Electronic Journal of General Medicine
2022, 19(6), em408
e-ISSN: 2516-3507
https://www.ejgm.co.uk/

MODESTUM

Original Article

OPEN ACCESS

The International Trauma Questionnaire: An assessment of the psychometric properties of its Spanish version

Marcelo O'Higgins [1], Iván Barrios [1], Diego Amarilla [1], Pamela Figueredo [1], José Almirón-Santacruz [1], Noelia Ruiz-Díaz [1,2], Osvaldo Melgarejo [1,2], João Mauricio Castaldelli-Maia [3,4], Antonio Ventriglio [5], Julio Torales [1,2]*

[1] Department of Psychiatry, School of Medical Sciences, National University of Asunción, San Lorenzo, PARAGUAY
[2] Department of Medical Psychology, School of Medical Sciences, National University of Asunción, San Lorenzo, PARAGUAY
[3] Department of Neuroscience, Fundação do ABC, Santo André, SP, BRAZIL
[4] Department of Psychiatry, University of São Paulo, São Paulo, SP, BRAZIL
[5] Department of Clinical and Experimental Medicine, University of Foggia, Foggia, ITALY
***Corresponding Author:** jtorales@med.una.py

Citation: O'Higgins M, Barrios I, Amarilla D, Figueredo P, Almirón-Santacruz J, Ruiz-Díaz N, Melgarejo O, Castaldelli-Maia JM, Ventriglio A, Torales J. The International Trauma Questionnaire: An assessment of the psychometric properties of its Spanish version. Electron J Gen Med. 2022;19(6):em408. https://doi.org/10.29333/ejgm/12389

ARTICLE INFO

Received: 27 Jun. 2022

Accepted: 17 Aug. 2022

ABSTRACT

Introduction: This study aimed to investigate the psychometric properties of the Spanish version of the international Trauma Questionnaire (ITQ).

Material and Methods: An online survey was launched to recruit participants. This survey was shared via social networks (Twitter, Facebook) and messaging applications (Telegram, WhatsApp) from November 15 to December 15, 2021. Participants were 141 individuals older than 18 years and with at least one self-reported lifetime traumatic event. ITQ was translated into Spanish and validated through a confirmatory factor analysis. Participants have been also scored with the trauma questionnaire (TQ) and the international trauma exposure measure.

Results: The results of the Kaiser-Meyer-Olkin (KMO) test and the sphericity test were adequate (KMO=0.878) and significant (p<0.001), respectively. A two-dimensional scale was reported after confirmatory analysis. Fit indices reported that the model adjustment was good. Cronbach's alpha of the total scale was α=0.95, as well as for the PTSD symptoms and DSO clusters were α=0.91 and α=0.93, respectively. Good convergence (r=0.807; p<0.001) was shown by the scores between the two scales (ITQ and TQ).

Conclusion: The Spanish version of the ITQ shows good psychometric properties and satisfactorily replicates the two-dimensional model of the original English version of the scale.

Keywords: posttraumatic stress disorder, psychotrauma, validity, reliability, factor analysis

INTRODUCTION

Several mental disorders have been associated with traumatic experiences during the lifetime, which is conceptualized as psychotrauma [1]. The 5th edition of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM-5) and the 11th edition of the International Classification of Diseases of the World Health Organization (ICD-11) have proposed new perspectives in the classification of disorders related to psychological stress or psychotrauma, particularly on posttraumatic stress disorder (PTSD) and complex posttraumatic stress disorder (CPTSD) [2].

The international trauma questionnaire (ITQ) is a measure designed to detect stress-related disorders or psychotrauma and to assess the response to related treatments [3, 4]. This instrument is a brief and simple measure, focusing on the key features of PTSD and CPTSD. The ITQ was developed in accordance with ICD-11 principles proposed by the World Health Organization, such as maximizing clinical utility and ensuring international applicability in detecting the core symptoms of the disorder. The ITQ is freely available and focuses especially on

1. functional impairment related to both PTSD and CPTSD and
2. predicting differential treatment outcomes [3].

The ITQ has also been employed among Syrian refugees in Lebanon [5], in China [6,7], military and police populations in the United Kingdom [8,9], Norway [10], in academic populations in South Africa [11], Austria, Lithuania, Scotland and Wales [12], the United States [13], Israel [14], Portugal and Angola [15], and Nigeria, Kenya, and Ghana [16]. Although this questionnaire has been translated into a Latin American Spanish version, as provided by The International Trauma Consortium [17], there are no evidence on its psychometric properties. Consequently, the aim of this research has been the validation of the Spanish version of the ITQ, as well as to test its

psychometric properties and score subjects with PTSD or CPTSD criteria from the Paraguayan population.

MATERIAL AND METHODS

Participants

An online survey was launched to recruit participants. This survey was shared via social networks (Twitter, Facebook) and messaging applications (Telegram, WhatsApp) from November 15 to December 15, 2021. Each participant was informed about the privacy and data processing of the study, as well as about the research objectives. Individuals aged ≥18 years, who self-reported at least one traumatic life event (assessed through the life events checklist for DSM-5) [18] were included.

The sample size was calculated using Epidat software, taking into account an expected frequency of 3.9% of anxiety disorders in the adult population of Paraguay [19], a confidence level of 95% and a precision of 3%. The minimum sample was thus set at 138 participants [20]. A total of 189 subjects were surveyed, of which 141 were selected considering the previously mentioned inclusion criteria.

There is evidence to suggest that responses to online surveys are capable of providing similar results to those reported through "in-person" samples [21]. This justified the use of an online survey approach, which has also proven useful in times of social distancing, such as those experienced during the COVID-19 pandemic.

Measures

International trauma questionnaire

The ITQ is an 18-item self-report measure to assess ICD-11 PTSD and CPTSD in adults. Six items represent three clusters of PTSD: Re-experiencing in the here and now (Re_dx: Re1 and Re2), Avoidance (Av_dx: Av1 and Av2) and sense of current threat (Th_dx: Th1 and Th2), and six items represent three clusters of DSO: Affective dysregulation (AD_dx: AD1 and AD2), Negative self-concept (NSC_dx: NSC1 and NSC2) and Disturbances in relationships (DR_dx: DR1 and DR2). Additionally, three items measure functional impairment (social, occupational, and other key areas of life) for PTSD and DSO clusters. Respondents must indicate how much they have been bothered by each symptom over the past month on a 5-point Likert scale ranging from 0 ('not at all') to 4 ('extremely'). Scores ≥2 ('moderately') indicate the presence of a symptom. PTSD diagnosis requires endorsement of one symptom in each PTSD cluster and associated functional impairment. CPTSD diagnosis requires a PTSD diagnosis, one symptom in each DSO cluster and associated functional impairment [3].

The original English version of the scale good psychometric properties [3]. In this study we used the two-factor version reporting better psychometric properties [6,22].

Trauma questionnaire

The TQ is a screening tool for PTSD. It includes 44 items divided into three groups:

1. List of traumatic experiences (the patient has to report whether or not he/she has suffered in his/her life, and if so, at what age and for how long),
2. Traumatic event that currently worries him/her most (the characteristics of the event are evaluated to check if requirements specified in DSM-IV diagnostic criterion A are met), and
3. Lst of symptoms (the symptoms listed in DSM-IV criteria B-D are explored).

The time of reference for the evaluation is any time after the event. In the symptoms listing section, a score is obtained by adding up each item (1 as yes and 0 as no), with higher severity for higher scores [23].

International trauma exposure measure

The international trauma exposure measure (ITEM) is a checklist developed to capture traumatic life events and their associated characteristics according to the ICD-11 criteria. The ITEM measures exposure to different traumatic life events across various stages of life (childhood, adolescence, adulthood, and across the lifespan), frequency of exposure to the traumatic event, and the main emotion associated with the traumatic event. The ITEM is freely available and can be used without specific permission [24].

Translation Process and Validation

We followed the procedures for the cross-cultural adaptation of self-report measures, using the back-translation method [25] for the translation and validation of the ITQ from English to Spanish. First, the original English version was translated into Spanish; this version was then backtranslated into English by a bilingual expert. Then, a native English speaker compared the back-translated version with the original English version to verify meaning equivalences. Minor changes were introduced after the comparison and the Spanish version was pilot tested with 15 people to verify its comprehensibility. After pilot test, final Spanish version was approved (available upon request to corresponding author).

Statistical Analysis

We assessed the pertinence of performing a factorial analysis (SPSS software version 23) through the Kaiser-Meyer-Olkin (KMO) test for sample adequacy and the Bartlett's test of sphericity. Confirmatory factor analysis (CFA) was performed using Jeffrey's amazing statistics program [26]. For CFA (taking into consideration the sample size), we used the diagonally weighted least squares (DWLS) estimation procedure. Chi-square (χ^2), the comparative fit index (CFI), the normed fit index (NFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMSR) were used to test the model fit. These indices are used to assess if the fit model is acceptable (RMSEA and SRMSR between 0.05 and 0.08, and CFI and TLI between 0.90 and 0.95) or good (RMSEA and SRMSR <0.05 and CFI and TLI >0.95) [27].

Cronbach's alpha was used to measured reliability [28]. Convergent validity was measured computing correlations between the ITQ and TQ using Pearson's method in SPSS [29].

Ethical Considerations

The Department of Medical Psychology of the National University of Asuncion, School of Medical Sciences (Paraguay), ethically approved the study. We followed the Helsinki principles regarding data processing. In case any participant requested information on the survey results, he/she was invited to write his/her e-mail address to receive information.

Table 1. Sociodemographic characteristics of participants (n=141)

Characteristics	n	%
Gender		
Women	108	76.6
Men	33	24.4
Level of studies		
Secondary education	22	15.6
University education	119	84.4
Employment status		
Unemployed	26	18.4
Employed	115	81.6
Social status		
Single	56	39.7
Married	55	39.0
In a partnership	18	12.8
Divorced	10	7.1
Widowed	2	1.4
Place of residence		
Urban	119	84.4
Rural	22	15.6

RESULTS

Participants

A total of 141 subjects were surveyed, of whom 76.6% were men. Age ranged from 19 to 69 years old with a mean of 36.32±9.76 years and a median of 34 years (IQR=12.5). Of participants, 84.4% reported a university education, 81.6% were employed and 39.7% were single. These characteristics are shown in detail in **Table 1**.

Preliminary Analysis

According to the ITQ, 22.7% of participants reported a PTSD, while 22.7% CPTSD. The ITQ demonstrated an excellent internal consistency: Cronbach's alpha of the total scale was α=0.95, for PTSD symptoms and DSO clusters were α=0.91 and α=0.93, respectively [28]. Acceptable corrected item-total correlations (range=0.577 to 0.801) [30] was reported by each of the 18 items.

A Cronbach's alpha of α=0.975 was found for the TQ, indicating excellent internal consistency [28]. According to this scale, 59.6% of participants reported a diagnosis of PTSD.

Table 2. ITQ: Items-means and standard deviations, factor loadings, and communalities of the 12 core symptom items of the ITQ

ITQ item	Mean	SD	Factor loading	h^2
1	0.84	1.20	0.833	0.549
2	1.01	1.23	0.916	0.609
3	1.34	1.40	1.147	0.642
4	1.47	1.50	1.225	0.630
5	1.57	1.42	1.089	0.596
6	1.40	1.36	0.899	0.447
7	1.73	1.14	0.655	0.374
8	1.48	1.38	1.128	0.684
9	1.26	1.39	1.203	0.735
10	0.92	1.28	1.062	0.644
11	1.44	1.38	1.231	0.857
12	1.41	1.39	1.018	0.542

Note. SD: Standard deviation & h^2: Communalities

Factorial Analysis

The results of the KMO test and the sphericity test were adequate (KMO=0.878) and significant (p<0.001), respectively. Based on the responses to the 12 core symptom items, the two-dimensional model was evaluated with a confirmatory factor analysis. According to all fit indices, χ^2=207 (df=53, p<0,001). RMSEA=0.144 (IC90 % 0.123-0.164), CFI=0.868, TLI=0.835, BIC=4,935, SRMR=0.0631, and AIC=4,826), the model adjustment was acceptable. These results confirm that the model of the Spanish version of ITQ replicates the two-factor model of the original English version, since all items had standardized factor loadings > than 0.40 (p<0.001).

Table 2 summarizes items-means and standard deviations, factor loadings, and communalities (h2) for the ITQ.

Convergent Validity

Convergent validity of the ITQ was assessed by correlating the ITQ with the TQ. A good construct validity was found, since the correlation between the ITQ and the TQ was direct and significant (r=0.807; p<0.001) [29].

Trauma Exposure

Table 3 reports the results of the ITEM, summarizing the contextual characteristics contributing to the psychotrauma among responders. 65.2% of them reported as a traumatic event: "You were humiliated, belittled, or insulted by another person".

Table 3. Trauma exposure (n=141)

Did this event happen …?	No		Yes	
	n	%	n	%
You were diagnosed with a life-threatening illness.	114	80.9	27	19.1
Someone close to you died in an awful manner.	81	57.4	60	42.6
Someone close to you was diagnosed with a life-threatening illness or experienced a life-threatening accident.	53	37.6	88	62.4
Someone threatened your life with a weapon (knife, gun, bomb etc.)	91	64.5	50	35.5
You were physically assaulted (punched, kicked, slapped, mugged, robbed etc.) by a parent or guardian.	110	78.0	31	22.0
You were physically assaulted (punched, kicked, slapped, mugged, robbed, etc.) by someone other than a parent or guardian.	90	63.8	51	36.2
You were sexually assaulted (anal, vaginal, or oral penetration, or any contact with sexual parts) by a parent or guardian.	134	95.0	7	5.0
You were sexually assaulted (anal, vaginal, or oral penetration, or any contact with sexual parts) by someone other than a parent or guardian.	112	79.4	29	20.6
You were sexually harassed (unwanted sexualized comments or behaviors).	65	46.1	76	53.9
You were exposed to war or combat (as a soldier or as a civilian).	140	99.3	1	0.7
You were held captive and/or tortured.	139	98.6	2	1.4
You caused extreme suffering or death to another person.	136	96.5	5	3.5

Table 3 (Continued). Trauma exposure (n=141)

Did this event happen…?	No		Yes	
	n	%	n	%
You witnessed another person experiencing extreme suffering or death.	101	71.6	40	28.4
You were involved in an accident (e.g., transportation, work, home, leisure) where your life was in danger.	106	75.2	35	24.8
You were exposed to a natural disaster (e.g., hurricane, tsunami, earthquake) where your life was in danger.	138	97.8	3	2.2
You were exposed to a human-made disaster (e.g., terrorist attack, chemical spill, public shooting) where your life was in danger.	133	94.3	8	5.7
Another person stalked you.	104	73.7	37	26.3
You were repeatedly bullied (online or offline).	83	58.9	58	41.1
You were humiliated, put down, or insulted by another person.	49	34.8	92	65.2
You were made to feel unloved, unwelcome, or worthless.	52	36.9	89	63.1
You were neglected, ignored, rejected, or isolated.	84	59.6	57	40.4

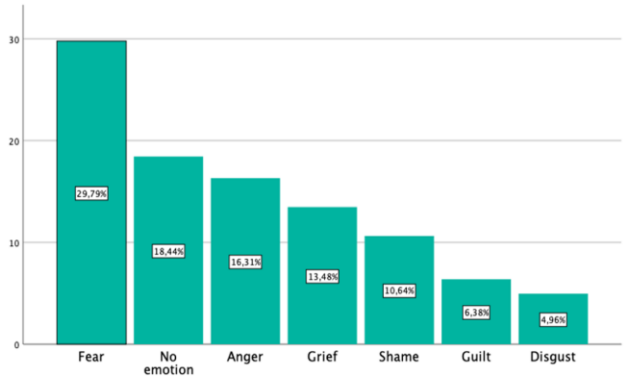

Figure 1. Emotions associated with the traumatic event (n=141)

Of participants, 29.8% reported fear as the prevalent emotion associated to the traumatic, while anger has been reported in 16.3% (**Figure 1**).

Table 4 reports about the temporality of traumatic events according to the ITQ.

Table 4. Temporality of the traumatic event (n=141)

Temporality	n	%
10 to 20 years ago	47	33.3
More than 20 years ago	32	22.7
5 to 10 years ago	19	13.5
5 to 10 years ago	17	12.1
Less than 6 months ago	6	4.3
6 to 12 months ago	5	3.5

DISCUSSION

The aim of the study was to assess the psychometric properties of Spanish version of the ITQ in a sample from Paraguayan general population.

A confirmatory factor analysis was conducted, considering that the two-dimensional structure has been associated to good psychometric properties. Our research allowed us to determine that the two-dimensional structure correctly explained the construct analyzed (as in the other versions of the scale). This was demonstrated through the results reported by the fit indices [6,10,22].

Factor loadings were high on all items, which means that were equally valid as in the English version. In terms of internal validity, the Spanish version of the ITQ reported an excellent Cronbach's alpha value (α=0.95), while for PTSD and DSO subscales clusters were α=0.91 and α=0.93, respectively. In a community sample, reliabilities of the English version for all PTSD and DSO subscales were satisfactory (all α's ≥0.79) [3]. Our study determined that the construct was adequately measured, taking into consideration the direct and significant convergence found with the TQ.

Our sample mainly included male patients. Epidemiology of PTSD in general shows a sex ratio 2:1 in favor of females [31]. Although this study did not aim to test the association of sex with the incidence of PTSD or CPTSD, it is striking that in a sample mostly including males, a PTSD percentage of 59.6% is observed according to the TQ and 22.7% according to ITQ. It has been proposed that differences at the level of neuronal circuits or neurobiological processes between male and female individuals might play a role in the explanation of sex differences [32], as well as the involvement of hormones such as testosterone, estradiol, and progesterone. Traumatogenic factors and epigenetic changes may be also involved [33,34].

More than 80% of participants reported that they were from urban areas even if no evidence has been collected in the previous studies PTSD and urbanicity [35]. Among American war veterans, it has been observed that those living in rural areas reported lower access to the mental health services and lower scores of PTSD, depression, substance use and global mental health [36]. However, similar evidence in veterans have shown no significant differences in traumatic characteristics between rural versus urban veterans [37].

Employment is an impacting factor on the outcome of patients suffering from PTSD [38]. Our findings have shown that most of participants were employed with a partly preserved functional outcome. In a study conducted by the US Veterans Administration reporting on the follow up of a program called individual placement and support (IPS), the authors found that those with PTSD who participated in the program have shown greater improvements in total, interpersonal and lifestyle functioning [38]. This evidence has been replicated in other studies on the implementation of employment programs in veterans with PTSD symptoms [39,40].

In our study, the frequency of PTSD and CPTSD was 22.7% according to the ITQ. These frequencies are high since the sampling has been drawn from the general population. In fact, in Israel, frequencies of PTSD and CPTSD among subjects exposed to different types of psychotrauma (war conflicts, terrorism) were 9% and 2.6%, respectively [14]. Also, in United Kingdom frequencies of PTSD and CPTSD were 10.9% and of 53.6% in a population exposed to various forms of psychotrauma [4]. In addition, prevalence of CPTSD and PTSD were 36.1% and 25.2% among Syrian refugees living in Lebanon [5], with similar percentages to those from our study.

Differences in the frequency of PTSD between the TQ (59.6%) and the ITQ (22.7%) are supposed to be based on the evidence that TQ directly uses the DSM-IV criteria whereas the ITQ employs the ICD-11 criteria. Similar studies have confirmed that the use of ICD-11 criteria leads to lower diagnosis rates [4].

Considering the emotions associated with the traumatic event in the sample, fear scored 29.79% followed by no emotions in 18.44% of cases: fear is common in PTSD and is part of diagnostic criteria [41] as well as is related to brain circuits of fear conditioning and extinction [42]. Intrusive memories may elicit intense fear responses in PTSD patients leading to intense stress with cognitive overload and somatic dissociation [43].

Regarding the temporality of the traumatic event, was mostly reported between 10 and 20 years ago (33.3%). The timing of the reported traumatic event may impact on various aspects of PTSD and CPTSD: if it occurs in childhood, it is more likely to lead to CPTSD [24, 44], as well as may be associated to other co-occurring conditions such as substance abuse [45].

Finally, the frequency of sexual aggression among traumatized subjects in our study is of concern: 20.6% reported having been victims of sexual aggression by someone other than a parent or guardian, as well as 53.9% of the sample claimed to have suffered some form of sexual harassment. This must be thoroughly investigated to provide victims with comprehensive care and support programs.

Limitations of this research may include:

1. the lack of data on sociodemographic or clinical factors,
2. the use of self-report measures to include/exclude participants,
3. the overrepresentation of college-educated men from urban areas, and
4. failure to calculate test-retest reliability (since contact information was not collected from subjects recruited for a second evaluation).

All these limitations could bias the results.

We may conclude that the Spanish version of the ITQ shows good psychometric properties and satisfactorily replicates the two-dimensional model of the original English version of the scale. This allows us to consider our research as relevant, since it offers a scale that could be useful for Spanish-speaking patients affected by PTSD or CPTSD.

Author contributions: All authors have sufficiently contributed to the study and agreed with the results and conclusions.

Funding: No funding source is reported for this study.

Ethics committee approval: This study was approved by the Department of Medical Psychology of the National University of Asuncion, School of Medical Sciences (Paraguay) on October 30, 2021 (Approval Code: 0048/2021).

Declaration of interest: No conflict of interest is declared by authors.

Data sharing statement: Data supporting the findings and conclusions are available upon request from the corresponding author.

REFERENCES

1. Chidiac N, Crocq L. Le psychotrauma. II. La réaction immédiate et la période post-immédiate [The psychotrauma. II. The immediate reaction and the immediate post period]. Ann Méd-Psychol Rev Psychiatr. 2020;168:639-44. https://doi.org/10.1016/j.amp.2010.07.011
2. Karatzias T, Levendosky AA. Introduction to the special section on complex posttraumatic stress disorder (CPTSD): The evolution of a disorder. J Trauma Stress. 2019;32:817-21. https://doi.org/10.1002/jts.22476 PMid:31814160
3. Cloitre M, Shevlin M, Brewin CR, et al. The international trauma questionnaire: Development of a self-report measure of ICD-11 PTSD and complex PTSD. Acta Psychiatr Scand. 2018;138:536-46. https://doi.org/10.1111/acps.12956 PMid:30178492
4. Hyland P, Shevlin M, Brewin CR, et al. Validation of post-traumatic stress disorder (PTSD) and complex PTSD using the international trauma questionnaire. Acta Psychiatr Scand. 2017;136:313-22. https://doi.org/10.1111/acps.12771 PMid:28696531
5. Vallières F, Ceannt R, Daccache F, et al. ICD-11 PTSD and complex PTSD amongst Syrian refugees in Lebanon: The factor structure and the clinical utility of the international trauma questionnaire. Acta Psychiatr Scand. 2018;138:547-57. https://doi.org/10.1111/acps.12973 PMid:30357808
6. Ho GWK, Karatzias T, Cloitre M, et al. Translation and validation of the Chinese ICD-11 international trauma questionnaire (ITQ) for the assessment of posttraumatic stress disorder (PTSD) and complex PTSD (CPTSD). Eur J Psychotraumatology. 2019;10:1608718. https://doi.org/10.1080/20008198.2019.1608718 PMid:31143410 PMCid:PMC6522970
7. Tian Y, Wu X, Wang W, Zhang D, Yu Q, Zhao X. Complex posttraumatic stress disorder in Chinese young adults using the international trauma questionnaire (ITQ): A latent profile analysis. J Affect Disord. 2020;267:137-43. https://doi.org/10.1016/j.jad.2020.02.017 PMid:32063565
8. Brewin CR, Miller JK, Soffia M, Peart A, Burchell B. Posttraumatic stress disorder and complex posttraumatic stress disorder in UK police officers. Psychol Med. 2020;1-9. https://doi.org/10.1017/S0033291720003025 PMid:32892759
9. Murphy D, Shevlin M, Pearson E, et al. A validation study of the international trauma questionnaire to assess post-traumatic stress disorder in treatment-seeking veterans. Br J Psychiatry J Ment Sci. 2020;216:132-7. https://doi.org/10.1192/bjp.2020.9 PMid:32345413
10. Sele P, Hoffart A, Bækkelund H, Øktedalen T. Psychometric properties of the international trauma questionnaire (ITQ) examined in a Norwegian trauma-exposed clinical sample. Eur J Psychotraumatology. 2020;11:1796187. https://doi.org/10.1080/20008198.2020.1796187 PMid:33029331 PMCid:PMC7473173
11. Rink J, Lipinska G. Evidence of distinct profiles of ICD-11 post-traumatic stress disorder (PTSD) and complex PTSD in a South African sample. Eur J Psychotraumatology. 2020;11:1818965. https://doi.org/10.1080/20008198.2020.1818965 PMid:33282146 PMCid:PMC7685205

12. Knefel M, Lueger-Schuster B, Bisson J, Karatzias T, Kazlauskas E, Roberts NP. A cross-cultural comparison of ICD-11 complex posttraumatic stress disorder symptom networks in Austria, the United Kingdom, and Lithuania. J Trauma Stress. 2020;33:41-51. https://doi.org/10.1002/jts.22361 PMid:30688371 PMCid:PMC7155025
13. Shevlin M, Hyland P, Roberts NP, Bisson JI, Brewin CR, Cloitre M. A psychometric assessment of disturbances in self-organization symptom indicators for ICD-11 complex PTSD using the international trauma questionnaire. Eur J Psychotraumatology. 2018;9:1419749. https://doi.org/10.1080/20008198.2017.1419749 PMid:29372014 PMCid:PMC5774393
14. Ben-Ezra M, Karatzias T, Hyland P, et al. Posttraumatic stress disorder (PTSD) and complex PTSD (CPTSD) as per ICD-11 proposals: A population study in Israel. Depress Anxiety. 2018;35:264-74. https://doi.org/10.1002/da.22723 PMid:29451956
15. Rocha J, Rodrigues V, Santos E, et al. The first instrument for complex PTSD assessment: psychometric properties of the ICD-11 trauma questionnaire. Rev Bras Psiquiatr Sao Paulo Braz 1999. 2020;42:185-9. https://doi.org/10.1590/1516-4446-2018-0272 PMid:31596316 PMCid:PMC7115434
16. Palgi Y, Karatzias T, Hyland P, Shevlin M, Ben-Ezra M. Can subjective perceptions of trauma differentiate between ICD-11 PTSD and complex PTSD? A cross-cultural comparison of three African countries. Psychol Trauma Theory Res Pract Policy. 2021;13:142-8. https://doi.org/10.1037/tra0000966 PMid:32940522
17. The International Trauma Consortium. ITQ. Trauma Meas. Glob. 2018. https://www.traumameasuresglobal.com/itq (Accessed: 26 June 2022).
18. Wathers F, Blake D, Schnurr P, Kaloupek D, Mark B, Keane T. Life events checklist for DSM-5 (LEC-5)-PTSD: National center for PTSD. 2013. https://www.ptsd.va.gov/professional/assessment/te-measures/life_events_checklist.asp (Accessed: 26 June 2022).
19. Torales J, Ventriglio A, Barrios I, Arce A. Demographic and clinical characteristics of patients referred to the psychiatry unit of the emergency department at the National University of Asunción's General Hospital, Paraguay. Int J Cult Ment Health. 2016;9:233-8. https://doi.org/10.1080/17542863.2016.1197290
20. Muñoz Navarro SR. How many subjects do I need to power my study? Medwave. 2014;14:e5995. https://doi.org/10.5867/medwave.2014.06.5995 PMid:25354214
21. Gosling SD, Vazire S, Srivastava S, John OP. Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. Am Psychol. 2004;59:93-104. https://doi.org/10.1037/0003-066X.59.2.93 PMid:14992636
22. Haselgruber A, Sölva K, Lueger-Schuster B. Validation of ICD-11 PTSD and complex PTSD in foster children using the international trauma questionnaire. Acta Psychiatr Scand. 2020;141:60-73. https://doi.org/10.1111/acps.13100 PMid:31536646 PMCid:PMC6973040
23. Bobes J, Calcedo-Barba A, García M, et al. [Evaluation of the psychometric properties of the Spanish version of 5 questionnaires for the evaluation of post-traumatic stress syndrome]. Actas Esp Psiquiatr. 2000;28:207-18.
24. Hyland P, Karatzias T, Shevlin M, et al. Does requiring trauma exposure affect rates of ICD-11 PTSD and complex PTSD? Implications for DSM-5. Psychol Trauma Theory Res Pract Policy. 2021;13:133-41. https://doi.org/10.1037/tra0000908 PMid:32915045
25. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. Spine. 2000;25:3186-91. https://doi.org/10.1097/00007632-200012150-00014 PMid:11124735
26. Love J, Selker R, Marsman M, et al. JASP: Graphical statistical software for common statistical designs. J Stat Softw. 2019;88:1-17. https://doi.org/10.18637/jss.v088.i02
27. Schermelleh-Engel K, Moosbrugger H, Müller H. Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit Measures. Methods Psychol Res. Germany: Institute for Science Education. 2003;8:23-74.
28. Taber KS. The use of Cronbach's alpha when developing and reporting research instruments in science education. Res Sci Educ. 2018;48:1273-96. https://doi.org/10.1007/s11165-016-9602-2
29. Cohen J. Statistical power analysis for the behavioral sciences. Burlington: Elsevier Science; 2013. https://doi.org/10.4324/9780203771587
30. Nunnally JC, Bernstein IH. Psychometric theory. New York, NY: McGraw-Hill; 1994.
31. Christiansen DM, Berke ET. Gender- and sex-based contributors to sex differences in PTSD. Curr Psychiatry Rep. 2020;22:19. https://doi.org/10.1007/s11920-020-1140-y PMid:32125541
32. Kornfield SL, Hantsoo L, Epperson CN. What does sex have to do with It? The role of sex as a biological variable in the development of posttraumatic stress disorder. Curr Psychiatry Rep. 2018;20:39. https://doi.org/10.1007/s11920-018-0907-x PMid:29777319 PMCid:PMC6354938
33. Lilly MM, Ph.D. NPole, Best SR, Metzler T, Marmar CR. Gender and PTSD: What can we learn from female police officers? J Anxiety Disord. 2009;23:767-74. https://doi.org/10.1016/j.janxdis.2009.02.015 PMid:19345556 PMCid:PMC2693310
34. Auxéméry Y. Posttraumatic stress disorder (PTSD) as a consequence of the interaction between an individual genetic susceptibility, a traumatogenic event and a social context. L'Encephale. 2012;38:373-80. https://doi.org/10.1016/j.encep.2011.12.003 PMid:23062450
35. Erickson LD, Hedges DW, Call VRA, Bair B. Prevalence of and factors associated with subclinical posttraumatic stress symptoms and PTSD in urban and rural areas of Montana: a cross-sectional study. J Rural Health Off J Am Rural Health Assoc Natl Rural Health Care Assoc. 2013;29:403-12. https://doi.org/10.1111/jrh.12017 PMid:24088214
36. Boscarino JJ, Figley CR, Adams RE, Urosevich TG, Kirchner HL, Boscarino JA. Mental health status in veterans residing in rural versus non-rural areas: Results from the veterans' health study. Mil Med Res. 2020;7:44. https://doi.org/10.1186/s40779-020-00272-6 PMid:32951600 PMCid:PMC7504679
37. Young LB, Timko C, Tyler KA, Grant KM. Trauma in veterans with substance use disorder: Similar treatment need among urban and rural residents. J Rural Health. 2017;33:314-22. https://doi.org/10.1111/jrh.12199 PMid:27504603

38. Mueller L, Wolfe WR, Neylan TC, et al. Positive impact of IPS supported employment on PTSD-related occupational-psychosocial functional outcomes: Results from a VA randomized-controlled trial. Psychiatr Rehabil J. 2019;42:246-56. https://doi.org/10.1037/prj0000345 PMid:30932508 PMCid:PMC6991705
39. Davis LL, Leon AC, Toscano R, et al. A randomized controlled trial of supported employment among veterans with posttraumatic stress disorder. Psychiatr Serv Wash DC. 2012;63:464-70. https://doi.org/10.1176/appi.ps.201100340 PMid:22307881
40. Davis LL, Kyriakides TC, Suris AM, et al. Effect of evidence-based supported employment vs transitional work on achieving steady work among veterans with posttraumatic stress disorder: A randomized clinical trial. JAMA Psychiatry. 2018;75:316-24. https://doi.org/10.1001/jamapsychiatry.2017.4472 PMid:29490371 PMCid:PMC5875356
41. Simske NM, Joseph NM, Rascoe A, et al. "Did you think you would die?": Fear of death and its relationship to the development of posttraumatic stress disorder after traumatic injury. J Am Acad Orthop Surg. 2022;30:e272-8. https://doi.org/10.5435/JAAOS-D-20-01438 PMid:34669650
42. Ahrenholtz R, Hiser J, Ross MC, et al. Unique neurocircuitry activation profiles during fear conditioning and extinction among women with posttraumatic stress disorder. J Psychiatr Res. 2021;141:257-66. https://doi.org/10.1016/j.jpsychires.2021.07.007 PMid:34260994
43. Massazza A, Joffe H, Brewin CR. Intrusive memories following disaster: Relationship with peritraumatic responses and later affect. J Abnorm Psychol. 2021;130:727-35. https://doi.org/10.1037/abn0000694 PMid:34435809
44. Kermarrec S, Mougli K. [Temporality and trauma: Towards an articulation between the judicial, educational and psychological times in repeat teenage offenders]. L'Encephale. 2015;41:S45-49.
45. Chilcoat HD, Breslau N. Investigations of causal pathways between PTSD and drug use disorders. Addict Behav. 1998;23:827-40. https://doi.org/10.1016/S0306-4603(98)00069-0