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## Cross-Cultural Validation of the Perceptions of Stigmatization by Others for Seeking Help (PSOSH) Scale

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### Abstract

Social network stigma refers to the perceived negative views about seeking help for mental health problems that are held by those closest to an individual, such as family and friends. This form of stigma predicts help-seeking attitudes and intentions beyond other forms of stigma, and is predominantly measured using the Perceptions of Stigmatization by Others for Seeking Help scale (PSOSH; Vogel, Wade, & Ascheman, 2009). However, the PSOSH was normed using samples from the United States and, until the cross-cultural validity of this measure is established, it cannot reliably be used within other countries (Miller & Sheu, 2008). As such, the current study ( $N = 3,440$ ) examined the cross-cultural measurement invariance of the PSOSH using the sequential constraint imposition approach across 11 countries/regions: Australia, Brazil, Canada, Hong Kong, Portugal, Romania, Taiwan, Turkey, the United Arab Emirates (UAE), the United Kingdom (UK), and the United States (US). Overall, findings indicate that the PSOSH measures a meaningful construct (i.e., configural and metric invariance) across the 11 countries/regions and that future cross-cultural research could use the PSOSH to examine relationships between social network stigma and other variables. Scalar invariance results also supported the examination of mean differences in Australia, Brazil, Canada, Portugal, Turkey, the UK, and the US, but not in Hong Kong, Romania, Taiwan, and UAE. Implications for future cross-cultural research are discussed.

*Keywords:* social network stigma, help-seeking, measurement invariance, cross-cultural, mental health

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Researchers have identified distinct aspects of anticipated stigma associated with seeking therapy that inhibit the use of psychological services (Komiya, Good, & Sherrod, 2000; Vogel, Wade, & Ascheman, 2009). *Social network stigma*, for example, refers to the perceived negative views held by those closest to an individual such as family and friends (Vogel et al., 2009). Measured by the Perceptions of Stigmatization by Others for Seeking Help scale (PSOSH; Vogel et al., 2009), social network stigma has predicted help-seeking attitudes and intentions beyond public stigma (i.e., the perceived negative stigma held by the larger society; Komiya et al., 2000) in U.S. samples (Ludwikowski, Vogel, & Armstrong, 2009). Researchers suggest that social network stigma may be particularly salient in countries that place high value on social connectedness and family (Topkaya, Vogel, & Brenner, 2017). Consequently, research on social network stigma has begun to expand to other countries and regions (Topkaya et al., 2017).

Despite the growing cross-cultural attention to social network stigma, the cross-cultural utility of the PSOSH remains unclear because it was normed using U.S. samples (Ludwikowski et al., 2009; Vogel et al., 2009). Before researchers can confidently examine the unique influence of a construct within and across cultures, it is important to assess *measurement equivalence/invariance* (ME/I), which examines whether or not specific items and their respective construct(s) are being measured in the same way across groups (Miller & Sheu, 2008; Vandenberg & Lance, 2000). That is, specific items could be interpreted differently or a set of items might not represent the same construct to people from different cultural groups. For example, people from more collectivist cultures might also interpret social network stigma items within the context of the group rather than the individual (Topkaya et al., 2017). Conversely, people might interpret the items similarly across cultures yet demonstrate theoretical differences in the way these constructs relate to each other. Without establishing ME/I it remains unclear whether observed mean or correlational differences reflect true group differences, or instead reflect variance in measurement factors (e.g., measurement error, differences in item

interpretations). In turn, establishing ME/I would allow for researchers to examine theoretical relationships between additional theoretically (e.g., help-seeking attitudes, intentions, and behavior) and culturally (e.g., interdependence, social harmony, and honor) relevant factors within and across cultures. Therefore, we investigated the ME/I of the PSOSH across 11 countries/regions representing a range of cultural norms and traditions (Australia, Brazil, Canada, Hong Kong, Portugal, Romania, Taiwan, Turkey, the UAE, the UK, and the US).

## Method

### Participants and Procedures

We used archival data collected as part of a larger cross-cultural investigation of stigma (see Authors, 2017). We obtained approval from each university's Institutional Review Board in all countries/regions before data collection began. In countries where English was not the native language, two independent translators from each country/region, who were bilingual in English and their native language, translated and back-translated the PSOSH to allow participants to complete the scale in their country's native language.

Participants included undergraduate students from Australia ( $N = 393$ ; 74% female;  $M_{\text{age}} = 22.96$ ,  $SD_{\text{age}} = 8.44$ ), Brazil ( $N = 275$ ; 82% female;  $M_{\text{age}} = 24.59$ ,  $SD_{\text{age}} = 6.22$ ), Canada ( $N = 304$ ; 62% female;  $M_{\text{age}} = 20.18$ ,  $SD_{\text{age}} = 4.71$ ), Hong Kong ( $N = 341$ ; 66% female;  $M_{\text{age}} = 21.21$ ,  $SD_{\text{age}} = 2.17$ ), Portugal ( $N = 302$ ; 82% female;  $M_{\text{age}} = 22.84$ ,  $SD_{\text{age}} = 5.87$ ), Romania ( $N = 226$ ; 86% female;  $M_{\text{age}} = 22.30$ ,  $SD_{\text{age}} = 3.31$ ), Turkey ( $N = 332$ ; 78% female;  $M_{\text{age}} = 23.10$ ,  $SD_{\text{age}} = 2.59$ ), Taiwan ( $N = 270$ ; 76% female;  $M_{\text{age}} = 20.69$ ,  $SD_{\text{age}} = 2.56$ ), the UAE ( $N = 416$ ; 58% female;  $M_{\text{age}} = 20.31$ ,  $SD_{\text{age}} = 1.85$ ), the UK ( $N = 168$ ; 83% female;  $M_{\text{age}} = 21.21$ ,  $SD_{\text{age}} = 4.68$ ), and the US ( $N = 413$ ; 65% female;  $M_{\text{age}} = 19.64$ ,  $SD_{\text{age}} = 2.92$ ).

### Measures

**Perceptions of Stigmatization by Others for Seeking Help.** The PSOSH (see Appendix A; Vogel et al., 2009) asks participants to “imagine you had an emotional or personal issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would \_\_\_\_\_.” (p. 305). Participants rate five scale

items on a 5-point scale from 1 (*Not at all*) to 5 (*A great deal*). Higher scores reflect greater perceived stigmatization by one's social network. Internal consistency estimates have ranged from .78 to .93 in U.S. samples (Swan, Heesacker, & King, 2016; Vogel et al., 2009), .96 in a Turkish sample (Topkaya et al., 2017), and .84 in a Brazilian sample (Baptista, Guimarães, & Vogel, 2016), with a 2-week test-retest reliability of .77 in a U.S. sample (Vogel et al., 2009).

### Results

All countries/regions demonstrated adequate internal reliability estimates: Australia ( $\alpha = .90$ ), Brazil ( $\alpha = .85$ ), Canada ( $\alpha = .91$ ), Hong Kong ( $\alpha = .90$ ), Portugal ( $\alpha = .88$ ), Romania ( $\alpha = .89$ ), Taiwan ( $\alpha = .90$ ), Turkey ( $\alpha = .89$ ), the UAE ( $\alpha = .87$ ), the UK ( $\alpha = .89$ ), and the US ( $\alpha = .93$ ).

We examined ME/I of the PSOSH using the sequential constraint imposition approach (Dimitrov, 2010) while employing the full-information maximum likelihood estimation in MPLUS 6.11 (Muthén & Muthén, 1998-2012). Specifically, we sequentially examined whether the PSOSH demonstrates the same one-factor structure (i.e., *configural invariance*, or all items load onto the same factor solution), measures the same construct (i.e., *metric invariance*, or equivalent factor loadings for each item), and yields the same mean score (i.e., *scalar invariance*, or equivalent item intercept or mean score) across countries. We sequentially compared the fit of the configural, metric, and scalar models using multiple-group confirmatory factor analysis (Miller & Sheu, 2008). We report CFI ( $> .95$ ) and SRMR ( $< .08$ ) fit indices to assess goodness of fit. We used the suggested cutoff of  $\Delta CFI \leq -.01$  as indicative of invariance in specific model fit indices (Cheung & Lau, 2012). We present the invariance results in Table 1.

Results supported configural invariance across all 11 countries/regions (CFI = .95; SRMR = .04). Results also demonstrated partial metric invariance across all 11 countries/regions after allowing four paths to estimate freely ( $\Delta CFI$ 's  $\leq -.01$ ; see Table 1). Specifically, one item loading was freed in Brazil, Hong Kong, Taiwan, and the US (i.e., 80% of the items demonstrated invariance in these countries/regions, and 100% demonstrated invariance in the remaining seven countries/regions). Similarly, results demonstrated partial scalar invariance across all 11

countries/regions after allowing 16 item intercepts to estimate freely ( $\Delta\text{CFI}'s \leq -.01$ ; see Table 1). Namely, one item intercept was freed in Brazil and the US (i.e., 80% of the items were invariant), two item intercepts were freed in Portugal (i.e., 60% of the items were invariant), and three item intercepts were freed in Hong Kong, Romania, Taiwan, and the UAE (i.e., 40% of the items were invariant). The other four countries/regions (Australia, Canada, Turkey, and the UK) demonstrated 100% scalar invariance.

Table 1.

*Measurement Invariance of PSOSH Across 11 Countries/Regions (N = 3,440)*

	$\chi^2$	S-B $\chi^2$	<i>df</i>	SRMR	CFI	$\Delta\text{CFI}$	Model Comparison
Configural invariance	575.08	295.54	55	.040	.954	--	
Metric invariance							
Full	794.10	418.98	95	.090	.937	-.017	Configural
Partial	659.36	351.71	91	.060	.950	-.004	Configural
Scalar invariance							
Full	1042.34	649.48	131	.098	.900	-.050	Partial Metric
Partial	713.56	423.30	115	.059	.940	-.010	Partial Metric

*Note.* S-B  $\chi^2$  = Satorra-Bentler scaled chi-square values; *df* = degrees of freedom; SRMR = standardized root mean square residual; CFI = comparative fit index.

### Discussion

Social network stigma is an important form of stigma (Vogel et al., 2009) that may provide unique insight into cross-cultural differences in help seeking (Topkaya et al., 2017). To inform future cross-cultural research on this construct, this study provided the first assessment of ME/I of the PSOSH across 11 countries/regions. Overall, the results provided partial support for the

cross-cultural validity of the PSOSH. Specifically, results supported a single-factor structure of the PSOSH across all countries/regions (i.e., configural invariance) suggesting that a unidimensional conceptualization of social network stigma is appropriate in each of these countries/regions. In turn, we found full metric invariance of the PSOSH for samples from Australia, Canada, Portugal, Romania, Turkey, UAE, and the UK. We found partial metric invariance (equivalence of 80% of the item loadings) for the samples from Brazil, Hong Kong, Taiwan, and the US. These results suggest that PSOSH items largely measure the construct equivalently across each country. This lends support for cross-country comparisons of the relationships between the PSOSH and other theoretically (e.g., help-seeking attitudes, intentions, and behavior) and culturally (e.g., interdependence, social harmony, and honor) relevant factors, which in turn can reveal how social network stigma might operate differently around the world. For example, Topkaya et al. (2017) hypothesized that collectivist norms such as honor may moderate the strength of social network stigma's relationship to help-seeking outcomes both within and across countries. This type of research could be particularly helpful in the development of culturally tailored interventions designed to increase help seeking.

Scalar invariance results indicated full invariance among samples from Australia, Canada, Turkey, and UK, and partial invariance ( $\geq 60\%$  of item intercepts invariant) for Brazil, Portugal, and the US. These results indicate that the majority of item means were statistically equivalent across these seven countries. Hence, future researchers may use the PSOSH to test mean differences in social network stigma across these parts of the world. However, only 40% of the PSOSH items demonstrated scalar invariance in the Hong Kong, Romania, Taiwan, and UAE samples, indicating that comparisons of mean differences across these countries/regions may not be appropriate. These countries/regions that exhibited lower scalar equivalence were mainly non-English speaking countries. This might suggest specific translation problems or it may represent different perceptions of item content. For example, item 5, "think you posed a risk to others," may be viewed differently across different cultural contexts. Furthermore, countries in which citizens identify with multiple languages and cultures may hold more tolerant public

perceptions of help seeking or help-seeking norms may be less clear (Topkaya, 2011). As such, removal or addition of specific PSOSH items may need to be considered in countries in which English is not the native language and future country-specific adaptations.

The current findings should be interpreted with consideration to several limitations. Although we sampled 11 countries/regions from across the world (e.g., Asia, Australia, Europe, the Middle East, North and South America), other regions (e.g., countries in Africa) may yield different findings. There were also important limitations regarding the samples used. First, the samples consisted of college students, who are often more privileged and do not fully represent each population. Second, because the samples largely consisted of women, these results might not fully capture the experience of social network stigma by men, who have reported greater help-seeking stigma than women (e.g., Vogel et al., 2006). Therefore, future ME/I researchers could utilize more representative samples (e.g., community populations, more equally gender-balanced) to further generalize these findings.

Overall, the present findings offer important information regarding the cross-cultural use of the PSOSH. The measure largely maintained measurement equivalence across groups, suggesting that the PSOSH measures a meaningful construct across diverse countries, regions, and cultures. By establishing ME/I of this measure, the current study opens the door for researchers to examine the influence of social network stigma across the world.

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*Note.* S-B  $\chi^2$  = Satorra-Bentler scaled chi-square values; *df* = degrees of freedom; SRMR = standardized root mean square residual; CFI = comparative fit index.

## Appendix A.

Perceptions of Stigmatization by Others for Seeking Help (PSOSH) Scale

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INSTRUCTIONS: Imagine you had an emotional or personal issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would \_\_\_\_\_.

1 = Not at all      2 = A little      3 = Some      4 = A lot      5 = A great deal

1. React negatively to you
  2. Think bad things of you
  3. See you as seriously disturbed
  4. Think of you in a less favorable way
  5. Think you posed a risk to others
- 

Scoring: Sum or average items 1-5.