This is the peer reviewd version of the followng article:

Translation and validation of an Italian language version of the Religious Beliefs and Mental Illness Stigma Scale (I-RBMIS) / Pingani, Luca; Giberti, Sara; Coriani, Sandra; Ferrari, Silvia; Fierro, Lucia; Mattei, Giorgio; Maria Nasi, Anna; Pinelli, Giorgia; Wesselmann, Eric D.; Galeazzi, Gian Maria. - In: JOURNAL OF RELIGION AND HEALTH. - ISSN 1573-6571. - 60:5(2021), pp. 3530-3544. [10.1007/s10943-021-01195-9]

Terms of use:

The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

12/10/2024 10:21

(Article begins on next page)

Translation and validation of an Italian language version of the Religious Beliefs and Mental Illness Stigma Scale (I-RBMIS).

Luca Pingani[1,2,3], Sara Giberti[1], Sandra Coriani[2], Silvia Ferrari[1], Lucia Fierro[4], Giorgio Mattei[1,5], Anna Maria Nasi[2,3], Giorgia Pinelli[6], Eric D. Wesselmann[7], Gian Maria Galeazzi[1].

1. *Department of Biomedical, Metabolic and Neural Sciences, Università degli Studi di Modena e Reggio Emilia, Reggio Emilia, Italy.*
2. *Department of Health Professions, Azienda USL – IRCCS di Reggio Emilia, Reggio Emilia, Italy.*
3. *Department of Mental Health, Azienda USL – IRCCS di Reggio Emilia, Reggio Emilia, Italy.*
4. *Department of Health Professions, Azienda Socio Sanitaria Territoriale degli Spedali Civili di Brescia, Brescia, Italy.*
5. *Marco Biagi Department of Economics & Marco Bigi Foundation, Università degli Studi di Modena e Reggio Emilia, Modena, Italy.*
6. *Department of the Arts, Università degli Studi di Bologna, Bologna, Italy.*
7. *Department of Psychology, Illinois State University, Normal, USA.*

Luca Pingani, PhD

https://orcid.org/0000-0003-3428-8308

"De Sanctis" Pavilion - "San Lazzaro" University Campus

Via Amendola 2, 42121 – Reggio Emilia (Italy)

E-mail: luca.pingani@unimore.it

Phone: +39 – 0522 – 522077

Brief autobiographical paragraph

Dr Luca Pingani is Lecturer of Recovery and Psychiatric Rehabilitation at the University of Modena and Reggio Emilia and Course Program Manager of the Degree Course in Psychiatric Rehabilitation (University of Modena and Reggio Emilia - Italy). He is Research and Training Program Manager at the Department of Mental Health of the Local Health Agency of Reggio Emilia (Italy).

He discussed his doctoral dissertation in Clinical and Experimental Medicine (University of Modena and Reggio Emilia) and attended two post graduate courses in statistical analysis applied to clinical questions and systematic reviews.

The main topics of his research work are psychiatric rehabilitation, stigma and validation of psychometric questionnaires.

Translation and validation of an Italian language version of the Religious Beliefs and Mental Illness Stigma Scale (I-RBMIS).

Abstract

Introduction. The aim of this study is to validate the Italian version of the Religious Beliefs and Mental Illness Stigma Scale (I-RBMIS): a self-report measure of religious beliefs which may contribute to stigma for mental disorders, presenting original theoretical constructs, with satisfactory psychometric properties and already used in several studies.

Methods. Scale validation included: linguistic validation; pilot test for understandability; face validity; factor analysis as test of dimensionality; Kaiser-Meyer-Olkin test to evaluate sample sampling adequacy; internal consistency was assessed using Cronbach's alpha; scale validity was assessed through concurrent criterion validity using as gold standard the Italian version of Attribution Questionnaire 27 and Mental Health Knowledge Schedule.

Results. 311 people agreed to participate in the study. Face validity showed that 13 items out of 16 were completely understandable while only three items (4, 9 and 13) highlighted small lexical concerns. The average compilation time was under 4 minutes. Bartlett's test for sphericity was statistically significant ($X^2 = 1497.54$; $df = 120$; $p < 0.001$). Cronbach's alpha values were acceptable for both the entire questionnaire (0.80) and for the Morality/Sin subscale (0.73), whereas it was slightly below the standard cut-off for the Spiritually-Oriented Causes/Treatments (0.68). Scale validity showed a positive correlation between I-RBMIS and AQ-27-I, and a negative correlation between I-RBMIS and MAKS-I.

Discussion: I-RBMIS demonstrated good psychometric properties to assess stigmatizing religious beliefs toward mental illness in general population.

Key words: spiritual stigma, social stigma, surveys and questionnaires, psychometric validation.

Introduction

Gordon Allport (Allport 1954) argued that connection between religion and prejudice is paradoxical: religion "makes prejudice and it unmakes prejudice…Some people say the only cure for prejudice is more religion; some say the only cure is to abolish religion" (p. 444). One way to understand this paradox is to examine how one's religious beliefs relate to the type of prejudice in question (e.g., racism or heterosexism), specifically how one's religious beliefs relate to target groups (Laythe et al. 2002). Given that most modern religious groups normally condemn racism (Batson et al. 1993), religious beliefs are likely to correlate negatively with racial prejudice; heterosexism, however, may be related positively with religious beliefs given how many mainstream religions view homosexuality negatively, or at least ambivalently (Laythe et al. 2001; Rowatt and Franklin 2004). Persons with mental illness are another stigmatized group that typically experiences various forms of prejudice and discrimination from various sources, sometimes including their religious communities (Pargament 1997). Why would some religious communities, normally considered a source of social support for the various stresses of life, instead contribute to the stresses of persons with mental illness by making them feel devalued, marginalized, or otherwise excluded?

Religion and Prejudice toward Persons with Mental Illness

Religious beliefs about mental health are diverse (H. G. Koenig 1998) and the connection between them is not well-studied. Some religious denominations may view mental health concerns within the context of taking care of one's overall health and be open to adherents seeking treatment from mental health professionals. However, other

denominations may reject this idea and stigmatize mental health concerns and treatment options.

Specifically, regarding mental health stigma, Peteet (Peteet 2019) describes four ways in which one's religious beliefs can reinforce stigmatizing attitudes: fundamentalist thinking, tribalism, misattribution of psychopathology and traditional ways of understanding. If individuals live their religious beliefs in a *fundamentalist* way, they might consider solutions to their difficulties only from a single perspective (e.g., increased engagement with sacred scripture or religious rituals) without considering other possibilities for help or support, such as counseling or medication; at best, they may consider these latter possibilities useless, and at worst even harmful (Dowd & Nielson 2006). *Tribalism* can be associated with stigma when an individual, who lives in a hermetic social context (like some forms of congregations or religious movements), is expelled because he is considered dangerous to the group itself because of his/her psychic distress (Barnes & Meyer 2012; Breland-Noble et al. 2015). Other sources of stigma are *misattribution* and association of psychopathological symptoms with elements of the religious *tradition*, such as interpreting suffering as divine punishment toward oneself or one's parents, or as demonic possession (Kovess-Masfety et al. 2018; Rosmarin et al. 2018; Ventriglio et al. 2018). These four different contexts may cause serious consequences for people with mental health problems and for people who live with them: lack of trust in health services, over-reliance on non-scientific treatments or rituals, the prohibition to ask for help to health professionals or to specialized facilities, poor adherence to therapeutic recommendations and obstacles in getting in touch with self-help groups or peer-worker groups (Ayvaci 2016; Wamser et al. 2011).

Despite the potential for stigma, numerous studies have shown a positive association between religiosity and mental health (Dein, 2018; Hackney & Sanders 2003). For example, religious beliefs often are associated with greater hope, increased sense of meaning in life, higher self-esteem, optimism and life satisfaction (Koenig 2009; Koenig et al. 2012). Religiosity also is associated with lower rates of suicide and a lower intake of drugs and alcohol (Cook et al. 1997; Van Praag 2009). Finally, several studies also highlight how religiosity / spirituality predict lower levels of depression or faster remission of depression (Koenig 2012).

To address the paradoxical connection between religious beliefs and mental illness stigma, the American Psychiatric Association Foundation and the Mental Health and Faith Community Partnership Steering Committee have jointly published a book entitled "Mental Health - A Guide for Faith Leaders" (American Psychiatric Association Foundation 2016). This partnership was created to encourage a dialogue between mental health professionals and religious leaders: the former have had the chance to share and discuss concepts such as stress, psychological problems, mental disorders and their evidence based treatments while the latter have offered significant reflections on the role of religion and spirituality in the lives of believers and the possibilities that they can offer as support in a therapeutic-rehabilitation program (American Psychiatric Association Foundation 2016).

Dialogues between mental health professionals and religious leaders are important, but it is also useful to develop psychometric tools that can quantitatively define the presence of scientifically-inaccurate or potentially stigmatizing beliefs about mental illness based on religion in the general population. In this way, it will be possible to study the

dynamics of stigmatization in religious contexts and to undertake further targeted actions for reducing its negative effects (Zoppei & Lasalvia 2011).

To the best of our knowledge, there is no psychometric questionnaire in Italian that can evaluate religious beliefs about mental illness. There is at least one published measure of these beliefs in English - the Religious Beliefs and Mental Illness Stigma Scale (Wesselmann and Graziano 2010). Thus, we decided to adapt this questionnaire in an Italian version for three key reasons. First, the original measure presents interesting theoretical constructs which we consider extendable to the Italian cultural context. The questionnaire assesses two constructs of potentially stigmatizing religious beliefs about mental illness: "Morality/Sin", which measures beliefs that mental illnesses are associated with sinful behavior or moral laxity, and "Spiritually-Oriented Causes/Treatments," which measures beliefs that encourage people to focus on religious practices and rituals (e.g., increased prayer and scripture reading, pastoral counseling, and exorcisms) for coping with mental illness and to avoid secular treatment options. Second, we decided to adapt this measure because its original psychometric properties provided satisfactory results in terms of Cronbach's alpha (Factor 1: 0.88, Factor 2: 0.72) and all the items defining the two factors have a factor loading greater than 0.40 (Wesselmann & Graziano 2010). Third, the constructs assessed by the questionnaire have been studied subsequent published research (Flannelly 2017; Mannarini et al. 2018; Wesselmann et al. 2015; Yelderman 2018).

Methods

Questionnaire Description

RBMIS is a self-administered psychometric questionnaire for assessing participants religious beliefs about mental illness (Wesselmann et al. 2015; Wesselmann & Graziano 2010). The original 16 items of the RBMIS were on a 9-point rating scale, asking participants to indicate the degree to which they agreed with each statement (from 1: "Strongly Disagree" to 9: "Strongly Agree"). Two belief factors emerged: Morality/Sin (sum of items 1, 2, 3, 5, 6, 8, 9) and Spiritually-Oriented Causes/Treatments (sum of items 4, 7, 10, 11, 12, 13, 14, 15, 16). The measure is scored such that higher scores indicate a person's greater endorsement of potentially stigmatizing religious beliefs towards mental illness.

Measure translation

The translation of the original version of RBMI was a three-step process. Three native Italian speakers, bilingual in English, independently translated the original questionnaire into Italian: based on the three translations, a unique Italian version was created with the approval of all translators. In the second step, the pooled version was back translated into English by a professional translator not involved in the previous step. From the comparison between the back-translation and the first Italian translation, an initial draft of the Italian questionnaire, for pilot testing, was produced. To evaluate understandability, the draft version was administered to 20 undergraduate students who were in their third year of training for a bachelor's degree in Psychiatric Rehabilitation at

the University of Modena and Reggio Emilia. During the administration, each item was read aloud and each student answered the following questions: "Is the statement clearly stated?", "Could the statement be worded more clearly?" and "Is it difficult to identify the right answer for that statement?". The authors (LP, SF, and GM) discussed participants' responses and subsequently revised the items for the beta version to be used in the general population. The beta version is available upon request to the corresponding author.

Sample recruitment

The beta version of the I-RBMIS was administered by one of the authors (SG) to individuals in the general population, specifically in the capital cities of the Modena and Reggio Emilia provinces. The author recruited participants in public places, such as shopping centers, squares, markets, recreational clubs, stadiums, post offices, cinema, etc. No stratification was applied in the recruitment. The inclusion criteria were: (a) being 18 years of age or more; (b) to provide an informed consent to take part to the study. Clark and Watson (1995) suggested that an adequate sample size for questionnaire validation should be no less than 300 respondents while Comrey and Lee (1992) proposed a graded scale of sample size: 100 respondents = poor; 200 = fair; 300 = good; 500 = very good; ≥ 1000 = excellent. We administered the Italian version of RBMIS to 400 people expecting a response rate around 75%: 311 (77.75% - largely satisfying the minimum sample size required) agreed to participate in the study. **All the research participants were informed about the objectives and procedure of the study and signed the informed consent prior to data collection.**

185 *Statistical Analysis*

186 Descriptive statistics were computed for each I-RBMIS item and for all collected
187 socio-demographic variables. Questionnaire feasibility was evaluated by calculating the
188 average completion time by the first 20 people who completed the questionnaire. As a test
189 of dimensionality, exploratory factor analysis was used (Principle Axis Factoring) with
190 Promax rotation, indicating a predefined number of factors equal to that identified in the
191 original version (morality/sin and spiritually-oriented causes/treatments belief factors) to
192 verify the exact correspondence of factors in two different cultural context: items with a
193 factor loading of 0.40 or greater were retained in the composite scores (Comrey & Lee,
194 1992). The Kaiser-Meyer-Olkin (KMO) test was used to test sampling adequacy: <0.49 is
195 considered unacceptable, from 0.50 to 0.59 miserable, from 0.60 to 0.69 mediocre, from
196 0.70 to 0.79 middling, from 0.80 to 0.89 meritorious and from 0.90 to 1.00 marvelous
197 (Kaiser 1974). Bartlett's test for sphericity was used to check redundancy between items
198 considering $p<0.05$ as a significant value (Snedecor & Cochran 1989).

199 Internal consistency was assessed using Cronbach's alpha (an alpha coefficient of
200 0.70 or greater was considered acceptable; Nunnally 1978). Scale validity was assessed
201 through concurrent criterion validity using Italian versions of two questionnaires that are
202 considered gold standard stigma measures: the Attribution Questionnaire 27 (AQ-27-I;
203 Corrigan et al. 2002; Corrigan 2000; Pingani et al. 2012; Pingani et al. 2016) and the
204 Mental Health Knowledge Schedule (MAKS-I; Evans-Lacko et al. 2010; Pingani et al.
205 2019). AQ-27-I, a 27-brief statement questionnaire, evaluates in the presence of
206 stigmatizing stereotypes, attitudes, and behaviors toward mental illness among the
207 general population: higher scores indicate higher levels of stigma toward mental illness.
208 MAKS-I is a self-administered 12-item questionnaire assessing participants' knowledge

about mental health: a higher score indicates a greater knowledge of scientifically-accurate information concerning mental health and illness. To verify the I-RBMIS's validity, one would expect a negative correlation between the I-RBMIS total score and the MAKS-I, as well as a positive correlation with the AQ-27-I.

Results

Face validity and understandability

The students in the pilot sample were on average 24.93 years old (*SD* =3.54), mainly female (*N* = 13; 65%). All but three items were considered clear and understandable by the entire sample. Item 4 ("People suffering from mental illness are not going to their places of worship enough") was found to be not clear by 3 respondents (15%) because the Italian translation of "places of worship" may not be understandable by everyone. Four respondents (20%) asked the researcher to better specify the meaning of "demons" of item 9 ("Demons are not responsible for causing the symptoms of mental illness") and 1 respondent (5%) was not aware of the meaning of "original sin" described in item 13 ("Mental illnesses are a result of Original Sin").

Sample characteristics and rating scale scores

The mean age of the validation sample was 33.01 years (minimum = 18; maximum = 82; SD = ±15.14). Of the 311 respondents 38.59% (*N* = 120) were male. The socio-demographic characteristics of the sample and the mean total score obtained at the three

questionnaires (I-RBMIS, MAKS-I and AQ-27-I) are described in Table 1 while the descriptive statistics for each item are described in Table 2.

Insert tables 1 and 2 about here

Psychometric properties

The average completion time was 239 seconds (just under 4 minutes) with a standard deviation of ±47 seconds.

The exploratory factor analysis results are described in Table 3: all the items defining the two factors (Morality/Sin and Spiritually-Oriented Causes/Treatments belief factors) had a factor loading ≥ 0.40, replicating the original loadings for the English version.

Insert table 3 about here

The sampling adequacy can be considered "meritorious" (0.82) and the Bartlett's test for sphericity is statistically significant (X^2 = 1497.54; df = 120; p < 0.001). Cronbach's alpha values are acceptable for the entire questionnaire (0.80) and for the Morality/Sin subscale (0.73) while it is slightly below the cut-off for the Spiritually-Oriented Causes/Treatments (0.68).

Regarding the scale concurrent validity (Table 4), a statistically significant positive correlation emerged between AQ-27-I and I-RBMIS Total score (r = 0.26; p < 0.001), I-RBMIS Morality/Sin (r = 0.32; p < 0.001) and I-RBMIS Spiritually - Oriented

Causes/Treatments (r = 0.14; *p* = 0.02). Specifically, higher endorsement of the two religious belief factors (whether separately or combined together) relate to higher endorsements of common secular stigmatizing beliefs about persons with mental illness (as indexed by an established measure that has already been validated in its Italian version). Additionally, the MAKS-I negatively correlates with I-RBMIS Total score (r = -0.11; p = 0.04) and I-RBMIS Morality/Sin (r = -0.12; p = 0.03). These statistically significant correlations indicate that a greater knowledge of scientifically-accurate information about mental health and illness is related to lower endorsements of beliefs about mental illness as a result of sin or moral laxity, as well as lower endorsements of beliefs focused on spiritually-oriented causes/treatments for mental illness.

Insert table 4 about here

Discussion

The aim of the study was to translate and validate in Italian language the Religious Beliefs and Mental Illness Stigma Scale (I-RBMIS) through face validity analysis, dimensionality factorial analysis, internal consistency analysis and scale validity analysis. Face validity showed that 13 items out of 16 were completely understandable while only three items (4, 9 and 13) highlighted small lexical problems without questioning the meaning of the statements. The average compilation time was less than 4 minutes (238.75 seconds) indicating a quick understanding of the items and a good adaptation to use the evaluation system (9-point likert scale).

The original English questionnaire consists of two different factors (Wesselmann et al. 2015; Wesselmann & Graziano 2010): Morality/Sin and Spiritually-Oriented Causes/Treatments. The factorial analysis conducted on the Italian questionnaire replicated the patterns of item loadings found in published studies using the English version (Wesselmann et al. 2015; Wesselmann & Graziano 2010). We believe that these results are important as they demonstrate that future researchers could conduct cross-cultural studies on these beliefs and how they relate to other measures of mental illness stigma (Evans-Lacko et al. 2012; Mascayano et al. 2015). Further, the Cronbach alpha values suggest generally acceptable internal consistency, both for the two subscales and for an overall composite. These consistency levels are similar to those found in the English version.

In particular, thanks to the initial validation of this questionnaire, it will be possible to investigate how potentially stigmatizing religious beliefs about mental illness can be grafted onto stigmatization processes already present in literature (L. Pingani et al. 2016; Luca Pingani et al. 2012, 2016, 2019), such as the "Responsibility model" and "Dangerousness model" concerning public stigma for mental disorders. These two models are composed of cognitive (stereotypes), emotional (attitude) and behavioral parts. Future research can assess how these religious beliefs influence on these three established components.

Finally, the construct validity of the instrument was demonstrated by correlations between the I-RBMIS and two other stigma-related measures that have already been translated into Italian and validated: the AQ-27-I and the MAKS-I. Specifically, potentially stigmatizing religious beliefs were related positively to secular stigmatizing beliefs In this case, therefore, as the knowledge of mental illness increases, there is a reduction of

stigmatizing religious beliefs toward mental illness (Evans-Lacko et al. 2010; Evans-Lacko et al. 2013). Despite the limitations illustrated, we believe that the current psychometric evidence provides support for using the Italian version of the RBMIS in research.

Of course, measurement validation is an ongoing process and there can always be future measurement development to address limitations. The present study has the several limitations. First, we used a convenience sample which is unlikely to be representative of the whole Italian general population. Second, we administered the questionnaires within two provinces and therefore our data cannot fully represent the cultural diversity (in particular traditions) that characterizes the Italian population. Third, the mean age of the sample is decidedly lower than that of Italian population (33.01 vs 44.40) (Istituto Nazionale di Statistica 2019). Fourth, the percentage of males of the sample (38.59%) is decidedly lower than in the general Italian population (48.37%) (Istituto Nazionale di Statistica 2019). Fifth, our pilot sample used to check face validity and understandability was a convenience sample composed by of university students: due to their educational level their comprehension of the questionnaire may not fully correspond to that of the general population. Sixth, since this study protocol did not have a test-retest analysis we are unable to determine the temporal stability of responses. Seventh, the correlation between MAKS-I and the two subscales of I-RBMIS albeit statistically significant, are weak. Lastly, this study used exploratory factor analysis on the data, which is a descriptive approach rather than a confirmatory/inferential approach. However, given this study focused on translating a questionnaire into a different cultural and linguistic context, we therefore decided to use the exploratory factor analysis to check the possibility of maintaining the original two factors construct using a predefined number of factors. Future validation studies can use these data to conduct a priori power analyses

324 best suited for confirmatory approaches and further investigate the factor structure.
325 Regardless of these limitations, we believe the I-RBMIS provides an exciting research tool
326 for future exploration on understanding the complex connection between religious beliefs
327 and mental health issues.

328

329 ## ***Compliance with Ethical Standards***

330

331 *Conflict of interest*

332 The authors have no financial interest in the subject matter or materials discussed in this
333 manuscript. The authors declare that there is no conflict of interest regarding the
334 publication of this article. The permission to translate and validate the Religious Beliefs
335 and Mental Illness Stigma Scale was received from EDW.

336

337 ***Compliance with Ethical Standards***

338 **According to the Internal Review Board, the ethical approval for this study was**
339 **not necessary because it did not involve cases nor patients: the questionnaires**
340 **used were administered to general population and do not produce diagnosis**
341 **nor allow the definition of psychopathological conditions. Detailed information**
342 **on the study was given to each participant and consent was asked also for**
343 **processing of personal data. The authors assert that all procedures contributing**
344 **to this work comply with the ethical standards of the relevant national and**

institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

Data Availability

All data used for this study are available upon request by the corresponding author.

References

Allport, G. (1954). *The nature of prejudice*. New York, NY: Harper & Row.

American Psychiatric Association Foundation. (2016). *Mental Health: A Guide for Faith Leaders*. Arlington: American Psychiatric Association Foundation.

Ayvaci, E. R. (2016). Religious Barriers to Mental Healthcare. *American Journal of Psychiatry Residents' Journal*, *11*(7), 11–13. https://doi.org/10.1176/appi.ajp-rj.2016.110706

Barnes, D. M., & Meyer, I. H. (2012). Religious affiliation, internalized homophobia, and mental health in lesbians, gay men, and bisexuals. *The American journal of orthopsychiatry*, *82*(4), 505–515. https://doi.org/10.1111/j.1939-0025.2012.01185.x

Batson, C. D., Schoenrade, P., Ventis, W. L., & Batson, C. D. (1993). *Religion and the individual: a social-psychological perspective*. New York: Oxford University Press.

Breland-Noble, A. M., Wong, M. J., Childers, T., Hankerson, S., & Sotomayor, J. (2015). Spirituality and religious coping in African American youth with depressive illness.

Mental health, religion & culture, *18*(5), 330–341. https://doi.org/10.1080/13674676.2015.1056120

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, *7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Comrey, A. L., & Lee, H. B. (1992). *A First Cours in Factor Analysis*. New Jersey: Lawrence Erlbaum Associates.

Cook, C. C. H., Goddard, D., & Westall, R. (1997). Knowledge and experience of drug use amongst church affiliated young people. *Drug and Alcohol Dependence*, *46*(1–2), 9–17. https://doi.org/10.1016/S0376-8716(97)00036-7

Corrigan, P., Rowan, D., Green, A., Lundin, R., River, P., Uphoff-Wasowski, K., et al. (2002). Challenging two mental illness stigmas: personal responsibility and dangerousness. *Schizophr Bull*, *28*(2), 293–309. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=12693435

Corrigan, P. W. (2000). Mental Health Stigma as Social Attribution: Implications for Research Methods and Attitude Change. *Clinical Psychology: Science and Practice*, *7*(1), 48–67. https://doi.org/10.1093/clipsy.7.1.48

Dowd, T., & Nielson, S. (2006). *The psychologies in religion: Working with the religious client*. New York: Springer Publishing Company.

Evans-Lacko, S., Brohan, E., Mojtabai, R., & Thornicroft, G. (2012). Association between public views of mental illness and self-stigma among individuals with mental illness in 14 European countries. *Psychol Med*, *42*(8), 1741–52. https://doi.org/10.1017/S0033291711002558

Evans-Lacko, S., Little, K., Meltzer, H., Rose, D., Rhydderch, D., Henderson, C., & Thornicroft, G. (2010). Development and psychometric properties of the Mental Health Knowledge Schedule. *Can J Psychiatry*, *55*(7), 440–8. http://www.ncbi.nlm.nih.gov/pubmed/20704771

Evans-Lacko, Sara, Henderson, C., & Thornicroft, G. (2013). Public knowledge, attitudes and behaviour regarding people with mental illness in England 2009-2012. *The British Journal of Psychiatry*, *202*(s55), s51. https://doi.org/10.1192/bjp.bp.112.112979

Flannelly, K. J. (2017). *Belief in Divine Forgiveness, Evil, and Biblical Literalism and Mental Health. Religious Beliefs, Evolutionary Psychiatry, and Mental Health in America*. New York: Springer Publishing Company.

Hackney, C. H., & Sanders, G. S. (2003). Religiosity and Mental Health: A Meta-Analysis of Recent Studies. *Journal for the Scientific Study of Religion*, *42*(1), 43–56. http://www.jstor.org/stable/1387984

Istituto Nazionale di Statistica. (2019, October 30). Indicatori demografici al 01/01/2019. http://dati.istat.it/Index.aspx?DataSetCode=DCIS_INDDEMOG1

Kaiser, H. (1974). An index of factor simplicity. *Psychometrika*, *39*, 31–36.

Koenig, H. G. (Ed.). (1998). *Handbook of religion and mental health*. San Diego: Academic Press.

Koenig, H. G. (2009). Research on religion, spirituality, and mental health: a review. *Canadian journal of psychiatry. Revue canadienne de psychiatrie*, *54*(5), 283–291. https://doi.org/10.1177/070674370905400502

Koenig, H. G. (2012). Religion, spirituality, and health: the research and clinical implications. *ISRN psychiatry*, *2012*, 278730. https://doi.org/10.5402/2012/278730

Koenig, H., King, D., & Carson, V. (2012). *Handbook of Religion and Health*. Oxford: Oxford University Press.

Kovess-Masfety, V., Saha, S., Lim, C. C. W., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., et al. (2018). Psychotic experiences and religiosity: data from the WHO World Mental Health Surveys. *Acta psychiatrica Scandinavica*, *137*(4), 306–315. https://doi.org/10.1111/acps.12859

Laythe, B., FinkeL, D. G., Bringle, R. G., & Kirkpatrick, L. A. (2002). Religious Fundamentalism as a Predictor of Prejudice: A Two-Component Model. *Journal for the Scientific Study of Religion*, *41*(4), 623–635. https://doi.org/10.1111/1468-5906.00142

Laythe, B., Finkel, D., & Kirkpatrick, L. A. (2001). Predicting Prejudice from Religious Fundamentalism and Right-Wing Authoritarianism: A Multiple-Regression Approach. *Journal for the Scientific Study of Religion*, *40*(1), 1–10. https://doi.org/10.1111/0021-8294.00033

Mannarini, S., Boffo, M., Rossi, A., & Balottin, L. (2018). Etiological beliefs, treatments, stigmatizing attitudes toward schizophrenia. What do Italians and Israelis think? *Frontiers in Psychology*, *8*(JAN). https://doi.org/10.3389/fpsyg.2017.02289

Mascayano, F., Armijo, J. E., & Yang, L. H. (2015). Addressing Stigma Relating to Mental Illness in Low- and Middle-Income Countries. *Frontiers in Psychiatry*, *6*. https://doi.org/10.3389/fpsyt.2015.00038

Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.

Pargament, K. I. (1997). *The psychology of religion and coping: theory, research, practice* (3. [Dr.].). New York: Guilford Press.

Peteet, J. R. (2019). Approaching Religiously Reinforced Mental Health Stigma: A Conceptual Framework. *Psychiatric Services*, *70*(9), 846–848. https://doi.org/10.1176/appi.ps.201900005

Pingani, L., Evans-Lacko, S., Luciano, M., Del Vecchio, V., Ferrari, S., Sampogna, G., et al. (2016). Psychometric validation of the Italian version of the Reported and Intended Behaviour Scale (RIBS). *Epidemiol Psychiatr Sci*, *25*(5), 485–492. https://doi.org/10.1017/S2045796015000633

Pingani, Luca, Catellani, S., Del Vecchio, V., Sampogna, G., Ellefson, S. E., Rigatelli, M., et al. (2016). Stigma in the context of schools: Analysis of the phenomenon of stigma in a population of university students. *BMC Psychiatry*, *16*. http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2016-07410-001&site=ehost-live&scope=site

Pingani, Luca, 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

Pingani, Luca, Sampogna, G., Evans.Lacko, S., Gozzi, B., Giallonardo, V., Luciano, M., et al. (2019). How to Measure Knowledge About Mental Disorders? Validation of the Italian Version of the MAKS. *Community Mental Health Journal*. https://doi.org/10.1007/s10597-019-00416-6

Rosmarin, D. H., Moreira-Almeida, A., & Koenig, H. (2018). Religion and psychotic experiences. *Acta Psychiatrica Scandinavica*, *138*(2), 173–173. https://doi.org/10.1111/acps.12917

Rowatt, W. C., & Franklin, L. M. (2004). Christian Orthodoxy, Religious Fundamentalism, and Right-Wing Authoritarianism as Predictors of Implicit Racial Prejudice. *International Journal for the Psychology of Religion*, *14*(2), 125–138. https://doi.org/10.1207/s15327582ijpr1402_4

Snedecor, G. W., & Cochran, W. G. (1989). *Statistical Methods*. Iowa City: Iowa State University Press.

Van Praag, H. (n.d.). The role of religion in suicide prevention. In *Oxford Textbook of Suicidiology and Suicide Prevention*. Oxford: Oxford University Press.

Ventriglio, A., Bonfitto, I., Ricci, F., Cuoco, F., & Bhavsar, V. (2018). Delusion, possession and religion(dagger). *Nordic journal of psychiatry*, *72*(sup1), S13–S15. https://doi.org/10.1080/08039488.2018.1525639

Wamser, R., Vandenberg, B., & Hibberd, R. (2011). Religious Fundamentalism, Religious Coping, and Preference for Psychological and Religious Treatment. *The International Journal for the Psychology of Religion*, *21*(3), 228–236. https://doi.org/10.1080/10508619.2011.581582

Wesselmann, E. D., Day, M., Graziano, W. G., & Doherty, E. F. (2015). Religious beliefs about mental illness influence social support preferences. *Journal of Prevention & Intervention in the Community*, *43*(3), 165–174. https://doi.org/10.1080/10852352.2014.973275

Wesselmann, E. D., & Graziano, W. G. (2010). Sinful and/or possessed? Religious beliefs and mental illness stigma. *Journal of Social and Clinical Psychology*, *29*(4), 402–437. https://doi.org/10.1521/jscp.2010.29.4.402

Yelderman, L. A. (2018). Cognitive rigidity explains the relationship between religious fundamentalism and insanity defence attitudes. *Mental Health, Religion & Culture*, *21*(7), 686–697. https://doi.org/10.1080/13674676.2018.1551340

Zoppei, S., & Lasalvia, A. (2011). Anti stigma campaigns: really useful and effective? A critical review of the anti-stigma initiatives conducted in Italy. *Rivista Di Psichiatria*, *46*(4), 242–249.

Table 1. Socio-demographic characteristics of the sample and rating scales scores.

	Mean	***SD***	***Minimum***	***Maximum***
Age	33.01	±15.14	18	82
I-RBMIS Total score	27.66	±12.55	16	101
I-RBMIS Morality/Sin	14.17	±7.21	9	58
I-RBMIS Spiritually - Oriented Causes/Treatments	13.49	±7.33	7	43
MAKS-I Total score	20.78	±2.43	10	29
AQ-27-I	102.08	±25.40	49	172

	N	***%***
Sex		
Male	120	38.59
Female	191	61.41
Civil status		
Unmarried	208	66.88
Married	89	28.61
Separated / Divorced	10	3.22
Widow / Widower	4	1.29
Citizenship		
EU	303	97.43
non-EU	8	2.57
Highest level of education		
Primary school diploma	2	0.65
Middle school diploma	24	7.72
High school graduation	191	61.41
Bachelor's degree	91	29.26
Religious affiliation		
Christian	216	69.45%
Agnostic	39	12.54%
Atheist	56	18.01%

I-RBMIS: Italian version of the Religious Beliefs and Mental Illness Stigma Scale
MAKS-I: Italian version of Mental Health Knowledge Schedule
AQ-27-I: Italian version of Attribution Questionnaire 27
EU: European Union

Table 2. Frequencies and percentage related to the answers given to each item

	1 Strongly Disagree		2		3		4		5		6		7		8		9 Strongly Agree	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
*Item 1 Compared to a minister / pastor, a counselor / therapist would be much better at helping a person suffering from a mental illness. *Δ*	164	52.73	52	16.72	43	13.83	22	7.07	19	6.11	2	0.64	2	0.64	4	1.29	3	0.96
Item 2 God's healing is all a person suffering from a mental illness needs—nothing else should be relied on.	224	72.03	37	11.90	23	7.40	11	3.54	12	3.86	1	0.32	2	0.64	0	0.00	1	0.32
Item 3 Persons suffering from mental illness are being tormented by the Devil.	244	78.46	35	11.25	9	2.89	5	1.61	8	2.57	3	0.96	3	0.96	2	0.64	2	0.64
Item 4 People suffering from mental illness are not going to their place of worship enough.	238	76.53	35	11.25	12	3.86	7	2.25	10	3.22	5	1.61	1	0.32	0	0.00	3	0.96
*Item 5 It is superstitious to believe a person suffering from mental illness is possessed by demons. *Δ*	193	62.06	32	10.29	21	6.75	7	2.25	8	2.57	5	1.61	7	2.25	4	1.29	34	10.93
Item 6 Mental illnesses should be healed by having people pray over the afflicted person.	176	56.59	62	19.94	23	7.40	14	4.50	20	6.43	7	2.25	4	1.29	1	0.32	4	1.29
Item 7 A person's relationship with God has nothing to do with their suffering from a mental illness. Δ	275	88.42	23	7.40	4	1.29	2	0.64	5	1.61	1	0.32	0	0.00	0	0.00	1	0.32
Item 8 Prayer is not the only way to fix a mental illness. Δ	256	82.32	28	9.00	11	3.54	4	1.29	7	2.25	1	0.32	2	0.64	0	0.00	2	0.64
*Item 9 Demons are not responsible for causing the symptoms of mental illness. * Δ*	214	68.81	36	11.58	13	4.18	2	0.64	9	2.89	8	2.57	1	0.32	6	1.93	22	7.07
Item 10 Mental illnesses result from an immoral or sinful lifestyle.	231	74.28	38	12.22	12	3.86	9	2.89	10	3.22	7	2.25	3	0.96	1	0.32	0	0.00
Item 11 A person suffering from a mental illness is not praying enough.	267	85.85	31	9.97	4	1.29	3	0.96	3	0.96	2	0.64	1	0.32	0	0.00	0	0.00
Item 12 People suffer from mental illnesses because they are not sorry for their sins.	263	84.57	28	9.00	9	2.89	2	0.64	3	0.96	4	1.29	2	0.64	0	0.00	0	0.00
Item 13 Mental illnesses are a result of Original Sin.	269	86.50	26	8.36	4	1.29	4	1.29	3	0.96	0	0.00	1	0.32	0	0.00	4	1.29
Item 14 Moral weakness is the main cause of mental illness.	178	57.23	37	11.90	14	4.50	8	2.57	25	8.04	24	7.72	17	5.47	6	1.93	2	0.64
Item 15 A person suffering from mental illness is not relying on their faith like they should.	221	71.06	38	12.22	22	7.07	10	3.22	6	1.93	10	3.22	3	0.96	0	0.00	1	0.32
Item 16 People have mental illnesses because someone else sinned against them.	242	77.81	17	5.47	13	4.18	7	2.25	15	4.82	4	1.29	11	3.54	1	0.32	1	0.32

* Reverse score in the Italian version

Δ Reverse score in English version

Table 3. Factor loading of the two factors: Morality/Sin and Spiritually-Oriented Causes/Treatments

	Morality/Sin	Spiritually-Oriented Causes/Treatments
Item 1 *	-0.37	0.48
Item 2	-0.27	0.55
Item 3	-0.16	0.61
Item 4	0.53	0.08
Item 5 *	-0.40	0.42
Item 6	-0.14	0.63
Item 7	0.46	0.25
Item 8	-0.23	0.66
Item 9 *	-0.20	0.42
Item 10	0.76	0.53
Item 11	0.63	0.27
Item 12	0.67	0.54
Item 13	0.40	-0.10
Item 14	0.49	0.38
Item 15	0.56	0.23
Item 16	0.48	0.25

* Reverse score in Italian version

Table 4. Correlations between the Italian versions of the Religious Beliefs and Mental Illness Stigma Scale, the Attribution Questionnaire 27 and the Mental Health Knowledge Schedule's score

	I-RBMIS Morality/Sin	*I-RBMIS Spiritually - Oriented Causes/ Treatments*	*MAKS-I Total score*	*AQ-27-I*
I-RBMIS Total score	r = 0.86 *p* < 0.001	r = 0.87 *p* < 0.001	r = -0.11 *p* = 0.04	r = 0.26 *p* < 0.001
I-RBMIS Morality/Sin		r = 0.50 *p* < 0.001	r = -0.12 *p* = 0.03	r = 0.32 *p* < 0.001
I-RBMIS Spiritually - Oriented Causes/ Treatments			r = -0.07 *p* = 0.22	r = 0.26 *p* < 0.001
MAKS-I Total score				r = -0.16 *p* = 0.004
AQ-27-I				

I-RBMIS: Italian version of the Religious Beliefs and Mental Illness Stigma Scale
MAKS-I: Italian version of Mental Health Knowledge Schedule
AQ-27-I: Italian version of Attribution Questionnaire 27