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Associate Editor

Assist. Prof. Dr. Fahme Dabaj

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CONFIRMATORY FACTOR ANALYSIS AND RELIABILITY OF THE BARRIERS TO SEEKING PSYCHOLOGICAL HELP SCALE AMONG TURKISH ADULTS

Nursel Topkaya Faculty of Education, Ondokuz Mayıs University nursel.topkaya@omu.edu.tr

Ertuğrul Şahin Faculty of Education, Amasya University ertugrulsahin@amasya.edu.tr

ABSTRACT

The Barriers to Seeking Psychological Help Scale (BSPHS) was originally developed to measure factors that kept college students from seeking mental health assistance. However, the underutilization of mental health services among adults is also common, and understanding the factors that inhibit adults from seeking help for mental health issues is necessary. One important first step to increasing the use of mental health services among this population is to identify the barriers preventing them from using such services through valid and reliable scales. However, no validated and reliable scale currently exists in the Turkish language to measure the barriers to seeking psychological help among adults. Thus, the purpose of this cross-sectional study was to examine the underlying factor structure and reliability of the BSPHS among Turkish adults. A convenience sample of 208 (134 female, 74 male, M=35.58) Turkish adults completed the BSPHS and a demographic information form. Confirmatory factor analyses were performed to test the underlying factor structure of the BSPHS using three competing models. Reliability analysis was also used to examine mean inter-item correlation and item-total correlations, as well as to estimate Cronbach alpha reliability. The results of this study suggest that the BSPHS has a similar five-factor structure as suggested by Topkaya, Şahin, and Meydan (2017). Reliability analyses also suggested that all subscales of the BSPHS had adequate mean inter-item correlation, item-total correlations, as well as Cronbach alpha reliability. Therefore, the BSPHS can be used to measure the factors that inhibit Turkish adults from seeking psychological help. Future studies can examine convergent, divergent, and predictive validity and test-retest reliability of the BSPHS among Turkish adults.

Keywords: Barriers to seeking psychological help scale, confirmatory factor analysis, reliability, Turkish adults.

INTRODUCTION

Help-seeking is a term generally used to refer to the "behavior of actively seeking help from other people" (Rickwood, Deane, Wilson, & Ciarrochi, 2005). Help-seeking can be informal (e.g., trying to solve the problem on their own or seeking help from friends and family) and/or formal (e.g., seeking help from mental health professionals, college counseling centers, teachers) (Rickwood et al., 2005). Meta-analytic evidence suggests the efficacy of psychological therapies and counseling for treating mental disorders (Lipsey & Wilson, 1993; Shadish, Navarro, Matt, & Phillips, 2000). On the other hand, not seeking help or delaying help-seeking can result in negative health indicators, such as lower quality of life, substance abuse, engaging in risky sexual behavior, and premature death (Anderson & Lowen, 2010; Brindis et al., 2007; Brindis, Park, Ozer, & Irwin, 2002; Laski, 2015). Empirical evidence also suggests that distressed people receiving empirically supported therapies commonly experience increases in well-being, happiness, and quality of life and decreases in perceived life stress and negative mental health outcomes (Spring, 2007; Wampold & Imel, 2015). Although the benefits of help-seeking have been well documented in the literature, as well as the high prevalence of mental health problems reported among the general population in Turkey (Erol, Kılıç, Ulusoy, Keçeci, & Şimşek, 1998), the rates of formal help-seeking for psychological problems are rather low among Turkish adults (Topkaya, 2015a, 2015b). Therefore, understanding the factors that inhibit Turkish adults from seek mental health help is necessary.

A possible initial step to increase the use of mental health services among this population is to identify barriers inhibiting them from using such services through validated and reliable scales. However, there is currently no validated and reliable measure in the Turkish language that can be used to measure the barriers to seeking psychological help among adults. The Barriers to Seeking Psychological Help Scale (BSPHS) was originally developed to measure the factors that keep college students from seeking mental health assistance and may also be used to screen barriers to seeking psychological help among adults. However, since its development, its factor structure has rarely been examined in different populations, such as Turkish adults. This is concerning because the barriers to seeking psychological help may be different and the proposed factor structure may not be the same for Turkish adults. Consequently, using the BSPHS subscale scores for Turkish adults may lead to erroneous



conclusions without having observed consistent relationships between the BSPHS subscale items and related latent variables (Horn & McArdle, 1992).

The BSPHS consists of 17 items and five subscales, namely fear of being stigmatized by society, trust in the mental health professional, difficulties in self-disclosure, perceived devaluation, and lack of knowledge. The fear of being stigmatized by society subscale measures irrational beliefs clients hold related to seeking psychological help in society. Trust in the mental health professional measures clients' concerns related to the mental health professional. Difficulties in self-disclosure measures clients' perceived difficulties disclosing their problems to a mental health professional. The perceived devaluation subscale measures self-derogatory beliefs related to seeking psychological help. Lastly, the lack of knowledge subscale measures lack of information about seeking psychological help. In the initial development of the scale across five studies, researchers examined the validity and reliability of the BSHPS and reported evidence for construct, convergent, and discriminant validity, as well as test-retest reliability and internal consistency.

Specifically, the BSPHS demonstrated a five correlated factor structure using exploratory factor analysis (EFA) in a college student sample. The fear of being stigmatized subscale was composed of four items and explained 34.24% of the total variance. This subscale's factor loadings, based on EFA, ranged from .74 to .94. The trust in the mental health professional subscale also consisted of four items and explained 10.30% of the total variance. Its factor loadings ranged from .31 to .81. Difficulties in self-disclosure was composed of three items and explained 8.33% of the total variance. The factor loadings ranged from .64 to .87. The perceived devaluation subscale also consisted of three items and explained 7.08% of the total variance, with factor loadings ranging from .40 to .86. Lastly, the lack of knowledge subscale consisted of three items and explained 6.71% of the total variance. Its factor loadings ranged from .33 to .95. Confirmatory factor analysis (CFA) using the robust maximum likelihood estimate also supported a five correlated factor structure in a cross-validation sample. Cronbach alpha internal consistency reliability estimates for the BSPHS subscales across two studies were also good, ranging from .58 (lack of knowledge) to .91 (fear of being stigmatized by society). The three-week stability coefficient or test-retest reliability was also good, ranging from .56 (perceived devaluation) to .75 (for difficulties in self-disclosure) among the subscales. Although researchers found evidence for validity and reliability of the BSPHS, evidence regarding the factor structure and reliability among Turkish adults is scarce. Thus, the purpose of this cross-sectional study was to examine the factor structure and reliability of the BSPHS among Turkish adults.

METHOD

Participants

A cross-sectional research design was used in this study. Participants were 208 Turkish adults living in the Central Black Sea Region of Turkey. They were selected using convenience sampling (Cohen, Manion, & Morrison, 2018). Specifically, the researchers included their relatives, acquaintances, and friends in the study sample. Then, they asked these people to help them find adults from Samsun city who were able to complete the survey. There were 134 women (64.4%) and 74 men (35.6%) who participated in the study. The age of the participants ranged from 18 to 80 years old, and the mean age was 35.58 years (*SD*: 13.15). Five participants did not report their age.

Measures

Demographics. A personal information form was used to collect information about the participants' sex and age.

BSPHS: The barriers to seeking psychological help among Turkish adults was measured by the BSPHS (Topkaya et al., 2017). More detailed information about the psychometric characteristics of the BSPHS were given in the introduction. Participants indicate their degree of agreement or disagreement with each item on a five-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5). Scores can range from 4 to 20 for the fear of being stigmatized by society and trust in mental health professional subscales and from 3 to 15 for difficulties in self-disclosure, perceived devaluation, and lack of knowledge subscales. Higher scores reflect higher levels of perceived barriers in each dimension.

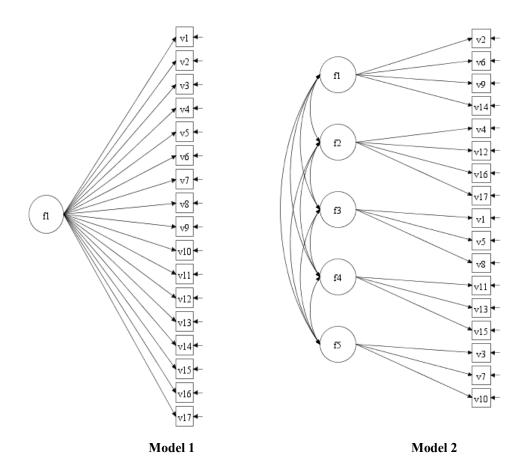
Procedure

Data was collected between January and March 2019. Participants were informed about the study's purpose and ethical considerations. Specifically, the researchers told them that participation in the study was voluntary, the answers would remain anonymous, and the participants could withdraw from the study without any consequences. Written informed consent was also obtained from all participants prior to completing the questionnaires. All adults voluntarily participated in the study and completed the questionnaires in approximately 10 minutes.

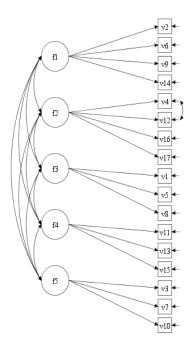
Statistical Analysis



All statistical analyses were performed using SPSS 23 and Mplus 7.0 (Muthén & Muthén, 1998-2015). All CFA models were estimated using the mean and variance adjusted maximum likelihood estimator (MLMV) taking into account of the use of ordered-categorical variables with five response categories (e.g., Likert-type scales) in this study (Finney & DiStefano, 2013; Rhemtulla, Brosseau-Liard, & Savalei, 2012). The MLMV produces parameter estimates and standard errors, as well as mean and variance adjusted chi-square statistics that are robust to nonnormality (Muthén & Muthén, 1998–2015). In a recent extensive simulation study, Maydeu-Olivares (2017) found that the MLMV estimator is the optimal choice among different ML estimators across different normal and nonnormal distributions with accurate Type I and standard errors. Three competing models were tested in this study: a single-factor model (Model 1), a correlated five-factor model (Model 2), and a correlated five-factor model that permits residual variances to be correlated based on substantive values or previous studies (Model 3). A schematic presentation of all competing models tested in the present study can be found in Figure 1. Assessment of model fit was based on multiple goodness of fit statistics: the adjusted Chi-Square (χ^2/df), Root Mean Square Error of Approximation (RMSEA) with its 90% confidence interval and significance level, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and standardized root mean square residual (SRMR). Although no absolute standards exist for cut-off values for goodness of fit indices in CFA, values lower than 5 but higher than 3 typically indicate adequate model fit for χ^2 /df, and values smaller than 3 indicate excellent fit. Values smaller than .08 or .06 for the RMSEA indicate adequate and excellent model fit, respectively. Values greater than .90 and .95 for the CFI and TLI indicate adequate and excellent model fit, respectively. Lastly, a SRMR value close to or less than .08 indicates a good fit to the data (Byrne, 2012; Gana & Broc, 2019; Keith, 2019; Wang & Wang, 2013). Reliability analyses were performed using mean inter-item correlation, item-total correlation, and Cronbach alpha internal consistency coefficient. The data that support the findings of this study are available in Open Science Framework (osf.io/hnfv4).







Model 3

Note: v=item, F1=Fear of being stigmatized by society, F2=Trust in the mental health professional, F3=Difficulties in self-disclosure, F4=Perceived devaluation, F5=Lack of knowledge in Model 2 and Model 3.

RESULTS

A series of CFAs were conducted to examine competing models among Turkish adults. Goodness of fit indices for the competing models are shown in Table 1. As seen in Table 1, the goodness of fit values for the single-factor model were poor (Model 1). The five correlated factor model, as suggested by Topkaya et al. (2017) for undergraduate students, had an acceptable fit to data (Model 2). However, inspection of local fit via normalized residual covariances and modification index for Model 2 suggested releasing error covariances between item 4 and item 12. Both items are related to worries about the mental health professional and from the trust of the mental health professional subscale.

Table 1: Goodness of fit indices for competing models

| | χ^2 | df | χ^2/df | CFI | TLI | RMSEA | p | RMSEA 90% | SRMR |
|---------|----------|-----|-------------|------|------|-------|-------|---------------------|------|
| | | | | | | | | Confidence Interval | |
| Model 1 | 287.425 | 119 | 2.415 | .765 | .731 | .082 | .001* | .070095 | .078 |
| Model 2 | 164.081 | 109 | 1.505 | .923 | .904 | .049 | .514 | .033064 | .062 |
| Model 3 | 149.281 | 108 | 1.382 | .942 | .927 | .043 | .755 | .024059 | .056 |

Note: p<.001.

Thus, Model 3 estimated adding item 4 and item 12 to correlated errors. As seen in Table 1, Model 3 was the best fitting model to the data. Most goodness of fit indices were excellent. Table 2 shows standardized item factor loadings, item standard errors, z-values, latent factor correlations, and squared multiple correlation of items (R^2). The estimated R^2 values give information about how much variance of each observed BSPHS item was explained by the factor that item is loaded on and also equivalent to the squared standardized item factor loading for each item. All factor loadings and latent factor correlations were large and statistically significant at least at p<.001. The estimated R^2 values also ranged from medium to large effect sizes.



Table 2: Results of confirmatory factor analysis

| Table 2: Results of confirmatory factor analysis | | | | |
|---|---------|------|--------|-------|
| Item No/Item | λ | S.E | Z | R^2 |
| | | | | |
| Fear of being stigmatized by society (F1) | | 0.50 | 10.501 | ••- |
| 2. I worry about being stigmatized as "problematic" and/or "crazy" if I seek | .630 | .060 | 10.501 | .397 |
| psychological help. | 020 | 022 | 25.120 | 600 |
| 6. I worry about what other people would think about me if I seek psychological | .830 | .033 | 25.120 | .688 |
| help. | 706 | 026 | 21.022 | .633 |
| 9. I worry about whether my friends would mock me if I seek psychological | .796 | .036 | 21.932 | .033 |
| help. 14. I don't want to seek psychological help as it's not accepted as | .740 | .038 | 19.409 | .548 |
| "normal/natural" in the culture in which I grew up. | . /40 | .036 | 19.409 | .346 |
| Trust in the mental health professional (F2) | | | | |
| 4. I don't trust professionals to keep my issues confidential. | .647 | .056 | 11.454 | .418 |
| 12. I worry that the professional wouldn't understand me. | .767 | .030 | 18.596 | .589 |
| · · · · · · · · · · · · · · · · · · · | | | | |
| 16. I worry about whether the professional would listen to me adequately. | .689 | .039 | 17.646 | .474 |
| 17. I worry that the professional would be insensitive to my problems, as s/he | .632 | .053 | 11.910 | .399 |
| constantly meets people with similar problems. | | | | |
| Difficulties in self-disclosure (F3) | .664 | 050 | 11 460 | 441 |
| 1. I have difficulty in sharing my problems with a stranger even though he is a | .004 | .058 | 11.460 | .441 |
| professional.I feel ashamed to tell my problems to the professional giving psychological | .812 | .043 | 18.989 | .659 |
| help. | .012 | .043 | 10.909 | .039 |
| 8. I refuse to give information about my private problems (sex, violence, etc.), | .738 | .045 | 16.589 | .545 |
| even to a professional. | .750 | .043 | 10.507 | .545 |
| Perceived devaluation (F4) | | | | |
| 11. I would feel weak if I told my problems to a professional. | .770 | .049 | 15.713 | .593 |
| 13. My self-confidence might decrease if I seek psychological help. | .875 | .035 | 25.111 | .766 |
| 15. I worry that if I take psychological help once, then I would need it whenever | .532 | .056 | 9.497 | .283 |
| I have a problem. | .332 | .030 | 9.491 | .203 |
| Lack of knowledge (F5) | | | | |
| 3. I don't want to spend time seeking psychological help as it would take too | .464 | .076 | 6.144 | .216 |
| long. | .+0+ | .070 | 0.144 | .210 |
| 7. I don't know how to contact professionals who provide psychological help. | .535 | .069 | 7.717 | .287 |
| 10. I don't want to seek psychological help as places that provide such services | .660 | .067 | 9.848 | .436 |
| are far away. | .000 | .007 | 7.010 | . 150 |
| Latent Factor Correlations | F1 | F2 | F3 | F4 |
| F1 | | | | |
| F2 | .610 | | | |
| F3 | .636 | .657 | | |
| F4 | .692 | .622 | .577 | |
| F5 | .653 | .635 | .572 | .606 |
| 1 U | .033 | .033 | .512 | .000 |

Note: λ =Item factor loading. All factor loadings and latent factor correlations were statistically significant at least at p<0.001.

The reliability of the BSPHS was analyzed by means of mean inter-item correlation, item-total correlations, and Cronbach alpha internal consistency coefficient. The results of the reliability analyses are shown in Table 3.



Table 2: Results of BSPHS Reliability Analyses

| | r |
|---|---------|
| Fear of being stigmatized by society | |
| BSPHS2 | .562 |
| BSPHS6 | .746 |
| BSPHS9 | .697 |
| BSPHS14 | .641 |
| Mean inter-item correlation | .553 |
| Cronbach alpha (α) | .831 |
| 95% CI Cronbach alpha | .790866 |
| Trust in the mental health professional | |
| BSPHS4 | .457 |
| BSPHS12 | .483 |
| BSPHS16 | .663 |
| BSPHS17 | .619 |
| Mean inter-item correlation | .438 |
| Cronbach alpha (α) | .756 |
| 95% CI Cronbach alpha | .697806 |
| Difficulties in self-disclosure | |
| BSPHS1 | .579 |
| BSPHS5 | .664 |
| BSPHS8 | .609 |
| Mean inter-item correlation | .543 |
| Cronbach alpha (α) | .778 |
| 95% CI Cronbach alpha | .720825 |
| Perceived devaluation | |
| BSPHS11 | .591 |
| BSPHS13 | .697 |
| BSPHS15 | .453 |
| Mean inter-item correlation | .504 |
| Cronbach alpha (α) | .747 |
| 95% CI Cronbach alpha | .681801 |
| Lack of knowledge | |
| BSPHS3 | .261 |
| BSPHS7 | .299 |
| BSPHS10 | .497 |
| Mean inter-item correlation | .283 |
| Cronbach alpha (α) | .532 |
| 95% CI Cronbach alpha | .410632 |

Note: r= corrected item-total correlation, CI: Confidence interval.

As seen in Table 3, all subscales had an adequate mean inter-item correlation that ranged from .283 (lack of knowledge) to .553 (fear of being stigmatized by society). The item-total correlations of the subscales were also adequate, with levels ranging from .562 to .746 in fear of being stigmatized by society, .457 to .663 in trust in the mental health professional, .579 to .664 in difficulties in self-disclosure, .453 to .697 in perceived devaluation, and .261 to .497 in the lack of knowledge subscale. Cronbach alpha reliability estimates also ranged from .532 (lack of knowledge) to .831 (fear of being stigmatized by society).

DISCUSSION

As underutilization of mental health services among adults is common, it is important to understand the factors that inhibit adults from seeking psychological help. However, there is currently no available validated and reliable measure in the Turkish language that can be used to measure the barriers to seeking psychological help among adults. Thus, this study examined the underlying factor structure of BSPHS items and its reliability among Turkish adults. Specifically, this study tested one general factor model, a five correlated factor model, and a five correlated factor model with correlated errors in Turkish adults using confirmatory factor analyses. The results of the



confirmatory factor analyses found no support for the one-factor model, indicating that a common underlying factor was not adequate to account for the pattern of covariance across BSPHS items. There was adequate support for the correlated five-factor model and almost excellent support for the correlated five-factor model with correlated errors terms. The study findings are in line with Topkaya et al.'s (2017) study among undergraduate students showing that the five correlated factor model best fit the BSPHS. These findings suggest that the BSPHS may be used for assessing barriers related to seeking help for mental health issues among Turkish adults

The results of this study also suggest that the subscales of the BSPHS had a mean inter-item correlation ranging from .283 (lack of knowledge) to .553 (fear of being stigmatized by society). According to Clark and Watson (1995), average inter-item correlation is to be in the range of .15 to .50, but it could even be higher if the construct of interest is narrowly defined. All subscales of the BSPHS had a mean inter-item correlation within or above this criterion, suggesting that the subscales contain items that are particularly intercorrelated and measure different aspects of the construct of interest. The item-total correlation values for each item were also above .20 in each subscale, indicating good discrimination, such that higher scores on the item are associated with higher scale scores in each subscale and each item is a good indicator of the construct of interest (Meyers, Gamst, & Guarino, 2013). All subscales also had a Cronbach alpha coefficient above .70, except for the lack of knowledge subscale. However, the internal consistency reliability estimate of the lack of knowledge subscale was similar to that in Topkaya et al. (2017). According to DeVellis (2017), measurement tools with a Cronbach alpha reliability coefficient of .70 or above can be used for screening and research purposes. Thus, the BSPHS may also be used for screening and research purposes, with the notable exception of the lack of knowledge subscale. However, considering that the Cronbach alpha reliability coefficient is related to the number of items in a scale and mean inter-item correlation (DeVellis, 2017), the relatively low reliability of the lack of knowledge subscale may be related to the limited number of items in the subscale as the mean inter-item correlation was adequate (Clark & Watson, 1995). Overall, the findings of this study suggest that the BSPHS is a valid and reliable scale that can be used to measure factors that inhibit Turkish adults from seeking mental health assistance.

Finally, this study has some limitations. First, only a limited number of Turkish adults from a specific region of Turkey were used to test the underlying factor structure of the BSPHS. Thus, the external validity of this study is low. Future studies should examine the factor structure of the BSPHS using a more representative sample of Turkish adults. Second, this study only examined the construct validity of the BSPHS. Futures studies should also look at the convergent, divergent, and predictive validity of the BSPHS among Turkish adults. Lastly, the reliability analyses of the BSPHS were limited to item analyses and Cronbach alpha internal consistency analyses. Future studies should also examine short-term and long-term test-retest reliability of the BSPHS.

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