

THE RELATIONSHIP BETWEEN PRE-MIGRATION ACCULTURATION AND SUBSTANCE USE

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Research Question

- Is pre-migration acculturation related to higher substance use among adolescents in Mexico?

Additional Questions

- Are the acculturation related questions used in this study appropriate?
- Are the findings sufficient to continue to explore the impact, if any, of pre-migration acculturation on substance use among adolescents in Mexico?

Drug Use in Mexico

- Historically drug use among adolescents in Mexico had been lower than in the U.S., especially in illicit drug use.
- In the last decade substance use, illicit drug use in particular, among adolescents in urban areas and in the northern regions of Mexico has increased to levels similar to adolescents in the U.S. (Benjet *et al.*, 2007; Felix-Ortiz *et al.*, 2001; Fleiz, 2007; Latimer *et al.*, 2004; Medina- Mora *et al.*, 2003).

Alcohol

- Alcohol is the most commonly used substance among adolescents in Mexico.
- The majority of both male and female adolescents in Mexico report having consumed alcohol prior to turning 18 years old, the legal drinking age in Mexico (Herrera *et al.*, 2004; Latimer *et al.*, 2004).

Cigarettes

- The majority of adult smokers in Mexico (61%) began smoking prior to the age of 18 (Tapia-Conyer *et al.*, 2001).
- Santillan *et al.*, (2002) found that 52.3% of adolescent females and 58.7% of males identified themselves as smokers.

Marijuana

- For over a decade the consumption of illicit drugs by adolescents in Mexico has increased; marijuana being the most commonly used illicit drug (Benjet *et al.*, 2007; Caraveo-Anduaga *et al.*, 1999).
- Among adolescents, 3% of adolescents report having consumed marijuana at least once in their lifetime, but the marijuana use rates are higher in border cities such as Tijuana (Medina-Mora *et al.*, 2003).

Ecstasy (MDMA)

- Recent studies have found ecstasy use among adolescents in Mexico from a low of 1% to a high of 4.5% (Castillo & Gutiérrez, 2009).

Acculturation

- **Acculturation** has been defined as the process of acquisition of cultural aspects of a dominant culture by members of non-dominant cultures (Berry, 2003).
- **Acculturation** is triggered by intercultural contact which produces changes in attitudes, norms, behaviors, knowledge and identity (Berry, 2007).

Acculturation and Substance Use

- Although some studies have mixed results, several studies of Latino adolescents in the U.S. have found that higher levels of acculturation to U.S. culture have been related to higher rates of substance use (De La Rosa, 2002; Epstein, Botvin, & Díaz, 2000, 2001; Kulis, Yabiku, Marsiglia, Nieri, & Crossman, 2007).

What makes this region important?

- Substance use among adolescents is higher in cities that border the U.S. than in southern Mexico.
 - ▣ U.S. culture is more accepting of drug use and drug use is often glamorized through U.S. media (movies, television, music).
 - ▣ Travel/tourist visas are easier to obtain for residents of Mexican border cities which leads to greater exposure to U.S. culture than adolescents in other regions of Mexico (Durand & Massey, 2004; Fussell, 2004)
- As a result, adolescents in Tijuana are at greater risk for substance use.

Pre-Migration Acculturation

- Greater access and exposure to U.S. culture may actually begin an acculturation process among adolescents while still living in Mexico.
- *Additive acculturation* the acquisition of knowledge of and skills of a new culture and language are viewed as an additional set of tools to be incorporated into the child's cultural repertoire rather than as a rejection or replacement of old traits (Gibson, 1988, 1998).
 - ▣ If this process starts before migration, it can ease the transition to a new culture.

Pre-Migration Acculturation

- *Negative Acculturation*
 - ▣ If a child adopts negative aspects of the receiving country such as pro-drug use norms, prior to migration, they can lead to maladaptive behaviors and create increased difficulties in the transition to a new culture.
 - Similar to the concept of segmented/dissonant acculturation (Portes & Zhou, 1993; Rumbaut, 2001).
- Chun and Akutsu (2003) argued that studies should account for acculturation that occurs prior to migration.
- This study attempts to fill the gap in the literature regarding pre-migration acculturation and substance use among adolescents in Mexico.

Hypotheses

- H1: Participants who have higher levels of pre-migration acculturation will report higher intentions to use alcohol, cigarettes, marijuana, and ecstasy.
- H2: Participants who have higher levels of pre-migration acculturation will report higher alcohol, cigarette, marijuana, and ecstasy use.

Methods

- A cross sectional survey design was used in this study.
- Data was collected at one preparatoria (roughly equivalent to a U.S. high school) in Tijuana, Mexico, less than 3 miles from the U.S. border, in February of 2009.
- Approximately 75% of the preparatoria's total student population completed and returned the questionnaires.
- Participants completed the survey in Spanish in their classroom.

Sample

- 980 adolescents in the total sample
- This study used the 755 of the adolescents who expressed a desire to someday live or work in the U.S.
- There were 392 male participants and 363 female participants.
- The mean age of the participants was 16 years old.
- Over 82% of participants had average school grades between 80 and 100 (equivalent to a B to A average).
- Over 62% of the participants indicated that their families' had very low to average socioeconomic status, as measured by an SES scale.
- The majority of participants' mothers (74.2%) and fathers (68.6%) had less than a high school education.
- Self-reported use of alcohol, cigarettes, marijuana, and ecstasy were lower than the national average.

Measures

□ Independent Variables

- **Gender** (0 = Male, 1 = Female)
- **Grades** (1 = less than 60, 2 = 60-69, 3 = 70-79, 4 = 80-89, 5 = 90-100)
- **Parents' Level of Education** (0 = no schooling to 5 = bachelor's degree or higher)
- **SES** (7 item scale, $\alpha = .88$; higher scores = higher SES; total possible score = 28, mean = 20.57)

Measures

- ***Pre-Migration Acculturation***
 - 7 items of the Bicultural Involvement Questionnaire (BIQ) (Szapocznik, Kurtines, & Fernandez, 1980)
 - $\alpha = .85$

Questions

How much do you enjoy music in English or from the U.S.?

How much do you enjoy dances from the U.S.?

How much do you enjoy movies in English or from the U.S.?

How much do you enjoy television programs in English or from the U.S.?

How much do you enjoy books or magazines in English or from the U.S.?

How much do you enjoy places with an American feel to them?

Response Options 1 = Never, 2 = Sometimes, 3 = Almost Always, 4 = Always

Cronbach's Alpha	.85
Scale Mean	22.00
Standard Deviation	6.63

Items selected from the full Bicultural Involvement Questionnaire (BIQ) (Szapocznik, Kurtines, & Fernandez, 1980)

Dependent Variables

□ ***Intentions to use***

- If you had the opportunity this weekend, would you use:
 - Alcohol; Cigarettes; Marijuana; Ecstasy
 - 1 = Definitely Not – 4 = Definitely Yes

□ ***Recent Use***

- In the past 30 days, how often have you used:
 - Alcohol; Cigarettes; Marijuana; Ecstasy
 - 1 = Never – 6 = 30 or more times

Analyses

- Multivariate ordinary least squares (OLS) regression models were run controlling for gender, age, fathers' and mothers' highest level of education, participants average grade scores in school, and SES to examine the relationship between pre-migration acculturation and intentions to use and past 30 day alcohol, cigarettes, marijuana, and ecstasy use.

Results- Drug Use Intentions

	Alcohol	Cigarettes	Marijuana	Ecstasy
Gender	-.130* (.059)	-.172* (.077)	-.137* (.059)	-.149* (.068)
Age	.104*** (.020)	.072* (.034)	.096*** (.023)	.006 (.024)
Fathers' Education	.008 (.020)	.017 (.026)	.019 (.023)	.025 (.023)
Mothers' Education	.038 (.022)	.010 (.028)	.034 (.025)	.014 (.025)
Grades	-.099** (.040)	-.155** (.052)	-.107* (.046)	-.147** (.036)
SES	.057 (.048)	.126* (.053)	.050 (.055)	.048 (.056)
Pre-Migration Acculturation	.080*** (.010)	.173** (.061)	.155** (.052)	.065* (.031)
N	675	672	664	658
Adjusted R ²	.020	.048	.060	.040

* p < .05 ** p < .01 *** p < .001

Unstandardized regression coefficients

Standard errors in parentheses

Results- Recent Drug Use

	Alcohol	Cigarettes	Marijuana	Ecstasy
Gender	-.255 (.191)	-.480** (.182)	-.238** (.092)	.022 (.041)
Age	.224*** (.066)	.286*** (.062)	.064* (.032)	.016 (.014)
Fathers' Education	.020 (.066)	.030 (.062)	.001 (.032)	.005 (.014)
Mothers' Education	.094 (.070)	-.001 (.067)	-.012 (.034)	-.035* (.015)
Grades	-.160 (.130)	-.481*** (.124)	-.146* (.062)	-.065* (.028)
SES	.349* (.156)	-.085 (.149)	-.007 (.075)	.002 (.033)
Pre-Migration Acculturation	.310** (.101)	.279** (.096)	.110** (.041)	.013 (.036)
N	685	682	686	682
Adjusted R²	.055	.081	.038	.018

* p < .05 ** p < .01 *** p < .001

Unstandardized regression coefficients

Standard errors in parentheses

Discussion

- Results supported H1; participants with higher levels of pre-migration acculturation reported higher drug use intentions.
- Results partially supported H2; participants with higher levels of pre-migration acculturation reported higher levels of recent (past 30 days) use of alcohol, cigarettes, marijuana, but not ecstasy.

Discussion

- Pre-migration acculturation, as operationalized in this study, appears to be related to higher drug use intentions and higher use of drugs.
- The proximity of Tijuana which allows for the relative ease of travel between Tijuana and San Diego, as well as through ease of access of U.S. media (TV, movies, music, magazines, etc.) which may expose adolescents to more pro-drug use messages found in the U.S.

Discussion

- The relationship between pre-migration acculturation and substance differs from other studies where acculturation among Latino adolescents in the U.S., was related to higher substance use rates because-
 - ▣ linguistic acculturation is thought to increase access to drugs (Marsiglia et al., 2004); Warner et al., 2006)
 - ▣ acculturation stress which may lead to maladaptive behaviors (Gil, Wagner, & Vega, 2000).
- In this study, the relationship between pre-migration acculturation is due to exposure and affinity to U.S. culture.

Limitations

- Non-probability sample
- Cross sectional design
- Students not in school may have different drug use intentions and use rates
- The pre-migration acculturation questions measure affinity to U.S. culture, but may not reflect changes in behavior.

Conclusions

- Although it is impossible to prevent adolescents in Tijuana from being exposed to U.S. culture, parents, school staff, and social workers need to be aware of the potential impact of exposure on substance use.
- Adherence to traditional Mexican culture has been shown to be a protective factor against substance use (Castro, Boyer, & Balcazar, , 2000; Epstein, Botvin, & Diaz, 2001; Marsiglia et al., 2009).

Conclusions

- Mexican substance abuse prevention programs have often been based on U.S. prevention programs such as D.A.R.E. which have been shown to have limited effectiveness (Botvin & Griffen, 2003; Lynam *et al.*, 1999; D.A.R.E. México, n.d.)
- Mexican substance abuse prevention programs need to develop or adapt evidenced based prevention programs that are culturally appropriate and utilize cultural strengths as protective factors (Kulis *et al.*, 2008).

Conclusions

- Although still in Mexico, practitioners and substance abuse prevention programs in schools must not assume that culturally protective factors will be taught elsewhere because culture is dynamic and the proximity to the U.S. border may impact the cultural message adolescents receive.
- Therefore parents and practitioners must emphasize the cultural protective factors which can help reduce substance use among adolescents.

Next Steps

- Further research needs to be conducted
 - ▣ Random sample of students
 - ▣ Include different measures of acculturation
 - ▣ Include culturally protective measures- familismo, cohesion, affinity to Mexican culture, etc.



¡GRACIAS!



QUESTIONS?