

Validity Of A Paranoid Thoughts Due To Social Violence Scale In Juarez Mexico

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Abstract

Paranoid thoughts related to social violence have been reported by people living in the city of Juarez, Mexico, due to the increase in social violence because of the war between drug cartels and the Mexican government. The Paranoid Thoughts Scale was developed to measure these thoughts and the present study analyzed the reliability and validity of the scale. The sample consisted of 173 participants with a mean age of 33.31 ($s = 15.12$) years, 65.7% females and 34.3% males. The exploratory factor analysis indicated a one factor scale with factor loadings ranging from 0.41 to 0.80 and an internal reliability of $\alpha = 0.85$. The concurrent validity was analyzed by correlating the Paranoid Thoughts Scale with scales measuring anxiety (STAI and AMAS-C), stress (Stress Profile) and depression (PHQ-9). All of the correlations were statistically significant and ranged from $r = 0.21$ to $r = 0.36$. The Paranoid Thoughts Scale is a valid scale that can be used to measure paranoid thoughts due to violence in people from Mexico.

Keywords: Mental health, social violence, drug war

Introduction

When Mexican president Felipe Calderón declared the war against drug trafficking in 2006, the violence in Mexico escalated to very high levels in several places across the country. Juarez, located in the north border of Mexico, was the most affected city in the country becoming intensely violent due to the fight among organized crime groups (e.g. drug cartels), and armed forces from the Mexican government. The main fight was between the Juarez drug cartel and the Sinaloa drug cartel fighting to take control over the city since Juarez is one of the most important places used to enter drugs into the United States. At the end, around 2010, the Sinaloa cartel won bringing an end the era of the Juarez cartel control. The estimates of murders that

occurred in Juarez are the following: According to the attorney general of the Mexican State of Chihuahua, in 2008 there were 1,587 executions (Rodríguez, 2011), in 2009 there were 2,643 executions (Rodríguez, 2011), in 2010 there were 3,103 executions (Rodríguez, 2011) and in 2011 there were 1956 executions (Observatory of Citizen Security and Coexistence, 2011) for a total of 9,289 murders during the most violent years in Juarez.

In 2009, there was a very high increase in violence in Juarez where one of every three dead people in all of the country were executed in Juarez (Ibarz, 2009). By 2010, Juarez was 757% above the national mean in homicides (Milenio, 2010). In 2008, there were 101 homicides per 100,000 people and by 2010 there were 191 homicides per 100,000 people making Juarez the most violent city in the world with rates higher than San Pedro Sula, El Salvador, Caracas, Guatemala, Cali and even Baghdad (Milenio, 2010). The homicide rate from 2010 was higher than the homicide rate in Medellin, Colombia, in 1991 when the drug cartel of Pablo Escobar was fighting against the Cali drug cartel, where the homicide rate was 139 homicides per 100,000 people (Milenio, 2010). The kidnapping rate in 2009 was 100 cases per one million people, which was six times higher than Venezuela in 2008, when it was the country with the most kidnaps for that year (Society and Technology, 2010). As a consequence of this situation of social violence in the city, there were around 10,000 children left orphaned and approximately 40,000 family members that were affected directly (Blancas, 2010).

The hardest part during this violent time in Juarez was the unpredictability of the violent acts. Before this time, there was violence in Juarez but it was predictable, which means that there were certain dangerous places that you should not visit during specific times, especially at night. After 2008, executions occurred at any time during the day, they occurred at any place like supermarkets or churches, and they happened with a lot of witnesses around. Even though most executions were targeted to people involved in drug dealing, people that were not involved had to worry about extortions, kidnaps, carjackings and housejackings. This situation brought several psychological consequences as the result of living directly or indirectly around all of the violence. One of those consequences was the report of specific thoughts that people started to experience, like feelings of being followed or being watched over to be extorted or kidnapped.

People in Juarez reported symptoms of depression, anxiety and posttraumatic stress disorder (PTSD; Quiñones, Esparza, & Carrillo, 2013). The paranoid thoughts were a symptom related to PTSD, because according to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; American Psychiatric Association, 2013), PTSD can be characterized by being indirectly exposed by knowing that a close friend or relative was

exposed to trauma (Criterion A), and by having negative alterations in cognitions like “I can’t trust anyone” (Criterion D). In previous research studies related to violence in Juarez, our research team identified thoughts like “When I am walking I feel that I am being followed” or “When someone calls me on the telephone, I feel it is to extort me” that were present in a many people even if they had not experienced violence directly, so we named them paranoid thoughts. Even though the violence in Juarez was very high, most of the people did not experience the violence directly. Most people that reported the feeling of being followed were not followed or most people that reported being afraid of answering the telephone because of extortions were not extorted, so for this reason they were named paranoid thoughts. The presence of these thoughts were related to people experiencing symptoms of anxiety or depression since people reported that the thoughts made them feel insecure.

Lozano et al. (2011) developed the Paranoid Thoughts Scale based on reports by people in focal groups. They created the scale with eight items that reflected eight paranoid thoughts reported by participants (see table 1), but its psychometric properties were not analyzed. The scale was used to analyze its relationship with watching television news and found no significant correlation (Lozano et al, 2011).

This study analyzed the reliability and validity of the scale. The first step was to analyze the factor structure of the items of the scale with an exploratory factor analysis. The second step was to analyze the internal reliability of the scale and finally the last step was to analyze the concurrent validity of the scale. Since there are no similar scales, the convergent validity could not be analyzed, and for this reason the concurrent validity was analyzed with the correlation of the Paranoid Thoughts Scale with scales of anxiety, stress and depression.

Method

Participants

The scales were administered to 173 participants recruited from several areas in Juarez in October of 2011. Participants were 65.7% females and 34.3% males, with a mean age of 33.31 ($s = 15.12$) years. The marital status of the sample was: 52.8% single, 34.7% married, 4.3% living with a romantic partner, 4.3% divorced, and 1.8% widowed.

MacCallum, Widaman, Zhang, and Hong (1999) analyzed the optimal sample sizes to get an appropriate power in factor analysis. MacCallum et al. criticize the use of traditional rules of thumb to calculate sample sizes for a factor analysis, by using the ratio of items to participants. MacCallum et al. (1999, p. 97) state that “If results show a relatively small number of factors and moderate to high communalities, then the investigator

can be confident that obtained factors represent a close match to population factors, even with moderate to small sample sizes.” The sample for the factor analysis of this study consisted of 173 participants, which according to the information presented by MacCallum et al. (1999), were sufficient since most communalities are moderate to high and there was only one factor in the scale structure.

Instruments

Paranoid Thoughts Scale (PTS; Lozano et al., 2011). The scale consists of eight paranoid thoughts related to social violence (see table 1) with Likert-type response options that include never, sometimes, often, and always. The items of the scale were written in Spanish and the internal reliability of the scale in this study was $\alpha = 0.85$.

State-Trait Anxiety Inventory (STAI; Spielberg, Gorsuch, Lushene, Vagg, & Jacobs, 1983). This is a 40 item scale with a Likert-type response format with four options (from not at all to very much so) and is composed of two factors: state anxiety and trait anxiety. This inventory was translated to Spanish and validated in Mexico by Díaz-Guerreo and Spielberger (1975). The internal reliability for the state factor is $\alpha = 0.81$ and for the trait factor is $\alpha = 0.75$ in Mexican samples (Arias-Galicia, 1990).

Adult Manifest Anxiety Scale – Adult version (AMAS-A; Reynolds, Richmond, & Lowe, 2007). This scale was translated to Spanish and validated in a Mexican sample. The scale has 36 items with a Yes–No response format and is composed of four factors: worry/oversensitivity, social concerns and stress, physiological anxiety, and a lie validity factor. The internal reliability of the four factors and total score ranged from $\alpha = 0.71$ to $\alpha = 0.91$ (Reynolds, Richmond, & Lowe, 2007).

Patient Health Questionnaire (PHQ-9; Spitzer et al., 1994). This scale is the depression module of the PRIME-MD and it consists of nine items which scores each of the nine DSM-IV criteria with a Likert-type response scale with four options that range from not at all to nearly every day. The internal reliability of this questionnaire has ranged from $\alpha = 0.86$ to $\alpha = 0.89$ (Kroenke, Spitzer, & Williams, 2001).

Stress Profile (Nowack, 2002). The stress scale from the profile was used for this study and it consists of six items with a Likert-type response scale with 5 options (from never to always) that measures six different types of stress: health, work, financial, family, social, and environment. The scale was translated and validated with samples from Mexico (Nowack, 2002).

Procedure

Participants were recruited by a group of undergraduate psychology students that were sent to different areas in Juarez with different levels of

socioeconomic status. Participants were asked to participate and then they were given a consent form that explained the study, their rights, and they had an opportunity to ask questions. Participants were given the scales previously described and at the end they got a more thorough explanation of the study.

The data was captured in IBM SPSS Statistic computer program. To analyze the factor structure of the PTS, an exploratory factor analysis was performed with the eight items. The internal reliability of the scale was analyzed with Cronbach's alpha and the concurrent validity of the scale was analyzed with Pearson product-moment correlations between the PTS and the scales of anxiety, stress and depression.

Results

Exploratory Factor Analysis and Internal Reliability

An exploratory factor analysis was performed with the 8 items and with a sample size of 173 participants. Only one factor had an Eigenvalue greater than 1, and for this reason one factor was extracted using the generalized least squares method. The factor explained 50% of the variance and the item loadings range from 0.41 to 0.80 (see table 1). The result of the internal reliability analysis of the factor was $\alpha = 0.85$.

Table 1 *Scale items with factor loadings and communalities*

Item	Factor loading	Communality (h ²)	Mean (SD)
1. Cuando voy caminando o manejando siento que me van siguiendo. (When I am walking or driving I feel that I am being followed)	0.73	0.61	0.86 (0.75)
2. Cuando me llaman por teléfono siento que es para extorsionarme. (When someone calls me on the telephone, I feel it is to extort me)	0.58	0.44	0.74 (0.75)
3. Cuando oigo cualquier ruido fuerte pienso que es un balazo. (When I hear any loud noise I think it is a gunshot)	0.66	0.50	1.30 (0.95)
4. Siento que están vigilándome a mí o a mi familia. (I feel that someone is watching over me or my family)	0.80	0.73	0.68 (0.83)
5. Cuando algún desconocido se me acerca en la calle o lugar público lo primero que pienso es que me hará daño. (When a stranger comes up to me on the street or a public place, the first thing I think is that he/she will hurt me)	0.74	0.63	1.35 (0.86)
6. Siento que mis amigos podrían traicionarme. (I feel that my friends might betray me)	0.42	0.27	0.53 (0.67)
7. Cuando proporcione datos personales siento temor a que me puedan extorsionar. (When I provide personal information, I feel that I can be extorted)	0.70	0.55	1.51 (0.95)
8. Cuando veo personas con carros de modelo reciente siento que puede ocurrir algún hecho violento. (When I see people with recent-model cars, I feel that a violent act can occur)	0.62	0.55	1.43 (0.96)

Concurrent Validity

The concurrent validity of the scale was analyzed by correlating the score of the PTS and the scores of the scales of anxiety (STAI and AMAS-A), stress (Stress Profile) and depression (PHQ-9). All of the correlations were statistically significant (see table 2) and ranged from $r = 0.21$ (trait anxiety) to $r = 0.36$ (physiological anxiety).

Table 2 *Correlation between the Paranoid Thoughts Scale and the rest of the scales*

Other Scales	Paranoid Thoughts Scale Total Score
State Anxiety (STAI)	0.29**
Trait Anxiety (STAI)	0.21*
General Anxiety (AMAS-A)	0.33**
Worry/Oversensitivity (AMAS-A)	0.21**
Social Concerns and Stress (AMAS-A)	0.27**
Physiological Anxiety (AMAS-A)	0.36**
Stress (Stress Profile)	0.33**
Depression (PHQ-9)	0.35**

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

The frequencies of the responses of the PTS were calculated (see table 3) and in all of the items many people reported at least the option of sometimes.

Table 3 *Frequencies of responses for each item of the PTS*

Item	Response Options			
	Never	Sometimes	Often	Always
1. When I am walking or driving I feel that I am being followed.	32.0%	54.4%	9.5%	4.1%
2. When someone calls me on the telephone, I feel it is to extort me.	42.0%	44.4%	11.2%	2.4%
3. When I hear any loud noise I think it is a gunshot.	20.2%	43.5%	22.6%	13.7%
4. I feel that someone is watching over me or my family.	52.1%	31.4%	13.0%	3.6%
5. When a stranger comes up to me on the street or a public place, the first thing I think is that he/she will hurt me.	11.8%	55.0%	19.5%	13.6%
6. I feel that my friends might betray me.	56.8%	34.3%	8.3%	0.6%
7. When I provide personal information, I feel that I can be extorted.	11.9%	45.8%	22.0%	20.2%
8. When I see people with recent-model cars, I feel that a violent act can occur.	16.7%	40.5%	25.6%	17.3%

Discussion and Conclusion

The study validated the Paranoid Thoughts Scale in a Mexican population. The sample was obtained in Juarez, being the most violent city of the world in 2010, from different areas of the city. Even though the sample

was not selected randomly, participants were recruited from places with different levels of socioeconomic status. The analysis indicated a one factor solution were all of the items loaded into that factor and the internal consistency of the scale was good ($\alpha = 0.85$). This scale measures a psychological phenomenon, observed by researchers residing in Juarez, that was believed to be related to other mental health scales. The scale correlated with depression with $r = 0.35$, with stress $r = 0.33$ and with general anxiety $r = 0.33$. The concurrent validity was also acceptable for this scale.

The sample was obtained in 2011, a violent year that had a significant decrease in violence compared to the previous year, but a sample that had lived almost 4 years of violence. The results shown in table 3 indicate how for most of the items, except for items four and six, more than half of the sample reported at least having paranoid thoughts “sometimes”, and for items five (“When a stranger comes up to me on the street or a public place, the first thing I think is that he/she will hurt me”) and seven (“When I provide personal information, I feel that I can be extorted”) more than 88% reported having the thoughts at least “sometimes”. The thoughts with the highest rate of people answering “always”, around 20%, were items seven (“When I provide personal information, I feel that I can be extorted”) and eight (“When I see people with recent-model cars, I feel that a violent act can occur”). Results from this scale could help mental health providers to identify paranoid thoughts related to social violence and focus on those thoughts to eradicate them from people to help them have a better mental health.

As far as we researched this topic in several databases, this study proposes a new construct characteristic of people that live in places that experience social violence that has not been measured like it is measured with the PTS. The next step will be to validate this scale in other places in Mexico and other Spanish speaking countries. Also the scale should be translated to English using the translation-back translation method to study the scale in English speaking countries. Also, it is important to study the relationship of this scale with other psychological constructs to place the PTS in a wider nomological network (Cronbach & Meehl, 1955).

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