Original Research

Journal of Interpersonal Violence
1–26

DOI: 10.1177/0886260520943729
journals.sagepub.com/home/jiv
SAGE

Past Child Abuse and Neglect in Adults From Northern Mexico: Development of a Scale and Prevalence

Oscar Armando Esparza-Del Villar,[1] Priscila Montañez-Alvarado,[1] Marisela Gutiérrez-Vega,[1] Salvador Quiñones-Rodríguez,[1] and Teresa Gutiérrez-Rosado[2]

Abstract

Child abuse has been present in Mexico but there have been few studies that analyze its effects in adults. There are no Mexican validated scales that measure the relationship between abuse experienced in childhood and its effects into adulthood. The purpose of this study is to develop a past child abuse and neglect scale to measure these phenomena in adults and also to analyze the relationship the effects have with other psychological variables (e.g., anxiety, depression, self-esteem, partner-violence, personality, and fatalism). There were 763 participants from Juarez City, located on the northern border of Mexico. All participants were above the age of 18 years. The scale was developed, and its psychometric properties were analyzed. A first analysis consisted of analyzing the factor structure of the scale items with an Exploratory Factor Analysis (EFA), and then a Confirmatory Factor Analysis (CFA) was used to corroborate the factor structure. The resulting

[1]Universidad Autónoma de Ciudad Juárez, México
[2]Universitat Autònoma de Barcelona, Spain

Corresponding Author:
Oscar Armando Esparza-Del Villar, Universidad Autónoma de Ciudad Juárez, Av. Universidad Av. Heroico Colegio Militar, Chamizal, Ciudad Juárez 32300, Chihuahua, México.
Email: oesparza@uacj.mx

factors were guilt, relationship with parents, strong physical abuse, sexual abuse, mild physical and verbal abuse, and basic care. The internal reliabilities for all factors in both analyses were between Cronbach's alpha values of .77 and .92. Correlations of these factors with psychological variables were analyzed, and several statistically significant correlations were found. The scale has a good factor structure that correctly reflects the indicators of child abuse and neglect with good internal reliability values. The analysis showed that the prevalence rates of child abuse and neglect in Juarez were higher than those reported by the World Health Organization (WHO) in other locations worldwide. Actions by governments, universities, and civil associations should take place to reduce these rates, especially because of their long-term physical, emotional, and psychological consequences.

Keywords
sexual abuse, physical abuse, verbal abuse, factor analysis

The purpose of this study was to develop and validate a scale that measures experiences and effects of past child abuse and neglect in an adult population on the northern border of Mexico—an area that has experienced an increase in social violence since 2008. The study also analyzed the prevalence of past child abuse and neglect (CAN) in adults from Northern Mexico.

Measuring past CAN in adults is important because it has been shown that adults who report having experienced abuse and neglect in childhood tend to have a greater risk for drug abuse, alcohol abuse, depression, suicide attempts, obesity, high risky sexual behaviors, and unintended pregnancies, as well as physical problems such as an increased probability of developing cancer, heart disease, chronic lung disease, and even death (e.g., Archer et al., 2017; Díaz-Olavarrieta et al., 2001; Felitti et al., 1998; Norman et al., 2012; World Health Organization, 2017), and these risks increased with experiences of multiple types of maltreatment (Archer et al., 2017).

Child Abuse and Neglect Statistics

The World Health Organization (WHO, 2017) reports that one in four adults was physically abused as children. According to this report (WHO, 2017), individuals between the ages of 18 and 24, when asked if they had experienced abuse and neglect before they were 18, reported the following: 23% reported physical abuse, 36% reported emotional abuse, 16% reported physical neglect, and 18% of girls and 8% of boys reported sexual abuse. In a study

with a Mexican sample of 1,150 adults, 10.7% reported physical abuse during childhood, and 5% reported sexual abuse (Díaz-Olavarrieta et al., 2001). Rates in Mexico were lower than the rates in the rest of the world.

CAN are an enormous problem in Mexico. A recent study from the Senate of the Mexican Republic (2019) reported that among the 33 nations that are part of the Organisation for Economic Co-Operation and Development (OECD), Mexico ranks highest in physical violence, sexual abuse, and homicides committed against children 14 years or younger. According to the United Nations Children's Fund (UNICEF, 2019a), there are 39.2 million children and adolescents ages 17 years or younger in Mexico; and 63%, between the ages of 1 and 14, who have reportedly suffered some type of violence. In the same group, six out of 10 children suffered from violent disciplinary methods at home (UNICEF, 2019a). The methods used to discipline children include psychological aggression, and physical punishments like beatings or being hit with objects (UNICEF, 2019b). In children and adolescents between the ages of 10 and 17, eight out of 10 incidents of aggression occurred either at school, on the streets, or at home (UNICEF, 2019a). In terms of homicide rates involving children in Mexico, 10,547 deaths were reported between 2010 and 2017 (UNICEF, 2019a). In children ages 5 years or under, 5.1% did not receive adequate care because they either stayed home by themselves or were under the care of other children who were age 10 or younger (UNICEF, 2019b). CAN in Mexico needs to be addressed by health professionals by not only identifying those adults who are still affected by it, but also by actions focused on prevention—detecting and identifying children at risk, and providing them the necessary care to be safe.

Child Abuse and Neglect

The framework to be used for the construction of the CAN scale will be the one proposed by the American Psychological Association (APA, n.d.), which uses the Child Abuse and Prevention Treatment Act to define CAN as,

> Any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm.

Child abuse is divided into four categories that include physical abuse, sexual abuse, psychological abuse, and neglect (Ajilian et al., 2014; WHO, 2002). Physical abuse occurs when there is an intentional use of physical force against children, such as hitting or kicking (Centers for Disease Control and Prevention [CDC], 2019). Sexual abuse occurs when children

are forced or pressured to engage in sexual acts (contact), such as fondling or penetration, or other non-contact sexual activities, such as exhibitionism or sexual invitations (Anderson et al., 1993; CDC, 2019). Both contact and non-contact sexual abuse have been shown to be related to mental health problems (e.g., reporting lower levels of health-related quality of life; Landolt et al., 2016). Emotional abuse occurs when children's emotional well-being or self-worth are harmed by behaviors such as shaming or rejection (CDC, 2019). Neglect happens when children's basic physical and emotional needs are not met, such as not having adequate food to eat or not having appropriate clothing (CDC, 2019).

Consequences of Child Abuse and Neglect

The CDC and Kaiser Permanente conducted the Adverse Childhood Experience (ACE) study with two waves of data collection (1995 and 1997) to analyze how childhood abuse and neglect related to health and well-being later in life (Felitti et al., 1998). Anda and Brown (2010) summarize the main findings of the ACE studies mentioning that CAN increase the risk of developing cardiovascular disease, cancer, and asthma; they also increase the likelihood of smoking, heavy drinking, binge drinking, obesity, marijuana use, and high perceived risk of HIV. CAN were also found to be related to sleep disturbances, frequent mental distress, anxiety, hopelessness, disruptions in work or activity due to mental health, and treatment for mental health conditions. They were also found, among other things, to result in poor health, life dissatisfaction, poor health-related quality of life, separation or divorce, and physical disability.

Measure in a City Affected by Social Violence, Juarez

Juarez, a Mexican city located on the northern border next to the United States, has been affected greatly by social violence due to a war among drug cartels. The city of Juarez is one of the places that drug cartels use to transport drugs into the United States, thus, there is a strategic importance in having control of the city. In 2008, violence in Juarez increased dramatically, making it the most violent city in the world from 2008 to 2010 because of the high rate of homicides (Quinones, 2016). After 2010, the homicide rates started to decline, but a great deal of social violence remains due to the drug cartels' activities. Some studies have analyzed the effect that social violence has had on the mental health of the people of Juarez (e.g., Quiñones et al., 2013), but there are no studies that analyze the relationship between past CAN and mental health in adults.

Developing a Child Abuse and Neglect Scale for Adults to Measure Its Prevalence

The purpose of this study is to develop and validate a CAN scale in a Mexican population, specifically among those who reside along its northern border. A CAN scale will help to evaluate the problem and to analyze its relationship with other types of violence and psychological constructs.

Method

Participants

Participants were recruited from Juarez City, located on the northern border of Mexico. There were two different convenience samples, one of them was used for the EFA, and the second sample was used for the CFA and correlations with other constructs (see Table 1). The first sample consisted of 300 participants recruited from the Autonomous University of Juarez City. It was a convenience sample, where participants were approached at different locations on the campus and were invited to voluntarily participate in the study. Participants were 83.3% females and 16.7% males, with a mean age of 21.40 (SD = 5.13) years. Regarding marital status, 79.9% were single and 18.0% were married or living with a romantic partner.

For the second convenience sample, participants were approached in different neighborhoods of the city, and were invited to participate voluntarily in the study. The neighborhoods were selected from different parts of the city but were not chosen randomly. The sample was chosen to be diverse and without any exclusion criteria except for participants being 18 years or older. There were 463 participants in the second sample with a mean age of 29.73 (SD = 12.36) years, with 53.8% females and 46.2% males. Their reported marital status was 61.5% married or living with a romantic partner and 37.6% single. The educational level of participants was reported as 8% elementary or less, 20.0% middle school, 36.3% high school, 32.1% bachelor's degree, and 3.6% master's degree.

Materials

Participants were asked about their sociodemographic information: age, gender, marital status, and educational level.

The Child Abuse and Neglect Scale (CANeS) was developed for this study. The scale was initially composed of 52 items using a 5-point Likert-type scale (*Not true, rarely true, sometimes true, often true*, and *very often*

Table 1. Demographic Information by Sample.

Demographic variables	EFA Sample	CFA Sample	t or χ^2 (p)
N	300	463	
Mean age (*SD*)	21.40 (5.13)	29.73 (12.36)	−11.08 (<.01)
Gender (%)			
Females	83.3	53.8	69.95 (<.01)
Males	16.7	46.2	
Marital status (%)			
Married/living together	18.0	61.5	141.32 (<.01)
Single	79.0	37.6	
Divorced	1.7	0.9	
Widow	0.3	0.0	
Other	1.0	0.0	
Educational level (%)			
Elementary (incomplete)	All are college students	0.4	N/A
Elementary		7.6	
Middle School		20.0	
High School		36.3	
Bachelor		32.1	
Master		3.6	

Note. EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis.

true). Participants were asked to answer according to what they had experienced as children. The factors of the scale are guilt, relationship with parents, strong physical abuse, sexual abuse, mild physical and verbal abuse, and basic care. The sexual abuse factor includes items from contact (e.g., someone touched me sexually) and non-contact (e.g., someone made me see their genitals) sexual abuse as both have been shown to be related to poorer mental health (Landolt et al., 2016). Cronbach's alpha values range from .77 to .92.

The Patient Health Questionnaire (PHQ-9; Spitzer et al., 1994) measures depression with nine items based in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association [APA], 1994). The scale has a 4-point Likert-type response format that ranges from 0 (*not at all*) to 3 (*nearly every day*). Internal reliability for the scale is good with $\alpha = .81$.

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item scale with a 6-point Likert-type response (*totally disagree* to *totally agree*). The Cronbach's alpha value for its internal reliability is .79.

The Violence Scale (Valdez-Santiago et al., 2006) measures partner-violence, and it is composed of 26 items with four response options (*never* to *many times*). The scale is composed of four factors: psychological, sexual, mild physical, and strong physical. The internal reliability for the total scale is $\alpha = .99$.

The Multidimensional Fatalism Scale (MFS; Esparza et al., 2015) is composed of 30 items with a Likert-type response format of five options (*strongly disagree* to *strongly agree*). The scale has five factors: fatalism, pessimism, internality, luck, and divine control. The internal reliability Cronbach's alpha values for the factors range from .76 to .82.

The Adult's Manifest Anxiety Scale (Reynolds et al., 2003) is a 36-item scale with "yes" and "no" response options. The scale is composed of three anxiety-related factors: restlessness, physiological anxiety, and social worries and stress. The internal reliabilities of the factors have Cronbach's alpha values that range from .71 to .91.

The Overall Personality Assessment Scale (OPERAS; Vigil-Colet et al., 2013) measures personality, and it is based on the Big-Five model of personality. It consists of 40 items with a 5-point Likert-type response format ranging from *totally disagree* to *totally agree*. The scale has five factors: extraversion, agreeableness, conscientiousness, emotional stability, openness to experience, and autonomy. This scale has good psychometric properties.

Procedure

The development of the scale was based on Muñiz and Fonseca-Pedrero's (2019) guidelines to developing a scale. The first step was to explain, in a general framework, the reason for the development of this scale, as explained earlier. The second step was to define the measured variable and base the items on the chosen definition. For the third step, specifications, the characteristics of the items and scale, such as type, number, length, content, and distribution of the items, were determined. Items were written in the fourth step based on the chosen theory and revised by experts in the field. The editing of the scale was the fifth step where the appearance of the scale, including the grammar, orthography, and presentation, were revised for the scale to look professional to participants. In the sixth step, the pilot study, the scale was administered to participants, and the content of the items was qualitatively evaluated to assess any difficulty in comprehending the words or phrases used. For the seventh step, additional measures were selected to evaluate concurrent validity to measure how this scale associates with other related constructs. The measures used were the variables with a previously demonstrated

relationship to CAN, including anxiety, depression, self-esteem, partner-violence, personality, and fatalism, as described earlier. In the eighth step, test application, the sample was defined according to the characteristics of the target population. In this study, the first sample, used for the EFA, was a convenience sample of university students. In the second sample, used in the CFA, a convenience sample from the general population was chosen to participate. The ninth step consisted of analyzing the psychometric properties of the scale. In our study, we analyzed the factor structure of the scale with an EFA within the first sample. Once the factor structure was defined, it was cross-validated with a different sample from the general population. Internal reliability indices were calculated in both samples. The CANeS was correlated with other variables to assess its concurrent validity and relationship with other constructs in the nomological net (Cronbach & Meehl, 1955). For the 10th step, the final version of the scale was used to measure the prevalence of CAN in both samples of the study. This study was submitted and approved by the ethics committee of the institution before its execution.

Results

Definition of the Measured Variable

CAN were previously defined and include the following dimensions: physical abuse, sexual abuse, psychological abuse, and neglect (APA, n.d.). The content of the items was planned to reflect these four dimensions.

Specifications

The scale was planned as a paper and pencil test because there is not enough infrastructure in Mexico to administer the scale with electronic devices. Also, the scale plan was to have few items per dimension (five), so that it could be applied concurrently with other measures and avoid participant fatigue. Items were redacted with simple and common language so that most people could understand the scale correctly. Finally, the scale was designed to have a 5-point Likert-type response, from *not at all true* to *very often true*.

Writing the Items

Based on the definition and model of CAN used in this study, items were written for each of the factors by three researchers, each of whom worked independently. Each researcher also had experience in violence research, one at the doctoral level and two as doctoral students. Although the objective for

this part of the study was to develop a brief CAN scale, the goal was to write more than five items per factor to select the best five items after the EFA. In total, 52 items were used for the first analyses of the long scale.

Editing of the Scale

The first long scale, with the 52 items, was redacted with instructions, items, and response options in a professional format. The items were proofread and double-checked to detect any grammatical or orthographical errors.

Pilot Study

The edited scale was given to a focus group of five students, ages 19 to 28 years, two men and three women, to evaluate the items of the scale qualitatively. They were asked if they understood the instructions, response options and items, and to mention any problems they saw with the scale. All participants understood the items, instructions, and response options, and they had no suggested changes.

Test Application

The target population were adult residents of Juarez, 18 or more years of age. For the EFA, university students were recruited as a convenience sample. According to MacCallum et al. (1999), the power analyses to calculate the sample size of a factor analysis should be dependent on communalities, the number of factors, and the number of items per factor. MacCallum et al. (1999) indicate that "if results show a relatively small number of factors and moderate to high communalities, then the investigator can be confident that the obtained factors represent a close match to population factors, even with moderate to small sample sizes" (p. 97). In this study, items loaded to expected factors, and communalities were acceptable. A sample of less than 300 was acceptable for the EFA. We expected this scale to be valid in all adults from Juarez, so we used the CFA to corroborate the factor structure using a new sample. The second sample, for the CFA and correlational analyses, was taken from the general population of Juarez to cross-validate the facture structure of the scale. Participants were approached in different neighborhoods of the city by university research assistants. It was a convenience sample as the neighborhoods were chosen from all areas of the city and, once they were chosen, research assistants would evaluate those who opened their doors and agreed to participate. First, people were invited to participate and were then given the informed consent statement that explained their rights.

Next, the research assistants explained the purpose of the study and answered any questions. Participation for this study was entirely voluntary, and the participants were not given any credit or incentive in exchange for their responses.

Psychometric Properties

Exploratory Factor Analysis. The first step was to perform an EFA with the 52 items of the scale, using the unweighted least squares method with a promax rotation. This led to an initial solution of nine factors, but after analyzing the factor loadings, it was decided to explore other solutions with different numbers of factors. A six-factor structure solution was the best fit for the items (see Table 2). The Kaiser-Meyer-Olkin (KMO) index was .88 and the Bartlett's sphericity test was statistically significant ($p < .01$), indicating normal distribution and adequate sample size for the EFA (Snedecor & Cochran, 1989). Items were excluded if the highest factor loading was less than .30 or if the difference between the two items with the highest factor loadings was less than .10, which meant the item had shared factor loadings.

The six-factor structure included 46 items with unique factor loadings ranging from .35 to .99 (see Table 2). Six items were excluded because of shared factor loadings (items 20, 25, 26, 27, 36, 52). The first factor explained 34.21% of the total variance of the scale, and it was composed of eight items (items 28 to 35). According to the theme of these items, this factor was named "guilt." The second factor explained 10.36% of the total variance, and it consisted of 10 items (items 38, and 43 to 51). The theme for these items was "relationship with parents." The third factor explained 7.02% of the total variance, and it included eight items (items 15 to 19, 21, 22, 39). The theme for these items was "strong physical abuse." The fourth factor explained 5.67% of the total variance, and it consisted of nine items (items 1 to 9). This factor was named "sexual abuse" according to the content of its items. The fifth factor explained 3.82% of the total variance, and it was composed of seven items (items 10 to 14, 23, 24). The theme of the items was "mild physical and verbal abuse." The sixth factor explained 3.22% of the total variance, and it consisted of four items (items 37, 40, 41, 42). The theme for these items was "basic care."

Internal reliabilities for large scale. The Cronbach's alpha index was used to calculate the internal reliabilities. The factor of "guilt" obtained an internal reliability of $\alpha = .92$; the factor of "relationship with parents," $\alpha = .92$; the factor of "strong physical abuse," $\alpha = .91$; the factor of "sexual abuse," $\alpha = .90$; the factor of "mild physical and verbal abuse," $\alpha = .87$; and the factor of "basic care," $\alpha = .78$.

Table 2. Exploratory Factor Analysis of the Child Abuse and Neglect Scale.

Item	Factor Loadings						
	F1	F2	F3	F4	F5	F6	h^2
Guilt							
28. My parents expelled me from home (Mis padres me corrieron de casa).	**0.48**	0.03	0.18	−0.13	0.23	0.04	0.55
29. In my house they controlled everything I did, invading my privacy (En mi casa controlaban todo lo que hacía, invadiendo mi privacidad).	**0.62**	0.13	0.10	−0.07	0.09	−0.15	0.56
30. My parents made me feel that I only depended on them (Mis padres me hacían sentir que solamente dependía de ellos).	**0.70**	0.06	−0.04	0.04	0.07	−0.04	0.60
31. In my house, they made me feel that I did not meet their expectations (En mi casa me hacían sentir que no cubría las expectativas de ellos).	**0.86**	0.08	−0.05	0.09	−0.06	−0.04	0.74
32. In my house, I was held responsible for everything bad that happened (En mi casa me hacían responsable de todo lo malo que pasaba).	**0.89**	−0.03	0.20	0.04	−0.10	−0.18	0.70
33. In my house, they constantly compared me with other people (En mi casa constantemente me comparaban con otras personas).	**0.85**	0.05	−0.05	0.03	−0.06	−0.02	0.68
34. My parents often got mad at me without telling me why (Mis padres se enojaban frecuentemente conmigo sin decirme por qué).	**0.83**	−0.05	0.10	−0.01	−0.10	0.04	0.61
35. When my parents argued, they indicated me as responsible for the discussion (Cuando mis padres discutían me señalaban como responsable de la discusión).	**0.60**	−0.01	0.36	−0.12	−0.02	−0.12	0.49
Relationship with parents							
38. My parents did not buy me clothes (Mis padres no me compraban ropa).	0.02	**0.45**	0.03	0.11	−0.18	0.32	0.39
43. My parents did not hug and kiss me (Mis padres no me abrazaban y besaban).	−0.02	**0.71**	−0.05	−0.02	−0.01	0.18	0.57
44. My parents did not play with me (Mis padres no jugaban conmigo).	−0.10	**0.76**	−0.07	0.11	−0.04	0.04	0.53
45. My parents did not reward my personal achievements, for example, when I did good at school or when I did something right (Mis papás no premiaban mis logros personales, por ejemplo, cuando salía bien en la escuela o cuando hacía algo bien).	0.00	**0.71**	−0.11	−0.08	0.07	0.03	0.51
46. My parents did not help me when I needed it (Mis padres no me ayudaban cuando lo necesitaba).	0.09	**0.70**	−0.01	−0.06	0.00	0.05	0.58
47. My parents showed no interest in my problems or concerns (Mis padres no mostraban interés por mis problemas o preocupaciones).	−0.10	**0.99**	0.00	−0.10	−0.03	−0.01	0.79

(continued)

Table 2. (continued)

Item		Factor Loadings						
		F1	F2	F3	F4	F5	F6	h^2
48.	My parents did not understand what I needed or wanted (Mis padres no entendían lo que necesitaba o deseaba).	0.29	**0.79**	−0.10	0.07	−0.11	−0.14	0.75
49.	My parents made me feel they did not care (Mis padres me hacían sentir que no les importaba).	0.08	**0.72**	0.07	−0.01	−0.07	−0.03	0.54
50.	My parents did not talk to me (Mis padres no hablaban conmigo).	0.16	**0.66**	−0.03	0.05	0.04	0.02	0.65
51.	My parents made me feel unprotected (Mis padres me hacían sentir desprotegido).	0.03	**0.48**	0.05	−0.04	0.30	0.07	0.56
Strong physical abuse								
15.	In my house, they tied some part of my body (En mi casa me ataban alguna parte de mi cuerpo).	−0.12	0.10	**0.55**	0.04	0.32	−0.09	0.52
16.	My parents beat me hard in the head (Mis padres me golpeaban fuertemente en la cabeza).	0.06	−0.10	**0.54**	0.06	0.30	0.04	0.54
17.	I had to go to the doctor because of the beating given to me at my house (Tuve que ir al doctor debido a golpes que me dieron en mi casa).	−0.07	−0.01	**0.84**	0.13	0.04	0.08	0.84
18.	In my house, they burned some part of my body as punishment for something I did (En mi casa me quemaron alguna parte del cuerpo como castigo por algo que hice).	0.08	−0.13	**0.82**	−0.01	0.06	0.10	0.76
19.	In my house, to punish me they used knives to beat me (En mi casa para castigarme usaban navajas o cuchillos para golpearme).	−0.10	0.01	**0.90**	0.10	−0.06	0.13	0.88
21.	My parents forced me to work to bring money to my home (Mis padres me obligaban a trabajar para traer dinero a casa).	0.27	−0.02	**0.62**	0.00	−0.05	0.11	0.56
22.	My parents forced me to drink alcohol (Mis padres me obligaron a tomar alcohol).	0.05	0.03	**0.75**	0.06	−0.17	0.20	0.67
39.	My parents left me without eating when they got mad at me (Mis padres me dejaban sin comer cuando se enojaban conmigo).	0.25	−0.17	**0.56**	−0.10	−0.02	0.28	0.49
Sexual abuse								
1.	Someone touched me sexually (Alguien me tocó sexualmente).	0.05	−0.04	−0.04	**0.82**	0.02	−0.04	0.64
2.	Someone made me touch him/her sexually (Alguien me hizo que lo tocara sexualmente).	−0.05	−0.01	0.10	**0.87**	−0.05	−0.13	0.75
3.	Someone made me do a sexual act, for example, sexual intercourse or oral sex (Alguien me hizo tener algún acto sexual, por ejemplo relación sexual o sexo oral).	−0.11	0.10	0.15	**0.72**	0.12	−0.12	0.69
4.	Someone made me see sexual things, for example, magazines or videos (Alguien me hizo ver cosas sexuales, por ejemplo revistas o videos).	−0.02	0.01	0.17	**0.35**	0.07	0.14	0.28

(continued)

Table 2. (continued)

Item	Factor Loadings						h^2
	F1	F2	F3	F4	F5	F6	
5. Someone made sexual comments that bothered me (Alguien me hacía comentarios sexuales que me incomodaban).	0.02	0.03	−0.09	**0.60**	0.07	0.08	0.42
6. Someone bothered me sexually (Alguien me molestó sexualmente).	0.19	−0.10	−0.14	**0.69**	0.03	0.02	0.48
8. Someone made me show my genitals (Alguien me hizo mostrar mis genitales).	−0.04	0.00	0.18	**0.76**	−0.14	0.01	0.63
9. Someone made me see their genitals (Alguien me hizo ver sus genitales).	−0.01	−0.06	0.20	**0.73**	−0.04	−0.02	0.62
Mild physical and verbal abuse							
10. In my house they beat me hard, for example, with a clenched fist (En mi casa me golpeaban fuerte como por ejemplo con el puño cerrado).	−0.11	0.23	0.25	0.04	**0.52**	−0.14	0.52
11. In my house they beat me moderately, such as spanking or slapping (En mi casa me pegaban moderadamente como por ejemplo con nalgadas o cachetadas).	0.10	−0.14	0.04	0.01	**0.59**	−0.12	0.34
12. The blows they gave me at home left me marks like bruises or scars (Los golpes que me daban en la casa me dejaban marcas como moretones o cicatrices).	−0.08	0.07	0.18	−0.10	**0.84**	−0.13	0.71
13. In my house, they beat me with objects like belts or boards (En mi casa me pegaban con objetos como cintos o tablas).	−0.02	−0.10	−0.01	0.00	**0.83**	0.04	0.60
14. My family physically abused me (Mi familia abusaba de mí físicamente).	−0.13	0.06	0.36	−0.05	**0.71**	−0.15	0.64
23. Someone in my family humiliated me with words such as dumb or useless (Alguien de mi familia me humillaba con palabras como por ejemplo tonto o no sirves para nada).	0.17	0.02	−0.21	0.10	**0.65**	0.17	0.70
24. In my house, they told me hurtful things (En mi casa me decían cosas hirientes).	0.31	0.00	−0.22	0.09	**0.61**	0.16	0.78
Basic care							
37. My parents did not buy food for the house (Mis padres no compraban comida para la casa).	−0.05	0.22	0.05	0.02	−0.05	**0.44**	0.29
40. I did not have a private place to clean myself in my house (En mi casa no tenía un lugar privado para asearme).	0.08	−0.14	0.24	0.04	−0.07	**0.62**	0.48
41. In my house, I did not have a clean place to eat (En mi casa no tenía un lugar limpio para comer).	−0.15	0.08	0.22	−0.09	−0.02	**0.84**	0.77
42. In my house I did not have a clean place to sleep (En mi casa no tenía un lugar limpio para dormir).	−0.14	0.13	0.17	−0.06	0.01	**0.78**	0.69
Excluded items							
7. I did not feel safe at home when I slept (En mi casa no me sentía seguro cuando dormía).	−0.03	0.33	0.12	0.31	0.07	0.04	0.41

(continued)

Table 2. (continued)

Item		Factor Loadings						
		F1	F2	F3	F4	F5	F6	h^2
20.	My parents hit me hard in the face (Mis padres me pegaban fuertemente en la cara).	0.15	−0.02	0.43	−0.03	0.51	−0.09	0.69
25.	In my house, they told me things that offended me (En mi casa me decían cosas que me ofendían).	0.41	−0.07	−0.18	0.04	0.47	0.21	0.68
26.	In my house, they always yelled at me even when I behaved well (En mi casa siempre me gritaban aún cuando me portaba bien).	0.35	0.03	0.02	−0.06	0.43	0.07	0.58
27.	In my house, they made me feel bad about myself (En mi casa me hacían sentirme mal conmigo mismo).	0.40	0.05	−0.19	0.10	0.42	0.11	0.68
36.	My parents did not take care of me (Mis padres no cuidaban de mí).	0.31	0.35	0.35	−0.13	−0.07	−0.09	0.42

Note. Highest loadings are in bold; h^2 = communalities; the items were developed and applied in Spanish, and were only translated to English for this table.

Confirmatory Factor Analysis. The best five items per factor were selected, except for the "basic care" factor, which only had four items, according to the highest factor loadings and the content of the items. The items selected for each factor are shown in Table 3. To cross-validate the six-factor structure of the scale, a CFA was used with the 29 chosen items. To calculate the model using a structural equation model, the variance of an item per factor had to be constrained to one (Byrne, 2009). To evaluate the model fit of the CFA, the following cutoff points per index were used to describe a good model fit (Hu & Bentler, 1999): Goodness of Fit (GFI) $\geq$ 0.90, Normed Fit Index (NFI) $\geq$ 0.90, Comparative Fit Index (CFI) $\geq$ 0.90, Root Mean Square Error of Approximation (RMSEA) $\leq$ .06, and Standardized Root Mean Square Residual (SRMR) $\leq$ .08. The resulting indices were: GFI = 0.90, NFI = 0.90, CFI = 0.95, RMSEA = .05, and SRMR = .06 and $\chi^2(357) = 753.56$ ($p < .01$). All fit indices were acceptable except for the χ^2. In our analysis, the χ^2 value was statistically significant, indicating a poor model fit, but it is important to note that this index is sensitive to large sample sizes, and it is almost always expected to be statistically significant even if the model shows a good fit (Cheung & Rensvold, 2002). Factor loadings for the items are reported in Table 3.

Internal reliabilities for short scale. The internal reliabilities for each of the factors were "guilt," $\alpha = .85$; "relationship with parents," $\alpha = .87$; "strong physical abuse," $\alpha = .77$; "sexual abuse," $\alpha = .91$; "mild physical and verbal abuse," $\alpha = .83$; and "basic care," $\alpha = .82$.

Table 3. Confirmatory Factor Analysis of the Child Abuse and Neglect Scale.

	Factor Loadings					
Item	F1	F2	F3	F4	F5	F6
Guilt						
Item 30	0.64					
Item 31	0.73					
Item 32	0.75					
Item 33	0.81					
Item 34	0.72					
Relationship with parents						
Item 43		0.69				
Item 44		0.71				
Item 47		0.50				
Item 48		0.85				
Item 49		0.76				
Strong physical abuse						
Item 15			0.47			
Item 16			0.37			
Item 17			0.88			
Item 18			0.83			
Item 19			0.51			
Sexual abuse						
Item 1				0.78		
Item 2				0.89		
Item 3				0.73		
Item 8				0.83		
Item 9				0.85		
Item 12					0.55	
Item 13					0.46	
Item 14					0.55	
Item 23					0.89	
Item 24					0.90	
Basic care						
Item 37						0.70
Item 40						0.71
Item 41						0.67
Item 42						0.49

Correlations among the CANeS factors. The factors of the scale were correlated among each other. All correlations among factors were statistically significant (see Table 4), ranging from $r = .23$ to $r = .81$.

Table 4. Correlations Among the Factors of the Child Abuse and Neglect Scale.

Factors	Guilt	Relationship With Parents	Strong Physical Abuse	Sexual Abuse	Mild Physical and Verbal Abuse	Basic Care
Guilt	—					
Relationship with parents	.704**	—				
Strong physical abuse	.441**	.305**	—			
Sexual abuse	.302**	.234**	.469**	—		
Mild physical and verbal abuse	.814**	.594**	.387**	.302**	—	
Basic care	.453**	.596**	.657**	.258**	.327**	—

**$p < .01$.

Selection of Other Measures

To evaluate concurrent validity, the six factors of the CANeS were correlated with scales that measure anxiety, depression, self-esteem, partner-violence, personality (big-five), fatalism, pessimism, internal locus of control, belief in good luck, and divine control (see Table 5). All the statistically significant correlations are small, ranging from $r = .11$ to $r = .23$.

Final Version of the Scale and Prevalence

The final version of the scale was used to calculate the prevalence of CAN in both samples, a total of 763 participants, with each of the items of the CANeS (see Table 6). The factors with the greatest frequencies in their items were guilt, relationship with parents, and mild physical and verbal abuse. The following are examples of these higher frequencies: One of the most important findings is that 20.2% of the sample reported "being touched sexually by someone" in their childhood. Also, 11.8% of the sample reported that "someone made them perform a sexual act, like sexual intercourse or oral sex." In the mild physical and verbal abuse scale, item 13, "being beaten with objects like belts or boards," was reported by 35.9% of the sample, and items 23 (humiliated with words like dumb) and 24 (being told hurtful things), had values of 32.5% and 33.7%, respectively. In the relationship with parents, item 43 (my parents did not hug and kiss me) was reported by 25.3% of the sample.

Discussion

The factor structure of the CANeS was validated in a Northern Mexican sample, and it can be used to assess the prevalence of CAN in Mexican adults.

Table 5. Correlations Among the Factors of the Child Abuse and Neglect Scale and Other Related Constructs.

Factors	Guilt	Relationship With Parents	Strong Physical Abuse	Sexual Abuse	Mild Physical and Verbal Abuse	Basic Care
Anxiety						
Restlessness	.094	.051	.038	.045	.188**	.008
Physiological anxiety	.115	.112	.105	.051	.164*	.060
Social worries and stress	.032	.063	.022	.006	.086	.071
Anxiety total score	.100	.085	.066	.053	.195**	.054
Depression	.243**	.037	.126	.172**	.189**	.117
Self-esteem	−.183**	−.114	−.193**	−.181**	−.228**	−.247**
Partner violence						
Psychological	.142*	.103	.148*	.166**	.135*	.077
Sexual	.150*	.028	.190**	.252**	.120	.149*
Mild physical	.031	.020	.014	.157**	.057	.099
Strong physical	.338**	.255**	.493**	.328**	.318**	.467**
Partner violence total score	.184**	.111	.199**	.259**	.181**	.231**
Personality						
Extraversion	−.101*	−.057	−.015	.040	−.105*	−.005
Emotional stability	−.304**	−.153**	−.146**	−.150**	−.266**	−.107*
Responsibility	−.229**	−.050	−.147**	−.165**	−.184**	−.157**
Amiability	−.157**	−.036	−.094*	−.132**	−.180**	−.107*
Openness to new experiences	−.020	−.012	−.145**	−.070	.022	−.141**
Multidimensional Fatalism Measure						
Fatalism	.142**	.170**	.107*	.024	.110*	.140**
Pessimism	.126**	.124**	.226**	.093*	.060	.221**
Internal locus	−.027	.028	−.118*	.002	.072	−.123**
Luck	.123**	.132**	.129**	.063	.062	.203**
Divine control	−.006	.026	.013	.037	−.002	.024

*$p < .05$. **$p < .01$.

The scale is composed of six factors (see Table 3) that measure the different types of CAN (CDC, 2019), and all of their internal reliabilities were good, with Cronbach's alpha values greater than .70 (Kline, 2000). The factor structure was cross-validated with a CFA using a different sample that yielded appropriate goodness of fit indices (Hu & Bentler, 1999). The scale was designed to have few items per factor, which makes it practical to use in research and clinical settings without taking too much participant time.

In terms of diversity, this study includes a population that has not been studied in terms of CAN, and it adds new information about this construct from a specific Northern Mexican population to the scientific literature. Even though several U.S. studies sampled the Mexican American population, very few studies have been done in Mexico on this topic. Our findings

Table 6. Prevalence Per Item of the Child Abuse and Neglect Scale in the Total Sample.

Items	Not At All True (%)	Rarely True (%)	Sometimes True (%)	Often True (%)	Very Often True (%)
Guilt					
30. My parents made me feel that I only depended on them.	68.5	14.2	7.3	6.3	3.7
31. In my house, they made me feel that I did not meet their expectations.	73.8	11.3	7.5	4.1	3.4
32. In my house, I was held responsible for everything bad that happened.	79.6	9.4	5.2	3.8	2.0
33. In my house, they constantly compared me with other people.	66.7	13.2	10.1	6.0	3.9
34. My parents often got mad at me without telling me.	79.6	9.0	6.2	3.4	1.8
Relationship with parents					
43. My parents did not hug and kiss me.	74.7	8.9	7.7	4.3	4.3
44. My parents did not play with me.	69.2	12.2	9.6	4.2	4.8
47. My parents showed no interest in my problems or concerns.	75.5	9.0	7.3	4.5	3.7
48. My parents did not understand what I needed or wanted.	67.4	12.6	10.6	5.0	4.5
49. My parents made me feel they did not care.	78.2	9.7	6.3	2.9	2.9
Strong physical abuse					
15. In my house, they tied some part of my body.	96.1	1.4	1.0	0.5	0.9
16. My parents beat me hard in the head.	92.4	4.6	1.4	0.9	0.7
17. I had to go to the doctor because of the beating given to me at my house.	97.2	1.0	0.5	0.8	0.4
18. In my house, they burned some part of my body as punishment for something I did.	97.1	1.0	0.4	1.0	0.4
19. In my house, to punish me they used knives to beat me.	97.8	1.0	0.7	0.4	0.1
Sexual abuse					
1. Someone touched me sexually.	79.8	8.4	6.7	2.2	2.9
2. Someone made me touch him/her sexually.	85.7	5.1	5.2	1.7	2.2
3. Someone made me do a sexual act, for example, sexual intercourse or oral sex.	88.2	4.2	4.8	1.2	1.6
8. Someone made me show my genitals.	89.8	4.3	2.0	1.7	2.2
9. Someone made me see their genitals.	86.9	6.4	3.0	1.6	2.1
Mild physical and verbal abuse					
12. The blows they gave me at home left me marks like bruises or scars.	78.2	10.6	5.9	2.5	2.8
13. In my house, they beat me with objects like belts or boards.	64.1	14.9	11.7	4.7	4.6
14. My family physically abused me.	88.6	4.3	3.7	2.0	1.4

(continued)

Table 6. (continued)

Items	Not At All True (%)	Rarely True (%)	Sometimes True (%)	Often True (%)	Very Often True (%)
23. Someone in my family humiliated me with words such as dumb or useless.	67.5	13.6	11.4	3.0	4.5
24. In my house, they told me hurtful things.	66.3	16.9	8.8	4.2	3.8
Basic care					
37. My parents did not buy food for the house.	92.5	2.6	2.5	0.8	1.6
40. I did not have a private place to clean myself in my house.	94.1	2.1	1.2	1.2	1.4
41. In my house, I did not have a clean place to eat.	94.5	2.1	1.3	0.7	1.4
42. In my house I did not have a clean place to sleep.	93.2	2.9	1.0	1.6	1.3

add diversity to the knowledge of prevalence rates of CAN and also to the relationship between CAN and mental health–related behaviors. But there is a need to study these prevalence rates and relationships in other Mexican populations from several northern, central, and southern parts of Mexico to evaluate any possible differences or similarities. In terms of the diversity in the results, in our sample, the factor structure of the scale was similar to those in other countries, and the prevalence rates were also similar to those of other populations around the world.

The factors of the CANeS have statistically significant correlations with other constructs (see Table 5). The factor of strong physical abuse from the partner-violence scale had several moderate and strong positive correlations with the CANeS factors (Cohen, 1992), specifically with the strong physical abuse and the basic care factors. There is evidence in other studies indicating that people that are victims of child abuse tend to repeat the violent pattern in their partner relationships (e.g., Herrero et al., 2018; Kelmendi et al., 2019). The big-five personality scale had several statistically significant correlations even though most of them were small, and only one was moderate (Cohen, 1992). The personality factor with the highest correlations with the CANeS was the emotional stability factor, where people with higher CANeS scores tend to have lower emotional stability scores. The relationship between emotional stability and child abuse has been reported elsewhere (Lee & Song, 2017). Even though we found some small correlations between the CANeS and extraversion and openness to new experiences, other studies have also found statistically significant relationships among them (Pos et al., 2016; Yöyen, 2017). The anxiety scale had statistically significant correlations only with the mild physical and verbal abuse CANeS factor, and they were small

(Cohen, 1992). Our findings partially support other studies where there have been stronger relationships between these constructs (Cantón-Cortés et al., 2019; Rehan et al., 2017).

Depression, self-esteem, and the fatalism scale factors had several statistically significant correlations with the CANeS factors but all of them were small (Cohen, 1992). There is evidence that child abuse is related to depression in adulthood (Negele et al., 2015), and it is suggested that child abuse may lead to depression due to a change in the brain structure (Opel et al., 2019). The relationship between child abuse and self-esteem has been observed in adolescents and young adults (Karakuş, 2012; Mwakanyamale & Yizhen, 2019) but not in older adults (Sachs-Ericsson et al., 2010). These are similar to our findings in which we found statistically significant (though small) correlations between child abuse and depression in adults, likely due to the fact that our sample is not as young as in other studies. No previous quantitative studies were found that analyze the relationship between fatalism and CAN. Our study indicates statistically significant correlations between them, but all of them are small.

Drug-related social violence has been part of Mexico since President Felipe Calderon declared war on its drug cartels in 2008, creating confusion and resulting in open warfare between drug cartels to obtain control of different cities around the country. Before 2008, the cartel that had control over the city of Juarez was known as the Juarez cartel. But as a result of this warfare, the Sinaloa cartel came and took control over the city's drug-related activities. The fight is still ongoing in the city but the Sinaloa cartel is now more prevalent and in control of most of the city. These conflicts resulted in Juarez being ranked as the most violent city in the world from 2008 to 2010 (Quinones, 2016), which had significant consequences on the mental health of its inhabitants (Quiñones et al., 2013). In a recent study by the Citizens' Council for Public Security and Criminal Justice (Linthicum, 2019), Juarez is ranked as the fifth most violent city in the world according to its homicide rate (86 homicides per 100,000 people). This culture of violence can affect other types of violence, such as CAN, and for this reason, it was important to measure prevalence in the people from Juarez.

According to the calculated prevalence rates in Juarez (Table 6), for sexual abuse, the rates were a little bit higher (item 1, 20.2%) than those reported by the WHO (2017), where 18% of girls and 8% of boys reported sexual abuse. We analyzed the prevalence rates for these two items by gender in this study, and the values were very similar. The physical abuse rate in the world was 23% (WHO, 2017) while in the Juarez sample, the rate was 35.9% (item 13). The WHO (2017) reports that 36% of people in the world have experienced emotional abuse, and in our sample, the rates were similar with 33.7% (item

24) and 32.5% (item 23). Finally, the rate in the world for physical neglect was 16% (WHO, 2017), while in Juarez, there were several items with higher prevalence rates such as item 43 (25.3%). The sample from Juarez indicates higher percentages in most of the CAN indicators than those reported by the WHO (2017), suggesting that mental health and other professionals need to attend to this situation of violence during childhood. Most of the efforts from government and civil associations focus on social violence, a more visible problem, and little is done to intervene with the less visible issues of family violence. But according to this study, issues of family violence are very present in Juarez. The implication for future study (and action) is that the issues of CAN must be identified, helped, and strengthened, and children in need must be protected. These are not issues that can be addressed easily. But without identification and early intervention, they will cause future problems in society that will persist until there is work done to promote a culture of peace in and for the nation's families. The Mexican government created the National System of Integral Protection of Girls, Boys and Adolescents (NSIPGBA) to generate and carry out public policies to protect children and adolescents' human rights in all levels of government. One the duties of the NSIPGBA is to celebrate agreements of coordination, collaboration, and concert with public and private, national and international bodies, including universities and civil associations. This study will help to promote their rights to a life free from violence and personal integrity, by creating policies that promote channels that can be easily accessed by all children and adolescents when in danger.

Further research should focus on validating the CANeS in other Mexican populations to corroborate its reliability and validity. Once the scale is validated in other places, CAN prevalence rates can be calculated in the entire country to promote national public policies to protect children and adolescents. Finally, the relation between the CANeS and other health-related constructs should be analyzed in future studies as in the ACE studies. Other health-related constructs could include cardiovascular disease, cancer, asthma, drug use and abuse, risk behaviors, distress, hopelessness, and disruptions in work, among others.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Oscar Armando Esparza-Del Villar https://orcid.org/0000-0002-7313-3766
Salvador Quiñones-Rodríguez https://orcid.org/0000-0001-9155-4778
Teresa Gutiérrez-Rosado https://orcid.org/0000-0002-0876-6954

References

Ajilian, M., Saeidi, M., Khademi, G., & Hoseini, B. L. (2014). Child maltreatment in the world: A review article. *International Journal of Pediatrics*, *3*(1), 353–365. https://doi.org/10.22038/ijp.2015.3753

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.).

American Psychological Association. (n.d.). *Understanding and preventing child abuse and neglect*. https://www.apa.org/pi/families/resources/understanding-child-abuse

Anda, R. F., & Brown, D. W. (2010). *Adverse childhood experiences & population health in Washington: The face of a chronic public health disaster*. http://www.wvlegislature.gov/senate1/majority/poverty/ACEsinWashington2009BRFSSFinalReport%20-%20Crittenton.pdf

Anderson, J., Martin, J., Mullen, P., Romans, S., & Herbison, P. (1993). Prevalence of childhood sexual abuse experiences in a community sample of women. *Journal of the American Academy of Child & Adolescent Psychiatry*, *32*(5), 911–919. https://doi.org/10.1097/00004583-199309000-00004

Archer, G., Pinto, S., & Power, C. (2017). Child maltreatment as a predictor of adult physical functioning in a prospective British birth cohort. *BMJ Open*, *7*(10), Article e017900. https://doi.org/10.1136/bmjopen-2017-017900

Byrne, B. M. (2009). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). Routledge.

Cantón-Cortés, D., Cortés, M. R., & Cantón, J. (2019). Pathways from childhood sexual abuse to trait anxiety. *Child Abuse & Neglect*, *97*, 1–10. https://doi.org/10.1016/j.chiabu.2019.104148

Centers for Disease Control and Prevention. (2019). *Preventing child abuse and neglect*. https://www.cdc.gov/violenceprevention/pdf/CAN-factsheet.pdf

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, *9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–159. https://doi.org/10.1037/0033-2909.112.1.155

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, *52*(4), 281–302. https://doi.org/10.1037/h0040957

Díaz-Olavarrieta, C., Paz, F., García, C., & Campbell, J. (2001). Prevalence of intimate partner abuse among nurses and nurses' aides in Mexico. *Archives of Medical Research*, *32*, 79–87. https://doi.org/10.1016/S0188-4409(00)00262-9

Esparza, O. A., Wiebe, J. S., & Quiñones, J. (2015). Simultaneous development of a multidimensional fatalism measure in English and Spanish. *Current Psychology*, *34*, 597–612. https://doi.org/10.1007/s12144-014-9272-z

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, *14*(49), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Herrero, J., Vivas, P., Torres, A., & Rodríguez, F. J. (2018). When violence can appear with different male partners: Identification of resilient and non-resilient women in the European Union. *Frontiers in Psychology*, *9*, Article 877. https://doi.org/10.3389/fpsyg.2018.00877

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Karakuş, Ö. (2012). Relation between childhood abuse and self esteem in adolescence. *International Journal of Human Sciences*, *9*(2), 753–763. https://www.j-humansciences.com/ojs/index.php/IJHS/article/view/2348

Kelmendi, K., Duraku, Z. H., & Jemini-Gashi, L. (2019). Coexistence of intimate partner violence and child maltreatment among adolescents in Kosovo. *Journal of Family Violence*, *34*, 411–421. https://doi.org/10.1007/s10896-018-00034-y

Kline, P. (2000). *The handbook of psychological testing* (2nd ed.). Routledge.

Landolt, M. A., Schnyder, U., Maier, T., & Mohler-Kuo, M. (2016). The harm of contact and non-contact abuse: Health-related quality of life and mental health in a population sample of Swiss adolescents. *Psychotherapy and Psychosomatics*, *85*(5), 320–322. https://doi.org/10.1159/000446810

Lee, M. A., & Song, R. (2017). Childhood abuse, personality traits, and depressive symptoms in adulthood. *Child Abuse & Neglect*, *65*, 194–203. https://doi.org/10.1016/j.chiabu.2017.02.009

Linthicum, K. (2019, March 14). Five of the six most violent cities in the world are in Mexico, report says. *Los Angeles Times*. https://www.latimes.com/world/la-fg-mexico-tijuana-violence-20190314-story.html

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, *4*(1), 84–99. https://doi.org/10.1037/1082-989X.4.1.84

Muñiz, J., & Fonseca-Pedrero, E. (2019). Diez pasos para la construcción de un test [Ten steps for test development]. *Psicothema*, *31*(1), 7–16. https://doi.org/10.7334/psicothema2018.291

Mwakanyamale, A. A., & Yizhen, Y. (2019). Psychological maltreatment and its relationship with self-esteem and psychological stress among adolescents in Tanzania: A community based, cross-sectional study. *BMC Psychiatry*, *19*, 1–9. https://doi.org/10.1186/s12888-019-2139-y

Negele, A., Kaufhold, J., Kallenbach, L., & Leuzinger-Bohleber, M. (2015). Childhood trauma and its relation to chronic depression in adulthood. *Depression Research and Treatment*, *2015*, 1–11. https://doi.org/10.1155/2015/650804

Norman, R. E., Byeambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLOS Medicine*, *9*(11), Article e1001349. https://doi.org/10.1371/journal.pmed.1001349

Opel, N., Redlich, R., Dohm, K., Zaremba, D., Goltermann, J., Repple, J., Kaehler, C., Grotegerd, D., Leehr, E. J., Böhnlein, J., Förster, K., Meinert, S., Enneking, V., Sindermann, L., Dzvonyar, F., Emden, D., Leenings, R., Winter, N., Hahn, T., & Dannlowski, U. (2019). Mediation of the influence of childhood maltreatment on depression relapse by cortical structure: A 2-year longitudinal observational study. *Lancet Psychiatry*, *6*, 318–326. https://doi.org/10.1016/S2215-0366(19)30044-6

Pos, K., Boyette, L. L., Meijer, C. J., Koeter, M., Krabbendam, L., & de Haan, L., & for GROUP. (2016). The effect of childhood trauma and Five-Factor Model personality traits on exposure to adult life events in patients with psychotic disorders. *Cognitive Neuropsychiatry*, *21*(6), 462–474. https://doi.org/10.1080/13546805.2016.1236014

Quiñones, J., Esparza, O. A., & Carrillo, I. C. (2013). *La violencia en Ciudad Juárez* [Violence in Juarez City]. Universidad Autónoma de Ciudad Juárez.

Quinones, S. (2016, June). Once the world's most dangerous city, Juárez returns to life. *National Geographic*. https://www.nationalgeographic.com/magazine/2016/06/juarez-mexico-border-city-drug-cartels-murder-revival.html

Rehan, W., Antfolk, J., Johansson, A., Jern, P., & Santtila, P. (2017). Experiences of severe childhood maltreatment, depression, anxiety and alcohol abuse among adults in Finland. *PLOS ONE*, *12*(5), Article e0177252. https://doi.org/10.1371/journal.pone.0177252

Reynolds, C. R., Richmond, B. O., & Lowe, P. A. (2003). *The Adult Manifest Anxiety Scale–College Version manual*. Western Psychological Services.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.

Sachs-Ericsson, N., Gayman, M. D., Kendall-Tackett, K., Lloyd, D. A., Medley, A., Collins, N., Corsentino, E., & Sawyer, K. (2010). The long-term impact of childhood abuse on internalizing disorders among older adults: The moderating role of self-esteem. *Aging & Mental Health*, *14*(4), 489–501. https://doi.org/10.1080/13607860903191382

Senate of the Mexican Republic. (2019). *México, primer lugar de la OCDE en maltrato infantil* [Mexico, first place in the OECD in child maltreatment]. http://comunicacion.senado.gob.mx/index.php/periodo-ordinario/boletines/15298-mexico-primer-lugar-de-la-ocde-en-maltrato-infantil-senador-martinez-martinez.HTML

Snedecor, G. W., & Cochran, W. G. (1989). *Statistical methods*. Iowa State University Press.

Spitzer, R. L., Williams, J. B., Kroenke, K., Linzer, M., DeGruy, F. V., Hahn, S. R., Brody, D., & Johnson, J. G. (1994). Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study. *Journal of the American Medical Association*, *272*, 1749–1756. https://doi.org/10.1001/jama.1994.03520220043029

United Nations Children's Fund. (2019a). *Informe anual México 2018* [Annual inform Mexico 2018]. https://www.unicef.org/mexico/informes/informe-anual-unicef-m%C3%A9xico-2018

United Nations Children's Fund. (2019b). *Panorama estadístico de la violencia contra niñas, niños y adolescentes en México* [Statistical overview of violence against children and adolescents in Mexico]. https://www.unicef.org/mexico/media/1731/file/UNICEF%20PanoramaEstadistico.pdf

Valdez-Santiago, R., Híjar-Medina, M. C., Salgado, V. N., Rivera-Rivera, L., Avila-Burgos, L., & Rojas, R. (2006). Escala de violencia e índice de severidad: Una propuesta metodológica para medir la violencia de pareja en mujeres mexicanas [Violence scale and severity index: A methodological proposal to measure intimate partner violence in Mexican women]. *Salud Pública de México*, *48*(2), 221–231. https://doi.org/10.1590/S0036-36342006000800002

Vigil-Colet, A., Morales-Vives, F., Camps, E., Tous, J., & Lorenzo-Seva, U. (2013). Development and validation of the Overall Personality Assessment Scale (OPERAS). *Psicothema*, *25*(1), 100–106. https://doi.org/10.7334/psicothema2011.411

World Health Organization. (2002). *World report on violence and health*. https://www.who.int/violence_injury_prevention/violence/world_report/chapters/en/

World Health Organization. (2017). *Child maltreatment. The health sector responds*. https://childhub.org/en/child-protection-multimedia-resources/new-who-infographic-brochure-child-maltreatment-infographic

Yöyen, E. G. (2017). Relationship between childhood trauma and personality typology. *Balkan and Near Eastern Journal of Social Sciences*, *3*(1), 123–129. http://www.ibaness.org/bnejss/2017_03_01/014_Y%C3%B6yen.pdf

Author Biographies

Oscar Armando Esparza-Del Villar is a full-time professor and researcher at the Universidad Autónoma de Ciudad Juárez, in the graduate and undergraduate psychology programs, and a member of the National System of Researchers in Mexico. He obtained a bachelor's in psychology, a master's in clinical psychology, and a doctoral degree in health psychology from the University of Texas at El Paso. His research interests include violence, fatalism, and physical activity.

Priscila Montañez-Alvarado is a full-time professor and coordinator of the master's degree in psychology program at the Universidad Autónoma de Ciudad Juárez and a member of the National System of Researchers in Mexico. She obtained a bachelor's in psychology, a master's in clinical psychology and psychotherapy, and a doctoral degree in clinical and health psychology from the Universitat Autònoma de Barcelona, Spain. Her research interests include violence, posttraumatic stress disorder (PTSD), and psychotherapy.

Marisela Gutiérrez-Vega is a full-time professor and researcher at the Universidad Autónoma de Ciudad Juárez in the graduate and undergraduate psychology programs and member of the National System of Researchers in Mexico. She obtained a

bachelor's in psychology, a master's in clinical psychology, and a doctoral degree in health psychology from the University of Texas at El Paso. Her research interests include fatalism, social violence, and migrants.

Salvador Quiñones-Rodríguez is a part-time professor at the Universidad Autónoma de Ciudad Juárez, in the undergraduate psychology program. He obtained a bachelor's degree in psychology, a master's in forensic science, and is currently a candidate to a doctoral degree in psychology research from the Universidad Autónoma de Ciudad Juárez. His research interests include teenage violence and sexual violence.

Teresa Gutiérrez-Rosado is a doctor in psychology, with a master's in drug addiction. She is a full-time professor in the Department of Clinical and Health Psychology at the Universitat Autònoma de Barcelona, Spain. She was dean of the psychology faculty from 2013 to 2016. Her research interests include health promotion and prevention, resilience, program evaluations, and substance abuse behaviors.