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Kathleen A. O'Connor

Maricarmen Vizcalno

Nora A. Benavides

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Mental Health Outcomes of Drug Conflict Among University Students at the U.S.–Mexico Border

Kathleen O'Connor, Maricarmen Vizcaino, and Nora A. Benavides

University of Texas, El Paso

Abstract

The purpose of this cross-sectional study was to investigate to what extent young adults with close ties to Mexico were at greater risk for self-reported negative mental health outcomes than comparison groups during drug-related armed conflict from 2008 through 2012, and the effect of type and number of traumatic events on mental health outcomes. Using the Harvard Trauma Questionnaire and the Hopkins Symptom Checklist, 202 university students living in the El Paso–Ciudad Juárez border region were surveyed for symptoms of depression, anxiety, and posttraumatic stress. Students with close ties to Mexico reported symptoms of anxiety and posttraumatic stress at significantly higher rates compared with those without connection to Mexico, but there was no significant difference in rates of depression. Although more than a third of participants reported experiencing 5 or more traumatic events connected with the drug war, being confined to home had the most significant effect. Frequency of traumatic events reported by students as well as rates of anxiety and posttraumatic stress symptoms were higher among students with greater connection to Mexico. Rates of clinically-significant depressive symptoms among all students were higher than expected for U.S. adults but comparable with all U.S. college students. This study presents important new data on the mental health effects of Mexico's drug war.

Keywords

anxiety; armed conflict; depression; Mexican Hispanics; posttraumatic stress

Between 2008 and 2012, Mexico and particularly the city of Ciudad Juárez were stricken by extreme violence as a result of conflict between competing drug cartels, the Mexican military, and law enforcement. The conflict caused considerable uncertainty and instability for Mexican civilians, in addition to widespread social suffering. There is little systematic research being conducted on the mental health effects of this conflict on the Mexican population, a gap that this article addresses.

Original research from a cross-sectional study is presented here. The research investigated the extent to which exposure to armed conflict in northern Mexico between 2008 and 2012 increased negative mental health outcomes among young adults in this border region. A total

Correspondence concerning this article should be addressed to Kathleen O'Connor, School of Nursing, University of Texas, El Paso, 500 University, CHSN 316, El Paso, TX 79968. kaoconnor2@utep.edu.
Kathleen O'Connor, School of Nursing, University of Texas, El Paso; Maricarmen Vizcaino, Interdisciplinary PhD Program, University of Texas, El Paso; Nora A. Benavides, Department of Sociology and Anthropology, University of Texas, El Paso.

of 202 students aged 18 and older attending the University of Texas in El Paso (UTEP) were screened for symptoms of depression, anxiety, and posttraumatic stress using the Harvard Trauma Questionnaire and the Hopkins Symptom Checklist. Outcomes among Mexican Hispanic students with close ties through family, nativity, and residence to Ciudad Juárez were compared with outcomes among students with little or no connection to Mexico.

Because chronicity and severity of posttraumatic stress is affected by number and type of traumatic events (Panter-Brick, Grimon, Kalin, & Eggerman, 2014; Yasan, Saka, Ozkan, & Ertem, 2009), events experienced by participants were also analyzed as potential predictors for mental health outcomes. The research addresses a gap in the literature on the mental health effects on individuals of armed conflict in Ciudad Juárez. In addition, this research adds to the literature on armed conflict because there are little data on Mexico, although mental health issues resulting from conflict trauma in other geographical areas have been increasingly investigated (Ba o lu, Kilic, Salcioglu, & Livanou, 2004; Basoglu et al., 2005; Becker, Beyene, & Ken, 2000; Beiser, Hamilton, et al., 2010; Beiser, Wiwa, & Adebajo, 2010; Fortuna, Porche, & Alegria, 2008; Ganor, 2004; Glittenberg, 2003; Grayman, Good, & Good, 2009; Husain et al., 2011; Khamis, 1998; Mollica, 2004; Mollica, Cardozo, Osofsky, Raphael, Ager, & Salama, 2004; Theidon, 2001).

Background

There is little literature on armed conflict in Mexico for two notable reasons: one is that Mexico has not been known for internal armed conflict until recently, when relationships between drug trafficking organizations became unstable and volatile and the area was militarized by President Felipe Calderón; and second, because the situation remains somewhat unsafe for investigators. As many as 74 journalists and media support workers were murdered between 2006 and 2012 (Molzahn, Ferreira, & Shirk, 2013), to the point that many Mexican news sources, particularly at the border, adopted the policy of not covering drug violence, and blogs maintain strict anonymity. In addition, the Mexican government has not kept careful records nor been particularly forthcoming with information. Nevertheless, reliable sources collating all of the data can be found, particularly academic centers focusing on border studies such as the Kroc Center at the University of San Diego; small, online student-run journals at the University of Texas dedicated to documenting events in the El Paso border region (see, for instance *Borderzine.com* and *Mexodus.borderzine.com*); and individual authors writing on the drug war such as Anabel Hernandez, Ioan Grillo, Molly Molloy, Howard Campbell, John Gibler, and Charles Bowden (Bowden, 2010; Campbell, 2008, 2009; Gibler, 2011; Grillo, 2011; Hernandez, 2013; Molloy, 2013; Molloy & Bowden, 2011). Several blogs publish instant reports by citizen journalists about violent incidents as they occur, including graphically detailed photographs (such as *blogdelnarco.com* and *borderlandbeat.com*). Even so, resources are scarce: the drug war, like all ongoing conflicts, remains a moving target. One of the most up-to-date sources, El Blog del Narco, has recently been abandoned after three years because of death threats (*Texas Observer*, April 3, 2013; <http://www.texasobserver.org/exclusive-female-founder-of-mexicos-most-controversial-blog-speaks-for-first-time/>), but not before publishing a graphic compilation of its reports (Anonymous, 2012).

According to a report by the Trans-Border Institute of the Joan B. Kroc Center for Peace Studies at the University of San Diego, more than 50,000 Mexican civilians were murdered in drug-related violence between 2006 and 2012 (Molzahn, Ríos, & Shirk, 2012). Other writers systematically tracking the violence through news reports have arrived at significantly higher mortality figures of 100,000 to 130,000 homicides through 2012 as a result of the conflict (Corchado, 2013; Molloy, 2013). In addition, between 5,000 and 27,000 individuals (depending on the source) have also disappeared and are assumed dead; however, these are not counted among the recorded homicides. There is a sharp discrepancy between official Mexican government statistics and numbers gathered by nongovernment sources who attempt to maintain accurate counts gathered through journalists and citizen reports. Wherever the truth lies, as of 2013, mortality rates as a result of the conflict in Mexico have exceeded U.S. military deaths in the Vietnam War, the Shining Path conflict in Peru, and the 3-year Bosnian genocide, and are 10 times the number of U.S. military killed in action in Iraq and Afghanistan (U.S. Department of Defense, 2014). Drug-related violence accounted for more than 50% of all homicides in Mexico as of 2011; women, children, and other vulnerable populations have increasingly fallen victim (Molzahn, Rios, & Shirk, 2012). Additionally, the conflict was notable for its brutality: for every 47 people killed each day of 2011, three were tortured, one was decapitated, two were women, and 10 were young people under the age of 30 (Molzahn et al., 2013).

A considerable portion of this violence occurred in the border city of Ciudad Juárez, part of a binational metropolitan area shared with El Paso, Texas. A few hundred yards from Ciudad Juárez sits the University of Texas at El Paso (UTEP); activities on the ground in Ciudad Juárez can be easily observed from UTEP faculty offices. UTEP's majority minority¹ student demographic closely mirrors the surrounding region: of the more than 22,000 students enrolled at UTEP, 77.45% are Hispanic. Many students come from binational families with close relatives living in Ciudad Juárez, or commute to school from their homes on the Mexican side of the border. Ciudad Juárez and El Paso are in most ways one single large city: anything that affects Ciudad Juárez also affects El Paso because of strong cross-border business, family, and social ties. Thus, many young adults attending UTEP have been significantly impacted by the conflict.

There is a gap in research relating to Mexican-origin mental health in the U.S.–Mexico border region, much less about trauma from armed conflict among Mexican Hispanics (Kaltman, Hurtado de Mendoza, Gonzales, Serrano, & Guarnaccia, 2011). In nonconflict situations away from the border region, Hispanic immigrants have been found to enjoy significantly better mental health outcomes than U.S.-born Hispanics or U.S. Whites (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000). Mexicans are also less likely than other Latino groups to have been exposed to political or civil violence (Fortuna et al., 2008). However, Mexican-origin Hispanics in the El Paso border region, even before the worst years of the conflict, report significantly higher rates of depression than immigrant groups or native born Hispanics (O'Connor et al., 2008). The additional stressor of an armed conflict thus increases the risk of negative mental health outcomes in a population that has already

¹The term "majority-minority" refers to a local demographic in which a minority group makes up the actual majority of the population.

been documented as experiencing high rates of depression (Aker, Önen, & Karakiliç, 2007; Amin & Khan, 2009; Ayazi, Lien, Eide, Swartz, & Hauff, 2014; Ba o lu et al., 2004; Fortuna et al., 2008; Husain et al., 2011).

The research questions being investigated in this study were two: whether young adults in the El Paso border region were being negatively impacted by the ongoing conflict in terms of mental health; and whether there was a correlation between type and number of conflict-related traumatic events reported by participants. The main hypothesis was that their mental health was in fact being affected, especially students who live in Juárez and commute to El Paso for school, and Mexican Hispanic students living in El Paso from binational families, with most of their families still residing in Juárez. In addition, the data were expected to show a positive correlation between type and number of traumatic events and mental health outcome.

Method

After obtaining permission to conduct research with human participants from the University of Texas, El Paso, Institutional Review Board, interviews were conducted with 202 students in a cross-sectional design between June 2011 and May, 2012. Participants were recruited via convenience sampling through flyers, ads, and word of mouth (snowball sampling). These sampling methods were used to allow participants to self-select so that the potential for social and physical risk to participants was diminished (Gül en, Knipscheer, & Kleber, 2010). Because involvement in the drug business is widespread in El Paso, the need for privacy and confidentiality takes on additional importance so that participants are not perceived to be revealing information about drug cartels that might put them in personal danger. Participants were not asked whether they were involved in the drug trade. Any student over 18 years old attending the University was eligible to participate in the study.

Participants contacted the Principal Investigator by phone or text, and convenient individual appointments were arranged. Interviews took place in the private office of the Principal Investigator. After obtaining informed consent, investigators administered two surveys. Students were surveyed for symptoms of depression, anxiety and posttraumatic stress using the four-part Harvard Trauma Questionnaire (HTQ) and the 25-item Hopkins Symptom Checklist (HSCL). These instruments provide clinically significant assessments of emotional health, can be administered by clinicians or nonclinicians alike, and were designed for implementation in conflict situations.

Part One of the HTQ lists 46 specific trauma events, and the participant was asked to endorse the events that s/he ever experienced in a lifetime. Part Two of the HTQ requests a voluntary account of a traumatic experience not listed in the first portion of the survey. Participants were invited to share two narratives: any other additional lifetime traumatic event and an additional event, if different, associated with the conflict between 2008 and 2012 in Ciudad Juarez. These narratives were audiotaped for analysis and presented in a separate publication (O'Connor, 2014). The interviews took between a half hour and an hour to administer the surveys and audiotape participant narratives. Participants were given cash

gifts of \$10 for participating in the study. Participants were also advised where to obtain free mental health services on campus, if required.

To test the hypothesis that students with close ties to Mexico experienced greater rates of negative mental health outcomes from exposure to the Mexican conflict than students with little or no connection to Mexico, participants were divided into four groups according to residence, ethnicity, and ties to Mexico. Mexican Hispanic students who commute every day from Ciudad Juárez to attend school represented the Hispanic Commuters group (HC; $n = 36$); Mexican Hispanic students with relatives or friends in Ciudad Juárez whom they visited regularly, at least once a month, or in one case via online resources such as daily Skype sessions represented the Hispanics with close Relatives group (HR; $n = 102$). The comparison groups were composed of students with little or no connection to Mexico, defined as not more than two telephone calls per year and no visits. These groups were Hispanic students with no connection to Mexico (HN; $n = 33$); and Non-Hispanic students (NH; $n = 31$).

Further analysis was conducted by combining the groups with close ties to Mexico (HR and HC) and the groups without close ties to Mexico (HN and NH) to test the hypothesis that students with close ties to Mexico experienced greater levels of negative mental health outcomes than students with little or no connection to Mexico regardless of residency. All students attended the University of Texas at El Paso. A description of age, gender, and ethnicity by group can be found in Table 1.

Scoring

The Hopkins Symptom Checklist and the Harvard Trauma Questionnaire were scored according to instructions provided by the Harvard Program on Refugee Trauma, copyright owner of the Harvard Trauma Questionnaire. Participants responded to questions corresponding to *Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR)* criteria for depression, anxiety and posttraumatic stress in a four-point Likert scale ranging from *not at all* (1 point) to *extremely* (4 points). Cut-off points of 1.75 for the HSCL and 2.00 for the HTQ “accurately reveal checklist positive (+) persons for major depression and PTSD, respectively, in most clinical populations (Mollica, McDonald, Massagli, & Silove, 2004, p. 109). Hence, participants reporting anxiety and depression scores equal to or greater than 1.75 in the Hopkins Symptom Checklist were considered symptomatic, whereas participants reporting PTSD scores equal or greater than 2.0 from the Harvard Trauma Questionnaire Part Four were considered symptomatic for posttraumatic stress.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS, version 20.0). Data were assessed for normality before statistical analysis. Preliminary results showed significant positive skewness in all mental health variables under investigation. An attempt was made to normalize the data through a logarithm conversion; nonetheless, variables continue to show significant non-normality. Hence, parametric statistical techniques were chosen for analysis.

A Kruskal-Wallis H test was used to assess potential differences in levels of anxiety, depression, and PTSD between the four groups previously described (HC, HR, HN, and NH). Similarly, a Mann-Whitney Rank-Sum test was performed to compare mental health outcomes between the groups “close ties to Mexico” and “no ties to Mexico.” The null hypotheses were that there would be no difference between groups as indicated by levels of reported symptoms.

A chi-square test of independence was also conducted to assess the possible association between group membership and presence of clinically significant mental health symptoms (see Table 2). That is, we examined whether belonging to a particular group was associated with clinically significant symptoms of anxiety, depression, and PTSD. Lastly, another chi-square test was used to examine the possible association between group membership and experienced traumatic events as reported by participants (see Table 3). Significance was set at $\alpha = .05$ for all analyses.

Results

Tables 2 and 3 show percentages of participants reporting clinically significant symptoms by group, and percentages of the most frequently reported traumatic events experienced by the participants in the study, respectively, along with the results from the χ^2 analysis. Overall, 44% of all participants had experienced the murder or death attributable to violence of a family member or friend, and had felt confined to their homes because the social environment outside the home was too dangerous to venture outside. More than 40% of all participants had experienced robbery or extortion and/or the serious physical injury of a family or friend because of the drug violence, with nearly 40% experiencing the disappearance or kidnapping of a family member or friend. More than a third of all participants felt themselves to be in a situation of armed conflict or combat, a question posed in such a way that participants could define their personal perceptions of the violence. Likewise, nearly a third of all participants had witnessed a killing or murder, or a homicide victim lying in a street or other public place. Finally, more than 36% reported experiencing a traumatic event unrelated to the drug violence. Some examples mentioned by individual participants included medical issues, car accidents, domestic violence, being shot at in the context of military deployment or domestic/neighborhood violence, and dangerous weather.

Table 3 shows the percentage of conflict-related traumatic events with two participant groups, young adults with close ties to Mexico (original Groups HR and HC) versus those without such ties (original Groups HN and NH). A χ^2 test was again performed. The results show that for all traumatic events except for the open-ended item “another frightening situation,” there is a statistically significant association between a participant’s relationship to Mexico and experiencing a traumatic event consistent with conflict. Thus Mexican Hispanic students who lived in Ciudad Juárez or who had close familial or friendship ties to Mexico were at increased risk for conflict trauma-related mental health sequelae than Mexican Hispanic or non-Hispanic students with no ties to Mexico.

The Kruskal-Wallis H test (see Table 4) showed statistically significant differences in the mean ranks of anxiety, $\chi^2(3) = 9.754, p = .021$, and PTSD, $\chi(3) = 8.909, p = .031$, between

groups. On the contrary, no statistically significant differences was found in depression mean ranks between groups, $\chi^2(3) = 1.849, p = .604$. Hence, multiple Mann–Whitney tests for anxiety and PTSD were conducted as post hoc analyses (see Table 5).

Results indicated that Hispanic students who commute every day to school (HC) had significantly higher mean ranks in anxiety compared with Hispanics with little or no connection to Mexico, $p = .012$. Likewise, students with relatives in Mexico (HR) also showed significantly higher mean ranks in anxiety compared to Hispanics with little or no connection to Mexico, $p = .005$. Nonetheless, no differences were found in anxiety between commuters and Hispanic students with relatives in Mexico (HR), $p = .938$. No other significant differences were found.

Similarly, Hispanic commuters (HC) had significantly higher mean ranks in PTSD compared to Hispanics with little or no connection (HN) to Mexico and non-Hispanics (NH), $p = .025$ and $p = .026$, respectively. Moreover, students with relatives in Mexico (HR) also showed significantly higher mean ranks in PTSD compared with Hispanics with little or no connection (HN) to Mexico and non-Hispanics (NH), $p = .048$ and $p = .047$, respectively. However, no differences were found between commuters (HC) and students with relatives in Mexico (HR), $p = .513$, or between those with little connection to Mexico (HN) and non-Hispanics (NH), $p = .872$.

Furthermore, the Mann–Whitney test assessing differences in mental health symptoms between participants with close ties to Mexico and participants without ties to Mexico showed similar distributions of mental health scores between groups, as assessed by visual inspection. Median anxiety and PTSD scores were significantly higher in those with ties to Mexico compared with those without ties to Mexico; $U = 3252, z = -3.023, p = .003$ and $U = 3294, z = -2.904, p = .004$, respectively. No differences were found in depression median scores between groups; $U = 3952, z = -1.202, p = .229$.

Table 6 shows frequency and type of traumatic event for the two groups. A χ^2 test shows that when groups are examined according to how close participants feel to Mexico, the association between group membership and trauma events is consistently statistically significant with the exception of “another frightening situation.”

Discussion

The study showed that the greater connection individuals have to Mexico and Ciudad Juárez during the drug-related armed conflict of 2008 through 2012, the greater the likelihood that they were exposed to traumatic events, with a corresponding increase in prevalence for negative mental health outcomes as a result. Data also showed that negative mental health outcomes were associated with both type and number of traumatic events experienced by individuals. However, an unexpected result was that although in the initial analysis there appeared to be no difference between groups, because mental health symptoms may be caused by a variety of stimuli (such as existential doubts; hormonal changes; employment; family and health troubles; lack of purpose in life and emptiness; and so forth), when participants were exposed to violence-related traumatic events the analysis was very

different. Collapsing the groups into two general groups, with/without close ties to Mexico (see Table 6) the commuters (HC) and participants with family in Ciudad Juárez (HR) clearly show greater numbers of violence-related traumatic events among these groups compared with the Hispanic without connection to Mexico (HN) and non-Hispanic (NH) groups. The lack of significant difference between groups even though the HC and HR groups experienced more violence-related traumatic events strongly suggests emotional resilience among Mexican Hispanics. New research is currently underway to investigate resilience among young adult Mexican Hispanics in Ciudad Juárez.

There was a statistically significant difference in all trauma events experienced between groups, except for “another frightening situation.” Again, this open-ended item could have been anything as noted above, from the diagnosis of a serious illness to the sudden death of a loved one, events that are part of the human condition regardless of nationality or ethnicity. However, in conflict-torn places like Ciudad Juárez between 2008 and 2012, people were exposed to additional violence-related traumatic events such as kidnapping, murder, and random arms fire.

There was a significant difference between the prevalence of depression in the U.S. population according to CDC and prevalence in the student sample. The total prevalence of depression among participants was 31.9%, compared with the estimated 8% prevalence among the general adult population in the U.S. (Centers for Disease Control & Prevention, 2014). In the aggregate, 31.9% of students reported experiencing clinically significant rates of depressive symptoms. These rates correspond to the approximately 30% recorded by the National Institute of Mental Health for disabling depression among college students across the United States, a phenomenon that merits further scrutiny (National Institute of Mental Health, 2012). However, among students with close ties to Mexico, analysis showed that depression was significantly associated with specific trauma events, particularly being confined to home and having family or friends harmed or killed in the violence. In addition, the number of trauma events experienced was positively associated with depression.

In the most significant finding of the study, participants reported feeling like they were living in a dangerous environment that confined them to their homes for safety and precluded engagement in normal daily activities. The dangerous environment caused the most distress and was the single most significant predictor of anxiety, depression, and posttraumatic stress. Not being able to leave the relative safety of one's home means that no one can purchase groceries, fill prescriptions, visit or care for elderly relatives, or have a normal social life; all essential daily activities. In a dangerous environment such as that caused by conflict, social networks are disrupted and weakened and the chronically ill are put at risk. Student commuters, fearfully negotiating travel through town and across the border to attend class, and students with family and friends in Ciudad Juárez who felt unsafe going to visit, experienced oppressive and unwelcome changes to daily life that, according to the data, have a deleterious effect on mental health. We hypothesize that these outcomes are generalizable to the larger community of Ciudad Juárez, subjected to the same conditions. The results from the study bear this out: students with close ties to Mexico reported experiencing anxiety and posttraumatic stress at significant rates compared with the

other group, as a result of feeling restricted in their movements and activities because the city streets were dangerous.

When the data were analyzed by gender and number of traumatic events, females were at greater risk for depression, anxiety, and posttraumatic stress; males were at increased risk for posttraumatic stress, but less so with regard to depression and anxiety. We are not able to explain this finding within the scope of this study, but believe it merits further qualitative research to probe the dual roles of gender and power in the context of conflict in Mexican and Mexican American cultural norms. Posttraumatic stress can result from the suppression of symptoms and feelings; males in the study may have been attempting to “stay strong” but nevertheless experiencing symptoms of traumatic stress such as hyperarousal, intrusion, and avoidance. Further, young Mexican men are allowed more social freedom than young women, putting males more frequently in social situations that increase risk.

The non-Hispanic comparison group, NH, with no or weak ties to Mexico, tended to be older and were more likely to be graduate students. A number of the NH participants were active military whose experiences reflected those of deployment. The murder or death of family or friend and combat situation were significantly associated with depression and anxiety, respectively. The open-ended item in Part 1 of the Harvard Trauma Questionnaire asking about “another frightening event,” was the most frequently reported frightening or traumatic occurrence for the comparison groups, but none were related to the violence in Mexico. These events included traumatic experiences while deployed: family deaths, cancer, car accidents, and domestic violence including early child abuse.

Nearly half of all participants had a relative or friend murdered in the violence. Although participants self-selected, this is still an astounding number of people in a single community to have experienced such deeply traumatic personal tragedy.

Limitations

Because this was a cross-sectional study with limited qualitative data, we are not able to determine causality or temporality but can only infer associations between mental health outcomes as indicated through the surveys. In addition, participants self-selected and also directed their colleagues to participate; for this reason the sample was biased toward students who had experienced losses or trauma in the conflict. However, this phenomenon indicated that students were interested in sharing narratives with a neutral party in a confidential space, although many also indicated that they would not seek counseling even though it was available. The narratives collected as Part 2 of the Harvard Trauma Questionnaire suggest links between outcome and traumatic event; however, because of space limitations the narratives have been presented in a different forum (O'Connor, 2014).

Conclusion

The results of the study provide a window onto the drama with which border students have been contending since 2008 when the drug war accelerated. That year, Ciudad Juárez became “Murder City” (Bowden, 2010; Molloy & Bowden, 2011), with approximately eight homicides per day at the height of the violence in 2010. The sheer numbers and staggering viciousness of the violence obscures significant risk to civilian mental health, and the

outcomes remain understudied, underfunded, and underserved. That a third to a half of the students surveyed had experienced a death in the family attributable to homicide, had been robbed or extorted, witnessed a dead body in the street, and felt themselves to be in the midst of an armed conflict demonstrates the scope of the violence that has defined Ciudad Juárez, and Mexico as a whole, for the last half decade.

The situation at the University of Texas in El Paso may be unique in that there is no physical distance between the university and Ciudad Juárez, both part of a single binational metropolitan area with many students from binational families or commuting from Mexico to school. As a result, students have been very affected by the events in Mexico. Although El Paso is a Federally-Designated Mental Health Professional Shortage Area, the university provides free counseling to students and has expanded those services as a result of recent increased demand. There nevertheless remains a chronic and significant shortage of mental health professionals in El Paso. But this is a serious global problem, not limited to El Paso or to this particular conflict situation.

In addition, students were asked informally if they would use the services provided, and approximately half said they would not. Very few felt that support groups were an appropriate response because of privacy concerns. Cultural preferences present an important factor to consider in terms of help-seeking behavior among Hispanics. It would seem that Mexicans and Mexican Americans do not see themselves or their culture as being at risk for internal armed conflict, and many have minimized the recent conflict. New research is ongoing that investigates resilience among Mexican Hispanics, mental health treatment preferences of the Mexican-origin Hispanic community, and culturally appropriate interventions. It was very clear to investigators in this study that students needed to talk about their experiences while cultural norms may have prevented them from doing so freely.

In sum, the results of the data show the effects of the drug war in Mexico among border residents in the El Paso region. Participants appear to be simply exceptional in the sense that they defy all predictions by maintaining low levels of mental health symptoms in spite of being exposed to significant and frequent conflict-related traumatic events.

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Table 1

Descriptive Characteristics of Participants by Group

Characteristic	Group				Total
	HR	HC	HN	NH	
Gender					
Male	42 20.8%	17 8.4%	8 4.0%	11 5.4%	78 38.6%
Female	60 29.7%	19 9.4%	25 12.4%	20 9.9%	124 61.4%
Age					
18–22	69 34.2%	27 13.4%	15 7.4%	7 3.5%	118 58.4%
23–30	21 10.4%	6 3.0%	11 5.4%	12 5.9%	50 24.8%
30+	12 5.9%	3 1.5%	7 3.5%	12 5.9%	34 16.8%
Ethnicity					
Hispanic	102 50.5%	36 17.8%	33 16.3%	0 0.0%	171 84.7%
Non-Hispanic	0 0.0%	0 0.0%	0 0.0%	31 15.3%	31 15.3%

Note. HR = Hispanic students with relatives in Mexico whom they visit regularly; HC = Hispanic students who live in Ciudad Juárez and commute to UTEP for school; HN = Hispanics students with no connection to Mexico; NH = Non-Hispanic students.

Percentage of Participants Reporting Symptomatology of Mental Health Symptoms in Each Group

Table 2

Mental health symptom	Group				χ^2 test
	1	2	3	4	
Anxiety	29.4%	30.6%	12.1%	25.8%	.233
Depression	32.4%	27.8%	27.3%	35.5%	.859
Posttraumatic stress disorder (PTSD)	10.8%	11.1%	6.1%	9.7%	.874

Note. The chi-square test was conducted to assess the relationship between the categorical variables group and mental health symptoms; significance was set at alpha .05. 1 = Hispanic students with relatives in MX; 2 = Hispanic students who commute from Juarez; 3 = Hispanic students with little or no connection to Mexico; and 4 = Non-Hispanic students.

Table 3

Percentage of Trauma Events Reported by Each Group

Traumatic event	Group				All groups	χ^2 test
	1	2	3	4		
Combat situation	33.3	58.3	18.2	22.6	33.7	.002*
Robbery/extortion	39.2	77.8	18.2	25.8	40.6	.000*
Confined because of danger outside	44.1	77.8	18.2	29.0	43.6	.000*
Murder or death of family member or friend	51.0	61.1	33.3	12.9	44.1	.000*
Disappearance/kidnapping of family member or friend	48.0	61.1	15.2	12.9	39.6	.000*
Serious physical injury of family member or friend	45.1	61.1	21.2	35.5	42.6	.007*
Witness killing/murder	34.3	52.8	18.2	16.1	32.2	.003*
Another frightening situation	39.2	44.4	24.2	32.3	36.6	.298

Note. 1 = Hispanic students with relatives in MX; 2 = Hispanic students who commute from Juarez; 3 = Hispanic students with little or no connection to Mexico; and 4 = Non-Hispanic students. Another frightening situation included traumatic situations not related to the drug violence. The chi-square test was conducted to assess the relationship between the categorical variables "Group" and "Traumatic event"; significance was set at alpha .05.

Mean Ranks of Mental Health Outcome Scores by Group as Assessed by the Kruskal-Wallis Test

Table 4

Outcome	Group			χ^2	p value
	HR	HN	NH		
Anxiety	109.63	110.81	77.82	89.16	9.75 .02*
Depression	105.02	104.42	89.77	99.02	1.85 .60
PTSD	107.61	115.36	84.52	83.39	8.91 .03*

Note. HR = Hispanic students with relatives in Mexico whom they visit regularly; HC = Hispanic students who live in Ciudad Juárez and commute to UTEP for school; HN = Hispanics students with no connection to Mexico; NH = Non-Hispanic students.

* Significance was set at alpha .05.

Table 5

Mean Ranks of Mental Health Outcome Scores by Group as Assessed by the Mann–Whitney U Test

Outcome	Group		Mann–Whitney <i>U</i>	<i>p</i> value
	Close ties to Mexico	No ties to Mexico		
Anxiety	109.93	83.31	3252	.003*
Depression	104.86	94.25	3952	.229
PTSD	109.63	83.97	3294	.004*

Note. The “Close ties to Mexico” group was composed of two samples: Hispanic students who commute every day from Ciudad Juárez to attend school ($n = 36$) and Hispanic students with relatives or friends in Ciudad Juárez whom they visited regularly, at least once a month, or in one case via online resources such as daily Skype sessions ($n = 102$). The “No ties to Mexico” group was composed of Hispanic students with little or no connection to Mexico, defined as not more than two telephone calls per year and no visits ($n = 33$) and non-Hispanic students ($n = 31$).

*Significance was set at $\alpha < .05$.

Table 6

Percentage of Trauma Events Experienced by Each Group

Traumatic event	Group		χ^2 test
	Close ties to Mexico	No ties to Mexico	
Combat situation	39.6%	23.2%	.020*
Robbery/extortion	48.5%	26.1%	.002*
Confined because of danger outside	51.5%	27.5%	.001*
Murder or death of family member or friend	53.7%	24.6%	.000*
Disappearance/kidnapping of family member or friend	53.0%	13.0%	.000*
Serious physical injury of family member or friend	47.8%	33.3%	.049*
Witness killing/murder	38.1%	21.7%	.019*
Another frightening situation	39.6%	31.9%	.284

Note. The “Close ties to Mexico” group was composed of two samples: Hispanic students who commute every day from Ciudad Juárez to attend school ($n = 36$) and Hispanic students with relatives or friends in Ciudad Juárez whom they visited regularly, at least once a month, or in one case via online resources such as daily Skype sessions ($n = 102$). The “No ties to Mexico” group was composed of Hispanic students with little or no connection to Mexico, defined as not more than two telephone calls per year and no visits ($n = 33$) and non-Hispanic students ($n = 31$).

* Significance was set at $\alpha < .05$.