

An Exploratory Study of Factors Associated with Alcohol and Drug Use Among Latino  
Adolescents: A Secondary Data Analysis

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Latino adolescents in the United States have reported a higher annual prevalence of use of nearly all illegal drugs compared to non-Latino adolescents over the past several years. With the rapid growth of the Latino population in the U.S. there is an increasing need to better understand the factors associated with substance use among adolescents. Learning more about these factors can enhance knowledge surrounding current prevalence rates, inform future research, and support prevention programs designed for Latino adolescents. This exploratory study used secondary data analysis to investigate the difference between Latino and non-Latino adolescents' attitudes, subjective norms, and perceived behavioral control as it relates to alcohol and marijuana use, and the misuse of prescription drugs. Results from this study indicate that attitude, subjective norms, and perceived behavioral control differ between Latino and non-Latino adolescents. Latino adolescents report a higher perceived acceptability of alcohol and marijuana use, and a lower perceived risk of prescription drug misuse as compared to non-Latino adolescents. Measures for subjective norms indicate that, compared to non-Latino peers, Latino adolescents report higher perceptions of family approval for smoking marijuana, as well as higher perceptions of peer approval for misusing prescription drugs and consuming alcohol almost daily. While risk perceptions were low and attitudes toward the use of alcohol, marijuana, and other drugs were more favorable for Latino adolescents as compared to non-Latino adolescents, access to

prescription drugs was perceived to be more difficult. In sum, perceived risks and acceptability of illegal drug use, family and peer approval, and access to substances are factors that differ between Latino and non-Latino adolescents, factors that could potentially influence a Latino adolescent's decision to use a substance.



An Exploratory Study of Factors Associated with Alcohol and Drug Use Among Latino  
Adolescents: A Secondary Data Analysis

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## **DEDICATION**

I would like to dedicate this research to my loving family and to all health professionals in the field of prevention who work with Latino adolescents.

## **ACKNOWLEDGEMENTS**

I would like to take this opportunity to express my deepest gratitude to a few people whose help was integral to performing this research. First, I would like to thank my committee chair, Dr. Michele Wallen, Associate Professor in the Department of Health Education and Promotion at East Carolina University (ECU), for her invaluable guidance, knowledge, and support throughout this process. Also, thank you to the other members of my thesis committee – Dr. Elizabeth Chaney and Dr. Essie Torres, Assistant Professors in the Department of Health Education and Promotion at ECU – for their instrumental feedback and encouragement. Finally, I would like to thank Dr. Jeremy Goldbach, Assistant Professor at the University of Southern California and Principal Investigator at C.A.R.E. (Community Advocacy Research & Evaluation), for his support. It was through his work with the Center for Prevention Services in facilitating and evaluating the 2015 Youth Drug Survey (YDS), and through his work with the Drug Free Communities (DFC) grants, that I had the pleasure of connecting with him. It is with the assistance of Dr. Goldbach and his team from C.A.R.E. Consulting Group that it was possible to access and evaluate the data for the 2015 YDS survey. I am forever grateful to these individuals.



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## **1. Introduction**

Substance use is a significant threat to the health and development of adolescents in the United States and is quickly becoming one of the leading emerging health concerns among adolescents, in particular as it relates to Latino adolescents (Institutes of Medicine, 2011). Latino adolescents in the U.S. have reported a higher annual prevalence of use of nearly all illegal drugs compared to non-Latino adolescents, and are more likely than their peers to use illicit drugs, in particular marijuana, ecstasy, and cocaine (Cardoso, Goldbach, Cervantes, & Swank, 2016). A high frequency of exposure to risky behaviors, such as substance use, can lead to serious short and/or long-term consequences and effects, both physically and socially (Oesterle, Hill, Hawkins, Guo, Catalano, & Abbott, 2004). The use of alcohol and other drugs increases the risk for other problem behaviors and consequences, such as academic difficulties, unintentional injuries, sexually transmitted diseases, and trouble with the law (Coatsworth, Pantin, & Szapocznik, 2002; Harrop & Catalano, 2016; Levy, 2014; Marsiglia, Ayers, Baldwin-White, & Booth, 2016; Ritchwood, Ford, DeCoster, Sutton, & Lochman, 2015). These consequences can greatly impact adolescents' transition into adulthood and quality of life (Marsiglia et al., 2016).

Recent research also suggests that adolescents who consume alcohol and other drugs at an earlier age are at higher risk for developing dependency later in life. Latino adolescents face a disproportionately higher risk of substance use-related problems, due to patterns of early use (Corbin, Iwamoto, & Fromme, 2011; Weinberg, Rahdert, Colliver, & Glantz, 1998). In addition, Latino adolescents are more likely to engage in hazardous drinking patterns than non-Latino adolescents (Acosta, Hospital, Graziano, Morris, & Wagner, 2015; Cardoso et al., 2016; Dishion & Kavanagh, 2000). These observations deem Latino adolescents vulnerable and are an at risk population for substance use.

Latinos are one of the fastest growing subsets of the U.S. population. Over the past decade, there has been a rapid and steady growth of the Latino population; so much so, that the projection for the 2060 population that would identify themselves as Latino (or Hispanic) will increase to approximately 30% of the U.S. population (US Census Bureau, 2015). With this projection of growth of Latino Americans in the U.S., there is an increasing need to better understand determinants for Latino adolescent substance use. There is also a need for the creation and implementation of culturally appropriate substance use prevention and intervention programs that offer services, support, and resources to addressing alcohol and other drug use among Latino populations. Studies need to continue investigating ways to offer more culturally relevant and comprehensive prevention programs for Latinos and provide services that better assist at risk Latino adolescents as more generalized programs may not address the particular needs of different ethnicities (Hecht, Marsiglia, Elek, Wagstaff, Kulis, Dustman, & Miller-Day, 2003).

Research focusing on the factors and cultural norms that impact minority populations is continues to grow. However, more research is needed as newer trends in alcohol, marijuana, and other drugs have surfaced in recent years, specifically among Latino adolescents (Prado, Huang, Schwartz, Maldonado-Molina, Bandiera, De La Rosa, & Pantin, 2009; Unger, 2014). Substance use prevalence rates among this population continues to climb and added clarity on the factors contributing to this increase can improve prevention efforts. The use of illicit (or unlawful) substances by adolescents has been explained in previous research through terms of individual, intrapersonal, and cultural factors (Hawkins, Catalano, & Miller, 1992). These particular factors can assist in explaining the increase or the decrease in probability of adolescent substance use. Factors can increase (risk factors can increase chances) or reduce (protective factors can reduce

chances) the probability that adolescents will use substances (NIDA, 2003). Prevalent factors of substance use include: perceived risks (which indicates how risky a certain behavior is); access to substances (how easily accessible is a substance in an adolescent's environment); and social perceptions (approval or disapproval of use- measuring an adolescent's perception of peer's use) (Hawkins et al., 1992; Jacobs, Barry, Xu, & Valente, 2016).

Latino adolescents are more likely to encounter or to be exposed to alcohol and other drugs in their environments. Research suggests that Latino adolescents are more likely than their peers to be offered drugs at school and that media advertisement and marketing of substances are more prevalent within Latino communities (Alaniz, 1998; Goldberg, 2013; Horner, Sanchez, Castillo, & Delva, 2012). Alcohol advertisements in Latino neighborhoods are five times greater than predominantly White neighborhoods (Alaniz, 1998; Marsiglia, Nagoshi, Parsai, & Castro, 2014). Encountering alcohol and other drugs more frequently in an environment can influence perceptions of drugs and substance use, and can increase the likelihood of an adolescent engaging in risky behaviors (Alaniz, 1998; Hawkins et al., 1992). Studies on Latino substance use suggest that additional research is beneficial to better understand Latino adolescents' perceived risk for alcohol and drug use, as well as protective, attitudinal, cognitive, and behavioral factors associated with such substance use (Schinke, Schwinn, Hopkins, & Wahlstrom, 2016).

Models like the Theory of Planned Behavior (TPB; Ajzen, 1991) can be used to help predict adolescents' likelihood to perform a certain behavior – such as alcohol and drug use – through three belief measures, or constructs: attitudes (how favorably one views the behavior), subjective norms (beliefs about how others will view the behavior), and perceived behavioral control (beliefs about the presence of barriers for performing the behavior). The TPB posits that

favorable attitudes and subjective norms and great perceived control can lead to stronger intentions to perform a behavior (Ajzen, 1991).

This exploratory study uses the TPB to examine differences in Latino and non-Latino adolescents' attitudes, subjective norms, and perceived behavioral control associated with alcohol and drug use (i.e., marijuana and the misuse of prescription drugs). In this study, *attitudes* is defined as adolescents' perceived acceptability and perceived risk of using alcohol and drugs; *subjective norms* is defined as perceived approval from family and peers for using these substances; and *perceived behavioral control* is defined as perceived control for accessing these substances.

The findings from this study will contribute to growing literature in the field and help inform future efforts to develop alcohol and drug use prevention programs for Latino adolescents.

## **2. Literature Review**

The use of alcohol, marijuana, and misuse of prescription drugs is an escalating public health concern among the rapidly growing Latino adolescent population in the U.S. (CDC, 2014; De La Rosa et al., 2005). Given the dangers substance use poses on the health, wellness, and future outcomes of adolescents who are initiating and are at risk for substance use, it is a matter that deserves ongoing attention (Chakravarthy, Shah, & Lotfpour, 2013). Recent findings of nationally representative samples of U.S. adolescents report that Latino adolescents now have the highest reported rate of any illicit drug use, and are consuming larger quantities of alcohol and more likely to engage in hazardous drinking patterns compared to non-Latinos adolescents (Johnston, O'Malley, Miech, Bachman, & Schelenberg, 2014). The literature on the prevalence and prevention of use of alcohol and other drugs among Latino adolescents is growing; however, further research is needed to better understand the factors contributing to the growing trends of substance use among this population (Alvarez, Jason, Olson, Ferrari, & Davis, 2007; De La Rosa, Holleran, Rugh, & MacMaster, 2005; Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014).

The definition for the term Latino and/or Hispanic in the U.S. refers to a person or group from South or Central America, or other Spanish culture or origin, regardless of race, and can be viewed as the nationality, lineage, heritage, or birth country of the person, their parents or their ancestors before arriving in the U.S. (US Census Bureau, 2015). There are currently over 55 million Latinos in the U.S., encompassing 17% of the nation's total population (US Census Bureau, 2015). Latino adolescents represent the largest minority group among adolescents and young adults in the country with a median age of 29 years (Fry & Passel, 2009; US Census Bureau, 2015). The projection of growth for the Latino population describe that persons



identifying themselves as Latino or Hispanic will increase to about 30% of the U.S. population by the year 2060 (US Census Bureau, 2015). With such anticipated growth and the disproportionate risk for substance use among this population, there are increasing demands to create culturally appropriate substance use prevention and intervention programs that target Latino adolescents and address alcohol and other drug use among this population (Hecht et al., 2003).

Substance use among adolescents is a public health concern in the U.S. (Jacobs et al., 2016). Use of substances in adolescence can have lifetime effects. Exposure to frequent risky behaviors related to substance use, can lead to serious short and/or long-term consequences and effects among adolescents (Oesterle et al., 2004). Latino adolescents are more likely than non-Latino Caucasians to encounter the juvenile justice system for substance use-related offenses and to be further impacted by social consequences as a result (Barnes, Welte, & Hoffman, 2002; Coatsworth et al., 2002; Ritchwood et al., 2015). Adolescents of Latino background are disproportionately affected by substance use than non-Latino adolescents due to the early onset of substance use, which can lead to greater risk for abuse as an adult and more severe consequences later on in life (Johnston, O'Malley, Bachman, & Schulenberg, 2006; Prado, Szapocznik, Maldonado-Molina, Schwartz, & Pantin, 2008).

The consequences associated with alcohol and other drug use can greatly impact an adolescent's outcomes into adulthood and their quality of life (Marsiglia et al., 2016). Studies show high correlations between adolescent substance use and becoming a problem substance abuser in adulthood, describing that use of substances earlier in life can contribute to possible dependency later in life (Chakravarthy et al., 2013). When facing regular use of a substance and/or possible dependence on a substance, an individual may benefit from treatment, however

most people never seek treatment as they don't believe in needing treatment (Alvarez et al., 2007). In addition, Latino adolescents experience greater barriers in accessing treatment for substance use problems as compared to other non-Latino adolescents, allowing such use and related issues to persist (Alvarez et al., 2007). The use of substances also enhances the associated risk for other problem behaviors and consequences among adolescents, such as academic difficulties, unintentional injuries, sexually transmitted diseases, and trouble with the law (Coatsworth et al., 2002; Harrop & Catalano, 2016; Levy, 2014; Marsiglia et al., 2016; Ritchwood et al. 2015).

### *Current Data*

Recent research regarding Latino adolescent substance use suggests that influences of alcohol and other illicit drugs use can be found in factors such as age of onset use (first time use), perceptions of risks associated with substance use, accessibility, and social perceptions that influence substance use (Jacobs et al., 2016; Schinke et al., 2016). National data suggest that, compared with Caucasians, middle-school-aged Latino adolescents are at equal or increased risk for lifetime tobacco, alcohol, marijuana, and other illicit drug use (Johnston et al., 2014). The annual prevalence of alcohol and other drug use among Latino adolescents is higher than compared with that of non-Latino adolescents, in particular regarding marijuana and other illicit drugs (Cardoso et al., 2016; Johnston et al., 2014). So much so that, relative to their non-Latino Black and White classmates, 9th-grade Latino adolescents have higher use rates of marijuana, alcohol, and prescription drugs taken for recreational purposes, as well as higher rates of binge drinking (CDC, 2014). Latino adolescents in 8th grade also report the highest frequency in binge drinking as compared to their non-Latino peers, and by the time they reach 12th grade, they have the highest 30-day prevalence use of alcohol among their peers (Cardoso et al., 2016). Almost

two-thirds (62%) of Latino adolescents have been offered drugs at least once in their lifetime, compared to 53% of Caucasian adolescents and 46% of African American adolescents (Goldberg, 2013). The table below demonstrates the differences in the use of alcohol and other illicit drugs between Latino and non-Latino adolescents. As demonstrated by the data in Table 1, Latino adolescents are more frequently engaging in high-risk behaviors as compared to their non-Latino peers.

Table 1

*Percentage of Adolescents Who Used Alcohol and Other Illicit Drugs At Least Once*

	Latino	Caucasian	African American
Lifetime Rx	23	16	11
Past year illicit (any)	54	39	42
Marijuana	50	35	40
Ecstasy	15	6	9
Cocaine/crack	12	5	4
Pain Meds	23	8	11
“Taking Drugs Scare me”	55	62	59

*Note:* Data from Partnership for Drug Free Kids survey, in Goldberg (2013).

Latino youth are almost twice as likely to misuse (use of prescription drug without a doctor’s orders) or abuse a prescription drug at least once in their lifetime, reflecting a 76% increase from 2010 to 2012 (Goldberg, 2013). More than 25% of Latino adolescents reported having misused or abused a prescription drug in the past year, compared to 15% for both Caucasian and African American adolescents (CDC, 2014; Goldberg, 2013). In addition, more than one in four (28%) Latino parents believe using prescription drugs to “get a high” is much

safer than using other street drugs, compared to non-Latino parents (Goldberg, 2013). This is important to continue to investigate as parents have a leadership role in the parenting of their child. Attitudes portrayed in the home can be shared among the family (Coatsworth et al., 2002).

### *Protective and Risk Factors*

It is important to consider and study factors that influence adolescent substance use at multiple levels (Jacobs et al., 2016). The high prevalence of drug use among Latino adolescents suggests the need to identify risk and protective processes that are associated with drug use in Latino adolescents (Prado et al., 2008). Over the last decade, research has been focused on the factors influencing or preventing the use of drugs. The model to explain risk and protective factors by Hawkins, Catalane, and Miller (1992) is one of the most extensively recognized frameworks for establishing the contexts that influence adolescents towards or away from substance use (Prado et al., 2008). Risk factors can increase a person's susceptibility to substance use and protective factors can reduce this risk (Latimer & Zur, 2010). Table 2 offers a summary of the risk and protective factors uncovered in past research related to alcohol, marijuana, and prescription drug use.

Table 2

*Risk and Protective Factors Associated with Substance Use*

	Alcohol	Marijuana	Prescription Drugs
Risk Factors	Perceived availability of alcohol; community norms that favor alcohol use; poor family bonds and management; parental attitudes that favor substance use; and friends' drug use (Latimer & Zur, 2010).	Perceived availability of marijuana; favorable community norms towards marijuana use; poor family management; personal attitudes favoring marijuana use; friends' and peer drug use; and consumption of alcohol and other drugs (Latimer & Zur, 2010).	Increased risk for: delinquency; depression; weak bond with parents; and the use of other drugs (Ford & Rigg, 2015).
Protective Factors	Social and refusal skills; belief in moral order; participation in organized recreational activities; and presence of non-parental adult role models (Latimer & Zur, 2010).	Social skills and moral order; intolerance of deviance; positive emotions and careful reasoning; and positive relationship with a father figure (Latimer & Zur, 2010).	Negative attitudes toward substance use (Ford & Rigg, 2015).

As suggested by findings from studies in Table 2, attitudes towards a substance, access to a substance, and the perceptions of subjective norms can act as either a risk or protective factors for Latino adolescent substance use.

*Culture*

The literature supports that there is limited research on the associations between substance use and ethnicity. Culture encompasses a group of people's traditions and beliefs, and can be described as the knowledge, skills, attitudes, and behaviors shared among a community of people (Prado et al., 2008). In the U.S., Latinos may face culture changes as they might need to adapt to American culture (i.e., acculturation), a process that can be challenging for their health. Changing language preference and family and social network relationships, for instance, can

increase Latinos' risks for substance use disorders (Canino, Vega, Sribney, Warner, & Alegria, 2008).

Becoming bicultural (of two cultures) has presented an increase in risk associated with substance use (Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2009). In addition, studies of acculturation have described that the process of acculturation and stressors that come along with the exposure to a new culture can be influential in the development of substance use among Latino adolescents (Martinez, 2006; Warner, Krebs, & Fishbein, 2008). Experiences of discrimination have also been linked to patterns of substance use among Latino adolescents (Cardoso et al., 2016). Understanding the specific cultural norms of the Latino culture can help better understand the current prevalence rates and trends of substance use, and are central to the understanding of the epidemiology, intervention, and prevention of drug use among Latino adolescents (Prado et al., 2008; Szapocznik, Prado, Burlew, Williams, & Santisteban, 2007).

### *Family*

One of the most significant predictors surrounding change associated with substance use is motivation, and an adolescent's motivations for change is influenced directly and indirectly by parental factors, externalizing disorders, and severity of substance use (Austin, Hospital, Wagner, & Morris, 2010). Having strong familial supportive ties and a favorable attitude regarding developing better social skills and behaviors serve as protective factors (De La Rosa, 2002; De La Rosa et al. 2005). Scholars who examined parent-child communications about the dangers of substance use also found communication between parent and child to be an important factor in protecting adolescents from substance use (Warner et al., 2008). Adolescents who felt more connected to their familial ties also perceived that their parents were less likely to approve of substance use. Familial values can have a positive influence on behavior if parents provide a

stable supportive family tie for children and communication between parent-child remain present (Warner et al., 2008). Parent training and parent intervention programs can benefit adolescents by enhancing protective factors and reducing risk factors (Chartier, Negroni, & Hesselbrock, 2010; Hecht et al., 2003).

### *Peers*

There is a shift to more specified and culturally relevant research regarding the Latino population, as attitudes about alcohol and other drugs differ between Latino adolescents and their non-Latino peers (Marsiglia et al., 2014). A meta-analysis of the literature of Latino adolescents and substance use found positive associations between drug use, a positive attitude towards drug use; low academic achievement; belief that drugs are not harmful; and participation of deviant behaviors (De La Rosa et al., 2005). Additional contributing factors include perception of risk and the development of norms associated with risky behaviors which have been found to serve as deciding factors that influence whether or not to engage in particular behaviors (Sawyer & Stevenson, 2008; Warner et al., 2008). Developing norms and internalizing norms that define substance use as unacceptable or undesirable, can be especially challenging within minority populations that may be trying to reconcile the perceptions and attitudes within the majority group with the perceptions and attitudes of their ethnic group (De La Rosa et al., 2005; Sawyer, & Stevenson, 2008). In a study examining the Theory of Planned Behavior to explain the normative process in substance use among Mexican-heritage adolescents, the findings supported that descriptive norms' associations with intentions was partially mediated by attitude, personal norms, and perceived behavioral control (Kam, Matsunaga, Hecht, & Ndiaye, 2009). Substance use has been found to be higher among Latino adolescents whose friends use drugs and the association with peers who use substances, increases the probability an adolescent has for

substance use (Marsiglia et al., 2014). Therefore, subjective norms as they relate to peer influence can act as a risk or protective factor among adolescents.

### *Theory of Planned Behavior*

The Theory of Planned Behavior (TPB; Ajzen, 1991) will provide the theoretical framework for this research. This theory has been widely used to provide a logical structure to effectively support and predicts behaviors (Ajzen, 1991; Orbell, Blair, Sherlock, & Conner, 2001). Attempting to explain how a person will behave is challenging because of the complex dynamic that can affect decision making. The TPB attempts to address and simplify this process through the use of its three main constructs: attitudes, subjective norms, and perceived behavioral control. Each construct objectively measures an influential element of a person's intention (Ajzen, 1991).

Attitudes is a construct comprised of two different beliefs – effective (is the behavior enjoyable or not?) and instrumental (is the behavior beneficial or harmful?) – that work together in order to produce a certain behavior (Paris & Broucke, 2008). Subjective norms is an individual's personal estimation of the social pressure to perform a behavior (Paris & Broucke, 2008). Construct beliefs for subjective norms support how other people, such as family or friends (whose opinions adolescents may regard favorably), would like or expect adolescents to behave. More specifically, the two components of this construct are injunctive norms (others encouragement of the behavior) and descriptive norms (other partaking in the same behavior as well). The third construct of TPB is perceived behavioral control, which describes an individual's belief concerning the level of ease or difficulty he or she associates with a given task or behavior; this refers to confidence that a person can execute a particular behavior and to the perception that a person can overcome any associated barriers or limitation.



This research study will conduct a secondary data analysis exploring factors associated to the use of alcohol, marijuana, and misuse of prescription drugs (use without a doctor's orders) among the Latino adolescents as it compares to their non-Latino peers. This research will examine and measure the differences between ethnicity (Latino and non-Latino adolescents) and the attitudes, subjective norms, and perceived behavioral control associated with substance use. As a result of the review of the literature questions regarding attitudes, family and peer influence, and accessibility of alcohol and other drugs were developed to explore the associated with Latino adolescent alcohol and other drug use. Answers to these research questions may provide guidance for culturally sensitive prevention and intervention programs devised to address the intention of substance use for Latino adolescents. In addition, the findings can also provide greater cultural awareness and guidance for individuals working with Latino adolescents and in the Latino community.

### **3. Methodology**

This exploratory study will examine factors related to attitudes, subjective norms, and perceived behavioral control related to use of alcohol, marijuana, and misuse of prescription drugs among Latino adolescents as compared to non-Latino adolescents. The TPB provides the theoretical framework for this study, and the constructs of the theory (attitudes, perceived behavioral control, and subjective norms) are being used to measure for perception of harm and risk, perceptions of family and peer approval, and accessibility of alcohol, marijuana, and prescription drugs (without a doctor's orders) by ethnicity. This study uses a secondary data analysis to answer the research questions constructed from a review of the literature. A detailed overview of research questions and factors measured by each question are found in Table 4.

The data used for this secondary data analysis research is from the Youth Drug Survey (YDS) that was implemented in a large southeastern county. The Center for Prevention Services (CPS; formerly, Substance Abuse Prevention Services) has been implementing this county-wide survey since 1972. The YDS is a survey designed to assess adolescents' behavioral risk and its purpose is to analyze and describe alcohol and drug use trends and patterns among middle-school and high-school aged students in this county. The most current YDS, and the survey data that is being used to conduct the secondary analysis for this study, was gathered during the months of January and February 2015. The self-reported survey was designed to assess: the extent of usage within the last 30-days, average age of onset, perception of risk and harm, and the perception of parental approval or disapproval. The YDS survey has been conducted since the 1970s as a way to supplement and expand the data acquired from the Youth-Risk Behavior Survey (YRBS) (CDC, 2014) and Monitoring the Future survey (National Institute of Health, 1975-2015), keeping fidelity to similar questions administered by those nationally represented surveys. The

structure, questions, and measures for the survey are similar in inquiries to that of other national self-reported surveys used as a surveillance system to monitor adolescent risk behaviors and trends. Face validity was determined by the Center for Prevention Services (CPS), which disseminates the survey every two to four years in schools.

The survey sample was defined from a proportionate random stratified selection of all district wide students in grades 6 through 12 enrolled in all public schools within Mecklenburg County in North Carolina. Table 3 provides a summary of the demographic composition of the adolescents who participated in the survey.

Table 3  
*Descriptive Statistics*

Characteristic	Percentage
Age (n=3,324)	
<10-12	27.8
13-15	36.9
16-17	25.8
18-19<	9.4
Gender (n=3,331)	
Female	51.6
Male	47.3
Other	1.0
Ethnicity (n=3,016)	
Hispanic/Latino/Spanish	19.7
All Non-Latino	80.3
Place of Birth	
United States	88.0
Foreign-born <sup>a</sup>	8.8
Other	3.1

<sup>a</sup>Foreign-born includes adolescents born in Mexico (2.2%), Central America (2.5%), South America (0.9%), and other regions (3.2%).

The survey instrument was administered to 3,892 adolescents ages 12-18 in either English or Spanish. The self-reported survey was delivered to the selected students by trained community volunteers who in partnership with the Center for Prevention services visited selected schools and classrooms to administer the survey. Each trained community volunteer was assigned a middle school or a high school to proctor based on the matching time selection available at each school and the time availability indicated by each volunteer. The surveys were monitored to provide anonymity for the students.

The TPB is the guiding framework of this secondary data analysis and will help explore variances in the attitude, subjective norms, and perceived behavioral control of Latino and non-Latino adolescents related to substance use. Pearson's chi-square analyses measure the correlation between the variables to indicate if there was a statistically significant relationship between the observed and expected frequencies. Cronbach's alpha ( $\alpha$ ) values were calculated for reliability of the questions being used in this research.

Table 4

*Research Questions and Related Survey Questions Used for Data Analysis*

		<b>Latino Youth v. Non-Latino Youth</b>	
<b><u>Research Questions</u></b>		<b><u>Survey Questions</u></b>	
		(%) Percentage for:	
<b>Attitude</b>	RQ1: Do perceptions of acceptability of substance use differ between Latino and non-Latino adolescents?	<p>(Questions related to acceptability of substance use)</p> <ol style="list-style-type: none"> <li>1. How wrong do you think it is for someone your age to drink beer, wine, or hard liquor?</li> <li>2. How wrong do you think it is for someone your age to smoke marijuana?</li> <li>3. How wrong do you think it is for someone your age to use prescription drugs recreationally?</li> </ol>	<p>Answer categories for all questions are as follow:</p> <p>a) Very Wrong; b) Wrong; c) A Little Bit Wrong; d) Not Wrong At All</p>
	RQ2: Do youth's perceived risk of substance use differ between Latino and non-Latino adolescents?	<p>(Questions related to perceived risk)</p> <ol style="list-style-type: none"> <li>1. How much do you think people risk themselves if they try marijuana once or twice?</li> <li>2. How much do you think people risk themselves if they smoke marijuana once or twice a week?</li> <li>3. How much do you think people risk themselves if they use prescription drugs not given by a doctor to them?</li> <li>4. How much do you think people risk themselves if they take one or two drinks of alcohol nearly every day?</li> <li>5. How much do you think people risk themselves when they have five or more drinks of an alcoholic beverage once or twice a week?</li> </ol>	<p>Answer categories for all questions are as follow:</p> <p>a) Great Risk; b) Moderate Risk; c) Slight Risk; d) No Risk</p>

		<b>Latino Youth v. Non-Latino Youth</b>
		(%) Percentage for:
<b>Subjective Norms</b>	<b><u>Research Questions</u></b>	<b><u>Survey Questions</u></b>
	RQ3: Do perceptions of family approval of substance use differ between Latino and non-Latino adolescents?	<p>(Questions related to family approval of substance use)</p> <ol style="list-style-type: none"> <li>1. How wrong would your parents feel it would be for you to, use alcohol at all, even just one or two sips?</li> <li>2. How wrong would your parents feel it would be for you to, have one or two drinks of alcohol nearly every day?</li> <li>3. How wrong would your parents feel it would be for you to, smoke marijuana?</li> <li>4. How wrong would your parents feel it would be for you to, use prescription drugs without a doctor's orders?</li> </ol>
	RQ4: Do perceptions of peer approval of substance use differ between Latino and non-Latino adolescents?	<p>(Questions related to peer approval of substance use)</p> <ol style="list-style-type: none"> <li>1. How wrong would your friends feel it would be for you to use alcohol at all, even just one or two sips?</li> <li>2. How wrong would your friends feel it would be for you to have one or two drinks of alcohol nearly every day?</li> <li>3. How wrong would your friends feel it would be for you to use prescription drugs without a doctor's orders?</li> </ol>
		<p>Answer categories for all questions are as follow:</p> <p>a) Very Wrong; b) Wrong; c) A Little Bit Wrong; d) Not Wrong At All</p>
		<p>Answer categories for all questions are as follow:</p> <p>a) Very Wrong; b) Wrong; c) A Little Bit Wrong; d) Not Wrong At All</p>

		<b>Latino Youth v. Non-Latino Youth</b>
<b>Perceived Behavioral Control</b>	<u>Research Questions</u>	<u>Survey Questions</u>
		(%) Percentage for:
	RQ5: Does perceived control of access to substances differ between Latino and non-Latino adolescents?	<ol style="list-style-type: none"> <li>1. How easy would it be for you to get, if you wanted: Beer, wine, or hard liquor?</li> <li>2. How easy would it be for you to get, if you wanted: Marijuana?</li> <li>3. How easy would it be for you to get, if you wanted: Prescription drugs without a doctor's orders?</li> </ol>
		<p>Answer categories for all questions are as follow:</p> <p>a) Very Easy; b) Sort of Easy; c) Sort of Hard; d) Very Hard</p>

#### 4. Results

A total of 3,547 adolescents completed the survey even though, as noted throughout the tables in this chapter, not every survey respondent answered all items or questions. The descriptive statistics for the sample group are reported in Table 3. The majority of the sample was female (51.6%), aged 13-15 (37%), and non-Latino (80.3%). Latino adolescents represented 19.7% of participants. Eighty-eight percent of the adolescents indicated their place of birth to be the U.S., and 8.8% were born in regional areas of Latin America.

Although the survey captured more detailed information about participants' ethnicities (e.g., African America, Asian, and Pacific Islander), the categories were condensed, and data were recoded into one of two categories (Latino and non-Latino) to answer the study's research questions. Cases belonging to the category "multi-racial" were removed from the analysis as it was not possible to obtain greater detail about the ethnicities with which these adolescents identified.

Table 5

*Number of Respondents Who Answered Substance Use Questions for Items Related to TPB Constructs (by Ethnicity)*

	<u>Latino</u>	<u>Non-Latino</u>
<i>Attitudes</i>		
Perception related to acceptability ( $\alpha = .805$ ):		
Alcohol (n=2,560)	514	2,046
Marijuana (n=2,566)	517	2,049
Prescription drugs (n=2,544)	509	2,035
Perception related to perceived risk ( $\alpha = .872$ ):		
Trying marijuana (n=2,605)	523	2,082
Smoking marijuana (n=2,572)	512	2,060
Use of prescription drugs (n=2,576)	515	2,061
Daily use of alcohol (n=2,573)	517	2,056
Weekly use of alcohol (n=2,572)	515	2,057



*Subjective Norms*

Perception related to family approval ( $\alpha = .712$ ):

Use of alcohol (at all) (n=2638)	530	2,108
Daily alcohol use (n=2616)	526	2,090
Marijuana use (n=2579)	516	2,579
Misuse of prescription drugs (n=2546)	516	2,030

Perception related to peer approval ( $\alpha = .830$ ):

Use of alcohol (at all) (n=2592)	516	2,076
Daily alcohol use (n=2568)	514	2,054
Misuse of prescription drugs (n=2504)	501	2,003

*Perceived Behavioral Control*

Perceived control of access ( $\alpha = .799$ ):

Alcohol (n=2,626)	525	2,101
Marijuana (n=2,571)	516	2,055
Prescription drugs (n=2,584)	513	2,071

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*Note:* The “n” values in this table refer to the total number of valid responses per question. Cronbach alpha coefficient of  $\alpha \geq .70$  is considered suitable measurement of reliability.

Using nominal variables and descriptive statistics, crosstab variations were used to determine differences between ethnicity (Latino and non-Latino) and substance use of alcohol, marijuana, and misuse of prescription drugs. Pearson’s chi-square analysis was used to measure the correlation between variables to indicate if there was a statistically significant relationship between the observed and expected frequencies. Cronbach’s alpha ( $\alpha$ ) values were calculated for reliability for the questions being used (see Table 5).

The research questions (RQ) examined the TPB constructs of attitude, subjective norms, and perceived control behavior. These question compared the variables of substance use – specifically of alcohol, marijuana, and prescription drugs – and ethnicity, that is, substance use attitudes and perceived behavioral control of Latino participants compared with non-Latino participants.

In measuring perceptions of acceptability of substance use, Pearson's chi-square test showed that there is a statistically significant interaction between adolescents' ethnicity and perceptions related to alcohol ( $\chi^2 (3) = 11.789, p = .008$ ) and marijuana ( $\chi^2 (3) = 7.873, p < .05$ ). The interaction was not significant between ethnicity and perceptions related to recreational use of prescription drugs ( $\chi^2 (3) = 2.981, p > .05$ ).

Perception of risk was also measured as a variable of attitude. The Pearson's chi-square analysis showed that ethnicity and perceptions of risk of prescription drug use showed a significant interaction ( $\chi^2 (3) = 8.069, p < .05$ ). That is, perception of risk of use of prescription drugs not given by a doctor differs between Latino and non-Latino adolescents. More Latino adolescents report that they do not perceive health risks associated with the use of prescription drugs not given to them by a doctor when compared to non-Latino adolescents. Ethnicity and perceptions of risk for use of alcohol ( $\chi^2 (3) = 5.399, p > .05$ ;  $\chi^2 (3) = 5.503, p > .05$ ) and marijuana ( $\chi^2 (3) = 0.884, p > .05$ ;  $\chi^2 (3) = 4.61, p > .05$ ) did not yield significant relationships.

As it relates to subjective norms, perceptions of family approval and the perceptions of peer approval of substances are measured to assess the relationship between alcohol, marijuana, and prescription drug use and difference between Latino adolescent and non-Latino adolescents. The Pearson's chi-square test for family approval of substance use showed that there is a strong statistical interaction between ethnicity and smoking marijuana ( $\chi^2 (3) = 8.439, p = .038$ ). Latino adolescents report lower perceptions of family disapproval as it relates smoking marijuana as compared to non-Latino adolescents. Perception of family approval of alcohol and use of prescription drugs without a doctor's orders does not differ between Latino and non-Latino adolescents.

Perception of peer approval of substance use was also measured as a variable of subjective norms. When determining adolescents' perception peer approval as it relates to daily use of alcohol, the Pearson's chi-square test ( $\chi^2 (3) = 11.719, p = .008$ ) indicated that there is a statistical significance between daily alcohol use and ethnicity. Perception of peer approval of use of prescription drugs without a doctor's prescription also differs between Latino and non-Latino adolescents. The measure for Pearson's chi-square test comparing Latino and non-Latino adolescents for perception of peer approval of prescription misuse indicated that there is a statistical significance between ethnicities ( $\chi^2 (3) = 9.627, p = .022$ ). Latino adolescents reported that they thought their friends would feel it is more acceptable for them to use prescription drugs without a doctor's orders and that their friends would also feel it is more acceptable for them to consume alcohol almost every day. It is important to note that for RQ4, smoking marijuana was not measured due to there not being a peer approval questionnaire item in the YDS survey – and thus peer approval for marijuana by Latino and non-Latino adolescents was not possible to include in the analysis.

For RQ5, perceived control of access to substances is measured by how easy would it be for adolescents to access, if they wanted, alcohol, marijuana, or prescription drugs, and the Pearson's chi-square analysis found that ethnicity (Latino v. non-Latino) demonstrated a statistically significant association with access to prescription drugs without a doctor's orders ( $\chi^2 (3) = 8.214, p = .042$ ). This level of statistical significance suggests that there is a difference between Latino and non-Latino adolescents as it relates to perceived access to prescription drugs without a doctor's orders. Non-Latino adolescents report easier access to prescription drugs without a doctor's orders as compared to Latino adolescents. It is important to note, that there is no statistical significance in the difference between Latino and non-Latino adolescents'

perceived access to marijuana ( $\chi^2 (3) = 1.377, p = .711$ ) and alcohol ( $\chi^2 (3) = 4.248, p = .236$ ).

Adolescents in this study report that access to marijuana (20%, very easy) is easier than that to alcohol (17%, very easy).

Table 6

*Pearson's Chi-square Test Results per Research Question, and Percentage of Youth Who Answered Related Questions (by Ethnicity)*

**RQ1: Do perceptions of acceptability of substance use differ between Latino and non-Latino youths?**

**( $\alpha = .805$ )<sup>a</sup>**

How wrong do you think it is for someone your age to:	Very Wrong		Wrong		A Little Wrong		Not Wrong At All		$\chi^2$
	Latino <sup>b</sup>	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	
Drink beer, wine, or hard liquor?	12.9%	56.7%	4%	12.3%	2.3%	7%	0.9%	3.9%	<b>11.786**</b>
Smoke marijuana?	13.8%	55.5%	3.1%	9.2%	1.7%	8.3%	1.6%	6.8%	<b>7.873*</b>
Use prescription drugs recreationally?	16.4%	66.5%	2.3%	9.5%	0.7%	2%	0.6%	2%	2.981

**RQ 2: Do youth's perceived risk of substance use differ between Latino and non-Latino youths?**

**( $\alpha = .872$ )**

How much do you think people risk themselves if:	Great Risk		Moderate Risk		Slight Risk		No Risk		$\chi^2$
	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	
They try marijuana once or twice?	6.4%	24.2%	4.3%	16.5%	4.9%	21%	4.4%	18.3%	0.884
They smoke marijuana once or twice a week?	7.7%	34.7%	5%	19%	3.9%	13.1%	3.3%	13.3%	4.61
They use prescription drugs not given by a doctor to them?	11.8%	50.3%	4.1%	17.1%	1.9%	6.3%	2.2%	6.3%	<b>8.069*</b>
They take one or two drinks of alcohol nearly every day?	10%	39.1%	5%	21.7%	2.5%	11.4%	2.6%	7.7%	5.399
They have five or more drinks of an alcoholic beverage one or twice a week?	12.8%	54%	3.5%	13.9%	1.5%	5.4%	2.3%	6.6%	5.503

**RQ 3: Do perceptions of family approval of substance use differ between Latino and non-Latino adolescents?**  
**( $\alpha = .712$ )**

How wrong would your parents feel it would be for you to:	Very Wrong		Wrong		A Little Wrong		Not Very Wrong At All		$\chi^2$
	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	
Use alcohol at all, even just one or two sips?	13%	50%	3.4%	12%	2.6%	11%	1%	7%	4.525
Have one or two drinks of alcohol nearly every day?	17.5%	70%	1.6%	7%	0.5%	2%	0.4%	1%	0.989
Smoke marijuana?	18.1%	70%	1.2%	5%	0.2%	3%	0.5%	2%	<b>8.439*</b>
Use prescription drugs without a doctor's orders?	18.3%	72.8%	1.2%	4%	0.4%	1.7%	0.3%	1.3%	0.689

**RQ 4: Do perceptions of peer approval of substance use differ between Latino and non-Latino adolescents?**  
**( $\alpha = .83$ )**

How wrong would your friends feel it would be for you to:	Very Wrong		Wrong		A Little Wrong		Not Very Wrong At All		$\chi^2$
	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	
Use alcohol at all, even just one or two sips?	9%	37.4%	3.3%	13%	3.6%	12.7%	4%	17%	1.988
Have one or two drinks of alcohol nearly every day?	11.6%	51%	3.8%	15%	3%	8%	1.6%	6%	<b>11.719**</b>
Use prescription drugs without a doctor's orders?	13.8%	60.5%	3.2%	10%	1.6%	5%	1.4%	4.5%	<b>9.627*</b>

**RQ 5: Does perceived control of access to substances differ between Latino and non-Latino adolescents?**  
 ( $\alpha = .799$ )

How easy would it be for you to get, if you wanted:	Very Easy		Sort of Easy		Sort of Hard		Very Hard		$\chi^2$
	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	Latino	Non-Latino	
Beer, wine, or hard liquor?	2.7%	13.8%	4%	15.3%	3.5%	14.3%	9.8%	36.6%	4.248
Marijuana?	4.4%	16.3%	2.3%	8.3%	1.4%	6.5%	12%	48.8%	1.377
Prescription drugs without a doctor's orders?	1.7%	9.3%	1.7%	8.6%	3.2%	11.2%	13.3%	51%	<b>8.214*</b>

Note: \*  $p \leq .05$  and \*\*  $p \leq .01$  (two-tailed).

<sup>a</sup>Cronbach's alpha values are for each set of questions that comprise each research question.

<sup>b</sup>Percentages for each question are presented for Latino and Non-Latino youth separately. As such, each question is repeated twice. The percentages were calculated for Latino and Non-Latino youth together.

## 5. Discussion

The purpose of this study was to examine the differences between Latino and non-Latino adolescents' attitudes, subjective norms, and perceived behavioral control related to access and use of alcohol and marijuana, and misuse of prescription drugs. Research and data over the past decade has demonstrated a growing trend associated with substance use and the Latino adolescent population in the U.S. (Johnston et al., 2014; Goldberg, 2013). With the rapid growth in the Latino population in recent years, data suggest a need for more research to address the higher annual prevalence of alcohol and other drug use among Latino adolescents. This exploratory study used secondary data analysis to investigate the difference between Latino and non-Latino adolescents' attitudes, subjective norms, and perceived behavioral control as it relates to alcohol and marijuana use, and the misuse of prescription drugs.

*RQ1: Do perceptions of acceptability of substance use differ between Latino and non-Latino adolescents?*

The perceived acceptability of substance use in this study was measured by how wrong adolescents feel it would be for someone their age to partake in the use of a particular substance. Latino adolescents indicate higher perceived acceptability for alcohol and marijuana use. Use of marijuana being seen with more acceptability than alcohol and use of prescription drugs not prescribed to them. More specifically, Latino adolescents see alcohol (use of beer, wine, or hard liquor) use by someone their age more acceptable than non-Latino adolescents. Latino adolescents indicated in their responses to questions asked that smoking marijuana is perceived as more acceptable as compared to all other non-Latino adolescents. The data also demonstrate that Latino adolescents reported higher perceived acceptability of marijuana use when compared to alcohol and prescription drug misuse. Latino adolescent's perceptions of acceptability suggest



that this population may be more vulnerable to substance use due to more favorable attitudes regarding alcohol and marijuana use. There was no reported difference between Latino and non-Latino adolescents when measuring for acceptability of prescription drugs. The findings for this research question indicate that acceptability of alcohol and marijuana is higher among adolescents of Latino backgrounds, supporting the observed trends reported in prior studies (Goldberg, 2013).

*RQ2: Does perceived risk of substance use differ between Latino and non-Latino adolescents?*

The second research question for this study measured the perceived risks associated with substance use for Latino and non-Latino adolescents. The analysis of the data indicated that the perceived risks associated with prescription drugs not given to them by a doctor differs between Latino and non-Latino adolescents. Latino adolescents associate the misuse of prescription drugs with less risk as compared to non-Latino adolescents. Analysis of the data show that there is a significant association between ethnicity and perceived risk of use of prescription drugs not given by a doctor, providing that there is a difference between Latino and non-Latino adolescents as it relates to perceived risk of use of prescription drugs not given to them by a doctor. In these findings, Latino adolescents also report and indicate a lower perceived risk when having five or more drinks of alcoholic beverage once or twice a week, also supporting previous research stressing the increase in rates for higher consumption of alcohol among Latino adolescents (De La Rosa et al., 2005). Assessing the association of perception of lower risk associated to prescription drugs, it is possible to suggest that the increase in illicit drugs among Latino adolescents may be influenced by their attitudes regarding alcohol, marijuana, and prescription drugs.

With regards to perceived acceptability and perceived risk of substance use – indicators or adolescents’ attitudes toward substance use – Latino adolescents report a higher degree of acceptability when it comes to how wrong it is for someone their age to consume alcohol and marijuana, and report a lower perception of risks associated to use of a prescription drug not given by a doctor compared to their non-Latino adolescents. The findings from this research provide indications for prevention focus areas for Latino adolescents drug education and awareness to relate the risks, effects, and consequences for marijuana and alcohol.

*RQ3: Do perceptions of family approval of substance use differ between Latino and non-Latino adolescents?*

Adolescent normative beliefs can be influenced, changed, shaped, and altered through synchronized culturally grounded parent and adolescents interventions and can play an important role in reducing adolescent substance use (Marsiglia et al., 2016). The data in this study measure perceptions of family and peer approval related to alcohol, marijuana, and prescription drug use and how such perceptions differ between Latino and non-Latino adolescents. The findings indicated that Latino adolescents report lower rates of family disapproval with regards to smoking marijuana. Ethnicity however is not a good indicator of family’s approval when it comes to use of alcohol and use of prescription drugs without a doctor’s orders. A culturally appropriate family based prevention intervention has been shown to be effective in building skills, communication of messages, participation and program outcomes for Latino families (Marsiglia et al., 2016). Further research regarding factors that would enable better communication and culturally relevant strategies to help build parental and familial relationships for Latino adolescents would provide better understanding of possible techniques that may increase involvement and influence of subjective norms as it relates to substance use. Attitudes

regarding acceptability of use of alcohol and marijuana was higher and perception of risk of using substances demonstrated to be lower among the Latino adolescents population. The findings from this study suggest the need for further research on relationship characteristics of Latino families and parenting practices used in Latino homes as familial ties and parent-adolescent relationships can help protect against future tobacco, alcohol, and illicit drug use (Watkins, Howard Barr, Moore, & Werch, 2006).

*RQ4: Do perceptions of peer approval of substance use differ between Latino and non-Latino adolescents?*

Perception of peer approval of substance use was also measured as a variable of subjective norms, and Latino adolescent perceptions with regards to peer approval indicate that their friends have less disapproving attitudes, as compared to non-Latinos, regarding drinking almost every day and the use of prescriptions drugs not given to them by a doctor. The findings for this RQ indicate that Latino adolescents in this study have a higher perceived peer acceptability for daily alcohol use and higher perceived peer acceptability of prescription drug misuse as compared to non-Latino adolescents. The study is identifying similar reporting to previous research associated with Latino adolescents and peer approval (Jacobs et al., 2016). Latino adolescent peer influence is a good indicator for possible intention for alcohol and prescription drug use. The 2015 YDS did not provide a question measuring peer approval for marijuana, so future research could evaluate and measure for peer approval of marijuana between Latino and non-Latino adolescents. Further research exploring perceived peer approval as it relates to marijuana would be helpful in providing more comprehensive information.

*RQ5: Does perceived control of access to substances differ between Latino and non-Latino adolescents?*

Perceived control of access to prescription drugs without a doctor's orders differs between Latino and non-Latino adolescents, with non-Latino adolescents in this study have more perceived access to prescription drugs. Perceived access to substances was used as a measure of perceived behavioral control. This study found that ethnicity is a good indicator with regards to access to prescription drugs without a doctor's orders. Non-Latino adolescents perceive having easier access to prescription drugs than their Latino peers. Perceived access to marijuana was reported to be easier than alcohol and prescription medications by both Latino and non-Latino (though data indicates that it's slightly higher among Latino adolescents). When analyzing the accessibility of alcohol and marijuana, Latino adolescents report greater ease in accessing marijuana (17.2%) as compared to alcohol (13.7%), and access to prescription drugs without a doctor's order being the most difficult (67.3%). The analysis also revealed that perceived access to marijuana is easier than alcohol for Latinos. Though Latino adolescents' perceptions of risk for alcohol are lower than that of non-Latinos, they perceive it to be more difficult to gain access to alcohol than their non-Latino peers. The perceptions associated with greater difficulty to access for these substances present a good talking point of discussion in education programs for parents. Limiting access to a substance can create more barriers towards the intention of use by adolescents. Community-based campaigns can also help grow awareness for parents and the community of the associated risk associated with access to alcohol, marijuana, and other drugs, and through efforts such as this hopefully also impact acceptability of the substances. The more resources and opportunities individuals believe they possess, the greater should be their perceived control over the behavior (Doll & Ajzen, 1992). Limiting access – including

perceptions of barriers to access – to these substances can act as a protective factor and can influence the perceived behavioral control such that it can decrease intention to use alcohol and other substances.

### *Limitations*

A total of 3,547 participants answered the survey and some of those were delivered in Spanish. Latino adolescents may have filled out English-language surveys without adequate English language proficiency which may have impacted their responses. Along with possible discrepancies due to language barriers, socially desirable responses (that avoid giving answers that might get adolescents in trouble for using alcohol or other drugs) may have biased the data. Furthermore, adolescents may have reported certain answers (e.g., no use of substances) to avoid being identified as someone in need of intervention or of being observed more closely by adults.

## **6. Conclusion**

The purpose of this exploratory study was to expand current understanding of factors surrounding the attitudes, subjective norms, and perceived behavioral control associated with Latino adolescents' substance use behaviors (i.e., use of alcohol and marijuana, and misuse of prescription drugs). Through secondary data analysis, this research identified certain factors – perceived risks, perceptions of acceptability, family and peer approval, and perceived access to substances– that can influence Latino adolescents' use of these substances. This research adds to knowledge in the field and further informs current literature. It also can encourage future research and the use of more strategic approaches to design prevention-focused education programs and materials for Latino adolescents.

The findings suggest that ethnicity (Latino v. non-Latino) can be a determinant in how adolescents respond to questions about these factors. More specifically, Latino adolescents reported more acceptability and lower perceived risks of substance use, and they indicated a higher perceived approval of substance use among family and peers. Latino adolescents considered their families to have more relaxed attitudes about marijuana use and thought their friends have more relaxed attitudes toward misusing prescription drugs and drinking alcohol nearly every day.

The data support the importance of offering programs that target adolescents' attitudes related to use of substances. Adolescents in this study indicated they may have fewer barriers to accessing marijuana than alcohol or prescription drugs. Furthermore, there is generally low perceptions of risk related to using these substances. It would be beneficial to offer more education to Latino adolescents about their susceptibility to the health risks of misusing substances, in particular prescription medication. For adolescents who indicated high peer

approval of substance use, prevention programs could help teach them peer refusal and self-esteem building skills that can help them say “no” to unwanted use of substances. To help families better understand how their actions contribute to adolescents’ perceptions of family approval, programs can target parents or other adult relatives and educate them on the consequences of certain substance use-related behaviors they may have at home. This also might help improve parent-child communication regarding the risks and consequences of substance use.

Future research can monitor Latino substance use behaviors and related intentions over time to determine if such use increases or decreases as the Latino adolescent population in the U.S. continues to rise. Researchers also should continue to investigate risk and protective factors associated with alcohol, marijuana, and prescription drug use among Latino adolescents. Furthermore, studies should continue to investigate adolescent substance use through the Theory of Planned Behavior (TPB), which is known for its ability to predict health behaviors. Future studies that use the TPC can build on the findings in this study and help emphasize the importance of future program development for more effective intervention and prevention programs for Latino adolescents.

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