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Running Head: Spanish language version of the BTMI

Beliefs about Mental Illness in a Spanish Speaking Latinx American Sample

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## Abstract

The US Hispanic population is large and rapidly growing, with serious healthcare disparities. Alarming, 67% of Hispanic adults with a mental illness go untreated. Attempts to increase treatment rates have had limited success, likely partly due to stigma beliefs. There is an urgent need to develop and utilize a Spanish language stigma assessment tool. The current study is the first to do so, translating the Beliefs Toward Mental Illness (BTMI; Hirai et al., 2018) scale into Spanish (S-BTMI). Our psychometric findings with English-Spanish bilingual Latinx undergraduate students suggest that the S-BTMI can be a reliable measure of mental illness stigma. The BTMI's 4-factor solution was confirmed by the S-BTMI. Language invariance tests for the S-BTMI and BTMI demonstrated metric invariance and partial scalar invariance. The S-BTMI's factors produced strong internal consistency and two-week test-retest reliability. A previous Latinx sample's BTMI scores were similar to the current S-BTMI scores, except for greater endorsement of incurability beliefs for the Spanish version. Average stigma levels were fairly low in the current sample. Use of the BTMI-S can improve our understanding of stigma, and its relationships to language, culture, acculturation, and treatment-seeking in Latinx communities.

*Keywords:* Latinx; mental illness stigma; Spanish translation; beliefs toward mental illness scale; invariance tests; scale development; psychometric

## Beliefs about Mental Illness in a Spanish-Speaking Latinx American Sample

### 1. Introduction

The healthcare disparities and underutilization of psychological services among Latinx individuals has been well-documented (e.g., Cabassa, et al., 2006; Cardemil et al., 2007). Alarming, 67% of Hispanic adults with any mental illness and 44% of those with a serious mental illness received no treatment (SAMHSA, 2020). This problem is particularly acute among less acculturated Latinx individuals (e.g., Lorenzo-Blanco & Delva, 2012; Rojas-Vilches et al., 2011) and Latinx immigrants (Derr, 2016). Given that the growing Latinx/Hispanic US population is approximately 18% currently and estimated to reach 27.5% of the US population by 2060 (U.S. Census Bureau, 2019), this constitutes a mental health treatment crisis.

One established contributor to the low treatment rates of Latinx individuals is mental illness stigma, which is found in Latinx American samples with varying countries of origin, including Mexico, Cuba, Puerto Rico, and other Central and South American countries (Abdullah & Brown, 2011; Derr, 2016; Hirai et al., 2015; Nadeem et al., 2007; Rojas-Vilches et al., 2011) and among Latinx immigrants (e.g., Derr, 2016; Nadeem et al., 2007). To reduce stigma and encourage help-seeking behavior in the long-run, a stigma assessment instrument in the native language of the target population is needed.

An accurate estimate of stigma among the US Latinx population is impossible without a Spanish language stigma measure, as many Latinx individuals residing in the US have limited English proficiency (e.g., Derose & Baker, 2000). Of the approximately 41 million Spanish speakers in the US, 40% were categorized as speaking English “*less than very well*” (U.S. Census Bureau, 2017). Regardless of English proficiency, many Latinx/Hispanic individuals prefer to use Spanish for communication (Centers for Disease Control and Prevention, 2012).

The Beliefs Toward Mental Illness scale (BTMI; Hirai & Clum, 2000) is an instrument designed to measure mental illness stigma. It has been used in over 70 national and international published studies to date, but none to our knowledge in a Spanish-speaking population. The English language version has been used with US English-speaking Latinx samples (e.g., Hirai et al., 2015; Rojas-Vilches et al., 2011) and has demonstrated reliability via both paper-pencil and online administrations for this group (Hirai et al., 2018). The crucial next step is to establish a Spanish version of the BTMI to understand mental illness stigma in Latinx/Hispanic groups whose primary or sole language is Spanish.

Cultural beliefs are well-known contributors to mental illness stigma (e.g., Abdullah & Brown, 2011; Carpenter-Song, et al., 2010). Continued development and validation of the Spanish language version of the BTMI with varied Latinx subpopulations will contribute to an increasingly nuanced understanding of mental illness stigma. For example, although the initial psychometric examination of the English language BTMI with a Caucasian and Asian American sample identified three BTMI factors of Dangerousness, Social dysfunction, and Incurability (Hirai & Clum, 2000), in a Latinx American college student sample the original three factors were supported along with a distinct Embarrassment factor (Hirai et al., 2018). To further our understanding of mental illness stigma in the Latinx US population, it is important to capture the stigma beliefs of Spanish speakers, both those with limited English proficiency and those who are bilingual. Even among those who are proficient in English, it might be the case that responses to stigma items will vary based on the BTMI language version. Responding in Spanish might activate the cultural schemas of Latinx individuals, increasing some aspects of their reported mental health stigma.

In the current study, the BTMI was translated from English to Spanish to develop a

Spanish language version of the BTMI (S-BTMI) and to test its factor structure, language invariance relative to the BTMI, and test-retest reliability. Levels of stigma in the current bilingual Latinx sample were explored. Further, to examine potential language effects on stigma, the S-BTMI scores of the current sample were compared to BTMI scores of a similar bilingual Latinx sample (Hirai et al., 2018).

## **2. Method**

### **2.1. Participants**

The current study was part of a larger online assessment study of attitudes toward psychological disorders, consisting of two assessment sessions, Time 1 and Time 2, scheduled 2 weeks apart. In the larger assessment study, participants completed either the S-BTMI first followed by the BTMI or the BTMI first followed by the S-BTMI at Time 1 and the S-BTMI first at Time 2. The current subset of the data was from participants who completed the S-BTMI prior to the BTMI at both time points. Participants were Latina/o undergraduate students recruited from the subject pool of a psychology department at a state university in Texas.

The Spanish language data at Time 1 included 354 participants. Among the 354 participants, 296 participants also completed Time 2 (i.e., 55 completed only Time 1). Among the 354 participants, 3 did not complete the age and gender questions and the remaining 351 consisted of 86 males and 265 females with a mean age of 22.5 years ( $SD=5.48$ , range 18 to 57). All participants were English-Spanish bilingual, with 51.1% endorsing English as their primary language, 47.2% endorsing Spanish as their primary language, and 1.7% endorsing both languages as their primary languages. Most participants (93.8%) were of Mexican or partially Mexican descent (e.g., Mexican and Cuban), and the remaining participants self-identified as being of non-Mexican descent (e.g., Colombian, El Salvadorian, Nicaraguan) or unspecified

descent (e.g., Central American). There was no statistically significant difference between full completers and Time 1 only completers in mean ages ( $t(349)=1.092, ns$ ) or gender distributions ( $\chi^2(1)=0.026, ns$ ).

The English language data ( $n=280$ ) at Time 1 were the data reported in a previous BTMI psychometric study (Hirai et al., 2018). Participants of that study completed the BTMI first followed by the S-BTMI at Time 1 and were independent from the current sample. There was no statistically significant difference in mean ages ( $t(626)=1.616, ns$ ) or gender distributions ( $\chi^2(1)=0.09, ns$ ) between the English version group and the Spanish version group.

## 2.2. Measures

A demographic questionnaire asked participants' age, gender, ethnicity, ancestral descent, and primary language. Age was measured in an open-ended format and the remaining items were measured in a closed-ended response format.

*Beliefs Toward Mental Illness* (BTMI; Hirai et al., 2018): The BTMI is a 21-item measure of negative stereotypical views of psychological disorders based on four factors: 1) dangerousness (4 items: e.g., mentally ill persons are more likely to harm others, their behavior is dangerous, and they may harm me); 2) social dysfunction (7 items: e.g., mentally ill individuals' work cannot be trusted, mentally ill persons as less likely to be punctual or keep promises, unable to live alone); 3) incurability (6 items: e.g., mental illnesses are recurrent, lifelong, never completely cured, and would take longer to treat); and 4) embarrassment (4 items: e.g., feeling embarrassed if a family member becomes mentally ill, what others would think if the individual were diagnosed as having a psychological disorder). The items are rated on a 6-point Likert-type scale ranging from 0 (*completely disagree*) to 5 (*completely agree*). Higher scores reflect more stigma towards psychological disorders. Alpha reliability coefficients for the

four factors of the English language version of the BTMI were .84 for Dangerousness, .84 for Social Dysfunction, .83 for Incurability, and .70 for Embarrassment (Hirai et al., 2018).

The current study used a newly translated Spanish language version of the BTMI (S-BTMI)<sup>1</sup>. The steps of this translation consisted of a translation from the English language version of the BTMI to a Spanish language version and a back-translation from Spanish to English, similar to the steps employed in several past English-Spanish translation and validation studies with bilingual individuals conducted in the US (e.g., Canales et al., 1995; Novy et al., 2001). In the current study the initial translation was performed by an academic professional who is English-Spanish bilingual and bicultural with Spanish as his primary language. Then, the third author discussed with the professional about choices of words and idioms to make sure that the English and Spanish versions have the same connotation and negativity associated with them. The last step was to back-translate the Spanish language version to English performed by English-Spanish bilingual graduate students with English as their first language at the university of the first author. Based on the back-translation, no further change was needed to the Spanish version.

### **2.3. Procedure**

The study was approved by the institutional review board of the university. An online sign-up system hosted by the psychology department was used to recruit participants. The study description stated that the study requires participants to be able to read and write in both English and Spanish. The platform of the survey was Qualtrics (Qualtrics, Provo, UT). Participants who agreed to the online consent statement completed a battery of questionnaires at Time 1 and at Time 2 scheduled 2 weeks after Time 1. Participants received course extra credit as compensation.



### 3. Results

#### 3.1. Language invariance

For the S-BTMI, the data from 354 Latinx undergraduate students who had completed the measure at Time 1 were used. For the BTMI, the data from the 280 Latinx undergraduate students from a prior study (Hirai et al., 2018) were used.

Analyses were performed utilizing Mplus 6.12 (Muthén & Muthén, 2010). MLM estimator was employed for the current study<sup>2</sup>. The 4-factor model that fit the BTMI data (Hirai et al., 2018) was tested for the S-BTMI data. Model fit was compared to the cutoff scores suggested by Hu and Bentler (1999) for determining acceptable fit:  $>.95$  for Comparative Fit Index (CFI),  $<.06$  for Root Mean Square Error of Approximation (RMSEA), and  $<.08$  for Standardized Root Mean Square Residual (SRMR). The fit indices for the S-BTMI were  $\chi^2(183)=324.59, p<.001$ ; CFI =.96; RMSEA=.047 [.038, .055]; SRMR=.044, suggesting a good fit between the model and data. Items' reliabilities ranged from .45 to .65 ( $p$ 's  $<.001$ ).

A series of language invariance analyses were conducted and evaluated using the steps described by Meredith (1993) and Meredith and Teresi (2006). Specifically, we examined 1) configural invariance, 2) metric invariance (equal factor loadings); 3) scalar invariance (equal item intercepts); and 4) strict invariance (equal variances of the residuals). A minimum of metric invariance is required to establish equivalence of constructs and for valid comparisons of the scale scores and therefore for basic research (Meredith & Teresi, 2006). Decisions on invariance were based on Cheung and Rensvold's (2002) and Chen's (2007) multiple-group test criteria, using CFI ( $\Delta$ CFI $<.01$ ), RMSEA ( $\Delta$ RMSEA $<.01$ ), and SRMR ( $\Delta$ SRMR $<.01$ ) differences, as well as based on the  $p$  value of the scaled chi-square differences.

Results are presented in Table 1. The fit indices demonstrated configural invariance for

the two language versions. Metric invariance was then tested by comparing the configural model and the metric model. The scaled chi-square and index differences between the two language versions were not significant, suggesting equal factor loadings between the two versions. That is, the BTMI and S-BTMI have the same factor structure and the item-factor relationships required for basic research. Scalar invariance was not achieved, indicating item intercepts differ between the two versions. Modification indices and conceptual considerations (e.g., items were related to one another within the formerly identified dimension) suggested that intercepts for items 9 and 20 (within Incurability) be unconstrained. Thus, the modification was made in the model and the fit of the model was reevaluated. The fit indices for the model was improved and based on Cheung and Rensvold's (2002) and Chen's (2007) criteria, partial scalar invariance was achieved. Strict invariance was not achieved, indicating item residuals differ between the two versions. Strict invariance, however, is less important for basic research (Meredith & Teresi, 2006). Additionally, equal factor variances, equal factor covariances, and equal factor means were examined. The results met for the multi-group test criteria. The S-BTMI and BTMI were equivalent in terms of the variance and means of the latent factors.

Alpha reliability coefficients and 90% confidence intervals for the four factors of the S-BTMI were .85 [.83, .88] for Dangerousness (*Peligrosidad*), .89 [.87, .91] for Social Dysfunction (*Disfunción Social*), .87 [.85, .89] for Incurability (*Incurabilidad*), and .82 [.79, .85] for Embarrassment (*Vergüenza*). Correlations among the S-BTMI factors ranged from .37 to .67 ( $p's < .01$ ).

### **3.2. Longitudinal invariance (test-retest reliability)**

Using data from 296 participants who completed the S-BTMI at both Time 1 and Time 2, the 4-factor model was tested for longitudinal invariance. Analyses were performed utilizing

Mplus 7.4 (Muthén & Muthén, 2015). The single-group approach to the longitudinal CFA was used, following Newsom's approach (Newsom, 2015). Specifically, 1) configural invariance, 2) metric invariance, 3) equal factor variances, 4) equal factor covariances, 5) scalar invariance, 6) strict invariance, and 7) equal factor means were examined in this order. The standard chi-square testing procedures were employed because the scaling factor was very close to 1, which indicated no need for correcting for non-normality.

Results are presented in Table 2. None of the chi-square difference tests, except the difference test between the scalar invariance model and strict invariance model, were significant at the 0.01 significance level. Given that CFA and RMSEA had barely changed, however, it is fair to conclude that the scale has good longitudinal invariance. For the 2-week period, test-retest reliability estimates ranged from 0.87 to 0.90. Finally, it was found that latent factor means may slightly change over time. Observed means for Time 1 and Time 2 and coefficient alphas for Time 1 are presented in Table 3. Scores of the BTMI factors obtained from the prior study (Hirai et al., 2018) are also listed in Table 3. Although our language invariance results suggest that BTMI and S-BTMI results are comparable, on the Incurability factor the differences in the 95% confidence intervals for the relatively high scores for the two S-BTMI samples relative to the BTMI sample should also be noted.

### **3.3. Stigma beliefs**

Based on the item mean scores, the current Latinx American sample reported a neutral response (in between "slightly agree" and "slightly disagree") to statements related to the incurability of mental illnesses. Over 15% of the respondents slightly to completely agreed with the incurability items. Participants, on average, reported "slightly disagree" to items regarding the dangerousness of mentally ill persons, although over 15% slightly to completely agreed with

these items. Regarding social dysfunction, participants, on average, endorsed the items with “slightly disagree” and 34% of the respondents slightly to completely agreed with items describing social and life difficulties of individuals with mental illness. To items about embarrassment related to mental illness, the current sample generally responded with “mostly disagree,” with only 6.5% slightly to completely agreeing with the embarrassment items.

#### **4. Discussion**

Mental illness stigma is a well-rooted barrier to service utilization among Latinx individuals including recent immigrants (e.g., Derr, 2016). In response to an urgent need to develop and utilize a Spanish language stigma assessment tool, the current study established a Spanish version of the BTMI. The current study examined the 4-factor structure of the S-BTMI administered online in a Latinx bilingual college sample. Results support the conclusions that 1) the S-BTMI and the BTMI have the same 4-factor structure, and 2) the S-BTMI had strong test-retest reliability over 2 weeks. Overall, the psychometric properties of the S-BTMI are reasonably equivalent to the established English version of the BTMI. The S-BTMI can be a useful assessment instrument to capture the stigma beliefs of Spanish speakers.

As hypothesized, the S-BTMI confirms the four factors identified by the English language version of the BTMI administered to Latina/o college students (Hirai et al., 2018), suggesting that the stigma structure might be culture-driven and is less likely to be language-driven. The S-BTMI produced strong alpha coefficients for the four factors, suggesting the S-BTMI is a reasonably reliable measure. Participant scores on the S-BTMI factors ranged from no stigma to elevated stigma, indicating its capacity for measuring varying levels of stigma beliefs.

Our results demonstrate that researchers can assess and compare the four stigma dimensions within and between English-speaking or Spanish-speaking populations. The

measurement invariance tests support metric invariance of the four-factor model between the two language versions, a minimum requirement for basic research (Meredith & Teresi, 2006), suggesting the S-BTMI assesses the four factors similarly to the BTMI. Partial scalar invariance across the two language versions was found for the model with two free intercepts, suggesting equal item means, except two items, between the two language versions. The two item mean differences between the two versions might be attributed to different nuances the two languages fundamentally possess regarding negative attitudes or psychological disorders or both. Equal factor variances, equal factor covariances, and equal latent factor means between the S-BTMI and the BTMI were found, suggesting that at the factor score level the two language versions are comparable.

Using the S-BTMI and BTMI we were able to compare the strength of the different stigma domains between the Spanish-language and English-language versions when completed by bilingual Latinx students. The mean scores presented in Table 3 along with the invariance test confirm that reported beliefs about mental illnesses were similar in the Latinx group reporting stigma in Spanish relative to those reporting in English. Interestingly, the 95% confidence intervals of the Incurability factor are relatively high in the two samples completing the S-BTMI. Although in the current analyses we examined latent means and do not compare observed means, it may be the case that some aspects of reported stigma vary slightly by language. Bilingual individuals inhabit two cultural realities, which may be activated in part by language, and reflected in stigma reporting. Importantly, past studies suggest that culture and enculturation differences may interact and influence stigma beliefs, which in turn diminish treatment-seeking (e.g., Hirai et al., 2015; Rojas-Vilches et al., 2011), and the S-BTMI and BTMI can be used to examine the role of language in these processes.

The S-BTMI demonstrated strong longitudinal invariance over a two-week interval, suggesting that the S-BTMI has good test-retest reliability and the four stigma domains are stable constructs. Although possible carryover effects cannot be ruled out, the solid test-retest reliability results support the assertion that the S-BTMI is suitable for assessing levels of stigma over time. This is particularly important because stigma plays a negative role in treatment-seeking behaviors in Latinx individuals (e.g., Hirai et al., 2015; Rojas-Vilches et al., 2011) and attempts may be made to reduce stigma levels over time, which need to be assessed by a reliable instrument such as the S-BTMI.

Regarding mental illness stigma beliefs reported in Spanish by the current Latinx college sample, average levels of stigma on the subscales were low, with most participants expressing some degree of disagreement at the item and subscale level. These results can likely be attributed to the sample characteristics, particularly their high educational attainment. However, it is nonetheless striking that 6 to 34% of this well-educated college sample agreed, to some extent, with mental illness stigma beliefs. Greater endorsement still might be expected in the general Spanish-speaking population with varying education levels.

It should be noted that the current study has several limitations. First, because participants were educated bilingual college students recruited from psychology courses, the current findings may have limited generalizability to those who are Spanish-only speaking individuals and/or are less educated and less familiar with psychological disorders. Second, the majority of participants had Mexican cultural backgrounds, and thus, the findings may not be fully applicable to Latinx individuals with family origins from other countries. Although individuals of Mexican descent make up the largest proportion of the Latinx/Hispanic population in the U.S. (American Community Survey, 2017) and stigma and its role in the underutilization

of mental health services have been found in Latinx individuals with different countries of origin (e.g., Nadeem et al., 2007; Rojas-Vilches et al., 2011), it is essential to investigate potential contributions of the cultural diversity in the Latinx population to stigma and attitudes toward mental health services. The influence of cultural beliefs on stigma may be complex in the heterogeneous Latinx population in the US. In addition, the small sample size of male participants and gender imbalance did not allow for the performance of reliable gender invariance tests. Future studies should investigate the effects of language proficiencies, ethnic origins, and education on the factor structure and reliability estimates of the S-BTMI using varying community and clinical populations with similar numbers of men and women whose primary language is Spanish.

The current study demonstrated that the S-BTMI is a reasonably reliable and valid tool to address mental health stigma in Spanish-speaking individuals. The Spanish-speaking population in the U.S. is increasing and Latinx individuals appear vulnerable to many psychological disorders (e.g., Asnaani et al., 2010; Woodward et al., 2012). The role of stigma in the underutilization of mental health services in the Latinx population and in Latinx immigrants in particular is evident, suggesting an urgent need to develop and utilize a Spanish language stigma assessment tool. Such an attempt will contribute to understanding and improving Latinx individuals' willingness to seek mental health services. In addition, the evidence that the S-BTMI is a sound measure suggests that it is a possible tool to perform research on stigma attached to psychological disorders in Spanish-speaking populations outside the US, including those in Central and South America as well as in Hispanophone communities in other parts of the world.

## Footnotes

1. The scale can be obtained at <https://tinyurl.com/SBTMI>
2. The scaling correction values provided by Mplus were always greater than 1.1, suggesting some non-normality of the responses of the current sample. Maximum likelihood parameter estimates are relatively robust to non-normality but both the Chi-square statistics and standard errors of the parameter estimates exhibit bias as non-normality increases (Finney & DiStefano, 2006). Previous studies have shown that Satorra-Bentler Scaled  $\chi^2$  provides accurate results for non-normal continuous data (For a summary of these studies, see West et al., 1995 and Finney & DiStefano, 2006). Thus, the current study employed Satorra-Bentler Scaling Correction for each CFA.



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Table 1. Language invariance between the S-BTMI and the BTMI

Model	$SB-\chi^2$	df	SCF	CFI	RMSEA [90% CI]	SRMR	Compared Models	Scaled $\Delta\chi^2$	$p$	$\Delta CFI$	$\Delta RMSEA$	$\Delta SRMR$
1. Configural	628.161	366	1.152	0.952	0.048 [0.041, 0.054]	0.047	-	-	-	-	-	-
2. Metric	648.851	383	1.142	0.951	0.047 [0.041, 0.053]	0.050	2 vs. 1	20.09	0.172	0.001	-0.001	0.003
3. Scalar	761.011	400	1.135	0.934	0.053 [0.048, 0.059]	0.054	3. vs 2	112.16	<.001	0.017	0.006	0.004
4. Partial Scalar <sup>a</sup>	698.129	398	1.136	0.945	0.049 [0.043, 0.055]	0.052	4 vs. 2	49.28	<.001	0.006	0.002	0.002
5. Strict	811.697	417	1.143	0.928	0.055 [0.049, 0.060]	0.056	5 vs. 4	113.57	<.001	0.017	0.006	0.004
6. Equal factor variances	707.196	402	1.134	0.944	0.049 [0.043, 0.055]	0.059	6 vs. 4	9.067	0.046	0.001	0	0.007
7. Equal factor covariances	716.279	408	1.136	0.944	0.049 [0.043, 0.055]	0.059	7 vs. 6	9.083	0.307	0	0	0
8. Equal factor means	722.033	412	1.135	0.943	0.049 [0.043, 0.055]	0.061	8 vs. 7	5.754	0.234	0.001	0	0.002

Note. a=free intercepts for items 9 and 20; SB=Satorra-Bentler's Maximum Likelihood Mean; SCF=scaling correction factor; CFI=comparative fit index; RMSEA=root mean squared error of approximation; CI=confidence interval; SRMR=standardized root mean squared residual.

Table 2. Longitudinal invariance of the S-BTMI

Model	$\chi^2$	df	CFI	RMSEA [90% CI]	SRMR	Compared Models	$\Delta\chi^2$	<i>p</i>	$\Delta CFI$	$\Delta RMSEA$	$\Delta SRMR$
1. Configural	1040.580	770	0.973	0.034 [0.029, 0.040]	0.045	-	-	-	-	-	-
2. Metric	1060.360	787	0.973	0.034 [0.029, 0.039]	0.046	2 vs. 1	19.78	0.286	0	0	0.001
3. Equal factor variances	1063.057	791	0.973	0.034 [0.029, 0.039]	0.047	3 vs. 2	2.697	0.610	0	0	0.001
4. Equal factor covariances	1067.795	797	0.973	0.034 [0.028, 0.039]	0.047	4 vs. 3	4.738	0.578	0	0	0
5. Scalar	1093.867	814	0.972	0.034 [0.029, 0.039]	0.047	5 vs. 4	26.072	0.073	0.001	0	0
6. Strict	1131.437	835	0.971	0.035 [0.029, 0.040]	0.047	6 vs. 5	37.57	0.015	0.001	0.001	0
7. Equal factor means	1141.572	839	0.970	0.035 [0.030, 0.040]	0.048	7 vs. 6	10.135	0.038	0.001	0	0.001

Note. S-BTMI=Spanish language version of the Beliefs Toward Mental Illness scale; CFI=comparative fit index; RMSEA = root mean squared error of approximation;

CI=confidence interval; SRMR=standardized root mean squared residual.

Table 3. Descriptive statistics for the observed scores of the S-BTMI and the BTMI

Factor	S-BTMI					BTMI				
	Time 1 ( <i>n</i> = 354)				Time 2 ( <i>n</i> = 296)			Hirai et al. (2018) ( <i>n</i> = 280)		
	<i>M</i> ( <i>SD</i> )	Range	95% CI	<i>α</i>	<i>M</i> ( <i>SD</i> )	Range	95% CI	<i>M</i> ( <i>SD</i> )	Range	95% CI
Dangerousness	6.6 (4.41)	0-20	[6.1, 7.0]	.85	6.4 (4.25)	0-20	[6.0, 6.9]	6.1 (4.42)	0-17	[5.6, 6.7]
Dysfunction	13.8 (6.89)	0-35	[13.1, 14.6]	.89	13.6 (6.94)	0-34	[12.8, 14.4]	13.3 (6.77)	0-32	[12.5, 14.1]
Incurability	14.8 (5.61)	0-30	[14.2, 15.4]	.87	14.6 (5.63)	0-29	[14.0, 15.2]	14.0 (5.99)	0-30	[13.3, 14.7]
Embarrassment	4.9 (4.28)	0-20	[4.5, 5.4]	.82	4.6 (4.20)	0-20	[4.1, 5.1]	4.6 (3.77)	0-18	[4.1, 5.0]

Note. S-BTMI=Spanish language version of the Beliefs Toward Mental Illness scale; CI=confidence interval