well-known impact of educational level (Hatzenbuehler et al. 2013) on stigma and the possibility is that stronger stigmatizing attitudes would be seen in a less educated sample. When the other socio-demographic features of our participants in the study are compared with 2015 national statistics, there was not any difference in mean age and male/female ratio (Turkish Statistical Institute 2015). Secondly the original version of the questionnaire developed, the story about Harry was amendable hence there were four different stories about Harry, but in the Turkish version there was only one type of story line. The differences in cultural backgrounds and beliefs of psychiatric patients between western countries and Turkey, might require more adjusted questions that are closely related to the Turkish cultural context. And finally, the limitations of the cross-sectional methodology noted the requirement of longitudinal evidence to support the proposed causal structure.

As a result, our study aimed translating and evaluating the reliability and validity of the Turkish version of AQ-27, a popular and operationalized instrument designed to investigate the stigma for people with mental illness. The use of this scale in Turkey psychiatry and "Community Mental

Health Centers" which is a new concept may allow us to see the dimensions of stigma more clearly.

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Compliance with Ethical Standards

Conflict of interest The author(s) confirm that there is no conflict of interest.

References

Balhara, Y. P. S., Majumder, P., & Lal, R. (2011). A pilot comparative study of attitude of trainee nurses, nursing staff and trainee doctors towards the mentally ill patients. *Delhi Psychiatry Journal, 14*(2), 302–306.

Baumann, A. E. (2007). Stigmatization, social distance and exclusion because of mental illness: The individual with mental illness as a 'stranger'. *International Review of Psychiatry, 19*(2), 131–135. https://doi.org/10.1080/09540260701278739.

Baysal, G. Ö. D. (2013). Damgalanma ve ruh sağlığı. *Arşiv Kaynak Tarama Dergisi, 22*(2), 239–251.

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine, 25*(24), 3186–3191.

Corrigan, P. W., Druss, B. G., & Perlick, D. A. (2014). The impact of mental illness stigma on seeking and participating in mental health care. *Psychological Science in the Public Interest, 15*(2), 37–70. https://doi.org/10.1177/1529100614531398.

Corrigan, P. W., Lurie, B. D., Goldman, H. H., Slopen, N., Medasani, K., & Phelan, S. (2005). How adolescents perceive the stigma of mental illness and alcohol abuse. *Psychiatric Services, 56*(5), 544–550.

Corrigan, P., Markowitz, F. E., Watson, A., Rowan, D., & Kubiak, M. A. (2003). An attribution model of public discrimination towards persons with mental illness. *Journal of Health and Social Behavior, 44,* 162–179.

Corrigan, P. W., & Penn, D. L. (1997). Disease and discrimination: Two paradigms that describe severe mental illness. *Journal of Mental Health, 6*(4), 355–366.

Corrigan, P. W., Rowan, D., Green, A., Lundin, R., River, P., Uphoff-Wasowski, K., et al. (2002). Challenging two mental illness stigmas: personal responsibility and dangerousness. *Schizophrenia Bulletin, 28*(2), 293–309.

Corrigan, P. W., Tsang, H. W., Shi, K., Lam, C. S., & Larson, J. (2010). Chinese and American employers' perspectives regarding hiring people with behaviorally driven health conditions: The role of stigma. *Social Science and Medicine, 71*(12), 2162–2169.

Corrigan, P. W., Watson, A. C., Warpinski, A. C., & Gracia, G. (2004). Stigmatizing attitudes about mental illness and allocation of resources to mental health services. *Community Mental Health Journal, 40*(4), 297–307.

Del Olmo-Romero, F., Gonzalez-Blanco, M., Sarro, S., Gracio, J., Martin-Carrasco, M., Martinez-Cabezon, A. C., et al. (2018). Mental health professionals' attitudes towards mental illness: professional and cultural factors in the INTER NOS study. *European Archives of Psychiatry Clinical Neuroscience*. https://doi.org/10.1007/s00406-018-0867-5.

Dovidio, J. F., Major, B., & Crocker, J. (2000). Stigma: Introduction and overview. In T. F. Heatherton, R. E. Kleck, M. R. Hebl, & J. G. Hull (Eds.), *The social psychology of stigma* (pp. 1–28). New York: Guilford Press.

Edwards, J. M., & Endler, N. S. (1989). Appraisal of stressful situations. *Personality and Individual Differences, 10*(1), 7–10.

Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a fundamental cause of population health inequalities. *American Journal of Public Health, 103*(5), 813–821.

Hebl, M. R., Tickle, J., & Heatherton, T. F. (2000). Awkward moments in interactions between nonstigmatized and stigmatized individuals. In T. F. Heatherton, R. E. Kleck, M. R. Hebl, & J. G. Hull (Eds.), *The social psychology of stigma* (pp. 275–306). New York: Guilford Press.

Link, B. G., & Phelan, J. C. (1999). The labeling theory of mental disorder (II): The consequences of labeling. In A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 361–376). New York, NY: Cambridge University Press.

Ministry of Health of the Republic of Turkey - National Mental Health Action Plan/2011–2023. Retrieved June 2016, from http://docplayer.biz.tr/2527563-T-c-saglik-bakanligi-ulusal-ruh-sagligieylem-plani-2011-2023.html.

Munoz, M., Guillen, A. I., Perez-Santos, E., & Corrigan, P. W. (2015). A structural equation modeling study of the Spanish Mental Illness Stigma Attribution Questionnaire (AQ-27-E). *American Journal of Orthopsychiatry, 85*(3), 243–249. https://doi.org/10.1037/ort0000059.

Norman, R. M., Sorrentino, R. M., Gawronski, B., Szeto, A. C., Ye, Y., & Windell, D. (2010). Attitudes and physical distance to an individual with schizophrenia: The moderating effect of self-transcendent values. *Social Psychiatry and Psychiatric Epidemiology, 45*(7), 751–758. https://doi.org/10.1007/s00127-009-0117-2.

Paterson, R. J., & Neufeld, R. W. (1987). Clear danger: Situational determinants of the appraisal of threat. *Psychological Bulletin, 101*(3), 404–416.

Pingani, L., Forghieri, M., Ferrari, S., Ben-Zeev, D., Artoni, P., Mazzi, F., et al. (2012). Stigma and discrimination toward mental illness: Translation and validation of the Italian version of the Attribution Questionnaire-27 (AQ-27-I). *Social Psychiatry and Psychiatric Epidemiology, 47*(6), 993–999. https://doi.org/10.1007/s00127-011-0407-3.

Putman, S. (2008). Mental illness: diagnostic title or derogatory term? (Attitudes towards mental illness) Developing a learning resource for use within a clinical call centre. A systematic literature review on attitudes towards mental illness. *Journal of Psychiatric and Mental Health Nursing, 15*(8), 684–693. https://doi.org/10.1111/j.1365-2850.2008.01288.x.

Sousa, S., Marques, A., Rosario, C., & Queiros, C. (2012). Stigmatizing attitudes in relatives of people with schizophrenia: A study using the Attribution Questionnaire AQ-27. *Trends in Psychiatry and Psychotherapy, 34*(4), 186–197.

Tang, I. C., & Wu, H. C. (2012). Quality of life and self-stigma in individuals with schizophrenia. *Psychiatric Quarterly, 83*(4), 497–507. https://doi.org/10.1007/s11126-012-9218-2.

Turkish Statistical Institute. (2015). *Main statistics: Population and demography*. Retrieved August 2016, from http://www.turkstat.gov.tr/UstMenu.do?metod=temelist.

Weiner, B. (1988). Attribution theory and attributional therapy: Some theoretical observations and suggestions. *British Journal of Clinical Psychology, 27*(Pt 1), 99–104.

World Health Organization. (2001). *The World Health Report 2001: Mental health: new understanding, new hope*. Geneva: World Health Organization.

World Health Organization. (2015). *Mental health action plan 2013–2020 in Copenhagen: World Health Organization* (Vol. 1). Geneva: World Health Organization.