

THE IMPORTANCE OF PEERS IN ALCOHOL USE
AMONG LATINO ADOLESCENTS: AN
INVESTIGATION OF POTENTIAL
MEDIATORS AND
MODERATORS

By

YVETTE L. SEGURA

Bachelor of Science

Texas A&M University

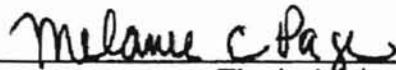
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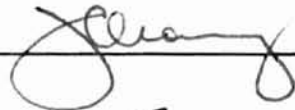
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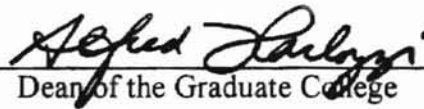
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CHAPTER I

INTRODUCTION

Introduction to the Study

Since the 1960s when the first national survey of drug use among college students was conducted (Oetting & Beauvais, 1990), the problem of adolescent alcohol use has been an area of interest for many researchers. Only recently, however, have researchers begun to focus on alcohol use among Latino adolescents (i.e., adolescents of Mexican, Cuban, Puerto Rican, or other Hispanic descent). This focus has produced research demonstrating that approximately 36% of sixth and seventh grade Latino adolescents had used alcohol at least once in their lifetime (Vega, Zimmerman, Warheit, Apospori, & Gil, 1993). In addition, alcohol was used more often than all other drugs for Latino adolescents, with reported usage rates of 20%, 4%, and 5% for cigarettes, inhalants, and all other illicit drugs, respectively. Boles, Casas, Furlong, Gonzalez, and Morrison (1994) reported even higher rates of alcohol use for older Latino adolescents. Approximately 80% of Mexican-American youth in the eleventh grade reported that they had tried alcohol at least once, which is comparable to a rate of about 75% for Caucasian youth.

Other researchers have also reported high rates of alcohol use among Latino adolescents (Oetting & Beauvais, 1990). These high rates are alarming given the number of problems that may be associated with alcohol use. For example, Frauenglass, Routh,

Pantin, and Mason (1997) reported that Latino adolescents' alcohol use was positively associated with their gang involvement. Alcohol use has also been found to be positively associated with both anxiety and depression (Alva, 1995) and with academic failure (Walter, Vaughan, & Cohall, 1993) among Latino adolescents. Latino adolescents have also been found to engage more frequently in heavy drinking behaviors than Caucasian or African-American adolescents. For example, De La Rosa (1998) reported that 22.3 % of Latino eighth graders reported consuming 5 or more drinks on one occasion compared to 12.9 % for Caucasians and 11.8 % for African-Americans. De la Rosa (1998) also reported that alcohol was the primary drug responsible for emergency room episodes among Latino adolescents and adults among drug-related emergency room visits.

CHAPTER II

REVIEW OF THE LITERATURE

Risk Factors for Latino Adolescent Alcohol Use

A number of different factors have been identified as possible contributing factors to Latino adolescents' alcohol use, including family structure (e.g., single-parent households vs. two-parent households) (Sokol-Katz & Ulbrich 1992), low socioeconomic status (Gfroerer & De La Rosa, 1993), parental substance use, (Barrera, Li, & Chassin, 1995; Gfroerer & De La Rosa, 1993; Vega, Zimmerman et al., 1993) and poor family relationships (Coombs, Paulson, & Richardson, 1991). Although these factors may be important in understanding aspects contributing to Latino adolescent alcohol use, they have not been found consistently across studies. For example, Gfroerer and De La Rosa (1993) did not find family structure to be a significant predictor after controlling for other variables such as the adolescent's age. Similarly, Sokol-Katz and Ulbrich (1992) did not find low SES to be a significant predictor of drinking among Latino adolescents. Because research has not found these variables to be consistently related to Latino adolescent alcohol use, it appears other variables may also play a crucial role in understanding this phenomenon. The following review will examine several variables that may play a role in Latino adolescent alcohol use.

Peer Alcohol Use

One relationship that has acquired empirical support in both Anglo and Latino populations is the relationship between peer alcohol use and adolescent alcohol use. For example, Dielman, Butchart, Shope, and Miller (1991) found that peer substance use behavior was the principle predictor of adolescent alcohol use. In addition, in their review of risk and protective factors for adolescent alcohol and drug use, Hawkins, Catalano, and Miller (1992) found peer alcohol use to be one of the strongest predictors of adolescent alcohol use.

Research among Latino samples also supports peer alcohol use as a strong predictor of adolescent alcohol use. For example, Walter et al. (1993) compared three theoretical models of substance use, including a socialization model, among an urban sample of African-American and Latino adolescents. Adolescents were asked to estimate how many of their peers had used alcohol in the past year. Walter and colleagues found that the socialization model of substance use accounted for the largest amount of variance in the adolescents' alcohol use, after controlling for demographic variables. Specifically, friends' alcohol use accounted for 23% of the variance in the adolescents' alcohol use, making it the strongest and most consistent predictor.

Dusenbury, Epstein, Botvin, and Diaz (1994) also investigated social influence factors on alcohol use among Latino adolescents in New York City. Dusenbury et al. found that Latino adolescents who reported that some to all of their friends drank were 23.30 times more likely to be a current drinker than adolescents who reported that none of their friends drank. In fact, the authors found that Latino adolescents who reported that

only a few of their friends drank were still twice as likely to engage in current drinking than those who reported that none of their friends drank.

Finally, results from Fraunglass et al. (1997) showed that peer alcohol use accounted for 22% of the variance in Latino adolescents' alcohol use. In addition, peer alcohol use was found to be a significant predictor even after controlling for other peer deviance variables including other substance use and gang involvement. Because peer alcohol use has been found to be one of the most important predictors of alcohol use among this population, the following review will examine several factors that may potentially explain this relationship from a social cognitive/learning theory perspective.

Social Cognitive/Learning Theory

Researchers in the field of alcohol and drug use have formulated many theories positing why adolescents use substances. One theory that has acquired considerable empirical support is social cognitive/learning theory (Bandura, 1977). A social cognitive/learning theory of adolescent substance use assumes that adolescents' beliefs concerning substances will be shaped by their available models (Petraitis, Flay, & Miller, 1995). During adolescence, a youth's peers begin to play a more important role in their socialization process than other available models such as parents or teachers. Social cognitive/learning theory suggests that individuals important in the adolescent's life who use a given substance will shape an adolescent's use of that substance. Therefore, one can assume that an adolescent's alcohol use patterns will be strongly influenced by the alcohol use of his or her peers as they become more relevant and important models for the adolescent's behavior. When a model is observed being rewarded for his or her alcohol

use, it increases the likelihood adolescents observing the behavior will also engage in the same behavior. This relationship may be mediated by the adolescent's cognitions (i.e. expectations) regarding the potential outcomes of alcohol use, which may also be affected by their observations of friends who use alcohol. For example, adolescents who observe peers both use and become rewarded for their use of alcohol may be likely to develop more positive expectations regarding alcohol use.

An adolescent's expectations regarding the use of alcohol also may be shaped positively simply by hearing others talk favorably about their experiences with alcohol. For example, other researchers have shown that marijuana use is more common among adolescents who have spoken with friends about using illicit drugs (Kandel, Kessler, & Margulies, 1978). Therefore, it may be possible that the strong relationship between peer use and Latino adolescent alcohol use is a result of the positive alcohol expectancies formed through observations and interactions with peers.

Alcohol Expectancies. Alcohol expectancy theory (Goldman, Brown, & Christiansen, 1987) expands on social cognitive/learning theory by emphasizing the memory bases important to the acquisition of a new behavior. Smith and Goldman (1994) indicate that repeated perceptions of a behavior and a given outcome lead to the formation of associations in one's memory in the form of expectancies. A number of different studies have found alcohol expectancies to be a significant predictor of alcohol use among adolescent populations. For example, Brown, Creamer, and Stetson (1987) found that positive alcohol expectancies were higher among adolescents being treated for alcohol abuse than among non-abusing adolescents. Furthermore, Christiansen, Smith,

Roehling, and Goldman (1989) found that alcohol-related expectancies successfully predicted adolescent drinking levels one year later in a public school sample of 7th and 8th grade adolescents, accounting for approximately 26% of the variance. Smith and Goldman (1992) indicate that it is also likely that individuals with positive expectations about the effects of alcohol are more likely to experience their drinking in a positive manner, which reinforces the expectancies they already hold and increases the likelihood of future drinking. In fact, Smith, Goldman, Greenbaum, and Christiansen (1995) found in their longitudinal study that adolescent nondrinkers with more positive alcohol-related expectancies were more likely to begin drinking a year later, and continue drinking at even higher levels during a third year follow-up.

Scheier and Botvin (1997) showed that alcohol expectancies acted as a mediator of the effects of social influences (e.g., perceived friends' alcohol use, peer normative expectations, and friends' attitudes toward alcohol) on adolescent alcohol use in both cross-sectional and longitudinal investigations. Schier and Botvin examined the effects of social influences, alcohol-related knowledge, and alcohol expectancies among an urban sample of adolescents. Although the authors found that both the social influence and alcohol-related knowledge variables accounted for 49% of the variance in alcohol consumption, alcohol expectancies mediated (i.e., accounted for) 14% of the variance attributed to peer alcohol use and 27% of the variance attributed to friends' attitudes toward alcohol. Similarly, the authors found that alcohol expectancies mediated 11% of the variance in adolescent alcohol use attributed to peer use in a longitudinal analysis.

Research in Latino adolescent populations investigating the role alcohol expectancies play in influencing drinking behavior is sadly lacking. Only one study has

investigated the role of alcohol expectancies among a multi-ethnic population that included Latino adolescents (Grube, Chen, Madden, & Morgan, 1995). Approximately 11% of the sample was Latino. Grube et al. found that alcohol expectancies accounted for 21% of the variance in drinking among these adolescents after controlling background variables. However, the authors did not analyze their data separately for Latino adolescents, so it is difficult to know the strength of the relationship for this population.

Susceptibility to Peer Pressure. Social Cognitive/Learning Theory (Bandura, 1977) also includes the concept of self-efficacy, which refers to an individual's belief that he/she will be able to successfully complete any given behavior. Since Bandura posits that models may influence an adolescent's self-efficacy, it is also possible that the relationship between peer alcohol use and adolescent alcohol use may be explained by the influence models have on the adolescent's level of susceptibility to peer influences. Adolescence has long been considered a time when individuals' self-evaluations become more influenced by the opinions of others. This concern for the opinions of others may result in behavioral changes for the adolescent in an attempt to "fit in" with his/her peers. Dielman et al. (1991) examined susceptibility to peer pressure in their investigation of the effect of peer influences on adolescent alcohol use. The authors conducted a longitudinal study whose sample consisted of students from the sixth through the twelfth grade. Results showed that peer use accounted for 37% of the variance while susceptibility to peer pressure accounted for an additional 10% of the variance in adolescent alcohol use (i.e., a frequency/quantity index). In addition, the authors found that peer norms accounted for 36% of the variance in alcohol misuse, with susceptibility to peer influence

accounting for an additional 7% of the variance. The authors define misuse as alcohol use with comorbid problems that can be directly attributed to the alcohol use. The authors concluded that the intrapersonal construct of susceptibility to peer pressure was as important as peer alcohol use in both the prediction of alcohol use and misuse.

Only one study has investigated the influence of susceptibility to peer pressure on individual alcohol use among Latino adolescents. Flannery et al. (1994) recruited participants from both the sixth and seventh grades in three urban middle schools in a mid-sized southwestern city. The sample was predominantly Caucasian (64%) and Latino (24%). Results from the study indicated that perceived susceptibility to peer pressure and having a friend who drank alcohol were the two strongest and most consistent predictors of alcohol use for Latino males. While this study did not find that perceived susceptibility to peer pressure and, having a friend who drinks alcohol were important for females, it does provide some support for the contention that susceptibility to peer influence is a construct worth investigating in this population.

Acculturation

Researchers who conduct research on minority populations such as Latinos often focus on the acculturative process and its influence on such things as alcohol and drug use. Acculturation can be defined as "...a process of attitudinal and behavioral change undergone by individuals...who come into contact with a new culture" (Marin, 1992). From a social/cognitive learning perspective, the process of acculturation is one in which an individual's beliefs and attitudes begin to become influenced by the new culture. Thus, the process of adapting to a new culture is especially important to study among minority

populations because it constitutes a unique experience that individuals in the majority population do not share. As a unique experience, it may have an important influence on a number of different aspects of an individual's life. For example, previous researchers have linked acculturation to a number of psychological, behavioral, and health indices among Latino populations. These include smoking (Sabogal, Otero-Sabogal, Perez-Stable, Marin & Marin, 1989), and prognosis and severity of illness (Gonzalez & Cuellar, 1983). Specifically, Sabogal et al. found that less acculturated Latinos smoked significantly fewer cigarettes than more acculturated Latinos. Given this research, the acculturative process may have a strong influence on Latino adolescent behavior generally, and specifically on their use of alcohol.

Researchers in the field have proposed two basic acculturation models as possible explanations for why Latinos become involved with substances such as alcohol. The first model, the "simple acculturation model" posits that drinking patterns of minority groups such as Latinos will approximate those of the majority group with each successive generation (Gilbert & Cervantes, 1986; Neff, Hoppe, & Perea, 1987). As individuals become more acculturated, their behavior will become more like the dominant culture. In other words, the longer Latinos are in the United States, the more their drinking patterns will reflect those of Anglo-Americans. Therefore, this model suggests that increased acculturation will lead to increased use of alcohol because of increased exposure to individuals who are perceived to experience benefits from alcohol use. High rates of alcohol use among Latino adolescents may indicate a high level of acculturation to American culture. However, this model assumes that the only factor guiding an individual's alcohol use is his or her acculturation when it is also possible that other

factors may be relevant as well, such as the stress the individual is experiencing in the new culture.

A second acculturation model provides a slightly different explanation for an individual's involvement with drugs and alcohol. The "acculturation stress model," is based on the idea that alcohol use will be highest among those individuals who have distanced themselves somewhat from both their own traditional culture and the majority population's beliefs and lifestyle (Neff et al., 1987). In other words, this model does not predict a direct relationship between acculturation and drinking levels. It posits that drinking levels will be highest among those who are experiencing the most stress from the process of acculturation. Alcohol is used as a way to cope with the pressures of acculturation. However, this model assumes that every person who acculturates to a new culture experiences stress when it may also be possible that the person experiences little to no stress in the acculturation process.

Research concerning which model is most parsimonious as an explanation of alcohol use among Latinos is mixed, as there has been evidence linking both acculturative stress and increased acculturation to drug and alcohol use. For example, Bettes, Dusenbury, Kerner, James-Ortiz, and Botvin (1990) found that while different levels of acculturation, as measured by language-use preferences, did not account for variance in substance use among Puerto Rican and Dominican adolescents, Dominican adolescents were still at higher risk for using alcohol than Puerto Rican adolescents. Although there was no evidence that Dominican adolescents were suffering from more psychological distress, the authors suggest that the higher use rates among Dominican adolescents may reflect a coping mechanism related to their acculturation experiences. The authors posit

that while both groups are acculturating to the dominant culture, Puerto Rican adolescents' alcohol use may be less affected by acculturation stresses due to political, geographic, and social factors that connect them more to their country of origin. Thus, the authors' interpretation of the findings supports the acculturation stress model.

Research on other substances also suggests that acculturative stress is related to increased use. For example, Joe, Barrett, and Simpson (1991) found evidence that acculturative stress was indirectly related to inhalant use in a sample of Mexican-American adolescents through its effect on association with deviant peers and psychological vulnerability (e.g., low self-esteem, self-derogation). Also, Vega, Gil et al. (1993) found that stress related to acculturation was a significant predictor of Cuban-American adolescents' delinquent behavior, including drug use.

Other researchers provide additional support for this model. For example, Lovato et al. (1994) investigated the effects of acculturation on substance use among a sample of migrant adolescents. The sample of adolescents was selected from high school students enrolled in a migrant education program. Acculturation was measured through a self-report instrument that assessed the adolescent's preference for speaking language, reading language, ethnicity of friends, and country in which childhood was spent. A separate measure indicating months of living in the U.S. was also used. Lovato et al. found that both male and female binge drinkers were more acculturated than non-binge drinkers. In addition, more acculturated females also reported a higher incidence of drinking over their lifetime. Acculturation scores were also positively correlated with length of time in the United States, indicating that adolescents who had lived in the United States longer tended to be more acculturated.

A few studies, however, suggest support for both acculturation models. Alva (1995) examined students from three randomly selected ninth-grade classrooms in an inner city public school and measured acculturation indirectly by determining the adolescent's generational status. Accordingly, adolescents were classified as first-generation if they were born outside the United States and second-generation if they were born in the United States. She found that alcohol use was most frequent among second-generation Latinos who reported higher levels of depression and psychosocial stress compared to first and second generation adolescents who reported lower levels of depression and psychosocial stress. Consequently, this suggests that the "acculturation stress model" provided an explanation for the adolescents' alcohol use. However, a significant difference in mean alcohol use between first and second-generation adolescents was also found, with second-generation adolescents reporting higher levels of use than first-generation adolescents.

Velez and Ungemack (1994) investigated the effect of generational status on drug and alcohol use among four-generations of Puerto-Rican adolescents in the United States and Puerto Rico. Youth in the United States were selected from students attending two New York City public high schools. Youth from Puerto Rico were selected from two public high schools in San Juan, Puerto Rico. Their selection was part of a stratified representative sample of all public high schools on the island and the schools were chosen because of their similarity to New York City Schools. The two generational statuses derived from the New York adolescents were New York born "Ricans" and first-generation Puerto Rican born "migrants." The island-based groups included Puerto Rican "immigrants" (i.e., adolescents born in New York living in San Juan), and "islanders,"

(i.e., adolescents that had never lived outside of Puerto Rico). The results showed that all four groups differed significantly, with the New York “Ricans” reporting the highest mean level of alcohol and drug use followed by the New York “migrants,” the Puerto Rican “immigrants,” and the “islanders,” respectively. The authors suggest that the drug and alcohol use among the New York “Ricans” was higher because they had increased exposure to a society that was “...socioculturally different from and more conducive to drug-using behavior...” (p. 99) than that of the island of Puerto Rico. In other words, the authors posit that the increase in alcohol use among the four groups was due to the increase in exposure to American society, which supports the “simple acculturation model.” However, it may also be possible that “Ricans” experienced more stress than the other groups, which would support the “acculturation stress model.”

In addition, Khoury, Warheit, Zimmerman, Vega, and Gil (1996) investigated gender and ethnic differences in drug and alcohol use in a Latino sample from Florida. They found that foreign-born Latino adolescents had lower overall prevalence rates of alcohol and drug use than U.S. born Latinos. The authors also found that lifetime prevalence rates of alcohol use almost doubled for foreign-born Cuban-American and other Latino girls who had lived in the United States for longer than two years. These results imply that the higher percentage rates of alcohol use for U.S. born Latinos are due to the increased exposure to the mainstream U.S. society, supporting the “simple acculturation model.” However, it again may be possible that the adolescents who lived in the United States for more than two years experienced more stress than those who lived in the United States for less than two years. The results of these studies suggest that neither model alone offers adequate explanation of Latino adolescent alcohol use.

Based on the literature, it appears both models of acculturation offer potential explanations for why Latino adolescents may become involved with alcohol. It may be possible that the “acculturative stress model” may be more relevant during the early stages of acculturation while the “simple acculturation model” is more accurate during the later stages. In addition, the latter model may help explain why an adolescent’s peers are so important in predicting his/her alcohol using behavior. For example, during the early stages of acculturation, adolescents may be faced with more difficulties associating with the dominant culture. As a result, adolescents may use alcohol as a way to cope with these stressors. Or, as suggested by Wall, Power, and Arbona (1993), it is possible that less acculturated adolescents are more parent or authority-oriented and are less likely to be influenced by their peers. Wall et al. found that more acculturated Latino adolescents were more susceptible to anti-social peer pressure than less acculturated adolescents. As an individual becomes more accustomed to the dominant culture, however, his/her alcohol use pattern may begin to reflect the patterns of alcohol use demonstrated by his or her Anglo peers and is no longer used just as a way to cope with acculturative stressors. Therefore, the relationship between peer use and adolescent alcohol use may be most significant for those adolescents more acculturated to the dominant culture.

Limitations and the Present Study

Although previous research has begun to investigate numerous factors contributing to Latino adolescent alcohol use, no study has examined variables that may act as potential mediators or moderators of the relationship between peer alcohol use and adolescent alcohol use. Therefore, the present study will examine potential factors that

may influence the relationship between peer alcohol use and adolescent alcohol use including alcohol expectancies and susceptibility to peer influences. For example, it is possible that factors such as an adolescent's alcohol expectancies or his or her level of susceptibility to peer influences may change the relationship between peer alcohol use and adolescent alcohol use. Additionally, no study has investigated whether peer use remains a strong predictor of Latino adolescent alcohol use when the adolescent's level of acculturation is taken into consideration. As noted earlier, adolescents who are more acculturated are more susceptible to peer influences (Wall et al., 1993). It is possible that peer use of alcohol is only predictive of Latino adolescent alcohol use for those adolescents who are more acculturated to American society.

In addition to the lack of research focusing on variables that may change the relationship between peer use and Latino adolescent alcohol use, there are a number of issues that have not been investigated solely among Latino populations. For example, only one study has directly investigated the relationship between susceptibility to peer pressure and alcohol use among Latinos (Flannery et al., 1994), and this study did not focus exclusively on Latino adolescents. Additionally, only one study has examined the role of alcohol expectancies within a Latino adolescent population (Grube et al., 1995). Similarly, this sample was not exclusively with Latinos.

Given the available literature, the proposed study has four hypotheses. First, it is hypothesized that greater peer use of alcohol will be associated with higher levels of alcohol use among Latino adolescents. Second, it is hypothesized that the relationship between peer use and adolescent alcohol use will be mediated by the adolescent's expectancies regarding alcohol use (see Figure 1). It is expected that the relationship

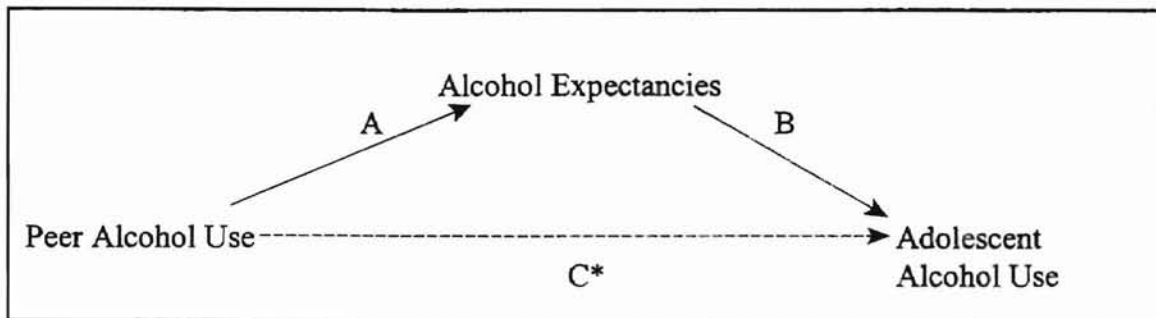


Figure 1. Hypothesis Two: *Path Will Be Nonsignificant/Reduced When Alcohol Expectancies Are Entered into Relationship.

between peer use and adolescent alcohol use will be reduced and/or no longer significant once an adolescent's expectancies regarding alcohol use are taken into consideration.

Third, it is hypothesized that an adolescent's level of susceptibility to peer influences will also mediate the relationship between peer use and adolescent alcohol use (see Figure 2).

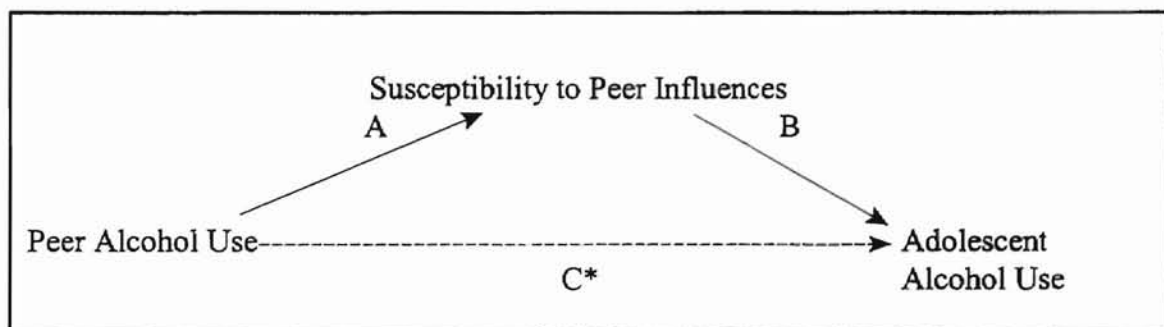


Figure 2. Hypothesis Three: *Path Will Be Nonsignificant/Reduced When Susceptibility to Peer Influences Is Entered into Relationship.

It is expected that the relationship between peer use and adolescent alcohol use will be reduced and/or no longer significant once an adolescent's susceptibility to peer influences is taken into consideration. Finally, it is hypothesized that an adolescent's level of acculturation may moderate the relationship between peer use and adolescent alcohol use (see Figure 3). Specifically, it is hypothesized that the relationship between peer use and adolescent alcohol use will be stronger for more acculturated Latino adolescents.

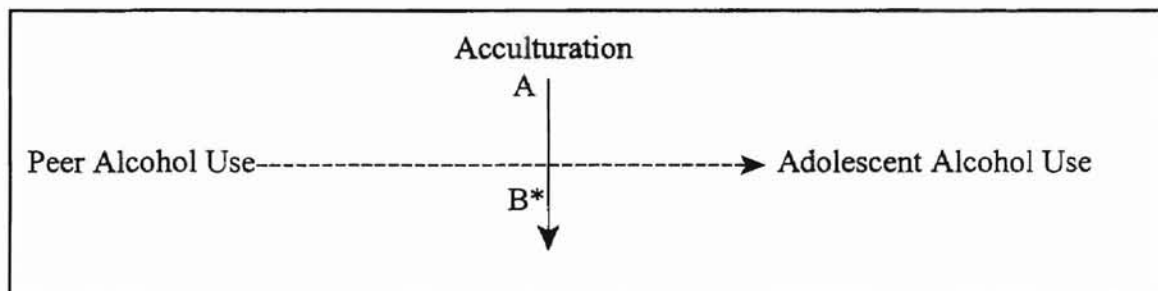


Figure 3. Hypothesis Four: *Path Will Be Nonsignificant When Acculturation Is Entered into Relationship.

CHAPTER III

METHODOLOGY

Method

Participants

Approximately 400 Latino adolescents were recruited for the study in the Fall of 1999 and Spring of 2000, and 115 participated (see Table 1). There were 60 men and 55 women, with a mean age of 15.87, $SD = 1.60$). Adolescents were recruited through alternative high schools, community events, and Latino groups at Oklahoma State University. Parental consent was required in order for adolescents to participate. All adolescents received a \$10 gift certificate for their participation. In addition, their name was entered into a drawing for a 19" color television.

Adolescents were recruited from alternative schools in Kansas City, MO and Oklahoma City, OK. Both schools were charter schools designed at serving Latino adolescents' educational needs. All of the adolescents at the Oklahoma City school had identified behavior problems. Approximately 25% of the adolescents from the alternative school in Kansas City had identified behavior problems, and 10% of these participants were pregnant or parents. Adolescents from the alternative school in Kansas City, MO comprised 62% of the sample. Adolescents recruited from the alternative school in Oklahoma City, OK comprised 8% of the sample.

Table 1

Demographic Characteristics of Sample: n = 115

Category	n	% Sample
<u>Age</u>		
12-14 years	33	28.6
15-17 years	76	66.1
18-19 years	6	5.2
<u>Grade</u>		
6 th -8 th	23	20.0
9 th -10 th	64	55.6
11 th -12 th	27	23.5
Unknown	1	0.9
<u>Gender</u>		
Male	60	52.2
Female	55	47.8
<u>Generation</u>		
First	22	19.1
Second	28	24.3
Third	35	30.4
Fourth	17	14.8
Fifth	13	11.3
<u>Source</u>		
Latino Groups at OSU	6	5.2
OKC Community Efforts	4	3.5
OKC Mail Surveys	18	15.7
KC Alternative School	71	61.7
Iowa Psychologist	7	6.1
OKC Alternative School	9	7.8

Adolescents were also recruited through community events sponsored by the Oklahoma City Latino Community Development Agency, a community psychologist in

Sioux City, IA, and Latino groups at Oklahoma State University. These adolescents comprised 14% of the sample. Participants recruited through mail surveys were randomly selected from a list of names and addresses provided by the Hispanic Student Services Coordinator of the Oklahoma City public school district. These adolescents comprised approximately 16% of sample ($n = 18$).

Measures

Demographic Form. Adolescents completed a demographic form (See Appendix A) that asked the adolescent to provide information such as his/her age, year in school, gender, marital status, place of birth, and length of time in the United States.

Alcohol Consumption. Adolescents completed a self-report questionnaire designed to categorize the frequency, quantity, and type of alcohol used in the past year (see Appendix B). Participants were asked to provide the best answer that corresponded to the various response selections provided. The questionnaire asked the participant to provide information about the frequency of his/her drinking in the past year. Frequency was assessed with the question, "In the last year, how often did you drink alcohol on the average?" Response selections varied from "0" "I didn't drink any alcohol" to "12" "Twice or more daily." Quantity of alcohol consumed was assessed via the question, "In the last year, when you drank alcohol, how many drinks did you consume on the average on one occasion?" Response selections ranged from "0" "Doesn't apply; I didn't drink any alcohol" to "12" "more than 25 drinks." Quantity and frequency estimates were then multiplied together to derive the estimated total volume of alcohol consumed over the

past year. The total volume of alcohol consumed in a year was divided by 12 to compute a volume per month index. Estimating an individual's quantity and frequency of alcohol consumption is a standard way of assessing alcohol consumption and has been used in numerous studies of adolescent drinking (Christiansen, Smith et al., 1989; Fitzgerald & Mulford, 1987; Grube et al., 1995; Schier & Botvin, 1997).

Peer Alcohol Use. Peer alcohol use was assessed via five self-report questions (see Appendix C). The first question assessed the adolescent's perception of how many of his/her friends drink alcohol. A five point Likert Scale was used with "0" equivalent to "None," and "4" "All." A second question asked participants to estimate how often their friends drink. A five point Likert Scale was used with "0" indicating "Never," and "4" "Almost Always." A third question asked adolescents their perceptions regarding how much their friends usually drink; a four point Likert Scale asked adolescents if they consider the majority of their friends to be "non-drinkers," "light drinkers," "moderate drinkers," or "heavy drinkers." Two other questions similar to those assessing individual consumption assessed the adolescent's perceptions of the frequency and quantity his/her friends drank alcohol. Quantity and frequency estimates were then multiplied together to derive the estimated total volume of alcohol consumed by peers over the past year. The total volume of alcohol consumed in a year was divided by 12 to compute a volume per month index. Research assessing this construct among adolescent populations typically assesses peer use in a similar manner (Dielman et al., 1991; Flannery et al., 1994; Walter et al., 1993).

Alcohol Expectancy Questionnaire (AEQ-A). Alcohol expectancies were assessed via the 90 item self-report instrument Alcohol Expectancy Questionnaire-Adolescent (Christiansen, Goldman, & Inn, 1982) The AEQ-A is designed to assess the adolescent's view about the various positive and negative effects of alcohol use. Content and factor analyses of the AEQ-A revealed seven different domains of alcohol expectancies: global positive changes, changes in social behavior, improved cognitive and motor abilities, sexual enhancement, cognitive and motor impairment, increased arousal, and relaxation and tension reduction. The AEQ-A asks adolescents to respond "true or false" to a number of different statements. Sample items from the AEQ-A include "Drinking alcohol makes a person feel good and happy," "Drinking alcohol creates problems," and "People are more caring and giving after a few drinks of alcohol." A composite score that was the sum of the seven AEQ-A domains was computed and used in all analyses.

Research with the AEQ-A suggests that it demonstrates acceptable internal consistency. Internal consistency estimates coefficient (alphas) for the seven different domains range from .42 to .82, with a mean value of .72 (Christiansen & Goldman, 1983). Kline (1995) also investigated the internal consistency of the AEQ-A in a junior high sample (N = 494). Coefficient alpha values ranged from .37 on Scale 6 (increases arousal) to .76 on scale 7 (relaxation and tension reduction). Finally, Brown, Christiansen, and Goldman (1987) found a mean test-retest coefficient value of .52 for an 8-week interval. Kuder-Richardson (KR-20) reliability estimates for the current sample ranged from .40 on Scale VI (i.e., Alcohol increases arousal) to .84 on Scale VII (i.e., Alcohol promotes relaxation or tension reduction). The KR-20 in the current study for the composite score was .90.

Brown et al. (1987) also reported that the AEQ-A demonstrates criterion validity because studies have consistently demonstrated a relationship between alcohol expectancies and current alcohol consumption. Brown and colleagues also provide evidence for discriminant validity of the AEQ-A. Brown et al. reported that the AEQ-A scales have been found relatively unrelated to both of the following constructs: social desirability and delinquency. Both constructs are thought to be distinct from alcohol expectancies.

Concern for Appropriateness Scale (CFA). The Concern for Appropriateness Scale (Lennox & Wolfe, 1984), a 20 item self-report instrument, was used to measure the adolescent's susceptibility to peer pressure. Specifically, the CFA was designed to measure an adolescent's tendencies to conform to group pressures. Individuals were required to provide a True or False answer to questions such as "I tend to show different sides of myself to different people," "At parties I usually try to behave in a manner that makes me fit in," and "I tend to pay attention to what others are wearing."

Research with the CFA has found it to be both reliable and valid. Research assessing the internal consistency of the CFA has reported Coefficient alpha values ranging from .82 to .90, (Cutler & Wolfe, 1985; Wolfe, Welch, Lennox, & Cutler, 1985) and a three week test-retest reliability value of .84 (Johnson, 1984 as cited in Johnson, 1989). Cutler and Wolfe (1985) also showed that the CFA demonstrates some convergent validity with peer ratings ($r = .41$) and discriminant validity with two constructs thought to be unrelated to it: popularity and boredom susceptibility. The KR-20 reliability value for this sample was .78.

Acculturation Rating Scale for Mexican Americans-II (ARSMA-II). Researchers who study the effects of acculturation on Latino populations often use a variety of techniques, both direct and indirect. Chavez and Swaim (1992) report in their review of acculturation instruments and techniques that indirect measures of acculturation have included language preferences (preference for Spanish vs. English), origin of birth (e.g., Mexico vs. U.S.), and number of generations with residence in the United States. Direct measures of acculturation assessing how much an individual identifies with his/her traditional culture vs. mainstream culture on aspects such as food, clothing, etc. have also been used.

Acculturation level was assessed via the ARSMA-II (Cuellar, Arnold, & Maldonado, 1995), a 48 item self-report questionnaire. The ARSMA-II provides two subscales that measure an individual's cultural identification to both Mexican and Anglo cultures. The mean score on the Mexican Orientation subscale is subtracted from the mean score on the Anglo Orientation subscale to obtain a linear acculturation score representing acculturation level on a continuum from very Mexican oriented to very Anglo oriented. Questions were revised such that the adolescent was asked if he/she identifies with his/her traditional "Latino" culture rather than his/her traditional "Mexican" culture due to the heterogeneity of the participant pool. ARSMA-II items required individuals to respond to five point Likert Scale questions such as "I speak Spanish," "I speak English," "My thinking is done in the English Language," and "My family cooks foods from my country of origin" with a response set of "not at all, very little or not very often, moderately, very often, or extremely often or almost always."

The ARMSA-II has demonstrated acceptable reliability and validity in a sample of approximately 400 Mexican American adults living in the United States. Internal consistency (coefficient alpha) was found to be .86 for the Mexican Orientation Score (MOS) and .88 for the Anglo Orientation Score (AOS) (Cuellar et al., 1995). In addition, the authors demonstrated test-retest reliability for one week with a value of .96. Convergent validity of the ARSMA-II was demonstrated by correlating the mean acculturation score with one's generational status. Cuellar et al. found that while the Anglo Orientations Scores increased with the length of time in the United States, the Mexican Orientation Scores decreased. Coefficient alphas for this sample were .82 for the AOS and .90 for the MOS.

Procedure

Participants recruited through the alternative high school in Kansas City, MO were recruited through parent/teacher conferences. A researcher met with parents and adolescents to explain the risks and benefits of the study and obtain parental consent forms. Adolescents with parental consent to participate in the study were removed from their class on a later date in order to complete questionnaires. Adolescents were again made aware of the risks and benefits of the study. In addition, they were informed that they could withdraw from the study at any time if they felt uncomfortable by any of the questions. Confidentiality of responses occurred via subject numbers assigned to each of the packets; names were not associated with the packets. A research assistant was available to answer any questions participants had about the questionnaires.

Participants recruited through the alternative school in Oklahoma City, OK were recruited through a similar process. Homeroom teachers provided information and consent forms to adolescents. A research assistant also explained the risks and benefits of the study during class time. Once informed consents were received, completion of the questionnaires occurred in class at a later date with a research assistant present to answer any questions. Adolescents at both schools completed questionnaires within a one-hour time frame and were given incentives and a short debriefing form following completion of the questionnaires. Names were also entered into the drawing for the 19" color television set.

Adolescents were also recruited through activities sponsored by the Latino Community Development Agency in Oklahoma City. Recruitment booths were set up at events celebrating Hispanic Heritage in the Fall of 1999. A research assistant was available to answer questions about the study and adolescents interested in participating were given a copy of the questionnaires, the informed consent form, and an prepaid envelope that enabled them to return the questionnaires to the researchers. Once packets were received, participants were mailed incentives and a short debriefing form; names were entered into a drawing for the television set. Solicitation for the adolescents in Sioux City, IA and adolescents recruited through the Latino group at Oklahoma State University occurred in a slightly different manner. Research assistants provided packets of questionnaires to the community psychologist and members of the Latino group. These individuals then passed these packets on to individuals they felt would be interested in participating. All participants were provided a prepaid envelope to mail back the

completed packet. Participants were again mailed incentives and a short debriefing form; names were entered into the drawing for the television set.

Adolescents recruited through mail surveys in Oklahoma City were provided a short description of the risks and benefits of the study and the parental consent form. A prepaid envelope was again provided to all adolescents solicited and incentives and the debriefing form were again mailed once the completed packet was received by the researchers; names were entered into the drawing for the television set.

CHAPTER IV

FINDINGS

Results

If age was missing, the participant was assigned the mean age for their grade level ($n = 5$). For missing questionnaire data in which model variables were averages (e.g., Mexican Orientation Score on the ARSMA-II), scores were computed based on the number of responses completed. For example, if a subscale was comprised of 13 items and only 12 items were present, the individual's subscale score was the mean of the 12 complete responses. Scores were only computed for those questionnaires in which 90% of the data was present. For example, on the CFA an individual must have completed at least 18 of the 20 items for a score to be computed.

Because both peer alcohol use and adolescent alcohol use distributions were reverse J-shaped, they were statistically transformed. Rummel (1970) recommends the log 10 transformation for distributions demonstrating the reverse J-shape. Rummel indicates that transforming data has two purposes. First, it maximizes the fit of the data to the mathematical assumptions underlying the technique of analysis. Second, transformations allow minimization of distorted interpretation based on the chance, unique or unrepresentative variance in a data matrix. Control variables (i.e., age, gender) were entered first in all equations, followed by model predictor variables. A preliminary

analysis of the data revealed that approximately 61% of participants reported that they had consumed at least one drink within the past year. Analyses of drinking patterns by recruitment source revealed site differences. Results showed that 74% of participants recruited from the alternative schools reported that they had consumed at least one drink within the past year compared to only 37% of participants recruited from other sources. A correlation matrix was also constructed in order to investigate whether model variables were intercorrelated (see Table 2).

Table 2

Correlation Matrix

Variable	Gender	Age	1	2	3
Gender					
Age	.241**				
Alcohol Expectancies (Composite Score)	-.138	.092			
Susceptibility to Peer Influences	-.230*	-.120	.250*		
Acculturation Total Score	.018	-.016	.010	-.033	
Peer Alcohol Use	-.162	.200*	.300**	-.008	.059
Adolescent Alcohol Use	-.106	.205*	.254*	-.132	.013
Alcohol Expectancies (Global Positive Changes Subscale)	-.246*	.083	.812**	.269**	.143
Alcohol Expectancies (Changes in Social Behavior Subscale)	-.135	.217*	.508**	.063	.061
Anglo Orientation Score	.228*	-.051	-.089	.061	.601**
Mexican Orientation Score	.163	-.020	-.059	.087	-.800**
Gender					
Age					
Alcohol Expectancies (Composite Score)					
Susceptibility to Peer Influences					
Acculturation Total Score					
Peer Alcohol Use					
Adolescent Alcohol Use	.720**				
Alcohol Expectancies (Global Positive Changes Subscale)	.300**	.322**			
Alcohol Expectancies (Changes in Social Behavior Subscale)	.440**	.585**	.437**		
Anglo Orientation Score	-.212*	-.211*	-.111	-.131	
Mexican Orientation Score	-.222*	-.178	-.216*	-.186	-.002

Note: 1=Alcohol Expectancies (Composite Score); 2=Susceptibility to Peer Influences; 3=Acculturation Total Score.

Hypothesis One

Hypothesis One stated that greater peer use of alcohol would be a significant predictor of alcohol use among Latino adolescents. A two-step hierarchical regression analysis was conducted with control variables in the first step and peer use in the second step. Results indicated that a higher level of peer alcohol use was associated with a higher level of adolescent alcohol use ($t(105) = 9.80, p < .01$). Specifically, peer use accounted for 43% of the variance in adolescent alcohol use.

Hypothesis Two

Hypothesis Two stated that the relationship between peer alcohol use and adolescent alcohol use would be mediated by the adolescent's alcohol expectancies. Results showed that the relationship between peer alcohol use and adolescent alcohol use was not mediated by alcohol expectancies ($t(97) = .40, p > .05$) (see Table 3).

Table 3

Model Summary for Hypothesis Two

Predictor(s) Variable	Outcome Variable	R ²	t	p
Peer Alcohol Use	Adolescent Alcohol Use	.43	9.80	< .01
Peer Alcohol Use	Alcohol Expectancies	.07	2.62	< .05
Alcohol Expectancies	Adolescent Alcohol Use	.04	2.19	< .05
Peer Alcohol Use and Alcohol Expectancies Composite Score	Adolescent Alcohol Use	.49	.40*	> .05*
			9.63**	< .01**

Note: *=Alcohol Expectancies; **=Peer Alcohol Use.

Additionally, the relationship between peer alcohol use and adolescent alcohol use was still significant ($t(97) = 9.63, p < .05$) when alcohol expectancies were included in the model.

Hypothesis Three

Hypothesis Three stated that the relationship between peer alcohol use and adolescent alcohol use would be mediated by an adolescent's susceptibility to peer influence. Although results from Hypothesis One again satisfied the first requirement necessary for mediation, peer alcohol use was not related to susceptibility to peer influences ($t(102) = -.10, p > .05$) nor was susceptibility to peer influences related to adolescent alcohol use ($t(103) = -1.42, p > .05$). Therefore, Hypothesis Three was not supported.

Hypothesis Four

Hypothesis Four stated that the relationship between peer alcohol use and adolescent alcohol use would be moderated by an adolescent's acculturation. An interaction term was created by multiplying the centered values of acculturation and peer alcohol use (Aiken & West, 1991). A two-step hierarchical multiple regression analysis was conducted with acculturation, peer alcohol use, and the interaction term in the second step of the equation. Results showed that acculturation was not related to adolescent alcohol use ($t(96) = .17, p > .05$). Acculturation also did not moderate the relationship between peer alcohol use and adolescent alcohol use ($t(93) = .44, p > .05$).

Supplementary Analyses

Additional regression analyses were conducted in order to investigate whether subscales from the Alcohol Expectancy Questionnaire-Adolescent Form (AEQ-A) mediated the relationship between peer alcohol use and adolescent alcohol use (see Table 4).

Table 4
Model Summary for Supplementary Analysis One

Predictor(s) Variable	Outcome Variable	R ²	t	p
Peer Alcohol Use	Adolescent Alcohol Use	.43	9.80	< .01
Peer Alcohol Use	Alcohol Expectancies Scale I	.11	3.54	< .01
Alcohol Expectancies Scale I	Adolescent Alcohol Use	.08	2.87	< .01
Peer Alcohol Use and AEQ-A Scale I	Adolescent Alcohol Use	.50	.40*	> .05*
			9.27**	< .01 **

Note: *=Scale I; **=Peer Alcohol Use.

Results indicated that the AEQ-A global positive changes subscale did not mediate the relationship between peer alcohol use and adolescent alcohol use ($t(96) = .50, p > .05$). However, results indicated that the AEQ-A changes in social behavior subscale mediated the relationship between peer alcohol use and adolescent alcohol use ($t(95) = 4.25, p < .01$) (see Table 5).

Table 5

Model Summary for Supplementary Analysis Two

Predictor(s) Variable	Outcome Variable	R ²	t	p
Peer Alcohol Use	Adolescent Alcohol Use	.43	9.80	< .01
Peer Alcohol Use	Alcohol Expectancies Scale II	.13	3.54	< .01
Alcohol Expectancies Scale II	Adolescent Alcohol Use	.29	6.33	< .01
Peer Alcohol Use and AEQ-A	Adolescent Alcohol Use	.56	4.25*	< .01*
Scale II			8.25**	< .01**

Note: *=Scale II; **=Peer Alcohol Use.

CHAPTER V

DISCUSSION

Summary

The purpose of the present study was to examine the influence of a number of variables on alcohol use among Latino adolescents. Specifically, this study investigated the influence of an adolescent's peers on his/her alcohol use. As previous research suggested that peer alcohol use would be a strong predictor of adolescent alcohol use in this population (e.g., Dusenbury et al., 1994; Fraunglass et al., 1997; Walter et al., 1993), the present study investigated variables that would potentially mediate the relationship between peer alcohol use and adolescent alcohol use (i.e., an adolescent's expectancies regarding alcohol and an adolescent's susceptibility to peer influences). In addition, the present study investigated one variable that would potentially moderate or buffer the effects of peer alcohol use on Latino adolescent alcohol use (i.e., an adolescent's acculturation level).

Summary of Findings

Hypothesis One. Hypothesis One stated that greater peer use of alcohol would be associated with higher levels of alcohol use among Latino adolescents. Results from the present study found that peer alcohol use was associated with higher levels of alcohol use

among Latino adolescents. Results appear to be consistent with social/cognitive learning theory (Bandura, 1977). Social/cognitive learning theory assumes that an adolescent's alcohol use patterns will be strongly influenced by the alcohol use of his or her peers as they become more relevant and important models for the adolescent's behavior. It appears that Latino adolescents' peers are important role models for their alcohol using behavior.

Hypothesis Two and Supplementary Analyses. Hypothesis Two stated that the relationship between peer alcohol use and adolescent alcohol use would be mediated by the adolescent's expectancies regarding alcohol. Results from the present study did not support Hypothesis Two: although it was found that an adolescent's alcohol expectancies were related to his/her alcohol use and the alcohol use of his/her peers, alcohol expectancies did not mediate the relationship between peer alcohol use and adolescent alcohol use. Again, the significant relationship between peer alcohol use and an adolescent's alcohol expectancies is consistent with a social/cognitive learning theory explanation of substance use (Bandura, 1977). Social/cognitive learning theory assumes that adolescents' beliefs concerning substances will be shaped by their available models. It appears that the adolescents' beliefs (i.e., expectancies) regarding alcohol were indeed shaped by their available role models (i.e., peers).

A potential explanation for the finding that alcohol expectancies did not mediate the relationship between peer alcohol use and adolescent alcohol use concerns the method with which the alcohol expectancies variable was created. As discussed previously, the AEQ-A contains seven subscales measuring seven different domains of alcohol expectancies. A composite score reflecting the adolescents' global beliefs regarding

alcohol was created from the seven domains. It appears this global score may have overshadowed the mediating properties of the individual subscales. Supplementary analyses conducted with two of the subscales of the AEQ-A support this conclusion.

Although the first supplementary analysis conducted revealed that the AEQ-A subscale assessing global positive changes did not mediate the relationship between peer alcohol use and adolescent alcohol use, a second analysis using the AEQ-A subscale assessing an adolescent's beliefs regarding alcohol's influence on his/her social behavior revealed a different result. Results showed that the social behavior subscale was a successful mediator of the relationship between peer alcohol use and adolescent alcohol use. It may be possible that the reason an adolescent's expectancies regarding alcohol's effects on his/her social behavior mediated the relationship between peer alcohol use and adolescent alcohol use is related to difficulties in peer relationships during adolescence. Because an adolescent's peers are an important influence on their alcohol use, an adolescent may be more likely to use alcohol if he/she believes that using alcohol may enhance his/her social behavior around his/her peers. Conversely, if an adolescent believes that using alcohol will impede his/her social behavior, then he/she may be less likely to use it.

Hypothesis Three. Hypothesis Three stated that the relationship between peer alcohol use and adolescent alcohol use would be mediated by an adolescent's susceptibility to peer influences. Results showed that an adolescent's susceptibility to peer influences did not mediate the relationship between peer alcohol use and adolescent alcohol use. Again, there are a couple of possible reasons for this negative finding. First,

as discussed previously, it may be possible that an adolescent's cognitions regarding appropriate social behavior as measured by the Concern for Appropriateness scale (CFA) do not play an important role in the relationship between peer alcohol use and adolescent alcohol because learning occurs in a more basic form. It may be possible that an adolescent models his/her behavior after the influence of his/her peers and that use continues to occur because of positive outcomes associated with the alcohol use and not because of thoughts that he/she must use alcohol in order to conform to the demands of his/her peers.

Second, it may be that the CFA is not an appropriate measurement of an adolescent's susceptibility to peer influences with regard to alcohol use. As discussed previously, results from supplementary analyses found that an adolescent's expectancies regarding how alcohol influenced his/her social behavior mediated the relationship between peer alcohol use and adolescent alcohol use. Results from the second supplementary analysis suggest that adolescents' beliefs regarding the influence of alcohol on their social behavior is a more important construct to consider because it addresses how alcohol may specifically enhance or impede their social abilities rather than just measuring an adolescent's global susceptibility to peer influences. Results suggest that measures such as the AEQ-A may be more appropriate than global measures such as the CFA because of their direct connection to beliefs regarding alcohol use.

Hypothesis Four. Hypothesis Four stated that an adolescent's acculturation level would moderate the relationship between peer alcohol use and adolescent alcohol use. Results did not support Hypothesis Four; acculturation did not moderate the relationship

between peer alcohol use and adolescent alcohol use. Results from Hypothesis Four may have been related to the method of measuring acculturation. As noted previously, researchers studying the effects of acculturation among Latino populations have used various methods (e.g., generation, language preference). It may be possible that the ARSMA-II total acculturation score did not provide an accurate assessment of the adolescents' acculturation level, especially as it was originally designed for adult populations and has only been used among adolescent (i.e., college) populations once. It is possible that using the adolescent's generation level may have been a more effective method of measuring his/her acculturation level. Results from an analysis using generation as a measure of acculturation approached significance, suggesting that an adolescent's generation may moderate the relationship between peer alcohol use and adolescent alcohol use. It is also possible that the adolescent's score on the Anglo Orientation Scale may have been a more accurate variable to use because that scale alone measures the degree to which the adolescent identifies with American/Anglo culture. Perhaps the effects of the adolescent's orientation to American culture and/or Mexican culture may have been overshadowed by the total score that was created by subtracting the MOS from the AOS. Again, results from analyses using the Anglo Orientation and Mexican Orientation scores as measures of acculturation approached significance, suggesting that the total score, which is linear in nature, may alone not be an appropriate measure of an adolescent's acculturation.

Conclusions

Results from the present study add support to previous research that suggests the importance of peers as role models for Latino adolescent alcohol use. The present study also adds understanding as to how Latino adolescents' beliefs regarding alcohol use may influence the relationship between peer alcohol use and adolescent alcohol use. Specifically, this study suggests that the beliefs adolescents have regarding the influence of alcohol on their social behavior may be an important mediator of the relationship between peer alcohol use and adolescent alcohol use. Results from this study also suggest the need for continued research into the effects acculturation has on Latino adolescent alcohol use. The present study contributes information regarding the appropriateness of two different methods of acculturation assessment for this population (i.e., ARSMA-II and generation) and suggests that an adolescent's generation may be an important buffer between peer alcohol use and adolescent alcohol use.

Methodological Considerations

There are a number of limitations associated with this study that should be noted. First, sample size may have been a factor. For example, Flannery and colleagues' (1994) study that provided some support for the importance of susceptibility to peer influences in Latino male adolescent alcohol use had a much larger sample size ($N = 1170$). Results from Flannery et al. suggest that a larger sample size may have been needed, as susceptibility to peer influences only accounted for 14% of the variance in the adolescents' alcohol use. According to Cohen (1992), this amount of variance is

considered a small effect size and typically requires a sample size larger than the one available in the present study for the effect to be demonstrated. In addition, studies investigating the role of acculturation in Latino adolescent alcohol use also had larger samples (e.g., Alva, 1995; Bettes et al., 1990; Vega et al., 1993).

Another limitation of the current study that may have influenced the results concerns the nature of the sample itself. Since the majority of the participants were recruited from alternative schools (i.e., 70%) it may be possible that these adolescents are not typical of most Latino adolescents. For example, many of the adolescents from both schools had identified behavior problems and some were parents. In addition, any conclusions that are drawn from this study must take into account the correlational nature of the design; causal relationships must not be inferred. The lack of socioeconomic information on the participants is also a weakness. Without information as to the socioeconomic status (SES) of the individuals in this study, it may be possible that his/her SES influenced the results. For example, economic deprivation has been found to be associated with higher levels of alcohol and drug use (Hawkins, et al., 1992). Language preference may also have been a factor that influenced the results of this study. It may be possible that the adolescents' understanding of the questionnaires may have been hindered by their knowledge of English.

Future Directions

In conclusion, it appears that peer alcohol use is an important predictor of Latino adolescent alcohol use. Interventions directed at reducing the high levels of alcohol use among this population will need to intervene not only at the individual level, but with the

adolescent's peer group as well. Just as it is likely that an adolescent will model the behavior of his/her friends who are rewarded for their alcohol use, it is also just as likely that an adolescent will model the behavior of a non-using peer group if he/she observes his/her friends being rewarded for their nonuse.

Further research should also be conducted investigating the roles that alcohol expectancies, susceptibility to peer influences, and acculturation have in this population. Research focusing on the role of acculturation in adolescent alcohol use should continue to utilize various methods of assessment. Future studies should also yield longitudinal designs in order to improve conclusions made about the role these variables play in Latino adolescent alcohol use.

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APPENDIXES

APPENDIX A

DEMOGRAPHIC FORM

Family Studies Program
Oklahoma State University

Form: Demographic

Code #:

Today's Date: ___/___/___

Date of Birth: ___/___/___

Circle the number that best represents your answer to the following statements and questions.

1. Your gender is : (1) Male (2) Female
2. Your grade in school is: 6th 7th 8th 9th 10th 11th 12th
3. Place of birth:
 - (1) U.S. (2) Mexico (3) Puerto Rico
 - (4) Cuba (5) Central America (6) South America
 - (7) Other: Please specify _____
4. If not born in the U.S., what year did you come to the U.S.: 19__ __

(example: 198 5)
5. Mother's place of birth:
 - (1) U.S. (2) Mexico (3) Puerto Rico
 - (4) Cuba (5) Central America (6) South America
 - (7) Other: Please specify _____
6. Father's place of birth:
 - (1) U.S. (2) Mexico (3) Puerto Rico
 - (4) Cuba (5) Central America (6) South America
 - (7) Other: Please specify _____

7. I think of myself as: (if only one answer applies place a 1 by that answer, if more than one applies, please rank your answers starting with 1 as the best description of how you think about yourself)

___ American

___ Hispanic/Latino

___ Hispanic American

___ Puerto Rican, Mexican, Argentinean, etc.

___ Chicano

___ Other (Please indicate how): _____

___ I do not have a consistent way of identifying myself

8. What generation are you?

(1) I was born outside the U. S. and so are my ancestors

(2) I am U. S. - born; both of my parents were born outside the country

(3) I am U. S. - born; at least one of my parents is also U. S. - born; all my grandparents were born outside the country

(4) I am U. S. - born; at least one of my parents is U. S. - born; and at least one of my grandparents is also U. S. - born

(5) 5th generation or beyond

(6) I don't know

APPENDIX B

ALCOHOL CONSUMPTION QUESTIONNAIRE

Family Studies Program
Oklahoma State University

Form: ACQ

CODE # _____

The following questions ask you about your alcohol consumption practice over the past year (12 months). For each question, please provide only one answer—the answer that best captures your actual drinking during the twelve-month period.

- 1) In the last year, how often did you drink alcohol on the average?

- | | |
|---------------------------------------|--------------------------------|
| _____ (0) I didn't drink any alcohol. | _____ (7) Three times a week. |
| _____ (1) Less than once a month | _____ (8) Four times a week. |
| _____ (2) Once a month | _____ (9) Five times a week |
| _____ (3) Twice a month | _____ (10) Six times a week |
| _____ (4) Three times a month | _____ (11) Daily |
| _____ (5) Once a week | _____ (12) Twice or more daily |
| _____ (6) Twice a week | |

- 2) What type of alcohol did you usually drink over the past year?

0=NO, 1=YES

- _____ Beer
 _____ Malt Liquor
 _____ Hard Liquor (straight or mixed drinks of gin, whiskey, rum, vodka, tequila, etc.)
 _____ Wine
 _____ Wine Coolers
 _____ Other (please specify): _____

- 3) In the last year, when you drank alcohol, how many drinks did you consume on the average on one occasion? (A "drink" is defined as one 12-ounce beer, one 5-ounce glass of wine, or one mixed drink with 1 and 1/2 ounces of 80-proof hard liquor.)

- | | |
|--|---------------------------------|
| _____ (0) Doesn't apply; I didn't drink alcohol. | _____ (7) Seven or Eight Drinks |
| _____ (1) One drink | _____ (8) Nine or ten drinks |
| _____ (2) Two drinks | _____ (9) 11 to 15 drinks |
| _____ (3) Three drinks | _____ (10) 16 to 20 drinks |
| _____ (4) Four drinks | _____ (11) 21 to 25 drinks |
| _____ (5) Five drinks | _____ (12) More than 25 drinks |
| _____ (6) Six drinks | |

- 4) In the last year, when you drank alcohol, what is the **largest number of drinks** you consumed on one occasion? (A "drink" is defined as one 12-ounce beer, one 5-ounce glass of wine, or one mixed drink with 1 and 1/2 ounces of 80-proof hard liquor.)
- | | |
|--|--|
| <input type="checkbox"/> (0) I didn't drink alcohol. | <input type="checkbox"/> (7) Seven or Eight Drinks |
| <input type="checkbox"/> (1) One drink | <input type="checkbox"/> (8) Nine or ten drinks |
| <input type="checkbox"/> (2) Two drinks | <input type="checkbox"/> (9) 11 to 15 drinks |
| <input type="checkbox"/> (3) Three drinks | <input type="checkbox"/> (10) 16 to 20 drinks |
| <input type="checkbox"/> (4) Four drinks | <input type="checkbox"/> (11) 21 to 25 drinks |
| <input type="checkbox"/> (5) Five drinks | <input type="checkbox"/> (12) More than 25 drinks |
| <input type="checkbox"/> (6) Six drinks | |
- 5) In the last year, how often did you drink the amount you reported in the last question?
- | | |
|--|---|
| <input type="checkbox"/> (0) I didn't drink any alcohol. | <input type="checkbox"/> (7) Three times a week. |
| <input type="checkbox"/> (1) Less than once a month | <input type="checkbox"/> (8) Four times a week. |
| <input type="checkbox"/> (2) Once a month | <input type="checkbox"/> (9) Five times a week |
| <input type="checkbox"/> (3) Twice a month | <input type="checkbox"/> (10) Six times a week |
| <input type="checkbox"/> (4) Three times a month | <input type="checkbox"/> (11) Daily |
| <input type="checkbox"/> (5) Once a week | <input type="checkbox"/> (12) Twice or more daily |
| <input type="checkbox"/> (6) Twice a week | |
- 6) Over the past year, how many times did you drink **five or more drinks** when you were drinking?
- | | |
|---|---|
| <input type="checkbox"/> (0) Never | <input type="checkbox"/> (7) Three times a week. |
| <input type="checkbox"/> (1) Less than once a month | <input type="checkbox"/> (8) Four times a week. |
| <input type="checkbox"/> (2) Once a month | <input type="checkbox"/> (9) Five times a week |
| <input type="checkbox"/> (3) Twice a month | <input type="checkbox"/> (10) Six times a week |
| <input type="checkbox"/> (4) Three times a month | <input type="checkbox"/> (11) Daily |
| <input type="checkbox"/> (5) Once a week | <input type="checkbox"/> (12) Twice or more daily |
| <input type="checkbox"/> (6) Twice a week | |
- 7) In the past year, about how many times have you gotten **drunk** or "very, very high" on alcohol?
- | | |
|---|---|
| <input type="checkbox"/> (0) Never | <input type="checkbox"/> (7) Three times a week. |
| <input type="checkbox"/> (1) Less than once a month | <input type="checkbox"/> (8) Four times a week. |
| <input type="checkbox"/> (2) Once a month | <input type="checkbox"/> (9) Five times a week |
| <input type="checkbox"/> (3) Twice a month | <input type="checkbox"/> (10) Six times a week |
| <input type="checkbox"/> (4) Three times a month | <input type="checkbox"/> (11) Daily |
| <input type="checkbox"/> (5) Once a week | <input type="checkbox"/> (12) Twice or more daily |
| <input type="checkbox"/> (6) Twice a week | |

APPENDIX C

PEER USE QUESTIONNAIRE

Family Studies Program
Oklahoma State University

Form: PU

Code #:

Directions: Circle the number below the choice that **best represents** your answer to the following questions.

1. How many of your friends drink alcohol?

None	A few	Some	Most	All
0	1	2	3	4

2. How often do your friends drink alcohol?

Never	Rarely	Sometimes	Often	Extremely Often or Almost Always
0	1	2	3	4

3. Do you consider the majority of your friends to be..

Non-drinkers	Light drinkers	Medium drinkers	Medium to heavy drinkers	Heavy drinkers
0	1	2	3	4

The following questions ask you about your friends' alcohol consumption practice **over the past year (12 months)**. For each question, please provide only one answer—the answer that best captures your friends' actual drinking during the twelve-month period.

4) In the last year, how often did your friends drink alcohol **on the average**?

_____ (0) My friends don't drink.	_____ (7) Three times a week.
_____ (1) Less than once a month	_____ (8) Four times a week.
_____ (2) Once a month	_____ (9) Five times a week
_____ (3) Twice a month	_____ (10) Six times a week

- | | |
|-------------------------------|--------------------------------|
| _____ (4) Three times a month | _____ (11) Daily |
| _____ (5) Once a week | _____ (12) Twice or more daily |
| _____ (6) Twice a week | |

- 5) In the last year, when your friends drank alcohol, how many drinks did they consume **on the average** on one occasion? (A "drink" is defined as one 12-ounce beer, one 5-ounce glass of wine, or one mixed drink with 1 and 1/2 ounces of 80-proof hard liquor.)

- | | |
|--|---------------------------------|
| _____ (0) My friends didn't drink alcohol. | _____ (7) Seven or Eight Drinks |
| _____ (1) One drink | _____ (8) Nine or ten drinks |
| _____ (2) Two drinks | _____ (9) 11 to 15 drinks |
| _____ (3) Three drinks | _____ (10) 16 to 20 drinks |
| _____ (4) Four drinks | _____ (11) 21 to 25 drinks |
| _____ (5) Five drinks | _____ (12) More than 25 drinks |
| _____ (6) Six drinks | |

APPENDIX D

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

DATE: 03-12-99

IRB# AS-99-042

Proposal Title: FAMILY, FRIENDS, AND CULTURE: INFLUENCE ON LATINO
ADOLESCENT BEHAVIOR

Principal Investigator(s): B. Neighbors, C. Nichols-Anderson, Y. Segura, S.
Gillaspy

Reviewed and Processed as: Full Board

Approval Status Recommended by Reviewer(s): Approved

Signature:



Date: 03-17-99

Carol Olson, Director of University Research Compliance
cc: S. Gillaspy

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

2

VITA

YVETTE LYNN SEGURA

Candidate for the Degree of

Master of Science

Thesis: THE IMPORTANCE OF PEERS IN ALCOHOL USE AMONG LATINO ADOLESCENTS: AN INVESTIGATION OF POTENTIAL MEDIATORS AND MODERATORS

Major Field: Psychology

Biographical:

Education: Graduated from Manzano High School, Albuquerque, New Mexico in May of 1993; received Bachelor of Science degree in Psychology with a Minor in English from Texas A&M University in May, 1997; completed the requirements for the Master of Science degree with a major in Psychology at Oklahoma State University in July, 2000.

Experience: Research Assistant for Dr. Bryan Neighbors August, 1997 to May, 2000; Research Assistant for Dr. Melanie Page May, 2000 to present; employed by Oklahoma State University, Department of Psychology as an assistant to the Psychology Diversified Student's Program, graduate instructor, and clinical practicum student; Oklahoma State University, Department of Psychology, 1997 to present.

Professional Memberships: American Psychological Association, Association for the Advancement of Behavior Therapy, Southwestern Psychological Association.