

Spanish Validation of the Interpersonal Needs Questionnaire and the Acquired Capability for Suicide Scale Among Mexican University Students



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ABSTRACT

Introduction: the rate of death by suicide has increased in Mexico, representing a significant public health problem. To prevent and treat this phenomenon, it is crucial to identify reliable suicide risk factors among Mexicans. The Interpersonal Theory of Suicide has demonstrated empirical support for the role of thwarted belongingness, perceived burdensomeness, and acquired capability in the development of suicidal desire and behaviors. The measure of the theory's constructs—the Interpersonal Needs Questionnaire (INQ) and the Acquired Capability for Suicide Scale (ACSS)—has also shown good psychometric qualities.

Objective: translate, culturally adapt and validate these instruments. **Method:** 495 university students from Mexico City participated in two independent samples ($n = 239$; $n = 256$). For the INQ, the available version in Spanish was used. For the ACSS, the most current version in English was used. Based on the results from the first sample, items were modified, eliminated, or added for the second sample. **Results:** the INQ demonstrated good fit (RMSEA = .054, TLI = .97, IFI = .97, NFI = .95) with an internal consistency of .77 and .87 for thwarted belongingness and perceived burdensomeness, respectively. The ACSS obtained similar results (RMSEA = .011, CFI = .99, TLI = .99, IFI = .99, NFI = .91); the internal consistency was .77. **Discussion and conclusions:** the Spanish version of the instruments display good psychometric properties and can be used to measure the constructs of the interpersonal theory of suicide. However, further replication is needed to support generalizability in other Spanish-speaking populations.

Keywords: Interpersonal Theory of Suicide, Interpersonal Needs Questionnaire, Acquired Capability for Suicide Scale, suicide, Mexico.

RESUMEN

Introducción: la tasa de suicidios ha aumentado en México, esto representa un problema de salud pública. Para prevenir y tratar este fenómeno es crucial identificar predictores confiables del suicidio en mexicanos. La teoría interpersonal del suicidio ha demostrado sustento empírico acerca del papel de la pertenencia fallida, el percibirse como una carga y la capacidad adquirida en el desarrollo del deseo y conducta suicida. Los instrumentos que miden estos constructos—Cuestionario de Necesidades Interpersonales (INQ, por sus siglas en inglés) y Escala de Capacidad Adquirida para el Suicidio (ACSS, por sus siglas en inglés)—han mostrado buenas cualidades psicométricas.

Objetivo: traducir, adaptar culturalmente y validar estos instrumentos. **Método:** 495 estudiantes universitarios de la Ciudad de México participaron en dos muestras independientes ($n = 239$; $n = 256$). Para el INQ se usó la versión disponible en español. Para la ACSS, se usó la versión más actualizada en inglés. Según los resultados de la primera aplicación, se modificó la redacción de algunos ítems, se eliminaron otros y se agregaron nuevos para la segunda aplicación. **Resultados:** el INQ alcanzó índices de buen ajuste (RMSEA = .054, TLI = .97, IFI = .97, NFI = .95) con consistencia interna de .77 y .87 para pertenencia fallida y percibirse como carga, respectivamente. La ACSS obtuvo resultados similares (RMSEA = .011, CFI = .99, TLI = .99, IFI = .99, NFI = .91); la consistencia interna fue .77. **Discusión y conclusiones:** las versiones en español de los instrumentos mostraron buenas propiedades psicométricas y pueden usarse para medir los constructos de la Teoría Interpersonal del Suicidio. Sin embargo, se requiere replicar el estudio para apoyar la generalización a otras poblaciones de habla hispana.

Palabras clave: Teoría Interpersonal del Suicidio, Cuestionario de Necesidades Interpersonales, Escala de Capacidad Adquirida para el Suicidio, suicidio, México.

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INTRODUCTION

The World Health Organization (WHO) estimates that every year 800,000 people die by suicide worldwide, representing an overall annual rate of 11.4 suicides per 100,000 inhabitants, approximately one person every 40 seconds (WHO, 2014). In Mexico, 7,896 people died by suicide in 2020, representing almost one percent of the total deaths reported that year. Of these, 6,452 were men, 1,436 women and eight people were not specified. Among those between 15 to 39 years of age were 4,883 cases, approximately 62% of the deaths (Instituto Nacional de Estadística y Geografía [INEGI], 2022).

The suicide rate in Mexico has been increasing problematically in the last five decades. Suicide rates tripled from 1970 (1.13 suicides per 100,000 inhabitants) to 2007 (4.12 per 100,000 inhabitants; Borges et al., 2010). In 2017, 5.20 suicides per 100,000 inhabitants were reported (INEGI, 2019). As such, suicide in Mexico is a growing public health problem.

The Comprehensive Mental Health Action Plan 2013-2030 (WHO, 2021) set a global target of reducing suicide rates by one-third by 2030. To do so, prevention strategies are suggested for which early detection is crucial. As such, it is necessary to measure reliable predictors of suicidal thoughts and behaviors. Multiple risk factors for suicidal thoughts and behaviors have been identified in the literature (O'Connor & Nock, 2014). Likewise, there are several psychological theories that have tried to explain the phenomenon of suicide and causal mechanisms (Barzilay & Apter, 2014). The Interpersonal Theory of Suicide (ITS; Joiner, 2005) is a prominent theory with empirical support worldwide (Chu et al., 2017).

This theory proposes that suicidal desire develops when an individual simultaneously experiences high levels of thwarted belongingness (i.e., loneliness, lack of reciprocal care) and perceived burdensomeness (i.e., perceived liability to others, self-hate), and perceives these states to be stable and unchanging. However, the theory also proposes that suicidal desire is not sufficient for a suicide; high levels of acquired capability for suicide (i.e., elevated pain tolerance and fearlessness of death) are also necessary (Joiner, 2005; Van Orden et al., 2010). The ITS has demonstrated empirical support through different populations, cultures, and age ranges. The results are consistent: thwarted belongingness and perceived burdensomeness have been identified as reliable predictors of suicide ideation and, in the presence of the acquired capability for suicide, are associated with suicide attempts (Chu et al., 2017; Hill & Pettit, 2013; Tucker & Wingate, 2014).

The bulk of the research on ITS has been carried out with the Interpersonal Needs Questionnaire (INQ; Van Orden et al., 2012) and the Acquired Capability for

Suicide Scale (ACSS; Van Orden et al., 2008). However, the translation and adaptation of these instruments in the Mexican population is limited, as only a Spanish version of the Interpersonal Needs Questionnaire has been initially validated in various Spanish-speaking samples, including a Mexican sample of mostly male adult psychiatric inpatients (Silva et al., 2018).

As such, the objective of this study was to translate, culturally adapt and validate the Interpersonal Needs Questionnaire and the Acquired Capability for Suicide Scale in Mexican population.

STUDY I

METHOD

Participants

We worked with university students, since most of them are in the age range in which more suicides occur (15 to 39 years). Participants were 239 undergraduate students from the psychology department of two private universities ($n = 201$ and $n = 28$) in Mexico City. The age range was 18 to 29 years ($M = 21.64$ years, $SD = 2.42$). A majority (73%) were women ($n = 175$) and 27% were men ($n = 64$). Almost all (97%) of the participants were single ($n = 232$).

Measures

Interpersonal Needs Questionnaire

The INQ contains 15 items—six measuring perceived burdensomeness ($\alpha = .85$) and nine measuring thwarted belongingness ($\alpha = .88$; Anestis et al., 2016). Items are rated on a seven-point Likert scale. This measure was translated into Spanish and it displayed acceptable fit in a Mexican clinical sample after elimination of 5 items: $RMSA = .059$, $CFI = .93$, $TLI = .91$ (Silva et al., 2018). According to the work referenced, it is recommended that the Spanish translation of the scale undergo further development (translation changes, addition of new items, etc.).

Acquired Capability for Suicide Scale

The ACSS contains 20 items measuring self-reported pain tolerance and fearlessness of death ($\alpha = .84$). Items are rated on a five-point Likert scale (Anestis et al., 2016). There is no validated Spanish translation or psychometric data in a Mexican population.

Procedure

The translation and cultural adaptation of the measures were carried out based on the guidelines proposed by Ra-

mada-Rodilla, Serra-Pujadas & Delclós-Clanchet (2013). For the Spanish INQ (Silva et al., 2018), formatting aspects were modified, the term “yo” (meaning “I”) was eliminated in item 13 (“*Siento que hay gente a la que yo puedo acudir en tiempos de necesidad*” [“*I feel that there are people I can turn to in times of need*”]), also an item measuring thwarted belongingness was added (“*Me siento conectado(a) a otras personas*” [“*I feel connected to other people*”). As such, a questionnaire of 16 items remained, slightly different than the 15-item version used by Silva et al. (2018).

For the ACSS, we translated and adapted the most current version available in English (Van Orden et al., 2008). The translation into Spanish was done independently by two Mexican psychologists, who compared versions and came to a consensus for a final draft. Then, the back-translation into English was carried out for a third bilingual American psychologist. In this version, four items were modified, leaving a scale of 20 items.

These versions of the INQ and ACSS were applied in person with pencil and paper. Students were approached in classrooms with the permission of the Head of the Psychology Department, the classroom professor and the students themselves, who signed the informed consent. The application lasted approximately 30 minutes per group. The instructions were the same for each work classroom.

This study was approved by the Ethics Committee of the Master and Doctoral Programs in Psychology (Universidad Nacional Autónoma de México). Furthermore, it was regulated by the Reglamento de la ley general de salud en materia de investigación para la salud (Diario Oficial de la Federación, 2014), which guarantees confidentiality for participants. Likewise, it was clarified that participants could leave the study at any time without consequences.

Data Analytic Plan

An Exploratory Factor Analysis (EFA) was carried out to examine the factor structure of the instruments. Subsequently, a Confirmatory Factor Analysis (CFA) was performed to obtain the fit indices of the instruments. Finally, the internal consistency of the measures was analyzed using Cronbach’s alpha.

RESULTS

In the EFA of the INQ, two items were eliminated based on their low factor loading. In the CFA, two other items were discarded due to the level of error they represented. This resulted in an instrument of 12 items grouped into two factors (perceived burdensomeness and thwarted belongingness) of six items each. With this factor structure, the instrument displayed two good fit indices (CFI =

.95 and IFI = .95) and three of acceptable fit (RMSEA = .077, TLI = .94, GFI = .92; Kline, 2011). Since the two factors that make up the instrument have been proposed as independent subscales (Silva et al., 2018), an internal consistency analysis was conducted for each factor. The alpha for perceived burdensomeness was .90 and .86 for thwarted belongingness.

In the EFA of the ACSS, eight items were discarded, due to zero or low factorial load. In the CFA, three more items were withdrawn. This resulted in an instrument with nine items grouped into two factors, four items for fear of dying and five for pain tolerance. The instrument with nine items displayed poor (CFI = .89, TLI = .85 and IFI = .89) and up to an acceptable fit (RMSEA = .079, GFI = .94; Kline, 2011). The internal consistency of the instrument was .70.

DISCUSSION

Based on the results described above, further work on the translation and adaptation of the scales was conducted to improve their psychometric qualities. This was in particular the case for the ACSS, given the low internal consistency and poor fit indices indicated by the CFA. In addition, analysis of the items and the way in which the scale was constructed (Ribeiro et al., 2014) indicated that the scales’ congruence with the theory could be further improved (i.e., capturing both fearlessness of death and elevated pain tolerance).

STUDY 2

METHOD

Participants

We worked with university students because most of them are in the age range in which more suicides occur (15 to 39 years). Participants were 256 university students from the Psychology Department of a private university in Mexico City. The age range was from 17 to 29 years ($M = 21.95$ years, $SD = 2.68$). 76% were women ($n = 194$) and 24% men ($n = 62$). Almost all (97%) of the participants were single ($n = 249$).

Measures

The resulting 12-item version of the INQ and the adapted 20-item version of the ACSS from Study 1 were used.

Procedures

No changes were made to the 12-item INQ developed in Study 1. For the 20-item ACSS, eight items were eliminat-

ed due to low theoretical correspondence with the two proposed dimensions (fear of death and pain tolerance). The wording of nine other items was further modified and negatively worded items were modified to be positively worded (“*No me inquieta...*” [I am not disturbed...] to “*Estoy tranquilo...*” [I am calm...]). In addition, eight new items were added to increase the number of items for each factor. Only four items from the first version in Spanish remained the same. As such, a new version of 21 items was applied, grouped into two factors (i.e., fear of dying and pain tolerance).

A face-to-face application was made with pencil and paper. Students were approached in their classrooms, with their authorization (by signing the informed consent) and that of the corresponding administrators. The instructions were the same for each work group. The application time was approximately 30 minutes for each classroom.

This study was approved by the Ethics Committee of the Master and Doctoral Program in Psychology (Universidad Nacional Autónoma de México). Furthermore, it was governed by the Reglamento de la ley general de salud en materia de investigación para la salud (Diario Oficial de la Federación, 2014), which guarantees confidentiality for participants. Likewise, it was clarified that participants could leave the study at any time without any consequences.

Data Analytic Plan

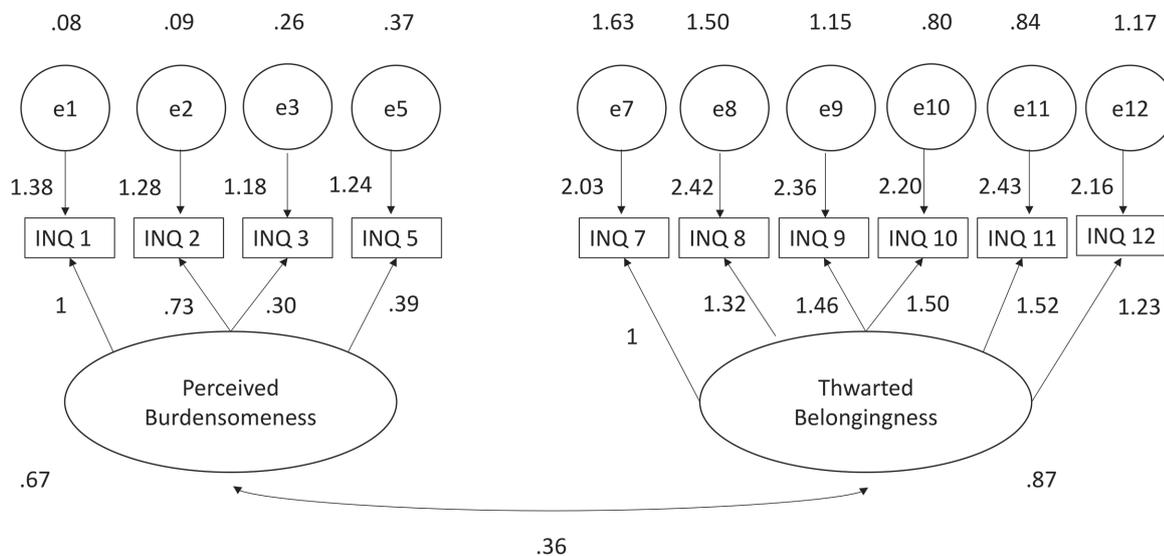
EFA and CFA were conducted, and internal consistency was examined using Cronbach’s alpha.

RESULTS

The EFA of the INQ demonstrated a two-factor structure of six items each. Accordingly, in this procedure, the scale remained the same. The CFA suggested discarding two items, resulting in a 10-item instrument, four measuring perceived burdensomeness and six measuring thwarted belongingness. The 10-item version explained 61% of the variance and displayed a good fit: RMSEA = .054, CFI = .97, TLI = .97, IFI = .97, NFI = .95, $\chi^2 = 59.21$ $gl = 34$, $p = .005$. The internal consistency for perceived burdensomeness was .77 and .87 for thwarted belongingness. The final Spanish 10-item version of the INQ is shown in Figure 1.

The EFA of the ACSS suggested eliminating four items. Three more items were removed following the CFA. As such, a 14-item version of the ACSS with four factors was formed: four items measured fear of death—positively worded (“*Las personas me describen como alguien sin miedo a morir*” [People describe me as fearless about dying]), three items measured fear of death—negatively worded (“*La posibilidad de mi propia muerte me causa ansiedad*” [The prospect of my own death causes anxiety in me]), three items measured pain tolerance—positively worded (“*Puedo tolerar mucho más dolor que la mayoría de la gente*” [I can tolerate a lot more pain than most people]), and four items measured pain tolerance—negatively worded (“*Evito hacer cosas [por ejemplo, un deporte] pues el dolor de las lesiones es insoportable*” [I avoid doing things (for example, playing sports) because the pain from injuries is unbearable]).

Figure 1
Final solution for the INQ.



With this factor structure the scale explained 58% of the variance. The indices suggested good fit: RMSEA = .011, CFI = .99, TLI = .99, IFI = .99, NFI = .91, $\chi^2 = 86.75$ $gl = 84$, $p = .397$. The 14-item version of the ACSS obtained an internal consistency of .77. The final Spanish 14-item version of the ACSS is shown in Figure 2.

DISCUSSION

The results indicate good psychometric properties for the Spanish versions of the INQ (10-item) and ACSS (14-item) in a Mexican university population to measure the constructs from the interpersonal theory. However, it is prudent to consider that the psychometric qualities of the instruments could still be improved. In addition, it is necessary to measure the psychometric characteristics in different populations. We suggest the employment of the instruments to measure the constructs proposed by the interpersonal theory among Spanish-speaking university students.

For the INQ, our results are consistent with those obtained in other studies (Silva et al., 2018). Regarding the ACSS, several studies have used a short version that only measures fearlessness about death (ACSS-FAD; Ribeiro et al., 2014). The results obtained generated a ver-

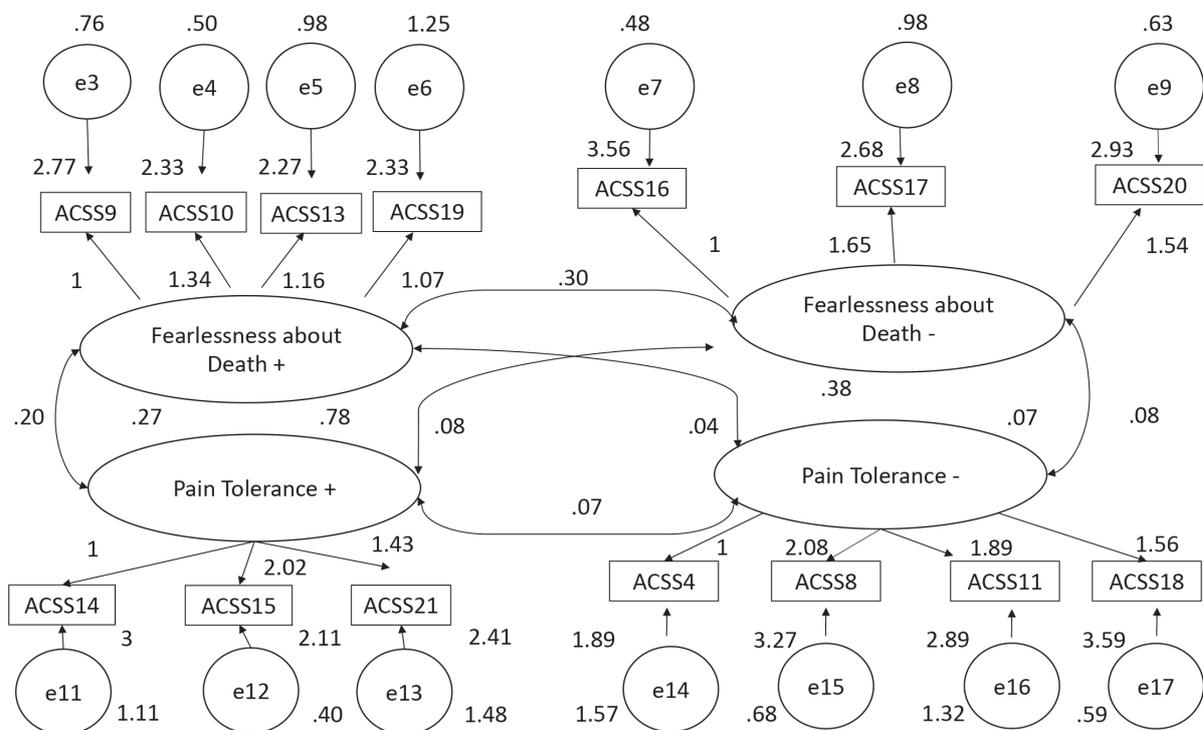
sion that incorporates both dimensions of the acquired capability for suicide (fearlessness about death and tolerance for physical pain).

It is important to consider, however, the limitations of this study. It is pertinent to regard that the psychometric qualities obtained correspond to samples in which 75% are single women between the ages of 17 and 29 years. For that reason, it is suggested to use the instrument in samples with similar characteristics. Therefore, it is important to measure the instrument's psychometric characteristics in other populations in order to establish whether or not they are consistent. Otherwise, future studies must determine the size of the sample before the investigation and obtain criterion validity.

CONCLUSIONS

The Spanish versions of the INQ (10-item) and ACSS (14-item) reached good psychometric properties in a Mexican university population; however, the psychometric qualities of the instruments could still be improved. It is necessary to measure the psychometric characteristics in different populations in order to contribute to the result generalization.

Figure 2
Final solution for the ACSS.



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DISCLOSURE STATEMENT

The authors declare that there is no conflict of interest.

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