



Psychometric Properties of the Iranian and German Versions of the Posttraumatic Diagnostic Scale: A Cross-Cultural Study

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Quantitative Study

Abstract

Background: Reliable and valid measurement tools with strong psychometric properties are crucial in the evaluation of individuals experiencing trauma-related distress in both clinical and research contexts. Thus, this study investigated the psychometric properties of the Posttraumatic Diagnostic Scale (PDS) in Iranian and German samples.

Methods: A cross-sectional collaboration was conducted between Isfahan University of Medical Sciences in Iran and Philipp University of Marburg in Germany. The study involved a total of 1196 participants, with 364 participants from Iran and 832 participants from Germany. The participants were selected from the general population as well as individuals with mood/anxiety disorders from 2017 until 2018. The questionnaires used in this study included the Demographic Checklist, Patient Health Questionnaire (PHQ; Kroenke, Spitzer, & Williams, 2002), Screening for Somatoform Disorders-7 (SOMS-7; Rief & Hiller, 2003), and PDS (Foa et al., 1997). Factor analysis, correlations calculation, and diagnostic analysis of the data were conducted using SPSS software and R (4.3.1).

Results: Factor analysis of the PDS did not reveal a factor structure similar to previous research. Convergent validity was demonstrated by significant correlations between PDS scores and related measures. Diagnostic validity was established as the PDS effectively discriminated between individuals with mood/anxiety disorders and healthy participants. Sensitivity, specificity, and accuracy (all of them > 0.6 except for Iranian women = 0.39) revealed how accurately the test categorizes individuals in both populations. In the Iranian sample, AUC was around 70% accuracy in differentiation. The German sample's

AUC of approximately 80% diagnostic capability between healthy and affected groups. The cutoff scores of men and women were 24 and 27 in the Iranian population, and 9 and 8 in the German population, respectively. Strong internal consistency coefficients (Cronbach's alpha > 0.91) were observed for both Persian and German versions of the PDS, confirming their reliability.

Conclusion: The study underscores the robust psychometric attributes of the Persian and German versions of the PDS, endorsing their reliability, validity, and diagnostic potential. Variations in factor structures across cultural groups emphasize the need for culturally-sensitive psychometric assessments. The PDS emerges as a valuable cross-cultural tool for diagnosing and assessing post-traumatic stress disorder (PTSD), with implications for clinical practice and research in diverse populations.

Keywords: Post-traumatic stress disorder; Cross-cultural comparison; Psychometrics; Diagnostic test

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Introduction

Post-traumatic stress disorder (PTSD) has consequences that can lead to a decrease in quality of life (QOL) and increased utilization of healthcare and social services (Bothe, Jacob, Kroger, & Walker, 2020). In the study by Kessler et al. (2017), 70.4% of participants encountered traumas during their lifetime, with an average exposure of 3.2 traumas per individual. The prevalence of PTSD varies over time and across different countries, depending on social, economic, and population factors (Ribeiro et al., 2013). Despite being a highly common disorder, it is often underdiagnosed (Silva et al., 2019). Among psychiatric disorders, PTSD has the strongest association with somatization, particularly unexplained pain. Despite the existence of numerous articles on somatization related to PTSD, this topic has received less attention in the majority of researches, which have mostly focused on the role of depression and anxiety (Stang, Brandenburg, Lane, Merikangas, Von Korff, & Kessler, 2006).

Common patterns of symptoms and causes are known between fibromyalgia, irritable bowel syndrome, chronic fatigue, and PTSD (Yehuda et al., 2015). Common neurobiological disorders in physical symptoms such as chronic fatigue, irritable bowel syndrome, fibromyalgia, and PTSD are another confirmation of the existence of general perceived stress as a common factor in many complaints (Nilsen et al., 2007). One specialized area related to trauma and PTSD is the field of maxillofacial trauma and orthodontics. Exposure to trauma prior to orthognathic treatment can be considered a risk factor for dental anxiety and PTSD symptoms (Al-Bitar & Al-Ahmad, 2017). PTSD may be associated with various medical conditions such as sleep and breathing disorders, osteoporosis, migraines, and diabetes. Facial pain, headaches, and temporomandibular joint dysfunction maybe diagnosed as initial symptoms in 88% of PTSD patients (Uhac, Kovac, Muhvic-Urek, Kovacevic, Franciskovic, & Simunovic-Soskic, 2006). Enamel and dentin erosion and loss are common findings in these patients. Dry mouth, changes in taste, glossitis, gingivitis, and periodontitis have also been observed in 15% to 25% of patients with PTSD (Tagger-Green, Nemcovsky, Gadoth, Cohen, & Kolerman, 2020). Therefore, there is a bidirectional relationship between complaints of jaw and facial symptoms in patients visiting orthodontic clinics and PTSD symptoms.

The Posttraumatic Diagnostic Scale (PDS) has found extensive application across diverse clinical and research settings; providing a dependable alternative when utilizing a structured clinical interview proves to be impractical. It has also played a crucial role in prospective treatment investigations, contributing to the establishment of cognitive behavioral therapy (CBT) as a viable approach for individuals diagnosed with PTSD (Mccarthy, 2008). Furthermore, the PDS has been increasingly utilized for diagnosing PTSD within the emergency services sector. Therefore, it is necessary to examine the psychometric properties of the instrument in the research process to determine whether the tool possesses sufficient validity and reliability for application in the mentioned contexts.

Previous systematic reviews and meta-analyses have uncovered PTSD prevalence and its impacts on different groups, from veterans to earthquake survivors (Shahmiri et al., 2023; Hosseinnejad et al., 2022), so a screening tool for PTSD is needed. The PDS, a self-report tool (Foa, Cashman, Jaycox, & Perry, 1997), consists of 17 questions about intrusion, avoidance, and hyperarousal symptoms (DSM-IV-TR criteria). Each question rates symptom frequency in the past week on a 4-point Likert scale. The initial version of the scale showed consistency, making it valid for assessing PTSD in survivors (Foa et al., 1997). The reliability and validity of the symptom items in the

PDS were first assessed in a sample of individuals who had encountered various high-impact stressors, spanning from situations specific to a wartime context (33%) to natural disasters (31%), as documented by Foa et al. (1997). These initial psychometric findings have been corroborated in subsequent studies involving different language versions of the PDS, such as Spanish (Novy, Stanley, Averill, & Daza, 2001), Bosnian (Powell & Rosner, 2005), Danish (Fuglsang, Moergeli, & Schnyder, 2004), and Arabic (Norris & Aroian, 2008). The present study was conducted to assess the psychometrics of the PDS in Iranian and German communities.

Methods

This cross-sectional study was performed on a total of 1,196 participants, with 364 individuals from Isfahan Province, Iran (comprising 91 patients diagnosed with anxiety/mood disorders and 273 healthy participants). Additionally, 832 participants from Germany were included in the study, consisting of 741 healthy individuals and 91 individuals with mood and anxiety disorders from 2017 until 2018. The study was approved by the ethics committee with the ethical code of IR.MUI.REC.1394.1.173.

Regarding the sample size for researches examining psychometric properties through factor analysis, Comrey and Lee (2013) suggest that 300 is a 'good' benchmark, while 500 is deemed 'very good'. Consequently, in this study, we employed a simple random sampling approach encompassing both healthy individuals and individuals referred to psychiatric centers. This decision was made based on the aforementioned reference and the consensus reached by both research teams, considering the available resources for data collection. The English tests were translated into Persian by a team of translators and specialists in psychology and psychiatry. They were then back-translated into English. Feedback from an English-speaking team was reviewed by a specialized panel including a psychiatrist, psychologist, and gastroenterology specialist, considering the Iranian culture. The German questionnaire was translated into Persian by a bilingual psychologist and psychiatrist, then back-translated into German. Feedback was collected, and the final Persian version was prepared. Questionnaires were given to 20 participants in booklet form to assess clarity. Simultaneously, 5 clinical psychologists and psychiatrists reviewed the items based on study goals. The feedback provided by experts and participants was discussed. The final revision of the scale, matching the German version's format, was printed in booklet form. The participants used paper or online questionnaires.

Instruments

Demographic checklist: This 28-item tool covers personal, family, social, economic, and medical history. It was created by Iranian and German researchers using focus group.

Patient Health Questionnaire: The 15-item Patient Health Questionnaire (PHQ-15), PHQ-7, PHQ-9, and PHQ-11 were used to screen physical symptoms over 4 weeks, anxiety, depression, and eating disorders, respectively. The validity and reliability of the PHQ were assessed by (de Vroege, Hoedeman, Nuyen, Sijtsma, & Van Der Feltz-Cornelis, 2012). The PHQ-15 showed strong diagnostic utility, with sensitivity, specificity, and efficiency of 0.81, 0.65, and 0.9 at a cutoff score of 9, respectively. The PHQ-9 demonstrated an internal consistency of 0.85 and test-retest reliability of 0.87 in Chinese students (Kroenke, Spitzer, & Williams, 2002; Zhang et al., 2013).

Screening for Somatoform Symptoms-7: The Screening for Somatoform Symptoms-7 (SOMS-7) assesses somatoform symptoms and their impact on life in the past week. Rief and Hiller (2003) examined its reliability and validity in the diagnosis of

somatoform disorders based on the International Classification of Diseases 10th Revision (ICD-10) and DSM-IV criteria. Its reliability (Cronbach's alpha) was high (0.92 for clinical and 0.94 for healthy samples). The calculated validity of the SOMS-7 (correlation between factor 1 and 2 with PHQ somatic subscale) was 51 and 59, respectively (Ebrahimi et al., 2018).

Posttraumatic Diagnostic Scale: The PDS assesses symptoms resulting from stress and their consequences. The PDS is a self-report tool used extensively in clinical and research settings for screening and evaluation of PTSD. It is consistent with the symptoms of PTSD based on the DSM-IV-TR criteria and provides a measure of PTSD symptoms and severity. It assesses 17 PTSD symptoms experienced over a week. Its internal consistency (internal homogeneity) was found to be 0.92 using Cronbach's alpha, and its test-retest reliability coefficient was 0.74 (Powers, Gillihan, Rosenfield, Jerud, & Foa, 2012).

Statistical analysis: Descriptive statistics were presented using mean and standard deviation. Reliability and internal consistency were assessed using Cronbach's alpha and employing SPSS software (version 23; IBM Corp., Armonk, NY, USA) for analysis. Regarding validity assessment, Pearson correlation coefficients were calculated to examine the association between PDS scores and those of PHQ-15 and SOMS-7. The factor structure was determined through exploratory and confirmatory factor analyses using R (4.3.1). Discriminant analysis was conducted along with ROC curve analysis to assess discriminant validity, sensitivity, and specificity using R (4.3.1). Significance levels less than 0.05 were considered statistically significant.

Results

The study included 1196 participants, 364 from Iran and 832 from Germany. The average age of the Iranian and German participants was, respectively, 31.05 ± 11.45 years, and 30.65 ± 12.13 years. Women comprised 64% of Iranians and 67% of Germans. Table 1 presents demographic characteristics and a comparison between groups. No significant age or gender differences were observed. Marital status contrasted, with Iran having more singles, and Germany having more in relationships. Other marital statuses had no significant differences.

Table 1. Differences in demographic characteristics of Iranian and German participants

Variable	Iran (n = 358)	Germany (n = 781)	Test statistics (P-value)
Age (year) (mean ± SD)	31.05 ± 11.45	30.56 ± 12.132	T = 0.643 (0.520)
Gender [n (%)]			X ² = 5.195 (0.074)
Female	233 (64)	559 (67.2)	
Male	131 (36)	265 (31.9)	
Educational level [n (%)]			X ² = 121.073 (< 0.001)
Primary	13 (3.6)	2 (0.2)	Pairwise Z (Iran)
Secondary	9 (2.5)	25 (3)	-
Diploma	89 (24.5)	371 (44.6)	Pairwise Z (Germany)
Associate degree	28 (7.7)	66 (7.9)	-
Bachelor's degree	132 (36.3)	111 (13.3)	Pairwise Z (Iran)
Master's degree	81 (22.3)	248 (29.8)	Pairwise Z (Germany)
Marital status [n (%)]			X ² = 68.024 (< 0.001)
Single	189(51.9)	381(45.8)	Pairwise Z (Iran)
In a relationship	30(8.2)	242(29.1)	Pairwise Z (Germany)
Married	107(29.4)	154(18.5)	Pairwise Z (Iran)
Divorced	8 (2.2)	28 (3.4)	-
Separated	4 (1.1)	12 (1.4)	-
Widowed	3 (0.8)	10 (1.2)	-
Single independent from family	4 (1.1)	4 (0.5)	-

SD: Standard deviation

Education showed variations, with Iran having more elementary and undergraduate degrees, and Germany having more diploma and master's degrees. Other education levels showed no significant disparities.

Validity

Structural Validity: Exploratory factor analysis in the German sample revealed 2 factors. The first factor (Reexperiencing/Avoidance) explained 24.5% of variance, and both factors combined explained 46.6% of variance. In the Iranian sample, 3 factors emerged, explaining 50.41% of variance. Factor loadings, eigenvalues, and reliability indices are presented in table 2.

A meta-analysis (Yufik & Simms, 2010) of the structural analysis of the PDS scale indicated that 2 four-factor models (King, Leskin, King, & Weathers, 1998; Simms, Watson, & Doebbeling, 2002) have been predominantly used in most studies (Yufik & Simms, 2010); therefore, the four-factor model was fitted to the data using exploratory factor analysis and varimax rotation, and the results are presented in table 3. Item 8 in both the German and Iranian samples does not have a factor loading above 0.4 in any factor, and item 10 also has significant factor loading in 3 factors in the Iranian population. Table 3 shows that the arrangement of items in the factors is not exactly the same as either of the two models of King et al. (1998) and Simms et al. (2002).

Fit indices for the DSM-IV-TR-based, King et al. (1998), and Simms et al. (2002) models for the Iranian sample are CFI = 0.881, 0.918, and 0.888 ($P < 0.95$), RMSEA = 0.090, 0.076, and 0.088 ($P > 0.06$), and SRMR = 0.065, 0.058, and 0.063 ($P < 0.08$), and for the German sample are CFI = 0.898, 0.919, and 0.929 ($P < 0.95$), RMSEA = 0.084, 0.076, and 0.071 ($P > 0.06$), SRMR = 0.052, 0.047, and 0.047 ($P < 0.08$), respectively. Only the SRMR is suitable for all three models in both Iranian and German communities. The other fit indices do not meet the criteria of Hu and Bentler (1999), and in the German community, the fit indices are somewhat close to the appropriate model-fit cut point (Hu & Bentler, 1999). After removing items 8 and 10, the model fit was re-evaluated, but none reached acceptable thresholds.

Table 2. Explanatory factor analysis with 3 factors in Iranian and German populations

Items	Iran			Germany		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
1	0.709	0.287	0.213	0.756	0.304	0.055
2	0.605	0.275	0.121	0.498	0.123	0.182
3	0.616	0.220	0.198	0.632	0.155	0.148
4	0.778	0.189	0.196	0.779	0.317	0.122
5	0.591	0.247	0.216	0.650	0.268	0.278
6	0.556	0.130	0.159	0.513	0.291	0.260
7	0.531	0.118	0.238	0.501	0.267	0.187
8	0.404	0.208	0.046	-	-	-
9	0.437	0.136	0.420	0.475	0.409	0.168
10	0.343	0.327	0.546	0.297	0.578	0.178
11	0.262	0.327	0.848	0.282	0.648	0.258
12	0.287	0.440	0.543	0.239	0.715	0.112
13	0.246	0.560	0.229	0.277	0.602	0.240
14	0.209	0.624	0.318	0.182	0.495	0.329
15	0.189	0.716	0.284	0.262	0.600	0.296
16	0.220	0.731	0.130	0.294	0.390	0.668
17	0.249	0.553	0.086	0.275	0.382	0.697
Eigenvalue	7.223	1.656	1.105	7.300	1.460	0.943
Total variance explained	0.218	0.386	0.504	22.21	41.95	51.81
Alpha based on DSM model	0.852	0.814	0.829	0.841	0.817	0.837
Omega based on DSM model	0.890	0.885	0.883	0.938	0.942	0.943

Table 3. Explanatory factor analysis with four factors in Iranian and German populations

Items	Iran				Germany			
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4
1	0.705				0.731			
2	0.660				0.513			
3	0.543				0.635			
4	0.716				0.768			
5	0.540				0.648			
6		0.948			0.498			
7		0.403			0.479			
8								
9	0.474		0.442		0.455	0.414		
10			0.565			0.639		
11			0.834			0.621		
12			0.547	0.439		0.471	0.503	
13				0.561			0.630	
14				0.628			0.479	
15				0.719			0.741	
16				0.727				0.700
17				0.550				0.656
Eigenvalue	7.223	1.656	1.105	0.905	7.485	1.451	0.964	0.848
Total variance explained	0.178	0.346	0.465	0.552	0.204	0.33	0.437	0.527
Alpha k model	0.852	0.692	0.793	0.829	0.841	0.704	0.777	0.837
Omega k model	0.904	0.778	0.907	0.892	0.956	0.912	0.957	0.954
Alpha s model	0.852	0.692	0.853	0.724	0.841	0.704	0.854	0.826
Omega s model	0.899	0.773	0.924	0.790	0.958	0.912	0.972	0.952

Unlike the study by Hearn, Ceschi, Brillon, Furst, and Van der Linden (2012), these models did not fit well with the data.

Convergent Validity: The scale's correlation with the SOMS-7, PHQ was assessed. Significant correlations (1% level) were found in both Iranian and German samples, confirming validity. The correlation of the PDS scores with PDS life function, PHQ-15, PHQ-9, PHQ-7, and SOMS7 in the Iranian sample was equal to -0.577, 0.451, 0.680, 0.584, and 0.508 and in German sample was -0.579, 0.443, 0.702, 0.641, and 0.599, respectively.

The discrimination coefficient is one of the psychometric properties of the items, and a value close to 0 indicates inadequate discrimination. A higher coefficient illustrates the item is more accurate distinction between low and high scores. Item 8 in the German sample lacks discrimination, but other items were effective in distinguishing. Removing individual items did not significantly enhance Cronbach's alpha, indicating acceptable internal consistency within the scale.

Diagnostic Validity: The scores of two groups of normal and people who had a definite diagnosis of emotional disorders (mood and anxiety) were analyzed separately for Iranian and German samples. After deleting the missing data, the Iranian sample included 112 (37.2%) men and 189 (62.8%) women, with 219 (72.8%) categorized as healthy and 82 (27.2%) with mood and anxiety disorders. The German sample included 198 (33.4%) men and 395 (66.6%) women, with 525 (88.5%) classified as healthy and 68 (11.5%) with mood and anxiety disorders. The cutoff point package in R established gender-specific cutoff points for the Iranian and German samples. Iranian men and women had a cutoff score of 24 and 27, respectively, and German men and women had a cutoff score of 9 and 8, respectively. In the Iranian sample, sensitivity, specificity, accuracy, and AUC was 0.615, 0.872, 0.812, and 0.759 for men, and 0.393, 0.872, 0.730, and 0.682 for women, respectively.

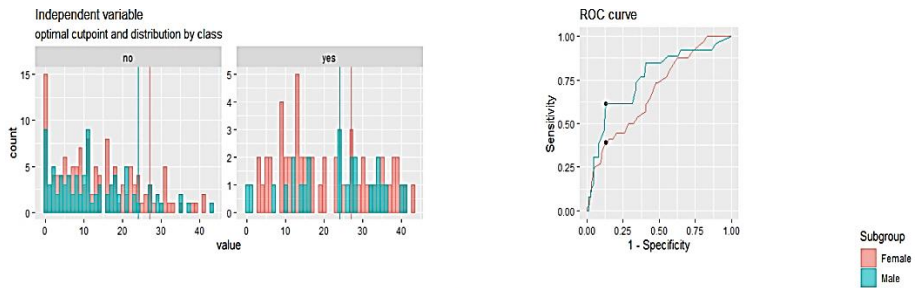


Figure 1. ROC curve for the Iranian sample

In the German sample, sensitivity, specificity, accuracy, and AUC was 0.645, 0.886, 0.848, and 0.796 for men, and 0.622, 0.872, 0.848, and 0.796 for women, respectively. These metrics reveal how accurately the test categorizes individuals in both populations. Higher values suggest better test performance.

The ROC curve for the Iranian sample and the distribution plot of scores categorized by healthy and affected individuals with the optimal cutoff point can be observed in figure 1.

Figure 2 shows the ROC curve for the German sample.

Reliability

The scale showed strong internal consistency with Cronbach's alpha of 0.918 for the German sample and 0.914 for the Iranian sample. Omega coefficients were also used for assessment, with values above 0.7 indicating good consistency (McDonald, 1999). The reliability coefficients for each factor are presented in tables 2 and 3.

Discussion

In this study, we aimed to examine the reliability and validity of the PDS in Iranian and German populations. The comparison of internal consistency between the Persian and German versions of the PDS yielded robust internal consistency coefficients. Specifically, the Iranian and German population exhibited excellent internal consistency coefficients. These findings align with the internal consistency reported by Foa et al. (1997) and (Griesel, Wessa, and Flor (2006) further affirming the high reliability of both the Iranian and German versions of the scale.

Factor analysis in the German sample extracted 2 underlying factors that account for 46.4% of the variance. The first factor is "Reexperiencing/Avoidance," and the second factor is "Emotional Numbing/Hyperarousal, Hypervigilance/Exaggerated Startle Response." In the Iranian population, exploratory factor analysis revealed 3 underlying factors that explain 50.41% of the variance.

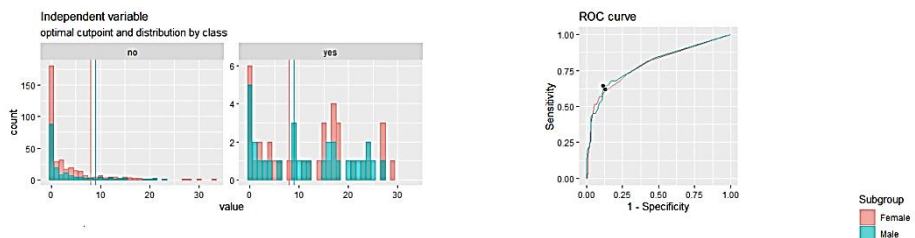


Figure 2. ROC curve for the German sample

Items 13 to 17 in the Iranian sample are grouped into 1 factor representing hyperarousal syndrome according to the DSM-IV-TR criteria. Items 9 (Interest) and 12 (Hope) load on more than 1 factor with a factor loading greater than 0.4. In the German sample, item 8 (dissociative amnesia) does not significantly load on any factor. Furthermore, examining the diagnostic coefficient of the items shows that item 8 is not a suitable item for distinguishing between low and high levels of PTSD symptoms in the German sample. The research by Griesel et al. (2006) demonstrated that item 8 does not differentiate well between PTSD patients and trauma survivors without PTSD. Psychometric issues regarding item 8 were also reported in the study by King et al. (1998). Merckelbach, Dekkers, Wessel, and Roefs (2003) suggested that the content of item 8 may represent dissociative amnesia, which may not be a key feature in diagnosing PTSD. The scale items in the German population have a more appropriate diagnostic coefficient compared to the Iranian population, meaning they can effectively differentiate between groups with low and high levels of symptoms.

The meta-analysis of the structural analysis of the PDS scale conducted by Yufik and Simms (2010) highlighted 2 prevailing four-factor models (King et al., 1998; Simms et al., 2002). However, our study's fit indices for the DSM-IV-TR three-factor model and the 2 four-factor models did not substantiate factor structures identified in previous researches in Iranian and German populations. Intriguingly, Hearn et al (2012) observed satisfactory fit indices for these models in the context of the French version of the PDS. It is worth noting that Foa et al. (1997) did not report the factor structure of PTSD, while Buckley, Blanchard, and Hickling (1998) questioned the validity of the three-factor structure. Moreover, the analysis of the PDS factor structure in a German sample by Griesel et al. (2006) diverged from the DSM-IV-TR framework, encompassing reexperiencing and active avoidance symptoms, emotional numbness and hyperarousal symptoms, and a third factor featuring only 2 items (exaggerated startle response and hypervigilance). Notably, item 13 (sleep problems) exhibited similar loadings across all 3 factors.

The significant correlation of PDS scale with patient health questionnaire (PHQ-13, PHQ-7, PHQ-9) is 0.68, 0.58, 0.45 for Iranian society and 0.7, 0.64 and 0.44 for the German community (PHQ-13, PHQ-7, and PHQ-9). These correlations with the PHQ-13, PHQ-7, and PHQ-9 were 0.68, 0.58, and 0.45 for the Iranian population, and 0.70, 0.64, and 0.44 for the German population, respectively, underscoring the satisfactory concurrent validity of the PDS scale. A similar pattern emerged in the correlations of the PDS scale with the SOMS-7 in the Iranian and German populations, indicating concurrent validity.

Interestingly, the translation of the PDS-5 into German, as well as its psychometric evaluation, revealed significant correlations with the PHQ-9 ($\rho = 0.81$) and the PHQ-15 ($\rho = 0.65$) (Wittmann et al., 2021). Similarly, the assessment of the convergent validity of the Bangla PCL-5 demonstrated a significant positive correlation with the PHQ-9 ($r = 0.69$; $p < 0.001$) (Islam et al., 2022).

The PDS effectively distinguished anxious depressive patients from healthy individuals in both communities. The cutoffs for men and women were 24 and 27 in the Iranian population, and 9 and 8 in the German population, respectively. Sensitivity was, respectively, 0.62 and 0.39 for men and women in the Iranian population and 0.64 for both men and women in the German population. Specificity was around 0.87 for Iranian men and women, 0.85 for Germans. This suggests the Iranian version might be less effective for female patients, while German metrics are robust. Griesel et al. (2006) reported a sensitivity of 0.64 and specificity of

0.75, whereas Foa et al. (1997) reported a sensitivity of 0.89 and specificity of 0.62.

In the present study, there was no opportunity to retest the participants for the purpose of assessing the test-retest reliability; therefore, the questionnaire's stability over time was not investigated. It is recommended that in future researches, provisions be made for retesting participants in order to calculate the test-retest reliability of this scale.

Conclusion

In summary, our study highlights the strong psychometric properties of the Persian and German versions of the PDS in their respective communities. With reliable factorial structure and discriminant validity, these versions are valuable for PTSD screening, diagnosis, and clinical management.

Conflict of Interests

Authors have no conflict of interests.

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