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Interpersonal Violence and its Association with US Migration Desires and Plans among Youths in Guanajuato, Mexico

Tanya Nieri,

Department of Sociology, UC Riverside, 1216 Watkins Hall, Riverside, CA 92521, USA

Steven Hoffman,

Southwest Interdisciplinary Research Center, 411 N. Central Ave., Suite 720, Phoenix, AZ
85004-0689, USA

Flavio Francisco Marsiglia, and

Southwest Interdisciplinary Research Center, 411 N. Central Ave., Suite 720, Phoenix, AZ
85004-0689, USA

Stephen S. Kulis

Southwest Interdisciplinary Research Center, 411 N. Central Ave., Suite 720, Phoenix, AZ
85004-0689, USA

Tanya Nieri: tanyan@ucr.edu

Abstract

This study examined interpersonal physical and sexual violence and its association with desires and plans to migrate to the USA among 500 alternative high school students, aged 14–17 years, from Guanajuato, Mexico. Two thirds of the youths had ever experienced interpersonal violence, the most common form being physical fights. More youths, and more boys relative to girls, reported wanting to migrate than planning to migrate. Although those who had experienced interpersonal violence were not more likely to want to migrate to the USA, their odds of planning to migrate were 44% greater. Gender did not moderate the effect of interpersonal violence.

Keywords

Migration; Adolescence; Violence; Mexico

Introduction

While mass violence (e.g., war) has long been recognized as a push factor in driving migration (Ravenstein 1885, 1889; Lee 1966), less attention in the research on international migration has focused on interpersonal violence as a push factor, particularly among youths. Little is known about how the experience of interpersonal violence relates to Mexican youths' motivation and decision to migrate to the USA. Migration from Mexico to the USA has historically been motivated largely by economics—specifically, limited access to capital and credit in Mexico coupled with greater job opportunity in the USA (Alba et al. 1999). Since the US government passed the Immigration Reform and Control Act of 1986, which intended to curtail immigration but effectively made it easier for family members from Mexico to legally join their migrant kin in the USA, family reunification has increasingly

become another common motivation for migration (Durand et al. 2003). Network factors, such as social and economic ties between communities in Mexico and communities in the USA, also facilitate migration by providing motivated individuals with capital in the form of places to stay, job leads, etc. (Alba et al. 1999). While economics, reunification, and social networks explain broad patterns of Mexican migration to the USA, they do not completely explain migration at the individual level (Boneva and Frieze 2001; Rogler 1994).

The desire to migrate to the USA among individual Mexicans, particularly those from high migration-sending areas such as the state of Guanajuato, is normative (Kandel and Massey 2002). As many as 40% of youths in central Mexico expressed a desire to work in the USA, and 35% expressed a desire to live there (Kandel and Massey 2002). These numbers increase when family members have US migration experience. For example, among youths whose fathers had been to the US three or more times, 60% had a desire to work in the USA and 50% had a desire to live there (Kandel and Massey 2002).

The present study examines desires and plans to migrate to the USA among a sample of youths from the state of Guanajuato, a “historic region” of migration (Durand and Massey 2003), from which the first laborers left to work in the USA in the early 1900s (Arias and Durand 2005). We focus on the extent and type of interpersonal violence experienced, be it through perpetration or victimization. Here, we define interpersonal violence as threats of or actual physical or sexual violence between individuals, such as peers, family members, and romantic partners. We also examine the relationship between interpersonal violence and a young person’s desire and plan to migrate to the USA. In so doing, we aim to fill the gaps in the literature on youth violence and the effects of pre-migration interpersonal violence, particularly among youths, deepen our understanding of responses to interpersonal violence, examine interpersonal violence as a push factor in international migration—one that may be experienced and acted on in ways that differ for boys and girls—and respond to calls for greater attention to youth migration and the “mobility of youthful bodies” (Castellanos 2007: 1) by treating age as a significant category of analysis rather than merely a variable. We hypothesize that interpersonal violence experience will be positively related to youths’ desires and plans to migrate to the USA.

Interpersonal Violence Among Mexican Youths

Many youths in Mexico are exposed to physical, sexual, economic, and psychological violence. This violence has long-lasting consequences, ends many young lives each year, and is often hidden and sometimes socially condoned (Secretary of Health of Mexico 2007; United Nations 2006). For example, national statistics reported by the Secretary of Health of Mexico (2007) indicate that murders of children under 15 years of age occur nearly daily and that murder is the second most common cause of death among youths aged 15 to 19. Just over half of all girls aged 15 to 19 who live with a partner have suffered at least one violent incident in the last year. Official rates of child abuse are similarly high. Furthermore, surveys with children themselves suggest rates of violence exposure that are much higher than rates indicated by official statistics (Secretary of Health of Mexico 2007).

Much research on interpersonal violence among youths in Mexico has focused on urban violence, caused in large part by structural conditions that keep young people poor and socially isolated (e.g., Sanchez 2006; Castillo Berthier 2002). One study of 3,005 adolescents (aged 12–17) in metropolitan Mexico City found that 6% had experienced sexual violence, 19% had experienced physical violence, 16% had been mugged or threatened with a weapon, 2% had accidentally caused serious injury or death, and 0.7% had purposely injured, tortured, or killed someone (Orozco et al. 2008). Sexual violence was more common among girls than boys whereas weapon threats were more common among boys. The amount of physical violence was comparable for boys and girls.

Another stream of research on youth violence has focused on rural or border violence associated with other criminal activity, such as gang activity, drug trafficking, and human trafficking (e.g., Solis 2006). An additional line of research focuses on violence among students who are part of the traditional school system (e.g., Instituto Nacional de Salud Pública 2009; Ramos-Lira et al. 2006). A study of 12,862 public school students, aged 10–19 years, in the central Mexican city of Morelos found that 14% had experienced physical violence at the hands of a family member (Rivera-Rivera et al. 2005). Boys relative to girls and urban youths relative to rural youths were more likely to have experienced this violence. In addition, youths who experienced this violence were more likely than youths who had no such experience to self-report violence perpetration. Studies of youths in traditional schools may lose substantial segments of students to dropout; thus, their findings may not fully capture the extent of violence or its consequences among youths.

Further research on the extent and consequences of youth violence is needed—in particular, research on less severe (as compared to murder) but common forms of interpersonal violence, violence among youths in semi-urban and rural areas, including central Mexico, and violence among youths who attend non-traditional schools. The present study addresses this gap in the literature by examining the level of various forms of interpersonal violence experienced by adolescents in Guanajuato, central Mexico. Because the sample includes students from a non-traditional school system, it reduces the likelihood of sample biases associated with the loss of students due to dropout.

Violence and Migration

Research on the relationship between pre-migration interpersonal violence and international migration is fairly limited. Certainly, macro-level forms of violence, such as war and genocide, have been shown to motivate internal and external migration, particularly at the group level (Martin and Widgren 2002). Micro-level forms of violence have also been linked to migration (Massey and Sanchez 2010). The domestic violence literature, for example, documents how some women choose to migrate to escape battering relationships (Menjívar and Salcido 2002; Alcalde 2006; Kleven 2007). Other forms of gender-based violence, such as female circumcision and honor killings, also motivate migration, primarily in the form of asylum seeking (Oxford 2005).

The majority of research on the interpersonal violence–international migration relationship has focused on post-migration violence. For example, some studies document how international migrants face violence due to discrimination in the destination location (McDonald and Erez 2007; Rabrenovic 2007). Studies on domestic violence—in particular, intimate partner violence—show that battering may begin or increase after migration due to the migrant woman's social isolation in the new setting and dependence on her partner for economic support or legal status (Alcalde 2006; Kleven 2007). Other research has documented how international migration may relate to violence via labor exploitation (Alcalde 2006; Van de Troost and Vial 2008; Gulcur and Ilkkaracan 2002). International migrants, typically female migrants, take jobs in which they have little power and are socially isolated and, therefore, subject to physical and sexual violence at the hands of their male coworkers, bosses, or clients. For the most part, these studies focus on women's rather than men's experience of violence. Furthermore, they tend to focus on adults, and the studies that include youths examine violence in the context of employment and as a consequence of, rather than as a motivation for, international migration.

To the extent that research has examined the relationship between violence and migration among males, it has tended to focus on international migrants' exposure to violence via participation in gangs, drug trafficking, and organized crime (Corbiscello 2007). These studies have shown that some males face exposure to violence in the USA because they

migrate to economically depressed and socially marginalized neighborhoods where violence is a means of obtaining respect and status and is viewed as necessary for survival (Boutakidis et al. 2006). Some males experience violence as a result of becoming involuntary migrants (Johnson 2006). Due to lack of legal status, often discovered by way of involvement with the US criminal justice system, they are deported from the USA, where they may have spent the majority, if not all, of their lives. They are then sent to the country of their family's origin where they may have few, if any, social ties and may not even speak the official language. Their lack of resources, or their prior involvement in illicit activity, motivates them to engage in illicit activity for survival. Consequently, this makes them vulnerable to criminal violence as both victims and perpetrators. Other research has documented how male migrants may become vulnerable to violent hate crimes (Poynting et al. 2009). Like the research on females described earlier, this research on males examines post-migration violence and addresses neither the experience of interpersonal violence prior to migration nor its role in motivating international migration.

Interpersonal Violence and US Migration

There are several ways in which the experience of interpersonal violence—be it victimization or perpetration—may motivate migration to the USA (Lee 1966). In general, people migrate because they expect positive net returns from international movement (Borjas 1989). For youths who have been victimized by violence, migration may be a strategy for protecting oneself from further attack. For example, as the research on battered female migrants suggests, migration may be a way to exit a violent relationship, be it with an intimate partner or a family member (Alcalde 2006; Klevens 2007). For youths who perpetrate violence, migration may be a way to avoid facing the formal or informal consequences of their violent behavior. Finally, for youths who engage in violence unwillingly, such as when fights break out due to boredom or in defense of honor, migration may serve as a way to avoid the hassle of violent encounters that may be common in the environment in which they reside. In each of these cases, the experience of violence may motivate internal or external migration. However, given that migration to the USA is so prevalent among Mexicans, particularly those in high-migrant sending areas such as Guanajuato, and thus viewed as normative (Kandel and Massey 2002), migration to the USA as a response to interpersonal violence may be considered reasonable, feasible, and desirable. We thus predict that a history of interpersonal violence will be positively associated with a desire to migrate and plans to migrate to the USA.

Individuals often act collectively as members of a household to determine the best migration strategy (Stark 1991), and Mexican females, relative to males, often have less say in that decision making process (Massey et al. 2006). Mexican boys who desire to migrate to the USA, thus, may be at greater liberty than Mexican girls to plan to migrate. We, therefore, predict that there will be gender differences in the relationship between interpersonal violence and desires and plans to migrate to the USA.

Methods

Data came from a cross-sectional study of 702 students, aged 14–24 years, who between January and June of 2007 were enrolled in eight centers of the *Videobachillerato* (VIBA) (video high school) subsystem of the Advanced System of Baccalaureate and Higher Education of the State of Guanajuato in Mexico. VIBA is an alternative schooling system for students who cannot afford or do not live close to a traditional high school. At the time of data collection, there were 252 VIBA centers in 38 municipalities with more than 25,000 enrolled students. Eight VIBA centers were randomly selected from the 137 VIBA centers in the 20 municipalities within a 100-km radius of León, Guanajuato's largest city and a

major transportation hub. Surveys were administered by the teachers in each VIBA center, under the direction of the university research team. Of the 702 study participants, 60% were female and 40% were male.

The sample for the present study consisted of 500 of the 702 students in the original study. The sample participants were aged 14–17 years, single, and childless. Youths aged 18 and older, married youths, and youths with children were excluded because they have additional responsibilities and privileges and face different expectations, making the set of factors bearing on the desire and plan to migrate substantially different than that for youths in the analysis sample. The high proportion of girls in the analysis (65%) resembles the proportion in the original sample (60%) and may be explained by the tendency of boys to drop out of school and/or migrate from Mexico at higher rates than girls (Swanson 2004; Massey et al. 2006) or by the possibility that families provide more support for boys than girls to attend regular, rather than alternative, schools.

Measures

This study's two dependent variables were "desire to migrate to the USA" and "plan to migrate to the USA." The measure of the desire to migrate was a composite of responses to two questions, "Would you like to live in the USA some day?" and "Would you like to work in the USA some day?" (1 = not at all, 4 = yes, a lot). Youths who said "Yes, somewhat" or "Yes, a lot" that they would like to either live or work in the USA were coded as 1. Youths who responded "Not much" or "Not at all" were coded as 0. The measure of a person's plan to migrate came from the question, "I am planning to migrate to the USA some day" (1 = definitely not, 4 = definitely). Youths who responded that they were definitely or probably planning to migrate were coded as 1, whereas youths who responded that they were not or definitely not planning to migrate were coded as 0.

The primary covariate of interest in this study was a history of experiencing interpersonal physical or sexual violence. While psychological and economic violence are also serious and common forms of violence (Fawole 2008; Secretary of Health of Mexico 2007), our dataset did not include measures of these constructs; thus, we do not assess them. Each participant was asked how many times in the last 12 months they had "been threatened with a firearm, knife, club, or other object"; "been in a physical fight"; and "been in a physical fight at school." In addition, they were asked how many times in their lifetime they had been "pinched, hit, or physically hurt by a boyfriend/girlfriend"; "pinched, hit or hurt by a family member"; and "forced to have sex." Due to the skewed distribution of the original responses, which ranged from "never" to "three or more times," the responses were recoded to 1 if the youths had ever experienced any of the forms of violence and to 0 if they had never experienced any violence. A composite measure, "ever experienced any violence," included all but the measures of being threatened (since it did not capture actual violence) and getting in a fight at school (since it was redundant to the measure of getting in a fight regardless of location). Since the composite measure combined indicators of violence in the last year and violence in the person's lifetime, it provided a conservative estimate of violence experienced.

Demographic covariates included gender, age, and socioeconomic status (see Table 1). Gender was a dichotomous variable (0 = female, 1 = male). Age was measured in years ($M=16.04$, $SD=0.782$). Socioeconomic status was measured by two variables: the highest education level of the youths' parents ($M=3.70$, $SD=1.73$, indicating that on average parents completed primary school) and the level of household financial sufficiency. The latter measure was a scale (Cronbach's $\alpha=0.854$) of seven items measuring the extent to which there was sufficient money in the household for such things as food and basic services. Responses ranged from 1 = never to 4 = always. The mean level of financial

sufficiency was 2.897 (SD=0.568), indicating that on average the youths reported having enough money “almost always.”

Additional covariates included factors associated with international migration (Alba et al. 1999; Cerrutti and Massey 2001)—see Table 1. First, we asked whether the youths had ever been to the USA. Only 5% of the sample had ever been to the USA. Second, we asked the number of the youths’ relatives that had ever lived in the USA (range 0–10). The sample mean was 3.43 (SD=1.80). Third, we measured attitudes about life in the USA by asking respondents how they thought life was in the USA. Fifty-five percent of the youths reported that life in the USA was negative (sad, difficult, dangerous, violent), 23% said that it was positive (happy, fun, normal), and 22% said they did not know what life in the USA was like. The first category served as the reference group.

Finally, we included a measure of parent–child relationship quality to account for the possibility that the youths may wish to leave home due to poor family relations rather than violence. A five-point scale was created by taking the mean of three variables: positive parent–child relationship (e.g., “At least one of your parents listens to your point of view”), parent–child communication (e.g., “I enjoy talking to them”), and negative parent–child relationship (e.g., “The conversations we have are frustrating”). The final item was reverse coded. Higher values indicated higher quality. The sample mean was 2.873 (SD=0.676), indicating that the youths typically reported having a just above average positive relationship with their parents.

Analysis Strategy

We first examined descriptive statistics and bivariate relationships with interpersonal violence experience and the dependent variables. Second, using logistic regression, we examined the extent to which the experience of interpersonal violence predicted the likelihood of wanting to migrate and planning to migrate. A first model examined demographics and interpersonal violence experience as predictors. A second model included the variables from the first model while controlling for international migration-related factors and parent–child relationship quality. Finally, we tested for an interaction of violence experience with gender in a third model.

Results

Table 2 shows descriptive statistics for key variables for the sample as a whole and then by gender. As shown in the table, 60% of the youths had ever experienced some form of interpersonal physical or sexual violence. Of the forms of violence experienced in the last year, more students (25%) reported physical fights in general than fights in school or threats with a weapon. Of the forms of violence experienced across the lifetime, more youths (47%) reported physical fights with family members than physical fights with partners or sexual violence. Although similar amounts of boys and girls reported ever experiencing any form of violence, there were gender differences in the specific forms of violence experienced. Over three times as many boys as girls reported having been in a physical fight in the last year ($\chi^2=56.98, p=0.000$). However, more girls than boys reported that they had been in a physical fight with a family member in their lifetime ($\chi^2=12.73, p=0.000$). Taken together, these statistics suggest that fights with family members are more common for girls than for boys, but boys engage in more fighting overall. Further evidence of boys’ disproportionate exposure to violence is indicated by the higher proportions of boys, relative to girls, who reported having been threatened with a weapon ($\chi^2=12.46, p=0.000$), been in a physical fight at school, and been in a physical fight with a partner. Equal amounts of boys and girls reported having been forced to have sex.

We assessed separately the 381 youths who reported that they had ever had a romantic partner in their lifetime (results not shown in tables). Of these youths, 15% reported having had a physical fight with their partner. Slightly more boys (17%) than girls (14%) reported having had such a fight, although this difference was not statistically significant.

In terms of migration, large proportions of students reported an interest in migration to the USA. More youths reported wanting to migrate (69%) than planning to migrate (50%), and this was true for both boys and girls. However, more boys than girls reported wanting to migrate—79% versus 64%, respectively ($\chi^2=11.73$, $p=0.001$)—and planning to migrate—61% versus 44%, respectively ($\chi^2=14.51$, $p=0.000$).

Chi-square tests assessed the bivariate association between different types of interpersonal violence experience (fighting, being threatened with a weapon, partner violence, etc.) and wanting to migrate and planning to migrate to the USA. In the sample as a whole, having a physical fight in the last year was significantly associated with planning to migrate ($\chi^2=8.646$, $p=0.003$); 64% of youths who had been in a physical fight were planning to migrate whereas only 49% of youths who had not been in a physical fight were planning to migrate. Having a lifetime history of physical fighting with a partner was significantly associated with wanting to migrate ($\chi^2=6.632$, $p=0.010$); 84% of youths who had ever been in a physical fight with a partner reported wanting to migrate whereas only 67% of youths who had never been in a physical fight with a partner reported wanting to migrate. No other bivariate associations were statistically significant in the whole sample.

The same bivariate associations were tested separately by gender group. Among the boys' subsample, only one statistically significant bivariate association emerged: that between physical fighting and planning to migrate. Seventy-three percent of boys with physical fighting experience reported planning to migrate as compared to 57% of boys with no such experience ($\chi^2=4.100$, $p=0.043$). The association between being threatened with a weapon and planning to migrate approached, but did not reach, statistical significance ($\chi^2=3.240$, $p=0.072$); 80% of those who had been threatened with a weapon reported planning to migrate, as compared to only 61% of those not threatened. Among the subsample of girls, only the association between fighting with a romantic partner and wanting to migrate was statistically significant ($\chi^2=7.952$, $p=0.005$); 86% of those who had fought with a partner reported wanting to migrate relative to 62% of those who had not fought with a partner.

Table 3 shows the odds ratios derived from the logistic regression estimates of the likelihood of wanting to migrate and planning to migrate to the USA. The first set of columns show the results for wanting to migrate. As indicated in the results for model 2, the experience of interpersonal violence was associated with a 12% increase in the odds of wanting to migrate to the USA, although this effect was not statistically significant. Being male and having more relatives that had ever lived in the USA were associated with greater likelihoods of wanting to migrate. Boys' odds of wanting to migrate were 116% higher than those for girls, and for each additional relative that had ever lived in the USA, the youths' odds of wanting to migrate increased by 33%. Relative to viewing life in the USA as negative, viewing life in the USA as positive was associated with 156% higher odds of wanting to migrate, and not knowing what life in the USA is like was associated with 140% higher odds of wanting to migrate. The remaining covariates were not statistically significantly associated with wanting to migrate.

The two rightmost columns in Table 3 show the odds ratios derived from the logistic regression estimates of the likelihood of planning to migrate to the USA. In model 1, the experience of interpersonal violence was associated with a 47% increase in the odds of planning to migrate to the USA. This notably sizable effect was just shy of statistical

significance ($p=0.056$). After controlling for other reasons for migration, the effect remained substantial in size, though it dropped from 47% to 44%, and its probability value remained at the margins of statistical significance ($p=0.104$).

As shown in model 2, several control variables were also significantly related to planning to migrate. Being male and having more relatives that had ever lived in the USA were associated with greater likelihoods of planning to migrate. Boys' odds of planning to migrate were 126% higher than those for girls. For each additional relative that had ever lived in the USA, the youths' odds of planning to migrate increased by 30%. Parents' education level was negatively associated with the odds of planning to migrate. Viewing life in the USA as positive was associated with 180% higher odds of planning to migrate. The remaining covariates were not statistically significantly associated with planning to migrate.

In subsequent models (results not shown in tables), we assessed whether gender moderated the association between violence experience and migration desires and plans. Gender was not a statistically significant moderator in the models.

Discussion

This study examined the extent to which youths experienced interpersonal physical and sexual violence and its association with their desires and plans to migrate to the USA from Guanajuato, Mexico. As expected, given the region's high rates of out-migration to the USA, a majority of youths expressed an interest in migrating to the USA. Notably, however, fewer youths actually had plans to migrate to the USA. This difference between desires and plans could be explained by constraints on the youths' ability to act on their desires to migrate, such as parental disapproval, family responsibilities, or lack of financial resources for the journey. Alternatively, the desire to migrate could be an artifact of the region given its historical high rates of out-migration—that is, many youths may say they want to migrate simply because many people they know have migrated. The discrepancy in numbers between youths wanting to migrate and youths planning to migrate might be lower in a region where migration is less common.

With regard to interpersonal violence, this study found that these youths experience substantial rates of violence. However, the levels of interpersonal violence did not consistently follow patterns found in other research, although fully comparable data were not available. The proportion of youths reporting any form of interpersonal violence was comparable to that found in research with urban middle school students—60% versus 59%, respectively (Ramos-Lira et al. 2006). Rates of family violence (involving parents or other members) were particularly high—47% in this sample versus 14% in another central Mexican youth sample (Rivera-Rivera et al. 2005). Rates of physical fighting were also higher in this sample—25% as compared to 19% in another youth sample (Rivera-Rivera et al. 2005). In contrast, rates of weapon threats were lower than those found in research with urban youth—10% relative to 16% (Orozco et al. 2008). With regard to partner violence, this sample's rates were similar to those found in other studies of Mexican youths (Rivera-Rivera et al. 2007; Straus and Ramirez 2007). The same was true for sexual violence (Rivera-Rivera et al. 2005).

The differences between the present findings and prior research on the extent of interpersonal physical and sexual violence experienced could be a function of the way the data were collected—the forms of violence presented and the specific question wording—and differences in methods across the studies compared. For example, “overall violence” in this study included measures of lifetime violence and violence in the last year, so it provides a conservative estimate of physical and sexual violence ever experienced. In contrast, the

middle school study's measure of "overall violence" contained only lifetime items. Hence, the rates of overall violence experienced in this sample may, in fact, be higher than what we report. If so, the rates may not be comparable to the rates in the middle school study. On the other hand, the middle school sample is slightly younger on average than the present sample; thus, you would expect rates to be lower than those in this older sample. That they are not lower may suggest that the present sample actually has relatively lower rates of overall violence.

Urbanicity may be a factor in explaining the discrepant pattern of violence involving weapon threats, as exposure to weapon threats may be more common in urban areas. It may also explain the gender parity in rates of sexual violence in the sample. Prior research on urban Mexican youths has found rates of sexual violence to be higher among girls. Our finding of substantial rates of sexual violence among males as well as females corroborates research on rural violence in Australia that showed that rural men experience higher rates of violence, including sexual violence, as victims and perpetrators, than urban men (Carrington and Scott 2008).

Whether comparable or not, the rates of interpersonal violence in this sample may be explained by the ecological context, including its rural and semi-urban geography, in which the sample youths find themselves. The study areas have scarce institutional resources. The youths' schooling, to begin with, is offered in alternative, video format due to their remote location and inability to afford traditional education and the communities' inability to afford construction and maintenance of a traditional school facility. The absence of traditional school facilities and the associated staff of adults could mean less overall supervision of youths and thus, less surveillance—and prevention—of violent activity. Furthermore, resources such as youth recreation activities and health and social services are limited. Thus, violence may emerge from, and/or persist due to, a lack of pro-social opportunities and problem-solving resources. Another possibility is that the rural and semi-urban geography lends itself to constructions of violence as favorable, particularly in the face of sweeping social, economic, and political changes to rural life. As Carrington and Scott (2008) have argued, rural violence may be a strategy deployed, particularly by males, to recreate an imagined rural order. While migration is not new in the communities in this study, globalization has prompted immense changes at the local level (Nederveen Pieterse 2003), and these changes may influence the rates of violence. The reasons for the occurrence of interpersonal violence in Guanajuato should be explored further and then considered when developing efforts to respond to and prevent violence.

With regard to the effects of interpersonal violence on migration to the USA, while we found no association between interpersonal violence and the likelihood of wanting to migrate, we found a sizable but marginally statistically significant association between interpersonal violence and the likelihood of planning to migrate to the USA. The weak statistical significance prevents us from concluding with confidence that there is an association. There may be no association, although the magnitude of the odds ratio suggests that that is unlikely. It may be that our dependent variables were too narrowly defined and, thus, we failed to capture fully the effects of interpersonal violence. We examined only international migration, but interpersonal violence may be related to domestic migration, such as regional migration. Had we defined migration more broadly, we may have found a more robust effect.

With regard to international migration, our study confirmed what other research (Martin and Widgren 2002) has well demonstrated about the influence of several key push and pull factors. A comparison of models 1 and 2 shows that the inclusion in the latter model of common factors associated with international migration contributed to the variable's

marginal statistical significance. Still, the magnitude of the effect of interpersonal violence is noteworthy, especially given that it decreased only minimally with the additional covariates in the second model. This finding suggests that further research is warranted to determine whether the marginal results here are due merely to a lack of statistical power.

While the association of violence with migration plans is not definitive, it is strikingly different from the association of violence with migration desires; the latter's coefficient was smaller and its probability value nowhere near statistical significance. This difference in relationships with the two migration measures may be explained by the ecological context of Guanajuato. Migration to the USA may be one of few available potential responses to interpersonal violence. Migration may be pursued then less for a desire to be in the USA than for a desire to be away from violence. The absence of local resources and social services coupled with perceptions of ample resources and social services in the USA may make the USA appear to be a more attractive destination than other locations in Mexico to which the youths could also migrate to escape violence. We did not collect data on desires and plans to migrate to other locations in Mexico; therefore, we could not compare the effect of violence on internal versus external migration.

The study showed that interpersonal violence may play a role in the realization of migration desires. One implication of this finding is that migrants may bring with them a history of interpersonal violence that influences their adaptation in the destination location and their likelihood of circular migration and/or eventual permanent return to Mexico. Research on macro-mass forms of pre-migration violence (e.g., war) has shown that violence leads to the production of less well-adjusted immigrants, since they are not positively selected (e.g., the case of refugees: Hunt and Gakenyi 2005; Nagai et al. 2008; Knipscheer et al. 2009). Thus, migrants motivated by interpersonal violence may face greater difficulty in adapting to their new home than their peers with different motivations to migrate. From a policy perspective, community efforts in Mexico aimed at increasing economic production by "keeping" local workers should consider the impact interpersonal violence may have on influencing adolescent migration decisions. Less exposure to interpersonal violence and/or greater local access to resources for responding to violence may help prevent adolescents who have desires to work in the USA from making and carrying out plans to leave. Furthermore, in the USA, mental health providers working with first-generation immigrants from Mexico should consider the potential benefits of conducting an historical assessment of exposure to interpersonal violence, thus gaining an understanding of the possible challenges facing an immigrant individual or family.

Another implication is that local efforts to curtail migration to the USA for the purpose of maintaining the local population will need to account for interpersonal violence as a personal "push factor," in addition to broader structural factors that are commonly understood to motivate migration, if they are to succeed in keeping youths from migrating (Lee 1966). This understanding may help USA and Mexican policy makers view Mexican immigration as a more complex phenomenon than simply a method used by migrants to achieve increased economic prosperity. Future studies should explore youths' reasons for planning to migrate to the USA, which would allow for an exploration of the relative influence of various motivations to migrate, interpersonal violence being one of them. If such studies confirm our findings, the broader policy implication is that violence interventions may make for good immigration policy if the goal is to reduce migrant flows or to influence the type of migrant—in particular, to attract migrants motivated by labor opportunities rather than violence-related personal problems. Because the study is cross-sectional, we cannot draw causal conclusions. While there is a compelling logic behind the idea that interpersonal violence may motivate migration to the USA, these data merely point to a possible association between the two phenomena. It may be that the temporal

association is in the reverse order that we hypothesized: Plans to migrate prompt interpersonal violence. Violent victimization may ensue, for example, if a young person expresses migration intentions that run contrary to family or partner wishes. Alternatively, plans to migrate may undermine constraints against violence perpetration in the form of a perception that the youth will “get away with it” by leaving before formal or informal sanctions are applied. Future research of a longitudinal nature is needed to test the causal pathway suggested by the present results. Moreover, such research could assess actual migration to the USA, thus permitting insight into the role of violence in the realization of migration desires and plans.

A limitation of this study is that its measures of interpersonal violence do not distinguish between victimization and perpetration. It is reasonable to expect that the youth’s role in the violence may influence the effects of that violence and, if those effects include migration, shape the migration experience. Victims and perpetrators alike may want to migrate, but victims may be less able to translate their desires into action because they are victims. Furthermore, the chances of successful realization of plans to migrate may be lower among victims, given their often compromised social, economic, and health status. Future research should compare the relative influences of perpetration and victimization on both the desire to migrate and plans to migrate. This research would also complement this study’s findings on the extent and form of interpersonal violence experienced.

We found no evidence of gender differences in the association of interpersonal violence with US migration desires and plans, despite several suggestive patterns of difference in the bivariate results. The failure to find a moderator effect may simply be due to lack of statistical power in the models, since power is reduced in interaction models (Aiken and West 1991).

This study adds to the literature on interpersonal violence and international migration, in particular among Mexican youths in an alternative high school system in a high migratory area. Due to the unique characteristics of the sample, there are some limitations about the generalizability of these findings to youths in traditional school settings, other high migratory areas, or other locations in Mexico. Future research should examine migration processes and exposure to violence in other similar samples and further the exploration of the relationship between interpersonal violence and international migration. Future investigations will help policy makers and service providers in Mexico understand whether interventions aimed at curtailing the influence of interpersonal violence on US migration need to be implemented throughout the country, or solely in specific communities with traditionally high migration rates.

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Biographies

Tanya Nieri is an assistant professor of sociology at the University of California at Riverside (UCR). She is an affiliate of the Presley Center for Crime and Justice Studies and the Center for Family Studies at UCR. Her research interests include causes and consequences of acculturation, particularly among youths and families and Latinos.

Steven Hoffman received his PhD from Arizona State University in May 2011. His dissertation focused on suicidal ideation and related factors among Mexican youth. He currently works at the Southwest Interdisciplinary Research Center (SIRC) investigating health disparities among adolescent populations in central Mexico, and his research interests include mental health disparities, Mexican/Latino issues, and religiosity.

Flavio Francisco Marsiglia is distinguished foundation professor of Cultural Diversity and Health in the School of Social Work and the Director of SIRC at Arizona State University. SIRC is an exploratory center of excellence on health disparities research funded by the National Center on Minority Health and Health Disparities (NIMHD) of the National Institutes of Health. Dr. Marsiglia's research focuses on health disparities and on the protective effects of culture of origin on the health outcomes of Latino and American Indian youth and their families.

Stephen S. Kulis is Cowden Distinguished Professor of Sociology in the School of Social and Family Dynamics at Arizona State University, and Director of Research at SIRC. His research focuses on cultural processes in health disparities; cultural adaptation of prevention programs for ethnic minority youth; contextual neighborhood and school level influences on individual risk and protective behaviors; gender and racial inequities in professional careers, and the organizational sources of ethnic and gender discrimination. He is currently leading two parallel NIMHD-funded studies with the urban American Indian communities of Arizona. Each is a cultural adaptation of existing prevention programs—one for adolescents and another for parents—to create culturally responsive interventions that strengthen the capacities of native families in urban areas to protect their children from substance use and other risky behaviors.

Table 1

Descriptive statistics for demographics and other covariates

	<i>M (SD)</i>
Age in years	16.04 (0.78)
Parents' highest level of education	3.70 (1.73)
Financial sufficiency	2.90 (0.57)
Ever been to the USA	0.06 (0.24)
Number of relatives ever lived in USA	3.43 (1.80)
Parent–child relationship quality	2.87 (0.68)
Perceptions of life in USA	
Do not know what life is like in USA	22%
Life in USA is negative	55%
Life in USA if positive	23%
<i>N</i>	500

Table 2

Descriptive statistics for violence and migration variables

	All (N=500) (%)	Boys (N=176) (%)	Girls (N=324) (%)
Violence experience			
Been threatened with a weapon (12 months) ^a	9.6	15.9	6.2
Been in a physical fight (12 months) ^a	25.0	44.9	14.2
Been in a physical fight at school (12 months)	7.4	8.5	6.8
Been in a physical fight with partner (lifetime)	12.2	14.8	10.8
Been in a physical fight with family member (lifetime) ^a	47.4	36.4	53.4
Been forced to have sex (lifetime)	4.0	4.0	4.0
Experienced any form of violence (ever)	60.0	61.9	59.0
Migration			
Wants to migrate to the USA ^a	69.4	79.0	64.2
Is planning to migrate to the USA ^a	49.8	60.8	43.8

^aDenotes a statistically significant ($p < 0.05$) difference between boys and girls, as measured by a chi-square test of association

Table 3
Odds ratios and confidence intervals for wanting to migrate and planning to migrate to the USA

	Want to migrate to USA (N=460)		Plan to migrate to USA (N=450)	
	1	2	1	2
Interpersonal violence experience	1.168 (0.77, 1.77)	1.120 (0.70, 1.79)	1.471 **** (0.99, 2.19)	1.441 (0.93, 2.24)
Age in years	1.129 (0.87, 1.46)	1.135 (0.86, 1.50)	1.128 (0.88, 1.44)	1.146 (0.88, 1.50)
Male	1.814 * (1.15, 2.85)	2.161 ** (1.31, 3.58)	2.125 *** (1.41, 3.21)	2.257 *** (1.43, 3.56)
Parents' education	0.951 (0.85, 1.07)	0.986 (0.86, 1.13)	0.834 ** (0.74, 0.94)	0.867 * (0.76, 0.98)
Financial sufficiency	1.020 (0.70, 1.48)	0.932 (0.61, 1.42)	1.086 (0.76, 1.55)	0.992 (0.67, 1.47)
Ever been to the USA		4.788 (0.60, 38.53)		1.317 (0.41, 4.25)
Relatives ever lived in USA		1.333 *** (1.16, 1.53)		1.304 *** (1.15, 1.48)
Life in USA is positive		2.557 ** (1.39, 4.70)		2.795 *** (1.63, 4.80)
Do not know how life in USA is		2.396 ** (1.34, 4.27)		1.553 ***** (0.93, 2.61)
Parent-child relationship quality		0.840 (0.60, 1.18)		1.164 (1.15, 1.48)
Nagelkerke R-square	0.028	0.153	0.075	0.170

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.00$;

**** $p < 0.10$