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Migration Intentions and Illicit Substance Use among Youth in Central Mexico

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Abstract

This study explored intentions to emigrate and substance use among youth (ages 14–24) from a central Mexico state with high emigration rates. Questionnaires were completed in 2007 by 702 students attending a probability sample of alternative secondary schools serving remote or poor communities. Linear and logistic regression analyses indicated that stronger intentions to emigrate predicted greater access to drugs, drug offers, and use of illicit drugs (marijuana, cocaine, inhalants), but not alcohol or cigarettes. Results are related to the healthy migrant theory and its applicability to youth with limited educational opportunities. The study's limitations are noted.

Keywords

Mexico; migration; drugs; alcohol adolescents

INTRODUCTION

Migration from Mexico to the United States has implications at many levels for those who migrate and for those who stay behind. This article explores some key aspects of the health status of youth residing in communities in central Mexico with a long history of migration to the United States. In 2004, there were 10.5 million Mexican immigrants living in the United States, comprising 31% of the U.S. foreign-born population. Of all new immigrant arrivals (documented and undocumented) to the United States since 1990, 34% of them have come from Mexico (Hanson, 2006). There are many theories, both conceptually driven and empirically based, that seek to explain the movement of Mexican citizens to the United States. The longstanding neoclassical economic theory (Borjas, 1989) stating that Mexicans migrate because of the wage differential has been challenged as overly simplistic and more recent studies show that the motivation behind Mexican migration is multifaceted (Massey & Espinosa, 1997). Although much research has been directed toward understanding the individuals who migrate, less effort has been made to understand the experiences of those who have desires to migrate but are unable to do so. The purpose of this study is to explore

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Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

the risk and protective factors¹ of youth living in Mexico with unfulfilled migration aspirations.

A growing risk factor among Mexican youth is the rise of illicit drug use. The rate of illicit drug use in Mexico has been increasing for more than a decade (Benjet et al., 2007; Medina-Mora et al., 1993). This is especially alarming when considering the negative consequences that can result from youth substance use: difficulty in school, higher risk for sexually transmitted diseases, antisocial behavior, and traffic fatalities (Latimer et al., 2004). Similar to many countries throughout the world, lifetime drug use in Mexico has traditionally shown substantial gender differences, with males reporting higher substance use across the most commonly used drugs such as alcohol, marijuana, and cocaine (Vega et al., 2002). Although these differences have been well documented, more recent studies report that the gender gap among substance users is narrowing in Mexico (Kulis, Marsiglia, Castillo, Becerra, & Nieri, 2008). Peer substance use and substance use among family members have been found to increase risk of drug use for Mexican boys and girls (Villatoro et al., 2004).

The exact reasons for this rise in youth substance use rates are unknown, but three possible explanations have surfaced: the impact of globalization, the transformation of Mexico from a drug transportation country to a drug producing country, and the consequences of a constant circular migration process (Singer, 2008). Globalization is the process by which cultures influence each other through the exchange of goods, information, and ideas (Arnett, 2002). Although there are benefits to globalization, the influence of consumer culture in more traditional societies appears to be one of the driving forces behind increased substance use among adolescents in developing countries (Stevenson & Zusho, 2002; Welti, 2002). With the widespread availability of American media through movies, music, the Internet, text messaging, and other forms of communication, globalization may indeed be influencing the substance use attitudes and choices of youth who are generally more accepting and knowledgeable of these new technologies.

The evolution of Mexico from being primarily a drug transit country to a consuming nation is another factor worth considering. Since the crackdown on methamphetamine production in the United States during the 1990s, the Drug Enforcement Agency (DEA) estimates that 70%–90% of drug production and distribution is done by Mexico-based groups. Also, due to a change in the cocaine trafficking strategies of Columbian cartels, the DEA also believes that Mexican groups control much of the distribution of cocaine to the Western regions of the United States (Brouwer et al., 2006). The increase in drug production and trafficking in Mexico, along with the continually expanding U.S. border security, appears to help explain the recent drug consumption trends in Mexico (Bucardo et al., 2005; Durand, Massey, & Parrado, 1999). Mexico shares a 1,969 miles long international border with the United States—the world's largest illegal drugs market. U.S. demand generates an estimated \$14 billion dollars annually for Mexican traffickers (Nicolle & Johnstone, 2008). Despite increased surveillance, Mexican drug cartels continue to find ways to satisfy the demand for illegal drugs in the United States while they have significantly expanded the internal consumer market within Mexico (Rico, 2008; Singer, 2008).

¹The reader is asked to consider that concepts and processes such as “risk” and “protective” factors are often noted in the literature, without adequately delineating their dimensions (linear, nonlinear), their “demands,” the critical necessary conditions (endogenously as well as exogenously; micro to macro levels), which are necessary for them to operate (begin, continue, become anchored and integrate, change as de facto realities change, cease, etc.) or not to operate and whether their underpinnings are theory-driven, empirically based, individual and/or systemic stakeholder-bound, historically bound, based upon “principles of faith” or what. This is necessary to clarify, if possible, whether these terms are not to remain as yet additional shibboleths in a field of many stereotypes. Editor’s note.

For Mexican migrants, the temporary and uncertain nature of U.S. employment, the desire to live in their country of origin, and the purchasing power of the dollar in Mexico are just some of the reasons that circular migration is so common (Lindstrom, 1996). Previous studies have identified an association between length of stay in the United States and higher risk for substance use disorders among this population (Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998; Vega, Kolody, Aguilar-Gaxiola, Alderete, & Catalano, 1998). One reason why youth may be at a higher risk for drug use is because, in the United States, Mexican migrants are introduced to more flexible substance use norms, have illegal substances readily accessible to them, and have more income to purchase them. Family members who remain in Mexico have indirect exposure to these more relaxed drug norms through their relatives in the United States, and they also have an increased ability to purchase drugs because of the rise in household income (Borges, Medina-Mora, Breslau, & Aguilar-Gaxiola, 2007).

Despite the extensive literature regarding substance use and migration from Mexico to the United States, there is a lack of research that focuses on the unique substance use risks that face adolescents who remain in high emigration communities. The hypothesis for this study is that strong aspirations to migrate will predict higher levels of illicit drug use. Because of the high use prevalence and lack of clear norms against the consumption of alcohol and cigarettes in Mexico (Lotrean et al., 2005; Medina-Mora et al., 2001; Villatoro et al., 1999), it is unlikely that migration aspirations will be good predictors of use of legal drugs (alcohol and tobacco) among a Mexico-based youth population.

Central Mexico and Migration

Studies have shown that the environment where an individual lives can have a great impact on the consumption of substances as a result of local customs, traditions, and norms of the area (Calderón, Campillo, & Suárez, 1981). In central Mexico, the community environment is directly intertwined with a lifestyle of migration. These states have deeply rooted histories of migration to the United States: some as long as 100 years. Historically, central Mexico is home to some of the highest migrant sending states of the entire country: Jalisco, Guanajuato, and Michoacán (Massey, Durand, & Malone, 2002). On the basis of the findings from the Mexican Migration Project, recent research concluded that extensive social networks created by long migration histories have led to an increase in the number of migrants leaving certain states in Mexico (Jewell & Molina, 2009). In fact, the social networks created in the state of Guanajuato have led to migration patterns that have not been deterred by an increase in the number of U.S. border agents or by ample job opportunities in nearby Mexican communities (Arias, 2004).

Youth in these central Mexican states are raised believing that migration to the United States is one of their only available options to achieve long-term economic mobility (Cornelius, 1981). Many children in these communities grow up psychologically investing less in Mexico, and more in the idea of a better life north of the border (Kandel & Massey, 2002). Adolescents are socialized for migration differently based on gender. Parents tend to invest more heavily in the education of their daughters, with the expectation that they will stay in-country and will generate subsistence-level incomes while their brothers are more often socialized to migrate (Wolseth & Babb, 2008). In many Mexican communities, family members depend on remittances for subsistence and survival. A mostly male-led migration has developed over generations, with community members investing in their migrating youth with the expectation that there will a return on their investment (Boehm, 2008).

While this culture of migration spurs much travel to the United States for boys and increasingly for girls, there are many young people who may have desires to migrate, but are unable to do so. Those who do not migrate—especially boys—may be perceived negatively

by the community as lazy, unenterprising, and even undesirable as potential mates (Kandel & Massey, 2002).

Previous migration research has led to the healthy migrant theory (Shai & Rosenwaike, 1987; Sorlie, Backlund, Johnson, & Rogot, 1993), which states that those who migrate to the United States are a selection of the healthiest and most entrepreneurial individuals. This study looks at the counterpart of that theory and focuses on the health status of those living in a high emigration community, but who have not yet migrated.

Substance Use

Youth often begin to engage in risky behaviors and develop negative habits such as the consumption of drugs during adolescence (Caballero, Madrigal, Hidalgo, & Villaseñor, 1999). These behaviors can have serious negative health implications. In years past, Mexican youth had reported lower illicit drug use than youth in the United States; unfortunately, more current research shows that this gap is closing due to an increase of drug use among Mexican adolescents (Félix-Ortiz, Villatoro-Velázquez, Medina-Mora, & Newcomb, 2001; Tapia-Conyer, Kuri-Morales, & Hoy-Gutiérrez, 2001; Villatoro et al., 1998, 2004). A recent study among young adults in Mexico showed that 25% of males and 5.5% of females reported using one or more illicit drugs during their lifetime (Medina-Mora et al., 2006). Of these illicit drugs, marijuana is the most commonly used (Benjet et al., 2007; Caraveo-Anduaga, Colmenares-Bermúdez, & Zaldívar-Hernández, 1999). Due to these epidemio-logical patterns, some parts of the country have turned to evidence-based drug prevention programs (Kulis et al., 2008). While these and other efforts are being made to help decrease the use of illicit drugs, more research is needed in order to develop a greater understanding of the social and environmental factors that are impacting the drug use decisions of Mexican adolescents.

Research has shown that drugs are often used as a coping or self-medicating mechanism by those facing life stressors (Deykin, Levy, & Wells, 1987; Khantzian, 1985; Klee & Reid, 1998; Wu, Schlenger, & Galvin, 2003). The inability to migrate when living in an area of high migration can become a trigger for drug use, but on the other hand, drug use can become a barrier or impediment toward migration. It is important to better understand how these two phenomena relate to each other and how they affect youth living in high emigration communities in Mexico.

Offers and Access to Drugs

While almost 75% of Mexican adolescents who report alcohol use say that they were exposed to alcohol at family gatherings (Mora-Ríos & Natera, 2001), two-thirds of males and over half of females who have used illicit drugs said that they first obtained them from friends (Medina-Mora et al., 2003). Mexican adolescents are most often introduced to illicit drugs through offers by friends or acquaintances at parties and other places where youth congregate (Medina-Mora et al., 2001; Nuno-Gutiérrez & Flores-Palacios, 2004; Tapia-Conyer et al., 2001; Wagner et al., 2003). The high number of illicit drug offers coming from friends is especially concerning because of recent findings showing that the number of drug offers Mexican youth receive is associated with increased levels of use of some substances (Kulis et al., 2008).

Previous research with this population has also found that access to drugs is positively associated with substance use (Medina-Mora et al., 2003). Access is not only a problem because of the opportunity for use, but it may also indicate that one's peers are using. By looking at drug use offers and the availability of substances, a more thorough understanding of the level of risk facing those living in high emigration communities can be determined.

Theory

This study followed the Ecological Risk and Resiliency Approach (Bogenschneider, 1996) as its overarching theoretical basis. This theoretical framework is appropriate because it factors in the relationship between the individual and his or her context, as well as the risk and protective factors that influence behavioral outcomes (Marsiglia, Kulis, Hecht, & Sills, 2004). This approach calls for a greater attention to be paid not only to the social conditions of the study participants that put them at risk for negative health and social outcomes but also what social conditions contribute to people's resiliency and ability to overcome negative social conditions. Although certain cultural factors put people at risk for drug abuse, culture also may produce Indigenous resiliency. It is therefore important to understand the factors that may contribute to illicit drug use among adolescents residing in sending communities in Mexico. Because communities in Guanajuato are intertwined with a lifestyle of migration to the United States, we hypothesize that strong aspirations to migrate will predict higher levels of illicit drug use.

METHOD

The investigation design consisted of a cross-sectional study of 702 students enrolled in eight centers of the VIBA (Videobachillerato) subsystem of the Advanced System of Baccalaureate and Higher Education of the State of Guanajuato in Mexico during the school cycle of January–June of 2007. The VIBA program is an alternate secondary schooling system available to students in Guanajuato who cannot afford or do not live close to a traditional high school. Thus, students who attend these schools have a unique educational experience that is inherently different than the experiences of other high school students in Guanajuato. For the selection of the sample, the official list of VIBA centers was used and the number of students enrolled in the semester of January–June of 2007 was considered. In the semester during which our sample was chosen, there were 252 VIBA centers with more than 25,000 enrolled students. Of the 38 municipalities in Guanajuato that had VIBA centers, 20 of them fell within a 100 km radius of the city of Leon. Leon is the largest city in the state, and a major transportation hub. Within the 20 municipalities closest to Leon were 137 VIBA centers. From a list of all the sites, eight of them were selected for this study using simple random sampling (see Krysik & Finn, 2010). Before implementing the survey in the selected centers, a pilot questionnaire was administered to 29 students by two school psychologists. Once the questionnaire was finalized, school psychologists explained the benefits and risks of participating to the students, each of whom then had the option of consenting to participate. The primary incentive for participation was providing the students with a voice that would be heard by the school officials and psychologists who would in turn make administrative adjustments to better serve them. Upon obtaining their consent, surveys were then administered to all students by the teachers in each VIBA center, under the direction of the university research team.

The students who participated in this study live primarily in rural locations of Guanajuato, and most come from families of low socioeconomic status (SES) who either cannot afford or are not able to access a traditional high school. During a focus group that was conducted prior to the implementation of the study, psychologists representing the different school locations stated that their primary concerns surrounding the overall well-being of the students were substance use, violence, depression, and suicide. Despite these concerns, many of the participants had built resiliency through high levels of religious belief and strong relationships with their parents. Of the 702 students who participated in the study, 60% were female and 40% were male. The age range of the participants was from 14 to 24 years, although 90% were between 14 and 18 years, the typical age for secondary education. The Southwest Interdisciplinary Research Center (SIRC) received all data from the project as a de-identified database for secondary analyses. The ASU IRB approved SIRC under

Exempt status (7.4) because the State of Guanajuato conducted the one-time data collection and sent only the anonymized dataset.

Measures

The measures used in this study were carefully tailored for our target population—adolescents and young adults from families in central Mexico with a low SES. Straightforward questions and uncomplicated response categories were used to ensure understanding on the part of the participants. These relatively simple response formats (as opposed to commonly used anchors such as “strongly disagree” to “strongly agree” for English-speaking populations) have been shown to work well with migrant Spanish-speaking populations from Mexico (Knight, Roosa, Calderón-Tena, & Gonzales, 2009).

Intention to migrate, the primary predicting variable of this study, was created by combining three questions (Would you like to live in the United States some day? Would you like to work in the United States some day? I am thinking about migrating to the United States some day). Responses to the first two questions ranged from 0 = Not at all to 3 = Yes, a lot. The third question’s responses ranged from 0 = Definitely not to 3 = Definitely. When scaled together, the internal reliability was found to yield a Cronbach’s alpha of .788. In addition to the intention to migrate scale, the covariates in this study were gender, age, SES, and location of birth. Data were collected about the migration histories and the current living situations of the participant’s families and friends, but when these variables were included in the model, they were not statistically significant predictors and the models were unchanged.

The primary dependent variables of interest were alcohol use, cigarette use, marijuana use, cocaine use, inhalant use, and crystal meth use. Participants were asked whether they had ever used each particular substance, and the answers were coded as 0 = No and 1 = Yes. In addition, marijuana use frequency, number of illicit drugs used, drugs offered, and access to drugs were also analyzed as dependent variables. Marijuana use frequency was assessed by asking: “In the past 30 days, how many marijuana cigarettes have you smoked?” Responses ranged from 0 = None to 8 = More than five packs (20 cigarettes = 1 pack). The variable for number of illicit drugs used was formed by summing the number of hard drugs ever consumed by a participant, from 0 to 8. The illicit drug response options were tranquilizers, amphetamines/stimulants, cocaine, crack, hallucinogens, heroine, inhalants, and methamphetamine. Drugs offered frequency was assessed by asking: “In the past 12 months, how many times has someone offered you: (1) Marijuana, (2) Other types of drugs.” Answers ranged from 0 = Never to 5 = More than 10 times. Easy access to drugs was assessed by asking: “If you wanted to, how easy or difficult would it be to obtain: (1) Marijuana, (2) Other drugs.” Answers ranged from 0 = Very difficult to 3 = Very Easy.

Analysis Strategy

In order to analyze the relationship between intentions to migrate and illicit drug use, both logistic and ordinary least squares regressions were used. First, logistic regressions were run to see whether migration intentions predicted lifetime alcohol, cigarette, marijuana, cocaine, inhalant, or crystal meth use. Second, ordinary least squares regression was used to see whether migration intentions predicted recent marijuana use frequency, number of hard drugs used, drugs offered, or access to drugs.

RESULTS

Descriptive statistics for the analysis are provided in Table 1. The average age of the participants was about 16 years, and 40% of the sample was male. Almost 80% of the youth had drunk alcohol at some point during their life, and over 50% had smoked cigarettes.

Approximately 12% had smoked marijuana, 4% had used cocaine, 7% had used an inhalant, and 2% had ever used methamphetamine.

The results for the logistic regressions are shown in Table 2. Intention to migrate was a statistically significant predictor of lifetime marijuana use ($p < .05$), cocaine use ($p < .05$), and inhalant use ($p < .05$). It was a marginally significant predictor of lifetime crystal meth use ($p < .10$) and was not a significant predictor of either lifetime alcohol or cigarette use. Older students and males were both significantly more likely than younger students and females to have ever used most of the aforementioned substance.

Table 3 shows the results of the ordinary least squares regressions. Intention to migrate was a statistically significant predictor of marijuana use frequency in the past 30 days ($p < .05$), the number of illicit drugs ever used ($p < .01$), the number of illicit drugs offered ($p < .01$), and the ease of access to illicit drugs ($p < .01$). Again, both age and gender were significant predictors in most models.

DISCUSSION

This study focused on a population that has not received much attention in the migration literature—relatively less advantaged youth living in communities with long migration histories in Mexico and with unfulfilled migration aspirations. The findings from this study are a valuable contribution to our understanding of risk factors among this population. Prior research conducted in similar communities found that individuals who do not migrate may be looked down upon, or even perceived as unsuccessful (Kandel & Massey, 2002). The results from this study suggest that in addition to these negative community perceptions, those same individuals are also at a higher risk of receiving drug offers, having access to drugs, and using illicit drugs. Although the use of alcohol and cigarettes was not related to migration intentions, this may be due to their high use prevalence and the lack of clear norms against their consumption in Mexico (Lotrean et al., 2005; Medina-Mora et al., 2001; Villatoro et al., 1999). This reality that drug offers, access to drugs, and illicit drug use are additional risk factors facing youth in high emigration areas points to the fact that their inability to migrate may be a problem with more serious consequences than previously assumed. These results can inform the development of future intervention research efforts targeting youth in Mexico's high emigration communities.

These findings not only provide awareness of the risk factors of youth in high emigration communities, but they also enhance our knowledge about plausible and sometimes competing explanations about Mexican migration and the increase of drug use among youth. One such explanation is offered by the healthy migrant theory (Shai & Rosenwaike, 1987; Sorlie et al., 1993). Recent studies continue to support the theory that those who migrate from other countries to the United States are a selection of the sending country's healthiest individuals (Wingate & Alexander, 2006). While this study did not test the healthy migrant theory, our findings seem to support the idea that if those who are successful in migrating are the healthiest, those who want to migrate but are unable are those who are engaging in behaviors that have a negative impact on their health. In order to further investigate this phenomenon, future studies should conduct longitudinal research following grade school aged students living in high migratory communities, and observe the health differences between those who want to migrate and are able to leave for the U.S. versus those who also want to migrate but are unsuccessful in doing so.

The findings also appear to support previous research that has shown drug use to be a coping or self-medicating mechanism by those facing life stressors (Deykin et al., 1987; Khantzian, 1985; Klee & Reid, 1998; Wu et al., 2003). With frustrated migration ambitions and poor

perception from the community, youth may feel isolated and turn to an unhealthy lifestyle of substance use. Due to the cross-sectional design of our study, however, we cannot assess causality. The findings cannot inform whether substance use preceded the migration aspirations, was used as a coping mechanism because of frustrated migration aspirations, or was a combination of the two among our sample respondents. An alternative plausible explanation is that youth who wanted to migrate but were not successful were already engaged in substance use at the typical age of their peers' migration. Using drugs could have had an impact on their ability to inspire confidence in relatives and other community members who could have invested in supporting the journey (Boehm, 2008). This too, however, is not able to be assessed using cross-sectional data, and future research should address the temporal ordering of this phenomenon so that interventions can be designed accordingly.

The impact of globalization, the recent prominence of Mexico as a drug-consuming nation, and the influence of circular migration on the substance use habits of youth remaining in their towns of origin were not captured by the survey and they go beyond the scope of this project. It is likely that the combined impact of these phenomena influenced the availability and perception of substance use decisions among study participants. Future research should include these macro contextual factors.

Implications

The association between frustrated migration aspirations and illicit drug use among high school students living in high emigration communities provides opportunities for the development and testing of more focused or targeted drug use prevention intervention and drug user treatment. This study provides a foundation for future studies looking at the risk factors for those who desire to migrate but are unable to do so. Multiple factors may be associated with the increased risk of using drugs among youth with frustrated migration histories. Prevention and treatment interventions need to consider community expectations, the youths' individual behaviors, as well as existing migration policies. The research findings raise awareness of the possible need for the design and implementation of more tailored drug prevention interventions in communities with high emigration patterns. These programs could be implemented in educational settings and used to provide youth with knowledge and skills to avoid using illicit drugs. More research is needed in other high emigration communities in order to see whether the findings reported here are present in other locations.

Limitations

One of the main limitations of this study was the cross-sectional nature of the research design; so, results did not capture changes in illicit substance use over time. In addition, the participants were adolescents from various school settings and diverse areas within the state of Guanajuato but mostly shared low SES levels. Social class as well regional differences within Mexico were not fully captured, which limits the generalizability of the findings. In addition, adolescents who were not attending school at the time of the study were not able to participate. Those who do not attend school may have different substance use patterns, beliefs, and behaviors. Despite these limitations, the findings point to important areas of need for youth who have not migrated and reside in high emigration communities.

Acknowledgments

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GLOSSARY

Emigration	To leave one's native country to settle in another
Illicit substances	Substances that are illegal to consume (e.g., cocaine)
Self-medicating	Medication of oneself without professional supervision

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Biographies

Dr. Flavio Francisco Marsiglia, Ph.D., is the Distinguished Foundation Professor of Cultural Diversity and Health at the Arizona State University (ASU) School of Social Work and Director of the SIRC. SIRC is an exploratory center of excellence on minority health and health disparities research funded by the National Institute on Minority Health and Health Disparities (NIMHD) of the National Institutes of Health (NIH). In partnership with other researchers, Arizona school districts, and with support of the National Institute on Drug Abuse (NIDA) of the NIH, he has developed and tested *keepin' it REAL*, a substance abuse prevention Model Program for middle school students. The manualized and licensed intervention is now being implemented across the U.S. and internationally. Dr. Marsiglia was the Principal Investigator of the NIDA/NIH funded social work research infrastructure center grant, one of only seven such grants awarded to schools of social work. He coordinates an ongoing international scholars' exchange program at SIRC and conducts research and training in partnership with colleagues in Mexico, Spain, and Tanzania. Dr. Marsiglia has authored and co-authored more than 70 peer-reviewed journal articles, numerous book chapters, and is the co-author with Dr. Stephen Kulis of a book entitled *Diversity, Oppression and Change: Culturally Grounded Social Work*.

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Carlos Orestes Calderón-Tena, M.A., was born in Mexico City and grew up in Baja California. He attended La Sierra University in Riverside, California, where he graduated with a bachelor's degree in psychology, with minors in music education and Spanish literature. He graduated with a master's degree in social psychology at the ASU. He is currently a doctoral student in school psychology at the ASU. Carlos' research focuses on the intersection of sociocultural and cognitive developmental factors related to psychoeducational outcomes.

Steven Hoffman, M.S.W., is a doctoral student in the School of Social Work at ASU. His dissertation is looking at suicidal ideation and related factors among youth in central Mexico, and some of his research interests include mental health disparities, Mexican/Latino issues, and religiosity.

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Diana Alvarez, M.D., M.P.H., is the Director of the Family Medicine Clinic in Salamanca-Guanajuato-Mexico under the Institute of Social Security and Social Services of the State Workers (ISSSTE). She was one of the co-investigators and the point person in Guanajuato during the field research phase of the study. Dr. Alvarez specializes in designing and evaluating medical services for migrants in Central Mexico.

TABLE 1

Descriptive statistics for study variables

Variable	N	Mean	Standard deviation
Predictor variables			
Intention to migrate	668	2.59	0.86
SES	698	2.89	0.58
Gender	693	0.40	0.49
Age	693	16.63	1.42
Location of birth	698	0.74	0.44
Outcome variables			
Alcohol, lifetime	692	0.78	0.41
Cigarettes, lifetime	690	0.56	0.50
Marijuana, lifetime	702	0.12	0.33
Cocaine, lifetime	702	0.04	0.20
Inhalants, lifetime	702	0.07	0.25
Crystal meth, lifetime	702	0.02	0.14
Marijuana use frequency, last 30 days	673	0.03	0.28
Number of hard drugs used, lifetime	702	0.20	0.73
Drugs offered, 12 months	684	0.20	0.69
Ease of access to drugs	689	2.00	1.03

Hard drugs: Tranquifeers, stimulants, cocaine, crack, hallucinogens, heroine, inhalants, and methamphetamine.

TABLE 2

Logistic regression predicting lifetime substance use (odds ratios)

	Alcohol	Cigarettes	Marijuana	Cocaine	Inhalants	"Crystal" meth
Intention to migrate	1.06	0.99	1.45*	1.80*	1.96*	1.84 [†]
SES	1.00	1.47**	1.31	1.11	0.56*	0.91
Gender (male versus female)	2.15***	2.46***	3.83***	6.21***	2.12*	8.01**
Age	1.40***	1.28	1.34***	1.74***	1.16	1.47*
Location of birth (same town versus elsewhere)	0.82	1.25	0.82	6.75 [†]	1.19	1.59
R ² Cox and Snell	0.05	0.09	0.08	0.07	0.04	0.03

[†]
 $p < .10$;*
 $p < .05$;**
 $p < .01$;***
 $p < .001$.

TABLE 3

OLS regression results predicting marijuana and illicit drug use, offers and access (unstandardized coefficients)

	Marijuana use frequency	Number of hard drugs used	Hard drugs offered	Easy access to drugs
Intention to migrate	0.10 [*]	0.11 ^{**}	0.13 ^{**}	0.13 ^{**}
SES	0.06	-0.09 [*]	0.01	-0.03 [*]
Gender (male versus female)	0.08 [*]	0.15 ^{***}	0.21 ^{***}	0.06
Age	0.03	0.17 ^{***}	0.14 ^{***}	0.08
Location of birth (same town versus elsewhere)	0.07 [†]	0.06	-0.02	0.03
<i>R</i> ²	0.02	0.07	0.09	0.02

[†]
p < .10;

^{*}
p < .05;

^{**}
p < .01;

^{***}
p < .001.

Hard drugs: Tranquflizers, stimulants, cocaine, crack, hallucinogens, heroine, inhalants, and methamphetamine.