

# *Victimización directa e indirecta y síntomas de estrés postraumático en estudiantes universitarios del Noreste de México*

Luz Adriana Orozco-Ramírez; José Luis Ybarra-Sagarduy;  
Daniela Romero-Reyes; Oscar Armando Esparza-del-Villar

How to cite this article:

Orozco-Ramírez, L.A., Ybarra-Sagarduy, J.L., Romero-Reyes, D. & Esparza-del-Villar, O.A. (2020). Direct and indirect victimization and post-traumatic stress symptoms in university students in Northeastern Mexico. *Acta Colombiana de Psicología*, 23(1), 311-319. doi: <http://www.doi.org/10.14718/ACP.2020.23.1.14>

*Recibido, febrero 4/2019; Concepto de evaluación, junio 18/2019; Aceptado, agosto 18/2019*

## **Luz Adriana Orozco-Ramírez**

Universidad Autónoma de Tamaulipas, Tamaulipas, México  
ORCID: <https://orcid.org/0000-0003-1073-5855>

## **José Luis Ybarra-Sagarduy**

Universidad Autónoma de Tamaulipas, Tamaulipas, México  
ORCID: <https://orcid.org/0000-0001-6405-169X>

## **Daniela Romero-Reyes**

Universidad Autónoma de Tamaulipas, Tamaulipas, México  
ORCID: <https://orcid.org/0000-0003-3239-6946>

## **Oscar Armando Esparza-del-Villar**

Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, México  
ORCID: <https://orcid.org/0000-0002-7313-3766>

## Resumen

En México, sobre todo en los estados del noreste del país, en los últimos años la violencia se ha exacerbado y, a su vez, ha incrementado sus implicaciones en la salud mental de los jóvenes, principalmente con el desarrollo de síntomas del trastorno por estrés postraumático (TEPT). Teniendo esto en cuenta, en el presente estudio se tuvo como objetivo identificar los tipos de victimización (directa o indirecta) que viven los jóvenes universitarios ante la violencia comunitaria, así como determinar los síntomas de estrés postraumático que presentaban, e identificar la relación entre los tipos de victimización y los síntomas del TEPT. En total, participaron 500 jóvenes universitarios de un estado del noreste del país, a quienes se les aplicó la Escala de Victimización y la Escala Breve del Desorden del Estrés Postraumático. Como resultados, los participantes reportaron un promedio de siete sucesos de victimización tanto directa como indirecta, siendo más frecuente la indirecta. Aunque se observa una relación directa e indirecta entre la victimización y la presencia de síntomas del TEPT, solo la victimización indirecta resultó ser una variable predictora de síntomas del TEPT. Se propone que, junto a las políticas de prevención y reducción del delito, deben crearse políticas de reducción del miedo al crimen en la población.

*Palabras clave:* victimización, estrés postraumático, jóvenes universitarios, violencia comunitaria.

\* Unidad Académica de Trabajo Social y Ciencias para el Desarrollo Humano, Universidad Autónoma de Tamaulipas, Centro Universitario Adolfo López Mateos, Ciudad Victoria, Tamaulipas, México. C. P.: 87000. Tel.: (+52) 834-318-1800. [jsagarduy@gmail.com](mailto:jsagarduy@gmail.com)  
Este proyecto fue financiado por la RED de estudios de "Violencia y Salud", reconocida ante el PRODEP-SEP

## *Direct and indirect victimization and post-traumatic stress symptoms in university students in Northeastern Mexico*

### Abstract

In recent years, violence has been exacerbated in several northeastern states of México, with implications for the mental health of young people, as is the development of symptoms of post-traumatic stress disorder (PTSD). The present study aims to identify the types of victimization (direct or indirect) experienced by university students, determine the symptoms of post-traumatic stress they present and see the relationship between the types of victimization and PTSD symptoms. The Victimization Scale and the Short Scale of Post-Traumatic Stress Disorder were applied to 500 young people of Tamaulipas. The university students report on average 7 direct and indirect victimization events, the indirect being more frequent. Although there is a relationship between direct and indirect victimization, with the presence of PTSD symptoms, only indirect victimization is a predictive variable of PTSD symptoms in university students. It is proposed that, together with policies of crime prevention and reduction, policies of the reduction of fear of crimes should be created.

*Key words:* victimization, posttraumatic stress, university students, community violence.

### Introduction

Mexico is going through a severe crisis of violence and security for several years, which extends to several states of the country, mainly in the border states with the United States (Baja California, Sonora, Chihuahua, Coahuila, and Tamaulipas), where thousands of murders, kidnappings and extortions take place every year. The National Survey of Victimization and Perception on public safety, conducted by the National Institute of Statistics, Geography and Informatics (INEGI) of Mexico, in 2018 reports a total of 25.4 million inhabitants that were victims of 18 or more crimes in 2017, which represents a rate of 29,746 victims per one hundred thousand people during that year. The total cost as a result of insecurity and crime in households amounted to 299.6 billion pesos, representing 1.65% of Mexico's Gross Domestic Product (GDP; INEGI, 2018).

The World Health Organization in its report, *World Report on Violence and Health: Summary*, published in Spanish by the Pan American Health Organization (PAHO, 2002) defines violence as:

The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation (p.4).

Based on this definition, a typology of violence is established, where community violence would be a type of interpersonal violence, that is, it would be a violence imposed by another individual or a small number of individuals that occurs among people that are not relatives and who may or may not know each other, and usually occurs outside the home. It must be distinguished from other types of interpersonal violence such as family or partner violence,

which occurs mainly between family members or romantic partners, and which generally, although not always, occurs at home, and it also must be distinguished from collective violence which refers to violence inflicted by large groups such as: organized political groups, militia groups, terrorist organizations, among others (PAHO, 2002).

Echeburúa (2004) identifies two types of victims, or potential victims, in relation to community violence: direct victims or primary affected people, and indirect victims or secondary affected people. The direct or primary ones are those people directly affected by an aggression or traumatic event, and the indirect or secondary ones are those people who are traumatized, by the physical and socio-cultural conditions, after the violence happened and who have been indirect witnesses, without having been personally affected. This second category includes family members and people close to those who have been directly affected.

In particular, exposure to community violence among youth has become a significant public health problem in Mexico given the negative consequences on various aspects of youth development. In this regard, among the behavioral, emotional, and academic correlates of exposure to violence are anxiety, depression, disruptive and violent behavior, drug use, truancy, and academic failure. (Elsaesser, 2018; Elsaesser, Gorman-Smith, Henry & Schoeny, M., 2017; Fowler, Tompsett, Braciszewski, Jacques-Tiura & Baltes, 2009; Javdani, Abdul-Adil, Suarez, Nichols & Farmer, 2014; Wright, Fagan & Pinchevsky, 2013; Zimmerman & Posick, 2016). More specifically, Fowler et al. (2009) found in a meta-analysis, involving 114 studies, that exposure to community violence was strongly linked to the onset of post-traumatic stress disorder (PTSD). According to the American Psychiatric Association (APA, 2014) in its *Diagnostic and Statistical Manual of Mental Disorders*

(DSM-V), PTSD is diagnosed when a person has developed specific symptoms following exposure to one or more traumatic events and when the emotional reaction experienced by the traumatic event involves an intense response of fear, helplessness, and horror.

Caballero and Ramos (2004) conducted a review of studies on the relationship between violence and post-traumatic stress disorder using a qualitative methodology developed by the National Institute of Psychiatry of Mexico. Thus, in several studies, in-depth interviews were used to try to understand the psychological impact on crime victims (house theft, street robbery, and rape) and its relationship to post-traumatic stress disorder (Caballero, Ramos, Saltijeral, 2000; Ramos, Caballero, Saltijeral, 1995; Ramos, Saltijeral, Caballero, 1995; Ramos, Esteban, Saltijeral, Caballero, 1997). The authors wanted to know the reactions and the psychological impact presented by the victims of the aforementioned crimes, both after the first month and six months after the event, and their relationship with PTSD, as well as the subjective impact of the episode of violence. Virtually all street assault victims expressed a fear of physical harm or death. The house burglaries were experienced primarily as a violation or invasion of privacy, which was experienced very intensely. Frequently, victims of these crimes tended to present a re-experimentation of the event in the form of repetitive and uncontrollable memories. Another frequent reaction was psychological distress, according to which interviewees mainly expressed fear that the incident would happen again. It was also common to find that subjects strived to not have thoughts and feelings associated with the theft, that is to say, they presented avoidant behaviors (Caballero and Ramos, 2004).

Studies have also been carried out using a quantitative methodology such as the study of Baker et al. (2005) who interviewed a sample of 2,509 adults from 4 cities in Mexico (Oaxaca, Guadalajara, Hermosillo, Mérida) using the International Diagnostic Interview on Mental Health. (*Composite International Diagnostic Interview*, CIDI). In their sample, 34% reported having suffered, at least once in their lives, an event related to four types of violence: sexual assault, sexual abuse, physical assault or threat with a weapon. For those who reported at least one violent event in their lifetime (N = 855), 11.5% met the criteria for violence-related PTSD. Sexual violence suffered with the intimate partner was associated with a greater likelihood of PTSD, with women being more likely than men.

Orozco, Borges, Benjet, Medina-Mora and López-Carrillo (2008) applied the same instrument as Baker et al. (2005) to adolescents in the Metropolitan Area of Mexico City. The results showed that 68.9% of teenagers reported at least one traumatic event sometime in their lives, with differences

by sex. The prevalence of PTSD was 1.8% (2.4% women and 1.2% men), and sexual abuse was associated with the development of PTSD, regardless of sex, education or age. 28.2% of youth reported having experienced two or three traumatic events, while 13% reported four or more.

Leal, Vázquez and Cantú (2013) conducted a study that attempted to determine the prevalence of PTSD in family medicine units (FMUs) in six border cities in the northern state of Tamaulipas, Mexico. The results showed that PTSD was more common in women and the most common related factors were theft and rape and/or sexual abuse.

More recently, Rizo, Guevara, Hernandez & Sanchez-Sosa (2018) attempted to examine the prevalence of PTSD symptoms along with other psychopathologies such as depression and anxiety in abused adolescents in Mexico. Adolescents who experienced some form of abuse were found to be highly susceptible to developing psychopathology.

Definitely, there are few studies in Mexico that directly explore the community violence to which young people have been exposed and that analyze their relationship with PTSD symptoms. On the other hand, these studies do not explicitly differentiate between primary/direct or secondary/indirect violence and how each relates to PTSD symptoms.

This study aims to identify the types of victimization (direct or indirect) derived from the local context generated by the community violence in university youth, determine the PTSD symptoms they present, look at the relationship between the types of victimization and PTSD symptoms, and analyze how age, gender, or type of victimization predict PTSD symptoms.

## Methods

### *Research type*

This research is an empirical study with quantitative methodology, specifically, it is an ex post facto study of a retrospective type, with a single group and multiple measures (Montero and León, 2007).

### *Participants*

Students from a public university in the city of Victoria, state capital of Tamaulipas, located in northeast of Mexico, participated in the study. A non-probabilistic quota sampling was carried out, establishing a quota of 100 participants from the faculties of Law, Engineering, Nursing, Administration and Educational Sciences, in order to have the participation of students from different majors. Of the 509 participants who responded, nine (1.8%) who did not

answer the full battery were suppressed, leaving a sample of 500 participants.

The ages of the participants are between 17 and 26 years old ( $M=19.9$ ;  $SD=1.90$ ), 51% ( $n=257$ ) were female and 49% ( $n=243$ ) were male. Eighty-nine point two percent were single, mainly from the first to sixth semesters (90.3%), and with an academic performance average of 8.99. Eighty-two percent of the sample study in the evening shift, only 24.3% have a job, 50.5% carry out a sporting activity, and only 16% carry out an artistic or cultural activity.

### *Instruments*

Sociodemographic data were collected from the sample through a brief form asking for information on age, gender, major, semester, academic average, extracurricular activities, marital status and whether they currently have a job. In addition, the following instruments were applied to the sample:

*Victimization Scale* (Ruiz, 2007a). Composed of different violent situations with two levels: "Primary/direct level (To me personally)" which has 15 items and "Secondary/direct level (To your partner, a relative or a close acquaintance)" with 17 items. All items have two response options, "Yes" and "No". Situations of violence include robbery, extortion, sexual assault, kidnapping, and so among others. This scale is a checklist that has been used in other studies with young adult populations such as Ruiz (2007b), Ruiz y Turcios (2009) or Muratori y Zubieta (2013) but without reporting its psychometric analyses. In the present study, a validation of the content of the scale was carried out through the judgment of experts, and based on the results, three items were added, considering specific ways in which community violence manifests in the local context: "being shot", "detained in false checkpoints" and "being attacked by the army". When each level is added, total scores can be obtained for the primary level (0 to 18 points) and the secondary level (0 to 20). By applying the Kuder-Richardson coefficient (KR-20) for scales with dichotomous response options, the scale presented acceptable levels of internal consistency for direct ( $\alpha=.787$ ) and indirect ( $\alpha=.888$ ) levels.

*Brief Scale of Post-Traumatic Stress Disorder* (Breslau, Peterson, Kessler, & Schultz, 1999). This scale is composed of 7 items with two response options, "Yes" and "No", where the participant must indicate the symptoms that he or she has experienced after having lived through or witnessed an act of violence. The scale has 78% of sensitivity, 97% of specificity, 75% of positive predictive values, and 98% negative predictive values (Bohnert & Breslau, 2011). The cut-off point is 4 for the screening of PTSD symptoms. The scale in this study has an adequate internal reliability of .79.

### *Ethical Aspects*

The project was approved by the Teacher Professional Development Program (PRODEP) of the Secretary of Higher Education of Mexico, and was carried out according to the norms contemplated in the Code of Ethics of Psychologists (Mexican Society of Psychology, 2010).

### *Procedure*

First, an official letter was written with the information of the participating faculties in order to obtain authorization for the application of the instruments. Subsequently, upon the approval of the faculty directors, the application of the instruments was carried out in each classroom, beginning with the reading of the instructions by the researcher, as well as providing information on the utility of the results of the instruments, making clear the importance of each student's participation in this research. Before answering the instruments, each participant had to sign an informed consent form indicating that their participation was voluntary and that they were free to withdraw at any time from the study, without affecting their academic status, and that the data would be handled confidentially and anonymously. Then, the application of the instruments began, answering all questions that were generated in the course of the application, until every person finished answering the instruments.

### *Data Analysis*

Descriptive statistics of the variables of interest (direct and indirect victimization, and post-traumatic stress disorder symptoms) were first obtained, and the normal distribution of the data was verified using the Kolmogorov-Smirnov test. Subsequently, the relationship between the variables was analyzed using Spearman's Rho nonparametric correlation test, and the association between possible situations of violence leading to direct or indirect victimization and PTSD symptoms was analyzed with the chi-square test and the phi coefficient ( $\phi$ ). Finally, a stepwise logistic regression analysis was performed, with the dependent variable being the presence of post-traumatic stress disorder symptoms. In the first step, age and gender were introduced into the model as independent variables. In the second step, the variables of direct and indirect victimization were introduced, and finally, in the third step, the variable of interaction between direct and indirect victimization was introduced.

## **Results**

University students report to have been direct victims of a violent situation 2 times on average ( $M=2.19$ ,  $SD=2.69$ )

and 5 times as indirect victims ( $M=5.27$ ,  $SD=4.89$ ), that is to say, violent acts suffered by a relative or close person. Sixty-five-point six percent ( $n=328$ ) of the sample had been a direct victim of at least one community violence incident in their lifetime and 81.8% ( $n=409$ ) reported having been an indirect victim at least once in their lifetime.

The most frequent situations of direct victimization are: being chased by strangers by 27% ( $n=133$ ), 24% ( $n=122$ ) receiving obscene calls, 17% ( $n=86$ ) being victims of economic extortion, 17% ( $n=84$ ) being victims of house theft and 17% ( $n=84$ ) being victims of theft of objects in their car.

Regarding indirect victimization, the most frequent situations are: house robbery of a relative or close person by 46% ( $n=228$ ), 42% ( $n=208$ ) economic extortion of a relative or close person, 37% ( $n=183$ ) theft of objects in the car of a relative or close person, and 33% ( $n=169$ ) attempted robbery of a relative or close person.

It should be noted that there are situations that, although are not the most frequent, are experienced in the context of the battle against organized crime in northeastern Mexico. In this context, in situations of direct victimization we find that 13% ( $n=63$ ) report a violent death of someone close to them, and 1 out of 10 has been detained in false checkpoints; in terms of indirect victimization, 24% ( $n=118$ ) have been the victim of the disappearance of a relative and 2 out of 10 have close relatives who have been detained in false checkpoints.

Regarding PTSD symptoms, it was found that 20% ( $n=98$ ) of college students already have a positive diagnosis

of PTSD symptoms. Among the symptoms that show the highest percentage in the sample are "there is a decrease in my interest in activities that were pleasant to me before" with 45.7% and "I make efforts to avoid activities, places or people that remind me of the violent event" with 34.3% (See Figure 1).

The Kolmogorov-Smirnov normality tests for the three variables, symptoms of post-traumatic stress and direct and indirect victimization, were significant ( $p<.001$ ) so it is concluded that they do not show a normal distribution of data. When we correlate the types of victimization with PTSD symptoms using Spearman's Rho nonparametric test, we find low significant positive relationships that indicate that the greater the direct victimization ( $r=.251$ ;  $p<.001$ ) and the greater the indirect victimization ( $r=.267$ ;  $p<.001$ ), the greater the PTSD symptoms.

Among the situations of direct victimization associated with PTSD symptoms are: *attempted robbery* ( $\chi^2=6.141$ ,  $p=.017$ ), *car vandalism* ( $\chi^2=4.475$ ,  $p=.039$ ), *economic extortion* ( $\chi^2=9.710$ ,  $p=.004$ ), *being chased by strangers* ( $\chi^2=25.678$ ,  $p=.000$ ), *theft of objects in the car* ( $\chi^2=9.710$ ,  $p=.004$ ) and *being arrested at false checkpoints* ( $\chi^2=5.660$ ,  $p=.023$ ) (see Table 1). However, the phi test ( $\phi$ ) shows that these situations show a low degree of association, where the situation of being chased by strangers is the only one with a phi value greater than .2.

In the case of the situations of indirect victimization related to PTSD symptoms are: *theft of a motorcycle or family bicycle* ( $\chi^2=4.826$ ,  $p=.038$ ), *vandalism in the car*

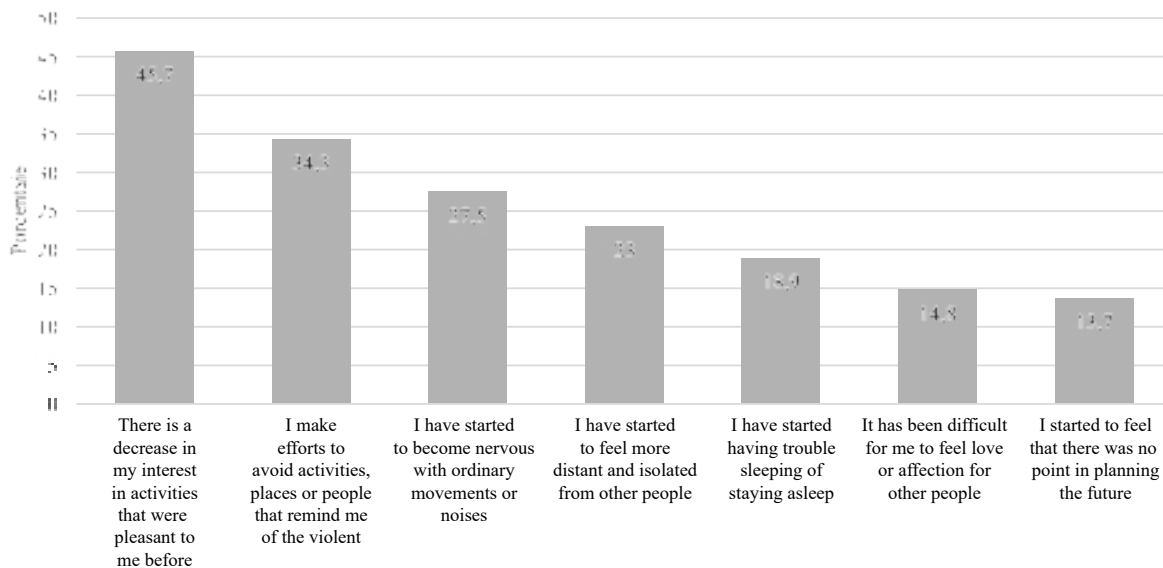


Figure 1. Post-traumatic Stress symptoms

Source: Own elaboration

( $\chi^2=4.203$ ,  $p=.044$ ), robbery with violence to a family member ( $\chi^2=7.065$ ,  $p=.011$ ), aggression or physical threats to a family member ( $\chi^2=8.124$ ,  $p=.006$ ), kidnapping a family member ( $\chi^2=5.377$ ,  $p=.023$ ), economic extortion ( $\chi^2=5.465$ ,  $p=.022$ ), being chased by strangers ( $\chi^2=17.914$ ,  $p=.000$ ), obscene calls to a family member ( $\chi^2=7.866$ ,  $p=.007$ ), violent death of a close person ( $\chi^2=5.155$ ,  $p=.033$ ), theft of objects in the car ( $\chi^2=12.260$ ,  $p=.001$ ), having a family member shot ( $\chi^2=7.582$ ,  $p=.009$ ), being detained at false checkpoints ( $\chi^2=8.522$ ,  $p=.006$ ) and assaults by the army ( $\chi^2=8.052$ ,  $p=.009$ ) (See Table 1). The phi tests ( $\phi$ ) show that the degree of association of all these situations is low, without any exceeding the value .2.

\* $p<0.05$ , \*\* $p<0.01$ \*\*\* $p<0.001$

A stepwise logistic regression analysis was performed to examine the predictive variable of post-traumatic stress

symptoms (see Table 2). The only predictor variable that is significant is indirect victimization (Wald=6.027, Exp [B]=1.077, 95% CI [1.037, 1.131],  $p<0.05$ ). Regarding the model fit, the significant change in the deviation shows a significant global fit ( $X^2=12.935$ ,  $p<0.0001$ ), confirmed with the Hosmer-Lemeshow Test ( $X^2=4.873$ ,  $p=0.771$ ) and it allows a correct estimation in 80.3% of the cases. On the other hand, the Nagelkerke  $R^2$  coefficient indicates that the logistic regression model explains 4.2% of the variance of the dependent variable.

## Discussion

The aim of this study was to look at the relationship between victimization of community violence and PTSD symptoms, differentiating between primary/direct and

Table 1.

*Association between possible situations of direct and indirect victimization with post-traumatic stress symptoms*

	Direct victimization/post-traumatic stress symptoms		Indirect victimization/post-traumatic stress symptoms	
	$\chi^2$	$\phi$	$\chi^2$	$\phi$
House theft	1.025	.046	.929	.043
Attempted house theft	<b>6.141*</b>	<b>.111*</b>	1.869	.061
Car Theft	1.024	.045	3.800	.088
Theft of motorbike or bicycle	.076	.012	4.826**	.099*
Vandalism in the car	4.475*	.095*	4.203*	.092*
Robberies with violence and intimidation	2.776	.075	<b>7.065*</b>	<b>.119**</b>
Robberies without violence and intimidation	.062	.011	.013	.005
Sexual assault	.038	.009	2.966	.077
Physical assault or threats	.312	.025	<b>8.124**</b>	<b>.129**</b>
Kidnapping	.034	.008	<b>5.377*</b>	<b>.104*</b>
Economic Extortion	9.710**	.140**	5.465*	.105*
Being chased by strangers	25.678**	.228***	17.914**	.190***
Obscene calls from strangers	2.474	.071	<b>7.866**</b>	<b>.126**</b>
Violent death of a close person	3.499	.084	<b>5.155*</b>	<b>.102*</b>
Theft of objects from the car	9.710**	.140**	12.260**	.157***
Disappearance	-	-	1.797	.060
Homicide	-	-	1.084	.047
Being shot	.407	.029	<b>7.852**</b>	<b>.124**</b>
Detention at false checkpoints	5.660*	.107*	8.522**	.131**
Assault by the army	1.626	.057	8.052**	.128**

Source: Own elaboration

Table 2.

*Logistic regression analysis of the presence of post-traumatic stress disorder symptoms*

	B	E.T.	Wald	gl	Sig.	Exp(B)
Gender	.086	.229	.139	1	.709	1.089
Age	.050	.062	.653	1	.419	1.051
Direct victimization	.073	.047	2.449	1	.118	1.076
Indirect victimization	.074	.030	6.027	1	.014	1.077
Direct/indirect victimization interaction	.001	.004	.087	1	.768	1.001

Source: Own elaboration

secondary/indirect violence. It is observed that 65.6% of the sample has been a direct victim of at least one incident of community violence in their life, which is a similar result to previous studies such as Medina-Mora et al. (2005) and Orozco et al. (2008). However, in contrast to these previous studies, secondary violence was also studied where 81.8% reported having been indirectly victimized at least once in their lives. Young university students have experienced approximately seven events of direct or indirect victimization, as reported by other studies conducted in Latin American samples (Rojas-Flores, Currier, Lin, Kulzer & Foy, 2013).

Within the events of direct victimization, the three most frequent events were being chased by strangers, receiving obscene calls and economic extortion; and the most frequent events in indirect victimization were theft, economic extortion and car theft from a family member. It was found that 1 out of 10 has been detained by false checkpoints directly and 2 out of 10 have close relatives who have been detained by false checkpoints; in addition, 24% have been victims of the disappearance of a relative. These data show that victimization due to such events is framed by the social context in northeastern Mexico, due to exposure to violent experiences derived from delinquency related to organized crime. In this regard, the survey "Los Miedos de México" conducted by Buendía and Laredo (2010) indicates that 38% of Mexicans mention that the violent experience they fear the most is kidnapping or that someone in their family is a victim of this crime, and it is even more feared than an earthquake; therefore, there is greater vulnerability to becoming victims of telephone extortion and to the fear of being kidnapped.

In recent years, violence and public insecurity have been affecting the coexistence and harmonious development of the border region of northern Mexico, which includes the states of Baja California, Chihuahua, Coahuila, Nuevo León, Sonora and Tamaulipas. Expressions such as impunity, organized crime, drug-trafficking, kidnapping, homicides, executions, settling of scores, robberies, juvenile delinquent behavior, failed security programs, mistrust and corruption

in police forces, and discretionary law enforcement are part of the daily experience of people that are wounded, hurt, fearful, and distrustful of the institutions in charge of enforcing justice at all three levels of government, with consequences for their quality of life and mental health (Monárrez and García, 2008).

The results indicate that young university students with greater direct or indirect victimization have greater symptoms of post-traumatic stress, although the correlations obtained are low. This is consistent with different studies that have pointed out that the nature, severity and cumulative effects of the exposure to violent events are risk factors for the onset of post-traumatic stress disorder (Brown, Hill & Lambert, 2005; Fowler et al., 2009; Scarpa, Haden & Hurley, 2006); or as indicated by the World Health Organization (2014), there are several consequences on the mental health in people living in violent contexts and within these consequences is PTSD. Similarly, indirect exposure to violent events, such as witnessing, hearing about violent acts, or knowing people close to them who are involved in violent acts are key factors in the development of PTSD symptoms (Walling, Eriksson, Putman & Foy, 2011). These results agree with the theory of victimization proposed by Vilalta (2012), which highlights the relationship between direct or indirect victimization and the psychological damage caused by the fear of crime and insecurity.

Another noteworthy result is that the only victimization situation that shows a greater degree of association with PTSD symptoms is being chased by strangers, in regard to the direct type. This would be related to research that shows that kidnapping is the type of violence most feared by Mexicans (Buendía and Laredo, 2010). In this study, however, no association is found between sexual assault and the development of PTSD, when previous research indicates that this type of assault is more related to the emergence of PTSD symptoms (Baker et al., 2005; Leal et al., 2013; Orozco et al., 2008). One possible reason is that the sample in this study shows low percentages of having suffered this type of aggression (4.4% at the direct level and

10.4% at the indirect level), so that no conclusive results can be obtained in relation to this aspect.

It is noted that in the results of this study the variable that most predicts the development of post-traumatic stress symptoms is indirect victimization, and not direct victimization, age or gender. In this regard, as Ruíz (2007b) mentions, the fear of becoming a victim of an aggression is related to the person's estimate of the probability of becoming the victim of a crime. So, the closer the experience is, for example, that something happened to a close relative or to be a witness, the greater the fear of being a direct victim. Because young university students in the northeast of the country are directly and indirectly exposed to violent events generated by the social context of organized crime, they are more vulnerable to developing symptoms of post-traumatic stress, mainly those who have had greater experiences of indirect victimization such as the kidnapping, being shot, or aggressions by the army, to a family member or known person.

This study asserts that the variable predicting the onset of PTSD symptoms is indirect victimization. In this regard, the fear of becoming the victim of an act of violence, despite its importance in the quality of life, is one of the least attended areas, and it negatively impacts our routines or habits, discouraging or limiting the performance of activities that we should generally be able to do freely; this fear causes a detriment in the mood and the development of PTSD symptoms. Therefore, policies of the reduction of the fear of crime should be considered as important as the policies of crime prevention and reduction.

Within the limitations of the study are the type of the sample, that is, university students, since it is likely that this sample is more privileged than the average person in the northeast of the country; likewise, this study did not consider the variable of socioeconomic status that is very important in the vulnerability of becoming a victim of community violence, which could explain the low variance of the PTSD symptom variable explained by indirect victimization. It is necessary to continue conducting studies that identify risk factors for the development of pathologies in mental health, due to the exposure of victimization events derived from contexts with the presence of community violence, since the results will contribute for the development of intervention programs, prevention and creation of public policies that impact the quality of life of the inhabitants of vulnerable communities.

## References

- American Psychiatric Association. (2014). *Manual Diagnóstico y Estadístico de los Trastornos Mentales. 5ta edición*. Arlington, VA: Editorial Médica Panamericana.
- Baker, C.K., Norris, F.H., Diaz, D.M., Perilla, J.L., Murphy, A.D. & Hill, E.G. (2005). Violence and PTSD in Mexico: gender and regional differences. *Social Psychiatry and Psychiatric Epidemiology*, 40(7), 519-28. Doi: 10.1007/s00127-005-0921-2.
- Bohnert, K.M. & Breslau, N. (2011). Assessing the performance of the short screening scale for posttraumatic stress disorder in a large nationally-representative survey. *International Journals of Methods in Psychiatric Research*, 20(1), e1-e5. Doi: 10.1002/mpr.331.
- Breslau, N., Peterson, E.L., Kessler, R.C., & Schultz, L.R. (1999). Short screening scale for DSM-IV posttraumatic stress disorder. *American Journal of Psychiatry*, 156, 908-11. Doi: 10.1176/ajp.156.6.908.
- Brown, J. R., Hill, H. M., & Lambert, S. F. (2005). Traumatic stress symptoms in women exposed to community and partner violence. *Journal of Interpersonal Violence*, 20, 1478-1494. Doi: 10.1177/0886260505278604.
- Buendía y Laredo (2010). *Los miedos de México*. México, D.F.
- Caballero, M.A. & Ramos, L. (2004). Violencia: una revisión del tema dentro del marco de trabajo de investigación en el Instituto Nacional de Psiquiatría. *Salud Mental*, 27(2), 21-30.
- Caballero, M.A., Ramos, L. & Saltijeral, M.T. (2000). El trastorno por estrés postraumático y otras reacciones en las víctimas de robo a casa. *Salud Mental*, 23(1), 8-17.
- Echeburúa, E. (2004). *Superar un trauma*. Madrid: Piramide.
- Elsaesser, C. (2018). The Longitudinal Relations between Dimensions of Community Violence Exposure and Developmental Outcomes among Adolescent Ethnic Minority males. *Psychology of Violence*, 8(4), 409-417. Doi: 10.1037/vio0000140
- Elsaesser, C., Gorman-Smith, D., Henry, D. & Schoeny, M. (2017). The Longitudinal Relation between Community Violence Exposure and Academic Engagement During Adolescence: Exploring Families' Protective Role. *Journal of Interpersonal Violence*, 32, 1-22. Doi: 10.1177/0886260517708404.
- Fowler P. J., Tompsett C. J., Braciszewski J. M., Jacques-Tiura A. J. & Balthes B. B. (2009). Community violence: a meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development & Psychopathology*, 21(1), 227-259. Doi: 10.1017/S0954579409000145.



- INEGI, Instituto Nacional de Geografía, Estadística e Informática (2018). *Encuesta Nacional de Victimización y Percepción sobre Seguridad Pública (ENVIPE) 2018*. [online].
- Javdani, S., Abdul-Adil, J., Suarez, L., Nichols, S.R. & Farmer, A.D. (2014). Gender differences in the effects of community violence on mental health outcomes in a sample of low-income youth receiving psychiatric care. *American Journal of Community Psychology*, 53(3-4), 235-48. Doi: 10.1007/s10464-014-9638-2.
- Leal, E.I., Vázquez, V.H. & Cantú, O.N. (2013). Prevalencia de estrés postraumático en unidades de medicina familiar de seis ciudades de la frontera México-Estados Unidos de América. *Atención Familiar*, 20(4), 114-117.
- Medina-Mora, M., Borgues-Guimaraes, G., Lara, C., Ramos-Lira, L., Zambrano, J. & Fleiz-Bautista, C. (2005). Prevalencia de sucesos violentos y de trastorno por estrés postraumático en la población mexicana. *Salud Pública de México*, 47(1), 8-22.
- Monárrez, J.E. & García, J. (2008). Violencia e inseguridad en la frontera norte de México. *Nósis. Revista de Ciencias Sociales y Humanidades*, 17(34), 42-65.
- Montero, I. & León, O.G. (2007). A guide for naming research studies in Psychology. *International Journal of Clinical and Health Psychology*, 7(3), 847-862.
- Muratori, M. & Zubieta, E. (2013). Miedo al delito y victimización como factores influyentes en la percepción del contexto social y clima emocional. *Boletín de Psicología*, 109, 7-18.
- Organización Mundial de la Salud [OMS] (2014). *Informe sobre la situación mundial de prevención de la violencia*. Washington, D.C.: OMS
- Organización Panamericana de la Salud [OPS] (2002). *Informe mundial sobre la violencia y la salud: resumen*. Washington, D.C.: OPS.
- Orozco, R., Borges, G., Benjet, C., Medina-Mora, M.E. & López-Carrillo, L. (2008). Traumatic life events and post-traumatic stress disorder among Mexican adolescents: results from a survey. *Salud Pública de México*, 50(suppl 1), S29-S37.
- Ramos, L., Caballero, M.A. & Saltijeral, M.T. (1995). Efectos psicológicos y psicosociales en víctimas de delitos: un estudio cualitativo. *Revista Psicología Social Personalidad*, XI(2), 115- 128.
- Ramos, L., Saltijeral, M.T. & Caballero, M.A. (1995). Violencia delictiva: impacto en la salud mental. *Psicología y Salud*, 5, 153-166.
- Ramos, L., Esteban, R., Saltijeral, M.T. & Caballero, M.A. (1997). Necesidades de atención a la salud mental en mujeres violadas. *Salud Mental (suplemento)* 20, 47-54.
- Rizo, L.E., Guevara, M.A., Hernández, M. & Sánchez-Sosa, J.J. (2018). A preliminary study of the prevalence of post-traumatic stress disorder, depression and anxiety symptoms in female adolescents maltreatment victims in Mexico. *Salud Mental*, 41(3), 139-144. Doi:10.17711/SM.0185-3325.2018.018
- Rojas-Flores, L., Currier, J., Lin, E., Kulzer, R. & Foy, D. (2013) "We are raising our children in fear"; War, community violence, and parenting practices in El Salvador. *International Perspectives in Psychology: Research, practice, Consulation*, 2(4), 269-285.
- Ruiz, J.I. (2007a). Cultura ciudadana, miedo al crimen y victimización: un análisis de sus interrelaciones desde la perspectiva del tejido social. *Acta Colombiana*, 10(1), 65-74.
- Ruiz, J.I. (2007b). Procesos sociales relacionados con el miedo al crimen, la satisfacción con la policía y la victimización: el caso de la cultura ciudadana. *International E-Journal of Criminal Sciences*. Artículo 1, Número 1.
- Ruiz, J.I. & Turcios, L.A. (2009). Percepción de seguridad, victimización y cultura ciudadana: sus relaciones en cinco contextos iberoamericanos. *Pensamiento Psicológico*, 6(13), 193-202
- Scarpa, A., Haden, S.C., & Hurley, J. (2006). Community violence and symptoms of posttraumatic stress disorder: The moderating effects of coping and social support. *Journal of Interpersonal Violence*, 21, 446-469. Doi: 10.1177/0886260505285726.
- Sociedad Mexicana de Psicología. (2010). *Código Ético del Psicólogo*. México, D. F.: Trillas.
- Vilalta, C. (2012). *Los determinantes de la percepción de inseguridad frente al delito en México*. (IDB working paper series, 381). Banco Interamericano de Desarrollo.
- Walling, S.M., Eriksson, C.B., Putman, K.M., & Foy, D.W. (2011). Community violence exposure, adverse childhood experiences, and posttraumatic distress among urban development workers. *Psychological Trauma: Theory, Research, Practice, and Policy*, 3, 42-49. Doi: 10.1037/a0020566.
- Wright, E.M., Fagan, A.A. & Pinchevsky, G.M. (2013). The effects of exposure to violence and victimization across life domains on adolescent substance use. *Child Abuse Neglect*, 37(11), 899-909. Doi: 10.1016/j.chiabu.2013.04.010.
- Zimmerman, G.M. & Posick, C. (2016). Risk Factors for and Behavioral Consequences of Direct Versus Indirect Exposure to Violence. *American Journal of Public Health*, 106(1), 178-88. Doi: 10.2105/AJPH.2015.302920.