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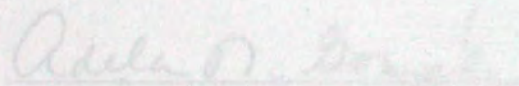
This study examine the hypothesis that Latina adolescents in high school who are at risk for suicide are more likely to use illicit drugs than Non-Latinas in high school who are at risk for suicide.


Data was analyzed from the 2003 Centers for Disease Control and Prevention Youth Risk Behavioral Survey. A national sample of 9th-12th grades students participated in a self-administrated questionnaire at school. The study was conducted based on 6,826 Hispanic/Latinas, black, non-Hispanic and white, non-Hispanic female adolescents. Three at risk for suicide, nine frequent illicit drugs and three controlling variables were chosen too conduct the study. Chi-square test assessed the significant of difference between races and binary logistic regression models were utilized to estimate the association between at risk for suicide and drug use.

Among the three race/ethnicities who were at risk for suicide, Hispanic/Latinas had the highest drug use prevalence. The first logistic regression model found that seriously consider attempting suicide were associated with Latinas (OR= 1/0.68 [95% CI, 1/0.53-1/0.87]), suburban youth (1.28 [1.02-1.62]), marijuana (1.79 [1.49-2.16]), inhalants (2.58 [1.91-3.35]), methamphetamines (2.16 [1.46-3.28]), and steroids without

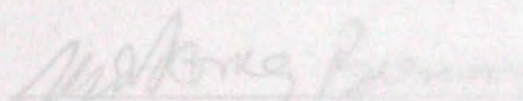
MD's prescription (1.98 [1.32-2.99]). The second logistic regression model established that those who made a suicide plan were associated with Latinas (OR=1/0.66 [95% CI, 1/0.48-1/0.91]), marijuana (1.40 [1.00-1.95]), inhalants (3.18 [2.05-3.79]), methamphetamines (2.21 [1.42 -3.76]), and used a needle to inject any illegal drug (4.24 [1.29 -12.66]). While the third logistic regression model found that attempted suicide were associated with Latinas (OR= 1/0.67 [95% CI, 1/0.48- 1/0.94]), 11th and 12th grades (0.66 [0.47-0.93]) and (0.40 [0.27-0.60]), marijuana (2.50 [1.99- 3.16]), cocaine (1.67 [1.09- 2.58]), inhalants (2.69 [1.89-3.82]) methamphetamines (2.56 [1.78 -3.67]), taken steroids without MD's prescription (1.95 [1.12-3.40]) and used a needle to inject any illegal drug (4.30 [1.16 -15.87]).

Greater awareness about the physical and mental health status of Latinas are needed to ensure that good mental health programs are available for Latina adolescents.


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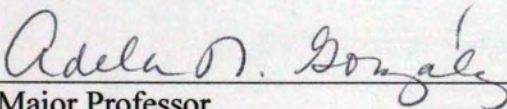

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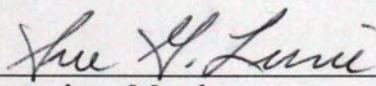

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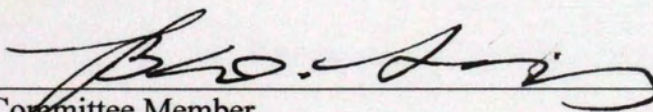
HISPANIC FEMALE ADOLESCENTS AT RISK FOR
SUICIDE AND THE USE OF ILLICIT DRUGS

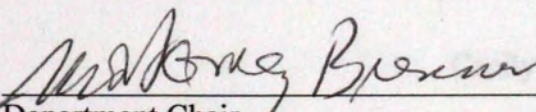
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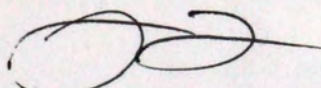
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HISPANIC FEMALE ADOLESCENTS AT RISK FOR
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CHAPTER 1

INTRODUCTION TO THE STUDY

In 2002, the census bureau reported that there were 37.4 million (civilian non-institutional) Latinos living in the United States (U.S.) and two out of every five were foreign born. Forty three percent had not finished high school, 21.4% were living below the poverty level, and a 34.6 % were age 18 or younger (United States Census Bureau, 2003). Latinos having the highest rate among ethnic groups for being uninsured, which includes many adolescents who lack healthcare, including mental health services (Institute of Medicine, 2005).

Two of the goals stated in Healthy People 2010 are to: “Improve mental health and ensure access to appropriate, quality mental health services” p.18.3 and to “Reduce substance abuse to protect the health, safety, and quality of life for all, especially children” p. 26.10 (U.S. Department of Health and Human Services, 2001).

Drug use is a serious issue in the U.S.; it costs the government nearly \$161 billion dollars per year due to injury, disabilities, crime, accidents, healthcare, infectious disease (human immunodeficiency virus, tuberculosis, hepatitis, syphilis, and gonorrhea), teenage pregnancies. It results in 12,000 deaths per year (U.S. Department of Health and Human Services, 2001). Numerous studies have focused on adolescents who use drug and have identified serious antisocial behaviors such as stealing, missing school, and

participating in fights. They have also associated teen girls' drug use to group fights; selling drugs; use of tobacco; unhealthy eating habits; poor mental health; substance dependence; risky sexually activities and suicide (Brooks, Harris, Thrall, & Woods, 2002; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006a; U.S. Department of Health and Human Services, 2001). These phenomena have not been well documented for Latina adolescents. One study provided data indicating Latinas were using more illicit drugs than their peers (Grunbaum et al., 2004), another report indicated that rates for drug use are about the same for all adolescent females regardless of race (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006b).

The Center for Disease Control and Prevention reports that 70.8% of the deaths in persons age 10-24 years old stem from four causes: motor-vehicle crashes (32.3%), other unintentional injuries (11.7%), homicide (15.1%), and suicide (11.7%) (Grunbaum et al., 2004). Among high school students, attempted suicides were more frequent than suicide deaths and females were twice as likely to attempt suicide as males (Gould, Greenberg, Velting, & Shaffer, 2003; Lewinsohn, Rohde, Seeley, & Baldwin, 2001; Olfson, Gameroff, Marcus, Greenberg, & Shaffer, 2005). By gender, race, and ethnicity, Hispanic females had the highest recorded rate of attempted suicides (Rew, Thomas, Horner, Resnick, & Beuhring, 2001; U.S. Department of Health and Human Services, 2001; L. H. Zayas, Kaplan, Turner, Romano, & GonzalezRamos, 2000).

These studies demonstrate the impact these behaviors can cause on adolescent girls regardless of the (type or rate of) occurrence. Unless mental health services are

provided, many adolescents will continue their behaviors into adulthood. Nearly 33% of adults who at one time or another had mental disorders will also face a co-occurring substance abuse (alcohol or other drugs) disorder (Bohn, 2003; U.S. Department of Health and Human Services, 2001). For public health, success lies in reducing morbidity and mortality rates in the young, and making and changing policies to address the current situation (Grunbaum et al., 2004; U.S. Department of Health and Human Services, 2001).

3. The researcher included three race/ethnic categories: Hispanic, black (non-Hispanic) and white (non-Hispanic)

PURPOSE OF THE STUDY

The purpose of this study was to examine the difference in drug use between Latinas and Non-Latina adolescents at risk for suicide. The term Latina was used synonymously with the term Hispanic as was found in the research and review of the literature. This study examined each risk taking behavior separately, as well as the factors that influenced suicide risk and drug use in each subject group. This study used secondary data from the 2003 Youth Risk Behavioral Surveillance. The dataset was used to test the relationship between risk of suicide, type of substance being used, and race/ethnicity.

HYPOTHESIS

The hypothesis for this study was the following: Latina adolescents in high school who are at risk for suicide are more likely to use illicit drugs than Non-Latinas in high school who are at risk for suicide.

DELIMITATIONS

The following delimitations are addressed:

1. This study used a data set that only included high school students (not including middle school students) in the sample.
2. The study was based on an instrument (2003 YRBS) that included only close-ended questions.
3. The researcher included three race/ethnic categories: Hispanic, black (non-Hispanic) and white (non-Hispanic).

LIMITATIONS

The researcher analyzed secondary data in which the following limitations were specific to this type of instrument.

1. The sample included only those adolescents attending high school. The sample excluded those who were home schooled, homeless, in alternative high schools or not in school.
2. The data was obtained from self-report, so behaviors could have been under/over reported or misstated.
3. Not all states were included in the 2003 data (32 states participated in the survey).
4. In reporting race/ethnicity- Latino subgroups were not identified.

ASSUMPTIONS

For this study, the researcher assumed the reliability and validity of the 2003 Youth Risks Behavioral Surveillance database methodology as presented in public use data files based on tests and/or studies done by the Center for Disease and Control Prevention (Brener et al., 2004; Grunbaum et al., 2004). The researcher also assumed that the participants were truthful when responding to the questionnaire.

DEFINITION OF TERMS

Adolescent- An individual in that stage of development. In this study adolescent means being in the age range of 12-18 years old (Stedman, 2000).

Comorbidity- The existence of two or more illnesses: whether physical or mental, at the same time in a single individual. In this study, comorbidity implies the existence of a mental illness and a substance abuse disorder in the same person at the same time (U.S. Department of Health and Human Services, 2001).

Drug use- In this study, it will mean to use drugs that are unlawful, such as heroin, marijuana, cocaine, and methamphetamine.

Hispanic/Latino- People of Hispanic origin from Mexico, Puerto Rican, Cuban, Central and South American, or some other Latino origin (United States Census Bureau, 2003).

Illicit drugs- In this study, it will signify drugs that are prohibited.

Mental health services- Diagnostic, treatment, and preventive care that helps improve how persons with mental illness feel both physically and emotionally as well as how they

interact with other persons. These services also help persons who have a strong risk of developing a mental illness (U.S. Department of Health and Human Services, 2001).

Morbidity- A diseased state. In this study, morbidity suggests anyone having a mental or physical illness (Stedman, 2000).

Mortality- The state of being mortal. In this study, mortality means to have a fatal outcome (Stedman, 2000).

Psychopathology- The science concerned with the pathology of the mind and behavior.

The science of mental and behavioral disorders (Stedman, 2000).

IMPORTANCE OF THE STUDY

This researcher took part in this study to gain understanding about ethnic differences between female adolescents who are at risk for suicide and drugs use. By performing this investigation, the researcher hopes to provide insight into the extent of these health risk behaviors experienced by Latina adolescents, since this subject matter has not been well documented. This research is important because by understanding what those differences are; public health practitioners can enhance ability to improve mortality and morbidity in this age group; which is critical for a healthy society. Studying the needs of the fastest growing diverse population in the United States (United States Census Bureau, 2003) will support development of health education and promotional programs that fit the needs of this population.

CHAPTER 2

REVIEW OF LITERATURE

The review of literature supports the concept that the risk of suicide in adolescents is a public health concern. It is more prevalent in females than males (Grunbaum et al., 2004) and more likely for Hispanic female adolescents than their Non-Hispanic peers in the U.S. (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006c). In addition, the impact of suicidal ideations or suicide attempts by female adolescents has been associated with an increase in risk-taking behaviors such as the use of illicit drugs (Kelly, Cornelius, & Clark, 2004). How this phenomenon affects Hispanic adolescents needs to be further examined.

Female Adolescents at Risk for Suicide

According to the National Vital Statistics (Anderson & Smith, 2005) for gender, ages 10-24, and including all races the third leading cause of death is suicide. The fatalities from suicide have been reported to be up to five times higher in males than females in ages 15 to 19. Following a line of investigations that looked at ten years of adolescent suicide from 1992 to 2002, it has been reported that up to fifty percent of the adolescent population has had one suicidal thought (Gould et al., 2003). Data reported from the Youth Risk Behavior Surveillance-United States (YRBS), 2003 (Grunbaum et al., 2004) found that 28.6% of students on a national scale in grades 9-12 experience

some form of depression or despair for at least two weeks or more at some point before the survey. The prevalence was higher in females than in males, 35.5% to 21.9%. The risk of suicide, which is defined as having serious thoughts or at least one attempt of suicide during the last 12 months was also found to be significantly higher in females adolescents than in males (Galaif, Chou, Sussman, & Dent, 1998; Gould et al., 2003; Grunbaum et al., 2004; Hacker & Drainoni, 2001; Lewinsohn et al., 2001; Lieberman, 1993; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006c). Female students in grades 9-12 were more likely to seriously consider attempting suicide (21.3%), made a plan to commit suicide (15.8%) and or attempted suicide (11.5) than their male counterparts (12.8%, 10.7%, 5.4%) respectively (Grunbaum et al., 2004; United States Census Bureau, 2003). In another study by Blum, Beuhring, Shew, Bearinger, & Resnick (2000), using the National Longitudinal Study of Adolescent Health, which includes middle and high school students in the survey, found that in grades 7-12, individuals who were females had a greater possibility for the risk of suicide.

Psychopathology

There are many reasons why female adolescents have suicidal ideations or attempt suicide, it has been acknowledged that the person's mental health plays a major role in suicide risk. Many studies reported that psychiatric disorders such as: mood disorders (affective disorder, depression disorder and bipolar disorder); Anxiety disorders (panic attacks and post-traumatic stress); and substance abuse, may play a role (American Psychiatric Association, 2000; Gould et al., 2003; Hacker & Drainoni, 2001; Hacker &

Drainoni, 2001; Kelder et al., 2001; Kelly et al., 2004; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1999; Olfson et al., 2005; Pilowsky, Wu, & Anthony, 1999; Shaffer et al., 1996). The range of one or more psychopathological disorders has been found from 55% of the general population to 60-90% in older adolescents who were treated at the emergency department for attempted suicide and self-inflicted injury (Doshi, Boudreaux, Wang, Pelletier, & Camargo, 2005; Gould et al., 2003; Kennedy, Baraff, Suddath, & Asarnow, 2004). In The NSDUH Report: Substance Use and the Risk of Suicide Among Youths (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006d) it was documented that only 36% of the youth ages 12-17 who were at risk for suicide received any mental health services around the same period of time and in another study, a lower percentage (28%) was found to received "psychological or emotional counseling" (Pirkis et al., 2003). Most of the studies did not distinguish between male and female adolescents, while data from the YRBS showed that 3.2% of the females and 2.4% of the males who were in grades 9-12 received medical attention for their suicide attempt (Grunbaum et al., 2004).

Previous attempts

Previous attempts have reportedly been the best indicator of suicide for adolescents at risk (Borowsky, Ireland, & Resnick, 2001; Gould et al., 2003; Rotheram-Borus, 1993). Additional research done by Lewinsohn et al., (2001) also presents strong relationship between suicidal ideation in female adolescents before age 19 and suicide attempts in young adulthood. In another study, a positive correlation for female

adolescents was not as strong as it was for males (3-fold increase verses 30-fold increase) (Shaffer et al., 1996).

Sexual orientation

Studies that look at same-sex sexual orientation have reported an increase in suicide risk (Gould et al., 2003; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999). Those female adolescents who reported having same-sex attraction or relationships were more likely to be at risk for suicide thoughts (odds ratio = 2.14) and suicidal attempts (odds ratio = 2.48) than their female heterosexual peers (Russell, Driscoll, & Truong, 2002).

Stress

Stress can be due to many factors; including lack of coping and/or adaptation skills, being rejected by a particular group because of culture, language or ethnicity or pressure from family, friends and school (Gould et al., 2003). Some studies reported that problems with parents were the chief complaint among adolescents that attempt suicide (Olvera, 2001), while in another study, Hispanic teens attributed three-fourths of the attempt of suicide to disagreements with their mother or boyfriend (L. H. Zayas et al., 2000). Stress came also be brought on by their family's socio-economics, violence found in the home, and drug and alcohol use in the community (Rew et al., 2001).

Violence

According to available data, adolescents with dysfunctional families where there is violence (witnessing mother being mental or physically abuse), and/or a vicious divorce, can cause disconnection between parent and child, increasing the risk of suicide

(King et al., 2001; L. H. Zayas, Lester, Cabassa, & Fortuna, 2005). Those who have families with a history of psychological, emotional, or drug/alcohol problems were also at increased risk for suicide (King et al., 2001). It has not been determined if the stress of having an ill parent or having the illness itself is a causal factor for suicide (Gould et al., 2003; King et al., 2001).

Physical and Sexual Abuse

Aggression, including rape, mental and physical abuse from partner, whether the female is in a heterosexual or in a GLBN relationship increases the likelihood of seclusion, self-blame and shame (Gould et al., 2003). Isolation and any type of abuse enhance the chances of suicidal ideation and attempts among teenage girls (Bearman & Moody, 2004; Gould et al., 2003).

Hispanic Female Adolescents at Risk for Suicide

The National Household Survey on Drug Abuse Report that Hispanic female adolescents between the ages of 12 to 17, especially those born in the United States were more likely to be at risk for suicide than the general population of similar age and gender. The rates for those born in the United States (U. S.) compared to those who were foreign-born were 18.9% verses 13.9% (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006c). Data from the 2003 Youth Risk Behavior Survey showed that in high school, Hispanic females had a higher proportion of depression/sadness (44.9%); seriously considered attempting suicide (23.4%); made a suicide plan (20.7%); attempted suicide (15.0%); and/or made a suicide attempt that required medical attention (5.7%), than their white (33.3%; 21.2%; 18.6%; 10.3%; and

2.4%) or black (30.8%; 14.7%; 12.45; 9.0%; and 2.2%) non-Hispanic female peers (Grunbaum et al., 2004). In addition, the highest rate for attempted suicide in Hispanic females was reported to be in teens; 22.6% (14-15 years) followed by 17.2% (16-17 years) and finally 13.2% (12-13 years).

According to Olvera, (2001), it is also noted that there are additional risk factors for Hispanic females that might cause suicidal ideation and attempts, which might explain the higher at risk overall. Hispanics are a diverse group that includes several ethnic subgroups (e.g. Mexican, Puerto Rican, Central or South American, and Cuban) and the risk for suicide is a concern across the board. In the 1960's early studies noted this phenomenon in Puerto Ricans, as time passed more data found this risk was happening in the other ethnic subgroups (Centers for Disease Control and Prevention, 2004b; L. H. Zayas et al., 2005). There is insufficient data in females to understand why this is occurring, it has been suggested in several readings that the concepts of acculturation stress, ethnicity, sexual and physical abuse, and socioeconomics may play a role in addition to the psychopathologies (Centers for Disease Control and Prevention, 2004b; Hovey & King, 1996; Tortolero & Roberts, 2001; L. H. Zayas et al., 2000).

Acculturation and Suicide

Acculturation refers to the changes an individual makes as they as a result of contact with a different culture. The changes can affect the individual's values, self-identification, social, and behavior patterns (Hovey & King, 1996; McQueen, Getz, & Bray, 2003). High acculturation is described by one's ability to absorb and accept the new culture as his or hers. Low acculturation reflects the closeness one feels to cultural

origins. Acculturation stress is found when there is a high acculturation in the teen but low acculturation in the parents (L. H. Zayas et al., 2005). Since suicide risk is higher in those born in the United States, some data show adolescents are rendered constant stress or are caught between two worlds: the newly adapted role verses the family's expectations of the adolescent's behavior. The teen feels an obligation to her parents to behave in a manner according to their beliefs, behaviors and values. The behavior of suicide is a form of self-punishment (Canetto, 1997; O'Donnell, O'Donnell, Wardlaw, & Stueve, 2004). Or there could be alienation of the teen as she has a negative view of her parent's culture. Many adolescents are first generation or arrived in the U.S. as small children and have little allegiance to the culture or language. Either way, the stress is evident in the teens when there is little or no support from the family (Canino & Roberts, 2001). However, there are other studies that find the more Latinos are adapted to U.S. culture, the more mental health problems they are likely to have (De La Rosa, 2002; Hovey & King, 1996).

Physical and Sexual Abuse

According to Rew, Thomas, Horner, Resnick & Beuhring (2001), physical abuse was reported to be higher in Hispanic Latina youth than in African American and Caucasian youth. The incidence of sexual abuse was also reported higher in Latina teens than Caucasian teens. In middle school, Hispanic girls who lived in urban areas and took part in acts of violence were more likely to be at risk for suicide later on in high school. It is not known if it is the urban lifestyle or effect of growing up in economically disadvantaged communities (O'Donnell, Stueve, & Wilson-Simmons, 2005).

Socioeconomic status

Socioeconomic status (SES) has been associated with suicide risk. Adolescents whose families are middle or upper SES were at less risk for suicide than those of lower SES. The reasons are many, from parents probably being better educated, with higher acculturation, to having a more stable environment. The availability of having health insurance increases the opportunities for preventive care (L. H. Zayas et al., 2000). Health disparities exist in mental health (for counseling) and risk reduction programs (Guiao & Thompson, 2004). It is reported that only 32% of Hispanic females aged 12-17 received mental health treatment during the time they were at risk for suicide (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006c); As the adolescent gets older, access to healthcare becomes more difficult as many are no longer covered by their parent's insurance (Harris, Gordon-Larsen, Chantala, & Udry, 2006). Latino youth overall are less likely than other youth to receive mental health services when required (Kataoka, Stein, Lieberman, & Wong, 2003).

Female Adolescents and Illicit Drug Use

In 2003, approximately 8.2% of the population who were age 12 and over was categorized as current (past month) illicit drug users. These substances included illicit drugs such as: marijuana, cocaine, heroin, hallucinogens, inhalants, non-medical use of prescription-type drugs and alcohol (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2005a). Most studies reported until recently that in all age groups men were more likely to have a dependence or abuse of alcohol or any illicit drug. Using data from the 2003 National Survey on Drug Use and Health

(NSDUH), SAMHSA has reported that girls have surpassed boys in this category (9.1% verse 8.7%) in the 12 to 17 age group. From the same survey, another report: Female Youths and Delinquent Behaviors documented the same age group in which 21.9 % (2.7 million) was reporting past year illicit drug use (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006a). The substances of choice seem to be marijuana and prescription drugs. More girls started using marijuana and abusing prescription drugs in the past year compared to boys by 14.4% to 12.5% (American Psychiatric Association, 2000; Matthews, 2006; Slater, Guthrie, & Boyd, 2001).

Race/Ethnicity

Among adolescent girls, drug use was different across race/ethnicity. Data from the YRBSS 2003 showed the following: for drugs used once or more during the month before the survey: 20.4% of Hispanics, 19.9% of whites, and 18.1% of blacks had use marijuana. The overall rate for those who initiate marijuana use before age 13 was 6.9%: of which 8.5% where Hispanic, 6.8% white, and 5.8% black. Lifetime marijuana use for Hispanic, white, and black was: 38.5%, 38.9 %, and 37.6%. For cocaine, current use was 5.8% Hispanic, 3.7% white, and 0.9% black. Lifetime cocaine used was 13.0% Hispanic, 8.0% white, and 1.4% black. For lifetime illegal injection-drug use: 3.4% Hispanic, 2.2% whites and 1.5% black. Current use of inhalants includes: sniffed, breathed inhaled glue, aerosol sprays and/or, paints were: 4.7% Hispanic, 3.2% white and 2.2% black reported usages of these substances. Lifetime inhalant and illegal steroid use for Hispanic, white, and black were (13.9%, 12.2%, and 6.4%) and (6.6%, 5.6%, and 1.9%). Heroin,

metamphetamine, and ecstasy lifetime use for Hispanics, whites and blacks were the following: (3.4%, 1.8%, and 0.8%), (8.1%, 7.8%, and 1.7%) and (11.5%, 11.4%, and 3.8%) respectively (Grunbaum et al., 2004). It was also noted that foreign-born youths had lower drug use than U.S.-born youth, regardless of gender (Gfroerer & Tan, 2003; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2005b).

Psychopathology

The psychiatric disorders found in adolescent females at risk of suicide are similar to the disorders found in female drug users. In a school-based survey done on 6, 8, and 10th graders, depression was one of the most frequent symptoms listed among those adolescent girls using illicit drugs (Saluja et al., 2004). Additional research has found high prevalence of affective and anxiety disorders among middle school students in southern Florida. Fifty two percent of the students were found to have mental health problems before using drugs (Turner & Gil, 2002).

Sexual and physical abuse

Adolescent girls who were sexually abused in childhood were twice as likely to use illicit drugs as those who were not. There was also an increase of drug use in those who were physically abused (Bohn, 2003; Pratt & Greydanus, 2003; Simpson & Miller, 2002; Slater et al., 2001). According to Roberts and Klein (2003) (Roberts & Klein, 2003) there was a significant association between a history of abuse and drug use in female adolescents. It has been reported among high school female students; 14.0% of blacks, 9.2% of Hispanics, and 7.5% of whites had been hit, slapped or physically abuse

by a partner. In addition, 12.9% of black females, 13.0% of Hispanic females and 11.2% of white females reported to be physically forced to have sexual intercourse (Grunbaum et al., 2004). Another study presented data those teen girls who were emotional and educationally neglected by adults who were responsible for them also used drugs (Crowley, Mikulich, Ehlers, Hall, & Whitmore, 2003).

Association

Teens who had family and/or friends who used illicit substances were more likely to start using drugs than those who didn't. Peer influence on adolescent drug behavior increased with age, the influence was found more in marijuana than any other illicit drug in all races (Brooks, 2002; Mosher, Rotolo, Krupski, & Stark, 2004). In addition, the use of drugs by friends was found to be a credible forecaster of lifetime prevalence of marijuana (Mosher, 2004). While in one study, the approval of the use of inhalants by friends among white adolescent girls had a strong effect than it did for other races. White female teens were 3.57 times more than like to use inhalants than those who had friends that didn't approve (Beauvais, Wayman, Jumper-Thurman, Plested, & Helm, 2002). On the other hand, it was found that Hispanic females, whose family provided social support, were more likely to overcome peers pressure in using drugs (Delva et al., 2005; Frauenglass, Routh, Pantin, & Mason, 1997).

Acculturation and Drug Use

Research has been inconsistent about how acculturation affects substance use. It was previously reported that the levels of acculturation between the teens and their family influences their risk for behavior. One study looked at language; is the person bilingual

verses monolingual and their preference for speaking. It was found that the more English the female adolescent spoke, the more conflict there was at home. This conflict leads to drug use (marijuana) (Marsiglia, Kulis, Hecht, & Sills, 2004; McQueen et al., 2003).

According to De La Rosa (2002), until there is a conceptual framework and instruments that are accurate in measuring acculturation, it would be difficult to get a true picture. This is only because of the complexity of levels, but because Hispanics are a multicultural and multiracial group, who might have left their countries with other issues such as: socio-economics, skin color, and previous acculturation problems from the mother country (in many countries in Latin America, the Indigenous people are marginal from the dominant culture). In addition, as the groups grow and intermarry with other ethnic groups, how will acculturation affect that generation?

Female Adolescents at Risk for Suicide and Illicit Drug Use

Few studies have investigated how adolescent females cope with suicide ideation. Some studies report that the drug use increase suicidal thoughts (Burge, Felts, Chenier, & Parrillo, 1995; Garlow, 2002; Hallfors et al., 2004; Kelly et al., 2004; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006d), while others report that those who are at risk for suicide use drugs as a way to escape or cope with problems. One group of investigators used a longitudinal community study to review the frequency and evolution of psychiatric disorders in children ages 9-16. Concurrent comorbidity is found more frequently in girls than in boys, and those diagnosed with anxiety disorders were at risk for later substance use disorders (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Research done by Gould (2004), found that

one-third of the teens held the position that problems such as depression and suicidal thoughts should be kept to themselves; and that the use of drugs and alcohol was acceptable while dealing with those problems.

Summary

The literature clearly indicates the many challenges Hispanic female adolescents are confronted with. Investigating the risk taking behaviors such as suicide and drug use and the various issues that influence these behaviors are of great importance for the well being of our society. There needs to be more research to help identify the cause of the increase seen in these behaviors. Only then, can we understand the urgency that is needed to introduce new policies such as access to mental health and risk reduction education programs to reduce these behaviors.

The YRBS was designed by the CDC to present epidemiological data about health related behaviors among adolescents. The primary focus of the survey is to measure, assess, and monitor the principal causes of morbidity and mortality in youth. The survey examines six categories that contribute to these causes: behaviors resulting in unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and STDs; unhealthy dietary behaviors; physical inactivity; and overweight (Garofalo et al., 1999; Granbaum et al., 2004).

Population and Sampling

CHAPTER 3

METHODOLOGY

This was a quantitative study using descriptive methods. The main purpose of the research was to examine the relationship between variables: at risk for suicide and drug use adjusted for race, grade, geographic region, and metropolitan status. This study used data obtained from the 2003 National School-based Youth Risk Behavior Survey (YRBS). It allowed this investigator to get information about health risk behaviors from a very large nationally representative sample of students. The data from this survey is readily available for public use by the Centers for Disease Control and Prevention (CDC).

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analysis (weighted percent): American Indian or Alaska Native (1.0% of sample); Asian (3.4% of the sample); Native Hawaiian or Other Pacific Islander (1.0%); Multiple-Hispanic (2.4% of sample); and Multiple-Non-Hispanic (2.8%) (Centers for Disease

Population and Sampling

The national YRBS is a self-administered questionnaire, which is conducted every two years; data for the study was taken in 2003. The 2003 YRBS was administered to 15,240 high schools (grades 9-12). A multistage sampling was used to obtain the survey sample. One thousand two hundred sixty two primary sampling units (large counties, sub-areas of very large or small counties) were identified in stage one; from that group 57 primary sampling units were chosen from 16 strata based on the level of urbanization and proportion of Hispanic and black students enrolled in the schools. One hundred ninety five schools were picked in stage two of which 158 participated in the national survey; the response rate from the schools was 81%. The last stage is comprised of randomly selecting intact classes of a mandatory course from each grade within the chosen schools. All students were eligible for participation in the survey; of the 15,240 questionnaires used in the survey, 15,214 were used for analyze; overall there was an 83% student response rate. On the whole the response rate was 67%. To allow for non-responses and selection probability owing to over selection of black and Hispanic students, a weighting factor was applied to each participant (Brener et al., 2004; Centers for Disease Control and Prevention, 2004a). The population sample for this study was selected from the 7,544 participants who identified themselves as females from the 2003 YRBS. Due to the small sample size of participants, the following groups was excluded in the analysis (weighted percent): American Indian or Alaska Native (1.0% of sample); Asian (3.4% of the sample); Native Hawaiian or Other Pacific Islander (1.0%); Multiple-Hispanic (2.4% of sample); and Multiple-Non-Hispanic (2.8%) (Centers for Disease

Control and Prevention, 2004a). The study focused only on the females who classified themselves Black, Hispanic/Latina or White for the survey.

Protection of Human Participants

This study examined secondary data that is publicly available and the information was recorded by the Centers for Disease Control and Prevention. Researcher did not have any direct or indirect involvement with the collection of data from human subjects.

Approval for this study was received after submitting appropriate documentation to the University of North Texas Health Science Center Institutional Review Board for the Protection of Human Subjects.

Data Collection Procedures

Most students who participated in the 2003 YRBS were minors and parental consent was obtained according to local norms. The admission of the survey takes place in the classrooms. Prior to the administration of the survey, students were told the questionnaire was anonymous and voluntary. Responses to the survey were entered on computer-scannable sheets. The main questionnaire contained 97 multiple-choice questions. The data was collected in Spring 2003 (Grunbaum et al., 2004).

Study Instruments

The variables selected for data-analysis came from questions used in the 2003 Youth Risk Behavior Survey. Putting them into groups for the specific risk behavior dichotomized the variables. The CDC has stated that the questionnaire may be copied, modified or administered without permission.

Validity and reliability

The CDC has addressed validity and reliability issues related to the YRBS questionnaire. In 2000, the YRBS questionnaire was tested for reliability by administering the survey two different times to a convenience sample of 4,619 students in grades 9-12. The time between administrations was roughly 14 days. The same was done in 1992 with convenience sample of 1,679 students in grades 7-12; administration was also within 14 day period. From the analysis, it appeared that students were able to report behaviors with acceptable reliability. The CDC has not tested the validity of each self-reported behavior found on the YRBS questionnaire, but they have done pertinent literature review to evaluate factors that may cause threats to validity of self-report behaviors. They found situational and cognitive factors did affect the self-report behaviors, but they do not affect the validity each self-report behavior equally (Brener et al., 2004).

The following YRBS variables were used for the study:

Dependent variable

The three at risk for suicide dependent variables were:

1. During the past 12 months, did you ever seriously consider attempting suicide?
2. During the past 12 months, did you make a plan about how you would attempt suicide?
3. During the past 12 months, how many times did you actually attempt suicide?

An ordinal response for during the past 12 months, how many times did you actually attempt suicide was recoded as dichotomous variables.

Drug use

Nine variables were examined; questions one and two focus on use of marijuana which is the most frequent drug used by adolescents, responses was measured on an ordinal scales. Questions three to nine responses were dichotomized into those who had not used the drug vs. those who had ever used.

1. During your life, how many times have you used marijuana?
2. How old were you when you tried marijuana for the first time?
3. During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?
4. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
5. During your life, how many times have you used heroin (also called smack, junk or China White)?
6. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
7. During your life, how many times have you used ecstasy (also called MDMA)?
8. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?
9. During your life, how many times have you used a needle to inject any illegal drug into your body?

To perform logistic regression lifetime marijuana use was dichotomized; ever used marijuana vs. never used marijuana.

Control variables

Demographic items and scales will be used as stated in the questionnaire.

1. How do you describe yourself (race/ethnicity)?

1. In what grade are you?

3. Geographic region

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska,

North Dakota, Ohio, South Dakota, and Wisconsin

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina,

Tennessee, Texas, Virginia, and West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

4. Metropolitan status: Urban, Suburban, and Rural

(Centers for Disease Control and Prevention, 2004a)

Data Analysis

This study hypothesized that there were significant differences between Latina and Non-Latina adolescents in terms of prevalence for those who used drugs and were at risk for suicide. The YRBS uses weights, primary sampling units, and stratum to account for the random complex survey design, statistical software program, SAS 9.1.2 (SAS Institute, Cary NC, 2004), was used in the analyses to derive accurate standard errors and

perform test of statistical significance. Data was available for 7,544 female adolescents; due to the small sample size of the other ethnic groups ($n = 718$) were excluded. Data from the remaining 6,826 (Hispanic/ Latino; white, non-Hispanic; and black, non-Hispanic) female adolescents were included in the analyses (Centers for Disease Control and Prevention, 2004c). Data analysis included descriptive statistics of demographics variables (gender, grade, geography and metropolitan areas by race). The risk for suicide variables with every independent variable was explored by race. Binary logistic regression was used to estimate the association between at risk for suicide and drug use. By adding all of the independent and controlling variables simultaneously as predictors, reference group for three models were: Hispanic/Latino, ninth grade, northeast, urban areas, and the negative dichotomized groups for life time use of marijuana, any form of cocaine, heroin, inhalants, steroids, methamphetamines, ecstasy, and use of needles to inject any illegal drugs (one model for each dependent variable), adjusted odds ratio (OR) and the 95% confidence intervals (CI) was calculated; only p values < 0.05 were regard as statistically significant.

Summary

The process outlined in this chapter was used to answer the hypothesis stated in the Chapter 1. In this chapter the rationale for using the 2003 YRBS and, its methodology, in addition, to the types of variables and procedures for data analysis was reviewed.

CHAPTER 4

RESULTS

To convey a sense of relationship between variables, a frequency table (Tables 1) is used to compare the differences between female adolescents in relation to race, grade, geographic region and metropolitan status. Cross-tabulation is presented in Tables 2-31 to compare female adolescents that in the past 12 months seriously consider attempting suicide and drug use; female adolescents who made a suicide plan during the past 12 months and drug use; and female adolescents who have attempted suicide one or more times during the past 12 months and used drugs. The categories of drugs explored were: marijuana, any form of cocaine, heroin, inhalants, steroids, methamphetamines, ecstasy, and use of needles to inject any illegal drugs. These variables were also included in the binary logistic models (Tables 32-34). To determine which of these variables predicted the likelihood of co-occurring at risk of suicide and substance abuse, binary logistic regression were employed.

Descriptive statistics

Weighted percentage and unweighted sampling size are reported for the following characteristics: of the 6,826 respondents, 16.1% ($n=1,719$) were classified as Hispanic/Latina; 15.8% ($n=1,889$) as black, non-Hispanic; and 68.2% ($n=3,218$) as white, non-Hispanic. The distribution of race among grades (nine to twelve) was the

following: black, non-Hispanic 5.1 % were in 9th grade; 4.1% in 10th grade; 3.5% in 11th grade; and 3.1% in 12th grade, white, non-Hispanic, 18.4% were in 9th grade; 17.9% in 10th grade; 16.6% in 11th grade; and 15.3% in 12th grade respectively, vs. Hispanic/Latina, 5.4% were in 9th grade; 4.2% in 10th grade; 3.5% in 11th grade; and 3.0% in 12th grade.

For geographic region, the prevalence of sample population living in the Northeast, Midwest, South and West were: black, non-Hispanic (1.8%, 2.2%, 11.0%, and 0.8%); white, non-Hispanic (17.5%, 22.9%, 19.5%, and 8.3%) respectively, vs. Hispanic/Latina (1.8%, 1.2%, 8.2%, and 4.9%). These regions were divided into metropolitan status, the percentage of participants living in urban, suburban and rural areas was: black, non-Hispanic (8.3%, 5.7% and 1.7%), white, non-Hispanic (10.5%, 36.6% and 21.1%) respectively, vs. Hispanic/Latina (7.0%, 8.2% and 0.9%).

YRBS: Youth Risk Behavioral Survey, % unweighted sampled size, % weighted percentage.

Table 1. Characteristics of YRBS 2003 sample population selected for study.

Characteristics	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic
Total n= 6,826 (100%)	n=1,719 (16.1%)	n=1,889 (15.8%)	n=3,218 (68.2 %)
Grade			
9 th	5.4	5.1	18.4
10 th	4.2	4.1	17.9
11 th	3.5	3.5	16.6
12 th	3.0	3.1	15.3
Region			
Northeast	1.8	1.8	17.5
Midwest	1.2	2.2	22.9
South	8.2	11.0	19.5
West	4.9	0.8	8.3
Metropolitan status			
Urban	7.0	8.3	10.5
Suburban	8.2	5.7	36.6
Rural	0.9	1.7	21.1

YRBS: Youth Risk Behavioral Survey; n: unweighted sampled size; %: weighted percentage.

1 or 2 times	3.8	2.6	2.1
3 to 9 times	2.7	1.5	2.0
10 to 19 times	1.2	0.9	1.8
20 to 39 times	1.8	0.3	1.5
40 to 99 times	1.8	0.8	1.8
100 or more times	1.8	0.9	3.5
Total	23.0	14.2	21.4

As presented Seriously Consider Attempting Suicide and Drug Use

Marijuana who seriously considered attempting suicide during the past 12 months

Table 2 represents by race/ethnicity the total percentage of female adolescents who seriously consider attempting suicide (FASCAS) during the past 12 months (23.0% Hispanic/Latina, 14.2% black, non-Hispanic and 21.4 % white, non-Hispanic) and used marijuana one or more times during their life (13.1%, 7%, and 12.7%) respectively.

Table 3. Female adolescents who seriously consider attempting suicide (FASCAS) and

Table 2. At risk for suicide and used marijuana

Weighted percentage	Seriously considered attempting suicide		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Female adolescents (FA) who used marijuana			
0 times	9.9	7.2	8.7
1 or 2 times	3.8	2.6	2.1
3 to 9 times	2.7	1.5	2.0
10 to 19 times	1.2	0.9	1.8
20 to 39 times	1.8	0.3	1.5
40 to 99 times	1.8	0.8	1.8
100 or more times	1.8	0.9	3.5
Total	23.0	14.2	21.4

As presented in Table 3, slightly more than one-half (56.0%) of the female adolescents who seriously considered attempting suicide during the past 12 months reported using marijuana at least one or more times in their lifetime and the results by race/ethnicity were the following: Hispanic/Latina 56.9%; black, non-Hispanic 49.3%; and white, non-Hispanic 59.3%.

Table 3. Female adolescents who seriously consider attempting suicide (FASCAS) and answered yes to drug use (Marijuana)

		Seriously considered attempting suicide			
Weighted percentage		Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FASCAS who used marijuana					
Yes		56.9%	49.3%	59.3%	56.0%
Never tried marijuana		43.1%	50.7%	40.7%	44.0%
8 years old or older		2.9%	1.0%	1.9%	2.1%
13 or 14 years old		4.4%	2.9%	5.1%	4.1%
15 or 16 years old		7.3%	1.9%	4.1%	4.4%
17 years old or older		4.7%	0.7%	0.5%	1.9%
Total		21.4%	14.5%	21.6%	18.5%

Table 4 represents by race/ethnicity the percentage of female adolescents who seriously consider attempting suicide (23.4% Hispanic/Latina, 14.5% black, non-Hispanic and 21.6 % white, non-Hispanic) and initiated marijuana use at the following ages of ≤ 8 years old; 9 or 10 years old; 11 or 12 years old; 13 or 14 years old; 15 or 16 years old; and ≥ 17 years old, the results were: Hispanic/Latina (0.2%; 0.3%; 2.9%; 6.0%; 3.5%; and 0.7%); black, non-Hispanic (0.2%; 0.4%; 1.0%; 2.9%; 1.9; and 0.7%); and white, non-Hispanic (0.1%; 1.2%; 1.9%; 5.1%; 4.1%; and 0.5%) respectively.

Table 4. At risk for suicide and age of first marijuana use

Weighted percentage	Seriously considered attempting suicide		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
FA age for first marijuana use			
Never tried marijuana	9.9	7.3	8.7
8 years old or <	0.2	0.2	0.1
9 or 10 years old	0.3	0.4	1.2
11 or 12 years old	2.9	1.0	1.9
13 or 14 years old	6.0	2.9	5.1
15 or 16 years old	3.5	1.9	4.1
17 years old or >	0.7	0.7	0.5
Total	23.4	14.5	21.6

More than one-half (56.0%) of the female adolescents who seriously considered attempting suicide during the past 12 months reported using marijuana by age 14, with a prevalence of 57.7% for Hispanic/Latina; 49.7% for black, non-Hispanic and 59.7% for white, non-Hispanic. These results are presented in Table 5.

Table 5. Female adolescents who seriously consider attempting suicide (FASCAS) and used marijuana before age 14

	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic	Total
Weighted percentage	%	%	%	%
FASCAS who used marijuana before 14				
Yes	57.7%	49.7%	59.7%	56.0%
No	42.3%	50.3%	40.3%	44.0%
Total				
	23.0	14.5	21.2	
Those who never used cocaine				
FA who used any form of				
Cocaine	7.0	2.6	6.0	
Total	23.0	14.5	21.2	
Those who never sniffed or inhaled to get high				
FA who ever sniffed or inhaled to get high				
Total	23.0	14.5	21.2	

Cocaine and Inhalants

Table 6 represents by race/ethnicity the percentage of female adolescents who seriously consider attempting suicide during the past 12 months (23.8% Hispanic/Latina, 4.3% black, non-Hispanic, and 21.5 % white, non-Hispanic) and used cocaine in any form or inhalant/sniffed one or more times during their life (7.0%, 0.6%, and 4.1%) respectively. It also includes the frequencies of FASCAS (23.0% Hispanic/Latina, 14.5% black, non-Hispanic, and 21.2 % white, non-Hispanic) and sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life (7.0%, 2.6, and 6.0%).

Table 7. Female adolescents who seriously consider attempting suicide (FASCAS) and answered yes to drinking cocaine and inhalants or Sniffed)

Table 6. At risk of suicide and drug use (Cocaine and Inhalants)

Weighted percentage	Seriously considered attempting suicide		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
FASCAS who used cocaine		13.7	17.4
Those who never used cocaine	16.8		
FA who used any form of Cocaine	7.0	0.6	4.1
Total	23.8	4.3	21.5
FASCAS who sniffed or inhaled to get high		11.9	15.2
Those who never sniffed or inhaled to get high	16.0		
FA who ever sniffed or inhaled to get high	7.0	2.6	6.0
Total	23.0	14.5	21.2

Table 7, presents the prevalence for female adolescents who seriously considered attempting suicide during the past 12 months and reported using cocaine at least one or more times in their lifetime at 19.6%. Frequencies for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 29.4%, 3.6%, and 19.1% respectively. Also include in the table are the percentage of female adolescents who ever sniffed or inhaled any substance to get high, the overall frequency was 26.6%. Prevalence for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 30.4%, 17.9%, and 28.3% respectively.

Table 7. Female adolescents who seriously consider attempting suicide (FASCAS) and answered yes to drug use (Cocaine and Inhalants or Sniffed)

		Hispanic/Latina	black, non-Hispanic	white, non-Hispanic	Total
Weighted percentage		%	%	%	%
FASCAS who used Cocaine					
Yes		29.4%	3.6%	19.1%	19.6%
No		70.6%	96.4%	80.9%	80.4%
FASCAS who used Inhalants or Sniffed					
Yes		30.4%	17.9%	28.3%	26.6%
No		69.6%	82.1%	71.7%	73.4%

Heroin and Methamphetamines

Table 8 represents by race/ethnicity the percentage of female adolescents who seriously consider attempting suicide during the past 12 months (23.7% Hispanic/Latina, 14.6% black, non-Hispanic, and 21.3 % white, non-Hispanic) and used heroin one or more times during their life (2.1%, 0.3%, and 1.3%) respectively. It also includes the frequencies of FASCAS (23.5% Hispanic/Latina, 14.6% black, non-Hispanic, and 21.2 % white, non-Hispanic) and used methamphetamines one or more times during their life (4.8%, 1.0%, and 4.4%).

Table 8. At risk of suicide and drug use (Heroin and Methamphetamines)

Weighted percentage	Seriously considered attempting suicide		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Those who never used heroin	21.6	14.3	20.0
FA who used heroin	2.1	0.3	1.3
Total	23.7	14.6	21.3
Those who never used methamphetamines	18.7	13.6	16.8
FA who used methamphetamines	4.8	1.0	4.4
Total	23.5	14.6	21.2

Overall frequency for female adolescents who seriously considered attempting suicide during the past 12 months and lifetime use of heroin was 6.2%. Results from the three groups surveyed were Hispanic/Latina 8.9%; black, non-Hispanic 2.1%; and white, non-Hispanic 6.1%. The overall prevalence for methamphetamines was 17.2%; the percentage for Hispanic/Latina; black, non-Hispanic; and white, non-Hispanic were 20.4%; 6.8%; and 20.8% respectively. These results are presented in Table 9.

Table 9. Female adolescents who seriously consider attempting suicide (FASCAS) and answered yes to drug use (Heroin and Methamphetamines)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FASCAS who used Heroin				
Yes	8.9%	2.1%	6.1%	6.2%
No	91.1%	97.9%	93.9%	93.8%
FASCAS who used Methamphetamines				
Yes	20.4%	6.8%	20.8%	17.2%
No	79.6%	93.2%	79.2%	82.8%

Ecstasy, Steroids and Injection of drug

Table 10 represents by race/ethnicity the percentages of female adolescents who seriously consider attempting suicide and used ecstasy or taken steroid pills or shots without a doctor's prescription or a needle to inject any illegal drug one or more times during their life. The percentage for FASCAS (23.8% Hispanic/Latina, 14.1% black, non-Hispanic, and 21.2 % white, non-Hispanic) and used ecstasy was (3.6%, 0.8%, and 3.7%) respectively. The frequencies of FASCAS (23.8% Hispanic/Latina, 14.8% black, non-Hispanic, and 21.3 % white, non-Hispanic) and used steroids were (3.8%, 0.4%, and 2.7%). This table also includes the percentage of FASCAS (23.4% Hispanic/Latina, 14.9% black, non-Hispanic, and 21.2 % white, non-Hispanic) and used a needle to inject (1.7%, 0.6%, and 1.2%).

Table 11, examines the lifetime use of ecstasy, steroids and injection of drug for those who in the past 12 months seriously consider attempting suicide. The overall percentage for ecstasy was 13.7% and by race/ethnicity: Hispanic/Latina 15.1%, black, non-Hispanic 5.7%, and white, non-Hispanic 17.5%. For steroids a total of 11.5% is found and for each group the results was Hispanic/Latina 16.0%; black, non-Hispanic 2.7%, and white, non-Hispanic 12.7%. While the total percentage for injection of a drug was 5.9 %, the frequencies for Hispanic/Latina; black, non-Hispanic; and white, non-Hispanic were 7.3%; 4.0%; and 5.7% respectively.

Table 10. At risk of suicide and drug use (Ecstasy, Steroids and Injection of drug)

Weighted percentage	Seriously considered attempting suicide		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Those who never used ecstasy	20.2	13.3	17.5
FA who used ecstasy	3.6	0.8	3.7
Total	23.8	14.1	21.2
Those who never taken steroids w/o MD's prescription	20.0	14.4	18.6
FA who taken steroids w/o MD's prescription	3.8	0.4	2.7
Total	23.8	14.8	21.3
Those who never used a needle to inject any illegal drug	21.7	14.3	20.0
FA who used a needle to inject any illegal drug	1.7	0.6	1.2
Total	23.4	14.9	21.2

Table 11. Female adolescents who seriously consider attempting suicide (FASCAS) and answered yes to drug use (Ecstasy, Steroids and Injection of drug)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FASCAS who used Ecstasy				
Yes	15.1%	5.7%	17.5%	13.7%
No	84.9%	94.3%	82.5%	86.3%
FASCAS who used Steroids				
Yes	16.0%	2.7%	12.7%	11.5%
No	84.0%	97.3%	87.3%	88.5%
FASCAS who used a needle to inject any illegal drug				
Yes	7.3%	4.0%	5.7%	5.9%
No	92.7%	96.0%	94.3%	94.1%
10 to 19 times	0.8	0.8	1.2	
20 to 29 times	1.3	0.5	1.2	
40 to 59 times	1.1	0.5	1.1	
100 or more times	1.7	0.9	2.7	
Total	20.5	12.3	18.6	

As shown in Table 12, 18.6% of the female adolescents who made a plan about how they would attempt suicide during the past 12 months also used marijuana one or more times during their life (10.1%, 5.4%, and 9.4%) respectively.

Marijuana

Table 12 represents by race/ethnicity the total percentage of female adolescents who made a suicide plan (FAMSP) during the past 12 months (20.5% Hispanic/Latina, 12.3% black, non-Hispanic and 18.6 % white, non-Hispanic) and used marijuana one or more times during their life (10.1%, 5.4%, and 9.4%) respectively.

Table 12. At risk for suicide and used marijuana

Weighted percentage	Made a suicide plan		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
FA who used marijuana			
0 times	10.4	6.9	9.2
1 or 2 times	3.3	1.9	1.6
3 to 9 times	1.9	0.8	1.6
10 to 19 times	0.8	0.8	1.2
20 to 39 times	1.3	0.5	1.2
40 to 99 times	1.1	0.5	1.1
100 or more times	1.7	0.9	2.7
Total	20.5	12.3	18.6

As shown in Table 13, slightly less than one-half (48.4%) of the female adolescents who made a plan about how they would attempt suicide during the past 12 months reported using marijuana at least one or more times in their lifetime. The prevalence for those by race/ethnicity was: Hispanic/Latina 49.3%; black, non-Hispanic 43.9%; and white, non-Hispanic 50.5%.

Table 13. Female adolescents who made a suicide plan (FAMSP) and answered yes to drug use (Marijuana)

Table 14. At risk for suicide and age of first marijuana use

	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic	Total
Weighted percentage	%	%	%	%
FAMSP who used marijuana				
Yes	49.3%	43.9%	50.5%	48.4%
Never tried marijuana				
8 years old or younger	0.3	0.2	0.2	0.2
9 or 10 years old	0.3	0.2	1.1	0.5
11 or 12 years old	1.0	0.4	1.6	1.0
13 or 14 years old	4.8	2.3	3.7	3.6
15 or 16 years old	2.8	1.8	2.6	2.4
17 years old or older	0.2	0.6	0.3	0.4
Total	20.7	12.5	18.2	17.1

Table 14 represents by race/ethnicity the percentage of female adolescents who made a suicide plan about how they would attempt suicide during the past 12 months (20.7% Hispanic/Latina, 12.5% black, non-Hispanic and 18.8 % white, non-Hispanic) and initiated marijuana use at the following ages of ≤ 8 years old; 9 or 10 years old; 11 or 12 years old; 13 or 14 years old; 15 or 16 years old; and ≥ 17 years old, the results were: Hispanic/Latina (0.3%; 0.3%; 1.9%; 4.8%; 2.8%; and 0.2%); black, non-Hispanic (0.2%; 0.2%; 0.4%; 2.3%; 1.8%; and 0.6%); and white, non-Hispanic (0.2%; 1.1%; 1.6%; 3.7%; 2.6%; and 0.3%) respectively.

Table 14. At risk for suicide and age of first marijuana use

FAMSP who used marijuana	Made a suicide plan		
	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic
Weighted percentage	%	%	%
FA age for first marijuana use			
Never tried marijuana	10.3	7.0	6.7
8 years old or younger	0.3	0.2	0.2
9 or 10 years old	0.3	0.2	1.1
11 or 12 years old	1.9	0.4	1.6
13 or 14 years old	4.8	2.3	3.7
15 or 16 years old	2.8	1.8	2.6
17 years old or older	0.2	0.6	0.3
Total	20.7	12.5	18.8

More than one-half (53.8%) of the females who made a plan about how they would attempt suicide during the past 12 months reported using marijuana by age 14, with the prevalence of 50.2% for Hispanic/Latina, 44.0% for black, non-Hispanic and 64.4% for white, non-Hispanic. These results are presented in Table 15.

Table 15. Female adolescents who made a suicide plan (FAMSP) during the past 12 months and used marijuana before age 14

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FAMSP who used marijuana before 14				
Yes	50.2%	44.0%	64.4%	53.8%
Those who never used cocaine	15.1	11.6	13.2	
No	49.8%	56.0%	35.6%	46.2%
FA who used any form of cocaine	6.2	0.8	3.2	
Total	21.3	12.4	16.4	
Those who never sniffed or inhaled to get high				
	14.0	10.0	13.5	
FA who sniffed or inhaled to get high	6.7	2.3	5.1	
Total	20.7	12.3	18.6	

Cocaine and Inhalants

Table 16 represents by race/ethnicity the percentage of female adolescents who made a suicide plan during the past 12 months (21.3% Hispanic/Latina, 12.4% black, non-Hispanic, and 16.4 % white, non-Hispanic) and used cocaine in any form or inhalant/sniffed one or more times during their life (6.2%, 0.8%, and 3.2%) respectively. It also includes the frequencies of FAMSP (20.7% Hispanic/Latina, 12.3% black, non-Hispanic, and 18.6 % white, non-Hispanic) and sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life (6.7%, 2.3%, and 5.1%).

Table 16. At risk of suicide and drug use (Cocaine and Inhalants)

	Made a suicide plan		
	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic
Weighted percentage	%	%	%
Those who never used cocaine	15.1	11.6	13.2
FA who used any form of cocaine	6.2	0.8	3.2
Total	21.3	12.4	16.4
Those who never sniffed or inhaled to get high	14.0	10.0	13.5
FA who sniffed or inhaled to get high	6.7	2.3	5.1
Total	20.7	12.3	18.6

Table 17, presents the prevalence for female adolescents who made a plan about how they would attempt suicide during the past 12 months and reported using cocaine at least one or more times in their lifetime at 20.4%. Frequencies for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 29.1%, 6.5%, and 19.5% respectively. The table also includes the overall frequency of female adolescents who sniffed or inhaled any substance to get high, at 27.3%. Prevalence for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 32.4%, 18.6%, and 27.4% respectively.

Table 17. Female adolescents who made a suicide plan (FAMSP) during the past 12 months and answered yes to drug use (Cocaine and Inhalants or Sniffed)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FAMSP who used Cocaine				
Yes	29.1%	6.5%	19.5%	20.4%
No	70.9%	93.5%	80.5%	79.6%
FAMSP who used Inhalants or Sniffed				
Yes	32.4%	18.6%	27.4%	27.3%
No	67.6%	81.4%	72.6%	72.7%

Heroin and Methamphetamines

Table 18 represents by race/ethnicity the percentage of female adolescents who made a plan about how they would attempt suicide during the past 12 months (21.2% Hispanic/Latina, 12.3% black, non-Hispanic, and 19.2 % white, non-Hispanic) and used heroin one or more times during their life (2.2%, 0.6%, and 1.0%) respectively. It also includes the frequencies of FAMSP (21.2% Hispanic/Latina, 12.5% black, non-Hispanic, and 18.7 % white, non-Hispanic) and used methamphetamines one or more times during their life (4.5%, 0.9%, and 3.6%).

Table 18. At risk of suicide and drug use (Heroin and Methamphetamines)

Weighted percentage	Made a suicide plan		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Those who never used heroin	19.0	11.9	18.2
FA who used heroin	2.2	0.6	1.0
Total	21.2	12.3	19.2
Those who had not used methamphetamines	16.7	11.6	15.1
FA who used methamphetamines	4.5	0.9	3.6
Total	21.2	12.5	18.7

Frequency for lifetime use of heroin among those who made a suicide plan was 6.5%. Results from the three groups surveyed were Hispanic/Latina 10.4%; black, non-Hispanic 4.9%; and white, non-Hispanic 5.2%. The overall prevalence for methamphetamines was 17.2%; the percentage for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 21.2%, 7.2%, and 19.3% respectively. These results are presented in Table 19.

Table 19. Female adolescents who made a suicide plan (FAMSP) during the past 12 months and answered yes to drug use (Heroin and Methamphetamines)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FAMSP who used Cocaine				
Yes	10.4%	4.9%	5.2%	6.5%
No	89.6%	95.1%	94.8%	93.5%
FAMSP who used Inhalants or Sniffed				
Yes	21.2%	7.2%	19.3%	17.2%
No	78.8%	92.8%	80.7%	82.8%

Ecstasy, Steroids and Injection of drug

Table 20 represents by race/ethnicity the percentages of female adolescents who made a plan about how they would attempt suicide during the past 12 months and used ecstasy or taken steroid pills or shots without a doctor's prescription or a needle to inject any illegal drug one or more times during their life. The percentage for FAMSP (20.7% Hispanic/Latina, 12.6% black, non-Hispanic, and 18.6 % white, non-Hispanic) and used ecstasy was (5.8%, 1.9%, and 5.4%) respectively. The frequencies of FAMSP (20.7% Hispanic/Latina, 12.1% black, non-Hispanic, and 18.2 % white, non-Hispanic) and used steroids were (3.3%, 0.8%, and 2.9%). This table also includes the percentage of FAMSP (21.0% Hispanic/Latina, 12.0% black, non-Hispanic, and 17.9 % white, non-Hispanic) and used a needle to inject (2.1%, 0.8%, and 1.7%).

Table 21, presents the lifetime use of ecstasy, steroids and injection of drug for those who made a suicide plan. The total percent for ecstasy was 25.2% and by race/ethnicity: Hispanic/Latina 28.0%; black, non-Hispanic 15.0%, and white, non-Hispanic 29.0%. For steroids a total of 13.7% is found and for each group the results was; Hispanic/Latina 15.9%; black, non-Hispanic 6.6%, and white, non-Hispanic 15.9%. While the total percentage for injection of a drug was 9.0 %; the frequencies for Hispanic/Latina; black, non-Hispanic; and white, non-Hispanic were 10.0%; 6.7%; and 9.5% respectively.

Table 20. At risk of suicide and drug use (Ecstasy, Steroids and Injection of drug)

Weighted percentage	Made a suicide plan		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Those who never used ecstasy	14.9	10.7	13.2
FA who used ecstasy	5.8	1.9	5.4
Total	20.7	12.6	18.6
Those who never taken steroids w/o MD's prescription	17.4	11.3	15.3
FA who taken steroids w/o MD's prescription	3.3	0.8	2.9
Total	20.7	12.1	18.2
Those who never used a needle to inject any illegal drug	18.9	11.2	16.2
FA who used a needle to inject any illegal drug	2.1	0.8	1.7
Total	21.0	12.0	17.9

Table 21. Female adolescents who seriously consider attempting suicide (FAMSP) and answered yes to drug use (Ecstasy, Steroids and Injection of drug)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FAMSP who used Ecstasy				
Yes	28.0%	15.0%	29.0%	25.2%
No	72.0%	85.0%	71.0%	74.8 %
FAMSP who used Steroids				
Yes	15.9%	6.6%	15.9%	13.7%
No	84.1%	93.4%	84.1%	86.3%
FAMSP who used a needle to inject any illegal drug				
Yes	10.0%	6.7%	9.5%	9.0%
No	90.0%	90.3%	90.5%	91.0%
Total				

Attempted Suicide and Drug Use

Marijuana

Table 22 represents by race/ethnicity the total percentage of female adolescents who attempting suicide (FAAS) one or more times during the past 12 months (15.1% Hispanic/Latina, 9.1% black, non-Hispanic and 10.3 % white, non-Hispanic) and used marijuana one or more times during their life (9.8%, 5.2%, and 7.4%) respectively.

Table 22. At risk for suicide and used marijuana

Weighted percentage	Attempted suicide during the past 12 months		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
FA who used marijuana			
0 times	5.3	3.9	2.9
1 or 2 times	2.7	2.1	1.1
3 to 9 times	2.4	0.7	1.1
10 to 19 times	0.7	0.3	0.8
20 to 39 times	1.3	0.4	0.9
40 to 99 times	1.1	0.5	1.1
100 or more times	1.6	0.9	2.3
Total	15.1	9.1	10.3

As presented in Table 23, more than three-fifths (64.9%) of the female adolescents who attempting suicide during the past 12 months reported using marijuana at least one or more times in their lifetime. The results by race/ethnicity were the following: Hispanic/Latina 64.9%; black, non-Hispanic 57.1%; and white, non-Hispanic 71.8%.

Table 23. Female adolescents who attempting suicide (FAAS) and answered yes to drug use (Marijuana)

		Hispanic/Latina	black, non-Hispanic	white, non-Hispanic	Total
Weighted percentage		%	%	%	%
FAAS who used marijuana					
Yes		64.9%	57.1%	71.8%	64.9%
No		35.1%	42.9%	28.2%	35.1%
by age					
5 years old or younger		0.1	0.2	0.1	
9 or 10 years old		0.3	0.3	0.9	
11 or 12 years old		2.4	8.7	1.7	
13 or 14 years old		4.6	1.9	3.4	
15 or 16 years old		2.4	1.5	1.6	
17 years old or older		0.2	0.6	2.2	
Total		13.4	9.0	10.3	

Table 24 represents by race/ethnicity the percentage of female adolescents who have attempted suicide one or more times during the past 12 months (15.4% Hispanic/Latina, 9.0% black, non-Hispanic and 10.3% white, non-Hispanic) and initiated marijuana use at the following ages of ≤ 8 years old; 9 or 10 years old; 11 or 12 years old; 13 or 14 years old; 15 or 16 years old; and ≥ 17 years old, the results were:

Hispanic/Latina (0.1%; 0.3%; 2.4%; 4.6%; 2.4%; and 0.2%); black, non-Hispanic (0.2%; 0.3%; 0.7%; 1.9%; 1.5%; and 0.6%); and white, non-Hispanic (0.1%; 0.9%; 1.7%; 3.4%; 1.6%; and 2.2%) respectively.

Table 24. At risk for suicide and age of first marijuana use

Weighted percentage	Attempted suicide during the past 12 months			%
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	
FA age for first marijuana use				
Never tried marijuana	5.3	3.9	2.9	
8 years old or younger	0.1	0.2	0.1	
9 or 10 years old	0.3	0.3	0.9	
11 or 12 years old	2.4	0.7	1.7	
13 or 14 years old	4.6	1.9	3.4	
15 or 16 years old	2.4	1.5	1.6	
17 years old or older	0.2	0.6	2.2	
Total	15.4	9.0	10.3	

Cocaine and Inhalants

While 65.1% of the females who attempting suicide during the past 12 months reported using marijuana by age 14, with a prevalence of 65.6% for Hispanic/Latina; 56.7 % for black, non-Hispanic and 71.8 % for white, non-Hispanic. These results are presented in Table 25.

Table 25. Female adolescents who attempting suicide (FAAS) during the past 12 months and used marijuana before age 14

	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic	Total
Weighted percentage	%	%	%	%
FAAS who used marijuana before 14				
Yes	65.6%	56.7%	71.8%	65.1%
No	34.4%	43.3%	28.2%	34.9%
Total				
	100	100	100	100
Those who sniffed or inhaled to get high				
	15.1	8.1	6.4	8.9
FA who sniffed or inhaled to get high				
	8.2	1.3	3.9	4.5
Total				
	15.1	8.1	6.4	8.9

Cocaine and Inhalants

Table 26 represents by race/ethnicity the percentage of female adolescents who attempted suicide one or more times during the past 12 months (15.6% Hispanic/Latina, 9.0% black, non-Hispanic, and 10.3 % white, non-Hispanic) and used cocaine in any form or inhalant/sniffed one or more times during their life (6.3%, 0.9%, and 3.1%) respectively. It also includes the frequencies of FAAS (15.1% Hispanic/Latina, 8.8% black, non-Hispanic, and 10.3 % white, non-Hispanic) and sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life (6.2%, 1.8%, and 3.9%).

Table 26. At risk of suicide and drug use (Cocaine and Inhalants)

Weighted percentage	Attempted suicide during the past 12 months			Total %
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	
Those who never used cocaine	9.3	8.1	7.2	29.5%
FA who used any form of cocaine	6.3	0.9	3.1	70.5%
Total	15.6	9.0	10.3	34.9%
Those who never sniffed or inhaled to get high	8.9	7.0	6.4	65.2%
FA who sniffed or inhaled to get high	6.2	1.8	3.9	
Total	15.1	8.8	10.3	

Table 27, shows the prevalence for female adolescents who attempted suicide one or more times during the past 12 months and reported using cocaine at least one or more times in their lifetime at 29.5%. Frequencies for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 40.4%, 10.0%, and 30.1% for respectively. The total percentage of female adolescents who sniffed or inhaled any substance to get high was 34.8%. Prevalence for Hispanic/Latina, black, non-Hispanic, and white, non-Hispanic were 41.1%, 20.5%, and 37.9% respectively.

Table 27. Female adolescents who attempting suicide (FAAS) during the past 12 months and answered yes to drug use (Cocaine and Inhalants or Sniffed)

	Hispanic/Latina	black, non-Hispanic	white, non-Hispanic	Total
Weighted percentage	%	%	%	%
FAAS who used Cocaine				
Yes	40.4%	10.0%	30.1%	29.5%
No	59.6%	90.0%	69.9%	70.5%
FAAS who used Inhalants or Sniffed				
Yes	41.1%	20.5%	37.9%	34.8%
No	58.9%	79.5%	62.1%	65.2%
Total				

Heroin and Methamphetamines

Table 28 represents by race/ethnicity the percentage of female adolescents who attempted suicide one or more times during the past 12 months (15.8% Hispanic/Latina, 9.1% black, non-Hispanic, and 10.2 % white, non-Hispanic) and used heroin one or more times during their life (2.3%, 0.6%, and 1.2%) respectively. It also includes the frequencies of FAAS (15.8% Hispanic/Latina, 9.9% black, non-Hispanic, and 10.3 % white, non-Hispanic) and used methamphetamines one or more times during their life (5.0%, 1.0%, and 3.3%).

Table 28. At risk of suicide and drug use (Heroin and Methamphetamines)

Weighted percentage	Attempted suicide during the past 12 months		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Those who never used heroin	13.5	8.5	9.0
FA who used heroin	2.3	0.6	1.2
Total	15.8	9.1	10.2
Those who had not used methamphetamines	10.8	8.1	7.0
FA who used methamphetamines	5.0	1.0	3.3
Total	15.8	9.9	10.3

For lifetime use of heroin, frequency for those who attempted suicide one or more times was 11.7%. Respondents from the three groups surveyed were Hispanic/Latina 14.6%; black, non-Hispanic 6.6%; and white, non-Hispanic 11.8%. The overall prevalence for methamphetamines was 28.1 %; the percentage for Hispanic/Latina; black, non-Hispanic; and white, non-Hispanic were 31.6%; 10.1%; and 32.0% respectively. These results are presented in Table 29.

Table 29. Female adolescents who attempting suicide (FAAS) during the past 12 months and answered yes to drug use (Heroin and Methamphetamines)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FAAS who used Heroin				
Yes	14.6%	6.6%	11.8%	11.7%
No	85.4%	93.4%	88.2%	88.3%
FAAS who used Methamphetamines				
Yes	31.6%	10.1%	32.0%	28.1%
No	68.4%	89.9%	68.0%	71.9%

Ecstasy, Steroids and Injection of drug

Table 30 represents by race/ethnicity the percentages of female adolescents who attempted suicide one or more times during the past 12 months and used ecstasy or taken steroid pills or shots without a doctor's prescription or a needle to inject any illegal drug one or more times during their life. The percentage for FAAS (15.4% Hispanic/Latina, 8.9% black, non-Hispanic, and 10.3 % white, non-Hispanic) and used ecstasy was (3.3%, 0.8%, and 2.5%) respectively. The frequencies of FAAS (15.9% Hispanic/Latina, 9.1% black, non-Hispanic, and 10.3% white, non-Hispanic) and used steroids were (3.2%, 0.6%, and 1.9%). This table also includes the percentage of FAAS (15.8% Hispanic/Latina, 9.2% black, non-Hispanic, and 10.3 % white, non-Hispanic) and used a needle to inject (1.8%, 0.8%, and 1.1%).

Table 31 presents the lifetime use of ecstasy, steroids and injection of drug for those who attempted suicide during the past 12 months. The total percent for ecstasy was 19.1% and by race/ethnicity: Hispanic/Latina 21.4%; black, non-Hispanic 9.0%; and white, non-Hispanic 24.3%. For steroids a total of 16.1% is found and for each group the results was Hispanic/Latina 20.1%; black, non-Hispanic 6.6%, and white, non-Hispanic 18.4%. While the total percentage for injection of a drug was 10.5 %; the frequencies for Hispanic/Latina; black, non-Hispanic; and white, non-Hispanic were 11.4%; 8.7%; and 10.7% respectively.

Table 30. At risk of suicide and drug use (Ecstasy, Steroids and Injection of drug)

Weighted percentage	Attempted suicide during the past 12 months		
	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %
Those who never used ecstasy	12.1	8.1	7.8
FA who used ecstasy	3.3	0.8	2.5
Total	15.4	8.9	10.3
Those who never taken steroids w/o MD's prescription	12.7	8.5	8.4
FA who taken steroids w/o MD's prescription	3.2	0.6	1.9
Total	15.9	9.1	10.3
Those who never used a needle to inject any illegal drug	14.0	8.4	9.2
FA who used a needle to inject any illegal drug	1.8	0.8	1.1
Total	15.8	9.2	10.3

Table 31. Female adolescents who attempting suicide (FAAS) during the past 12 months and answered yes to drug use (Ecstasy, Steroids and Injection of drug)

Weighted percentage	Hispanic/Latina %	black, non-Hispanic %	white, non-Hispanic %	Total %
FAAS who used Ecstasy				
Yes	21.4%	9.0%	24.3%	19.1%
No	78.6%	91.0%	75.7%	80.9 %
FAAS who used Steroids				
Yes	20.1%	6.6%	18.4%	16.1%
No	79.9%	93.4%	81.6%	83.9%
FAAS who used a needle to inject any illegal drug				
Yes	11.4%	8.7%	10.7%	10.5%
No	88.6%	91.3%	89.3%	89.5%

Binary Logistic Regression

Analyses of the association between at risk for suicide and drug use was adjusted by grade, race, geographic, metropolitan status, drug type and usage are shown in Tables 32-34. For model 1 (Table 32), those who seriously consider attempting suicide the following predictors were significant at $p < 0.01$: those who used marijuana and who sniffed or inhaled. While those predictors such as race (black, non-Hispanic,); metropolitan status (suburban); used methamphetamines and took steroids w/o MD's prescription were significant at $p < 0.05$. Latinas were 1/0.68 times more likely to seriously consider attempting suicide than Black, non-Latinas (95% CI, 1/0.53-1/0.87). Suburban youth were 1.28 times more likely to seriously consider attempting suicide than those who lived in urban areas (95% CI, 1.02-1.62). Female adolescents who used marijuana were 1.79 times more likely to seriously consider attempting suicide than those who did not used marijuana (95% CI, 1.49-2.16). Those who sniffed or inhaled any substance to get high were 2.58 times more likely to seriously consider attempting suicide than those who did not sniffed or inhaled any substance to get high (95% CI, 1.91-3.35). Teen girls who used methamphetamines were 2.16 times more likely to seriously consider attempting suicide than those who did not used methamphetamines (95% CI, 1.46-3.28). While those who taken steroids w/o MD's prescription were 1.98 times more likely to seriously consider attempting suicide than those who had not taken steroids w/o MD's prescription (95%CI, 1.32-2.99).

Table 32. Drug use in female adolescents who seriously consider attempting suicide, YRBS 2003

	OR	95% Confidence Limits	
10th GRADE vs. 9TH GRADE	1.221	0.923	1.617
11TH GRADE vs. 9TH GRADE	0.959	0.738	1.246
12TH GRADE vs. 9TH GRADE	0.846	0.626	1.143
AFRICAN AMERICAN vs. HISPANIC	1/0.677	1/0.531	1/0.865 **
WHITE vs. HISPANIC	1/0.876	1/0.687	1/1.116
MIDWEST vs. NORTHEAST	1.001	0.772	1.297
SOUTH vs. NORTHEAST	1.056	0.817	1.366
WEST vs. NORTHEAST	1.009	0.735	1.385
SUBURBAN vs. URBAN	1.282	1.017	1.615 **
RURAL vs. URBAN	1.323	0.977	1.793
THOSE WHO HAD USED MARIJUANA vs. THOSE WHO HAVE NEVER USED MARIJUANA	1.792	1.489	2.156 ***
THOSE WHO HAD USED COCAINE vs. THOSE WHO NEVER USED COCAINE	1.332	0.819	2.168
THOSE WHO SNIFFED OR INHALED vs. THOSE WHO HAD NOT SNIFFED OR INHALED	2.577	1.981	3.352 ***
THOSE WHO HAD EVER USED HEROIN vs. THOSE WHO HAD NOT USED HEROIN	0.876	0.351	2.185
THOSE WHO USED METHAMPHETAMINES vs. THOSE WHO HAD NOT USED METHAMPHETAMINES.	2.155	1.416	3.278 **
THOSE WHO HAD USED ECSTASY vs. THOSE WHO HAD NOT USED ECSTASY	0.907	0.562	1.463
THOSE WHO HAVE TAKEN STEROIDS W/O MD's PRECRIPTION vs. THOSE WHO HAD NOT TAKEN STEROIDS W/O MD's PRECRIPTION	1.984	1.315	2.994 **
THOSE WHO HAD EVER INJECTED vs. THOSE WHO HAD NOT INJECTED	2.792	0.923	8.448

CI, confidence interval; OR, odds ratio.

*** p <.001.

** p <.05.

In model 2 (Table 33), those who made a suicide plan, the following predictor was significant at $p < 0.01$: those who sniffed or inhaled. While those predictors such as race (black, non-Hispanic); those who had used marijuana; used methamphetamines; and used a needle to inject any illegal drug were significant at $p < 0.05$. Latina were 1/0.66 times more likely to had made a suicide plan than their Black, non-Latinas peers (95% CI, 1/0.48-1/0.91). Female adolescents who used marijuana were 1.40 times more likely to have made a suicide plan than those who didn't use marijuana (95% CI, 1.00-1.95). Those who sniffed or inhaled any substance to get high were 3.18 times more likely to have made a suicide plan than those who didn't sniffed or inhaled any substance to get high (95% CI, 2.05-3.79). Teen girls who used methamphetamines were 2.21 times more likely to have made a suicide plan than those who didn't use methamphetamines (95% CI, 1.42 -3.76). While those who used a needle to inject any illegal drug were 4.24 times more likely to have made a suicide plan than those who didn't used a needle to inject any illegal drug (95% CI, 1.29 –12.66).

CI, confidence interval; OR, odds ratio.

*** $p < .001$

** $p < .01$.

Table 33. Drug use in female adolescents who made a suicide plan, YRBS 2003.

	OR	95% Confidence Limits	
10TH GRADE vs. 9TH GRADE	0.997	0.755	1.316
11TH GRADE vs. 9TH GRADE	0.828	0.633	1.084
12 GRADE vs. 9TH GRADE	0.718	0.510	1.010
AFRICAN AMERICAN vs. HISPANIC	1/0.664	1/0.488	1/0.905 **
WHITE vs. HISPANIC	1/0.864	1/0.590	1/1.267
MIDWEST vs. NORTHEAST	0.946	0.674	1.327
SOUTH vs. NORTHEAST	1.210	0.860	1.703
WEST vs. NORTHEAST	1.079	0.649	1.795
SUBURBAN vs. URBAN	0.834	0.507	1.373
RURAL vs. URBAN	0.869	0.559	1.351
THOSE WHO HAD USED MARIJUANA vs. THOSE WHO HAD NEVER USED MARIJUANA	1.400	1.003	1.953 **
THOSE WHO HAD USED COCAINE vs. THOSE WHO NEVER USED COCAINE	1.022	0.594	1.757
THOSE WHO SNIFFED OR INHALED vs. THOSE WHO HAD NOT SNIFFED OR INHALED	3.181	2.047	3.778 ***
THOSE WHO HAD EVER USED HEROIN vs. THOSE WHO HAD NOT USED HEROIN	0.733	0.435	1.945
THOSE WHO USED METHAMPHETAMINES vs. THOSE WHO HAD NOT USED METHAMPHETAMINES	2.211	1.417	3.760 **
THOSE WHO HAD EVER USED ECSTASY vs. THOSE WHO HAD NOT USED ECSTASY	1.404	0.479	1.750
THOSE WHO HAVE TAKEN STEROIDS W/O MD's PRECRIPTION vs. THOSE WHO NEVER TAKEN STEROIDS W/O MD's PRECRIPTION	1.588	0.827	2.749
THOSE WHO HAD EVER INJECTED vs. THOSE WHO HAD NOT INJECTED	4.241	1.289	12.660 **

CI, confidence interval; OR, odds ratio.

*** p <.001.

** p <.05.

In model 3 (Table 34), those who attempted suicide one or more times during the past 12 months the following predictor was significant at $p < 0.01$ students who are grade 12, those who had used marijuana; those who sniffed or inhaled; and used methamphetamines. While those predictors such as race (white, non-Hispanic); students who were in grade 11; who used cocaine; took steroids w/o MD's prescription and used a needle to inject any illegal drug were significant at $p < 0.05$. Latinas were 1/0.67 times more likely to have attempted suicide than their White, non-Latinas peers (95% CI, 1/0.48- 1/0.94). Those in the 11th and 12th grades were 0.66 times (95% CI 0.47-0.93) and 0.40 times (95% CI 0.27-0.60) more likely to have attempted suicide than 9th graders. Female adolescents who used marijuana were 2.50 times more likely to have attempted suicide than those who didn't use marijuana (95% CI, 1.99- 3.16). Those who used cocaine were 1.67 times more likely to have attempted suicide than those who had not use cocaine (95% CI, 1.09- 2.58). Those who sniffed or inhaled any substance to get high were 2.69 times more likely to have attempted suicide than those who didn't sniffed or inhaled any substance to get high (95% CI, 1.89-3.82). Teen girls who used methamphetamines were 2.56 times more likely to have attempted suicide than those who didn't use methamphetamines (95% CI, 1.78 -3.67). While those who taken steroids w/o MD's prescription were 1.95 times more likely to have attempted suicide than those who had not taken steroids w/o MD's prescription (95%CI, 1.12-3.40). Finally those who used a needle to inject any illegal drug were 4.30 times more likely to have attempted suicide than those who didn't used a needle to inject any illegal drug (95% CI, 1.16 –15.87).

Table 34. Drug use in female adolescents who attempted suicide one or more times, YRBS 2003.

	OR	95% Confidence Limits		
10TH GRADE vs. 9TH GRADE	1.010	0.756	1.349	
11TH GRADE vs. 9TH GRADE	0.659	0.466	0.932	**
12 GRADE vs. 9TH GRADE	0.404	0.272	0.601	***
AFRICAN AMERICAN vs. HISPANIC	1/0.756	1/0.526	1/1.087	
WHITE vs. HISPANIC	1/0.673	1/0.480	1/0.942	**
MIDWEST vs. NORTHEAST	0.766	0.456	1.286	
SOUTH vs. NORTHEAST	0.950	0.612	1.476	
WEST vs. NORTHEAST	0.840	0.529	1.334	
SUBURBAN vs. URBAN	1.081	0.803	1.457	
RURAL vs. URBAN	0.927	0.624	1.377	
THOSE WHO HAD USED MARIJUANA vs. THOSE WHO HAD NEVER USED MARIJUANA	2.504	1.988	3.155	***
THOSE WHO HAD USED COCAINE vs. THOSE WHO NEVER USED COCAINE	1.677	1.092	2.577	**
THOSE WHO SNIFFED OR INHALED vs. THOSE WHO HAD NOT SNIFFED OR INHALED	2.685	1.886	3.823	***
THOSE WHO HAD EVER USED HEROIN vs. THOSE WHO HAD NOT USED HEROIN	1.869	0.774	4.514	
THOSE WHO USED METHAMPHETAMINES vs. THOSE WHO HAD NOT USED METHAMPHETAMINES	2.558	1.782	3.673	***
THOSE WHO HAD EVER USED ECSTASY vs. THOSE WHO HAD NOT USED ECSTASY	0.683	0.350	1.333	
THOSE WHO HAVE TAKEN STEROIDS W/O MD's PRESCRIPTION vs. THOSE WHO HAD NOT TAKEN STEROIDS W/O MD's PRESCRIPTION	1.953	1.120	3.404	**
THOSE WHO HAD EVER INJECTED vs. THOSE WHO HAD NOT INJECTED	4.296	1.163	15.871	**

CI, confidence interval; OR, odds ratio

*** p < .001.

** p < .05.

Summary

In this chapter, the results for prevalence for the concurrent of suicide risk and drug use were presented. Logistic regressions were used to evaluate the association between each of the independent variables on each suicide risk variable. These results from the analysis allows for the examination of suicide risk and drug use between ethnic groups.

This chapter briefly review the methodology used in this study. It presents an answer to the hypothesis and provides a break down of the results given in the previous chapter. Recommendations on how public health can address the issues found in this study are also expressed.

SUMMARY OF RESEARCH

The purpose of this study was to examine the association between risk for suicide and drug use among female adolescents. Furthermore, racial/ethnic differences were explored. This study used data from the national 2003YRBS, which was administrated to high schools students. One of the intents of the YRBS is to evaluate adolescents for health risk behaviors; the initial sample size included 7,544 females, which was reduced to the final sample size of 6,826. Those who classified themselves black, non-Hispanic; Hispanic/Latina; and white, non-Hispanic for the survey were selected.

The CDC preformed a multi-stage sampling procedure, which provided the schools from where the selected classes were randomly chosen. A multiple-choice questionnaire was given to students in grade 9-12 after appropriate consent was obtained. Data was collected voluntarily and anonymously using computer scantrons to record student responses.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

This chapter briefly review the methodology used in this study. It presents an answer to the hypothesis and provides a break down of the results given in the previous chapter. Recommendations on how public health can address the issues found in this study are also expressed.

SUMMARY OF RESEARCH

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The CDC preformed a multistage sampling procedure, which provided the schools from where the selected classes were randomly chosen. A multiple-choice questionnaire was given to students in grade 9-12 after appropriate consent was obtained. Data was collected voluntarily and anonymously using computer scantrons to record student responses.

Dependent and independent variables were chosen based on the literature review. Those most frequent used drugs described in the studies were selected and analyzed. The study used SAS 9.1.2 to analyzed 2003 data.

CONCLUSION

Based on the results of the analyzes preformed in this study; the following hypothesis: Latina adolescents in high school who are at risk for suicide are more likely to use illicit drugs than non-Latinas in high school who are at risk for suicide is not rejected.

DISCUSSION

The results disclosed similarities and differences between the three-racial/ethnic groups. In high school, the largest percentage of females was ninth grade in each racial group and the percentage decreased proportionately in higher grade. No group was immune from drug use; each race/ethnicity revealed a strong association with marijuana use; this finding was compatible to other studies made (Burge et al.1995; Hallfors et al.2004;). While in the Kelly et al. (2003) found that the onset for attempted suicide occurred before the initiation of marijuana. The highest percentage of marijuana initiation for female adolescents at risk for suicide was found in the 13 or 14 years old age group; similar results were found for female adolescents not at risk for suicide (Grunbaum et al., 2004; Slater, Guthrie, & Boyd, 2001).

Students sampled for the YRBS were distributed differently across the geographic and metropolitan areas; black, non-Hispanics were predominately in urban and suburban areas of the South, white, non-Hispanics were fairly spread out in suburban and rural areas of the Northeast, Midwest, South, and Hispanics/Latinas were concentrated in urban and suburban areas of the South. From the results, the greatest differences were found between black, non-Hispanic vs. white, non-Hispanic and Hispanic/Latina teens. Black, non-Hispanic females had the lowest drug use prevalence among females at risk of suicide. Previous studies have confirmed that black, non-Hispanics female adolescents have lower suicide risk than their white, non-Hispanics and Hispanics peers (Blum et al., 2000; Borowsky, et al., 2001; & Grunbaum et al., 2004). Grunbaum et al. (2004) reported that findings from the 2003 YRBS presented data that black, non-Hispanics who were not at risk for suicide also used less drugs than the other two groups. Results from other studies as well supported this outcome (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2005) while Slater et al. (2001) found this not to be the case.

Seriously Consider Attempting Suicide and Drug Use

Reviewing the first suicide dependent variable, the overall drug of choice for female adolescents was marijuana. Practically half of the three race/ethnic groups who seriously consider attempting suicide reported lifetime use; which began at age fourteen or younger. The second most frequent usage was found in lifetime sniffed or inhaled of a drug, which had been carry out by over one-fourth of the students, followed by cocaine,

methamphetamines, ecstasy, steroids, heroin, and injection of drugs. Among the three race/ethnicities who seriously consider attempting suicide: Hispanic/Latinas had the highest usage for cocaine, sniffed or inhalant, heroin, steroids and injection of drugs. White, non-Hispanic females had the highest marijuana (lifetime and age started), ecstasy and methamptamines percentage. Black, non-Hispanic females had the lowest usage for marijuana and the smallest percentage of users under age 14. They also had the lowest frequencies for inhalants, methamptamines, ecstasy, cocaine, and injection of drugs, steroids and heroin. Findings from the logistic regression model 1, presented strong association between seriously consider attempting suicide and metropolitan status (suburban), race (black, non-Hispanic), marijuana, use of inhalants, methamphetamines, and steroids w/o MD's prescription.

Made a Suicide Plan and Drug Use

Close to one-half of the females who made a suicide plan reported using marijuana in their lifetime and more than one-half used marijuana by age 14. For the other categories of drugs, the next most lifetime drug use among the three-race/ethnic groups was sniffed or inhalant, ecstasy, cocaine, methamptamines, steroids, injection of drugs, and heroin. Among the three race/ethnicities who made a suicide plan: Hispanic/Latinas had the highest usage for the lifetime sniffed or inhalants, cocaine, methamptamines, heroin, and injection of drug while white, non-Hispanic females had the highest reported consumption of marijuana and ecstasy. They also had the largest percentage of users before age 14. Hispanic/Latinas and white, non-Hispanics both had the same reported usage for steroids. Black, non-Hispanic females had the lowest usage

for marijuana and the smallest percentage of users under age 14. They also had the lowest frequencies for inhalants, ecstasy, methamptamines, cocaine, injection of drugs, steroids and heroin. Findings from the logistic regression model 2, showed strong relationship between making a suicide plan and race (black, non-Hispanic), marijuana, use of inhalants, methamphetamines, and used a needle to inject any illegal drug.

Attempted Suicide and Drug Use

Over three-fifths of the females who attempted suicide reported lifetime used of marijuana, and doing so before age 14. Followed by lifetime sniffed or inhalant, cocaine, methamptamines, ecstasy, steroids, injection of drug, and heroin. Among the three race/ethnicities who attempted suicide: Hispanic/Latinas had the highest usage for the lifetime sniffed or inhalants, cocaine, steroids, heroin, and injection of drug. White, non-Hispanic females had the highest reported lifetime consumption of marijuana, ecstasy and methamptamines. White, non-Hispanics also had the largest percentage of users before age 14, while black, non-Hispanic females had the lowest usage for marijuana and the smallest percentage of users under age 14. They also had the lowest frequencies for inhalants, methamptamines, cocaine, ecstasy, injection of drugs, steroids and heroin. Findings from the logistic regression model 3, demonstrate significant association between attempted suicide and grade level (11th and 12th), race (white, non-Hispanic), marijuana, use of inhalants, methamphetamines, cocaine, steroids w/o MD's prescription and used a needle to inject any illegal drug.

Analysis of Results

For this research possible protector found for the suicide risk and illicit drugs using binary logistics were: race (black, non-Hispanic and white, non-Hispanic) and grade (11th and 12th). Which supports the hypothesis for this study. Other factors (variables not include in model but were include in the YRBS survey), such as alcohol, sexual abuse, and or school grades could have affects associations after making adjustment for demographics.

It is difficult to compare results for this study with other research papers because virtually no prior data is available on race/ethnic difference between female adolescents who are at risk for suicide and drug use. There are also few studies that use Hispanics as the reference group in the analysis; this study evaluated how other groups are compared with Latinas in mental health.

IMPLICATIONS

The results show that health disparities among Latinas and non-Latinas adolescent exist. The questions that need to be focused on and have not been discussed by any research presented are: What are the definitive issues causing Latina adolescents to be at risk for suicide and drug use? In what ways are race and ethnicity affecting the notable differences presented? Does acculturation cause more stress on Latinas than non-Latinas? Female adolescents from different race/ethnicities (ex: Asian subgroups) whose family immigrate to the U.S. or are first generation are less likely compare to their Latina peers to be at risk for suicide (Gould et al., 2003; Saluja et al. 2004) or drug use (Kelder et al.,

2001; Mosher, Rotolo, Krupski, & Stark, 2004; Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2006). What are the relationships between Hispanic subgroups among female adolescents? Delva et al. (2005) investigated the relationship of marijuana, cocaine and alcohol use between subgroups (Mexican American, Puerto Ricans, Cuban American and other Latin Americans) that were in the eight grades and found that among such groups, the trends varied in the type of drug used.

There are several suggested explanation for theses findings: the lack of mental health care services available for Latinas, many teens come from families where there is limited or no health insurance (Harris et al., 2006). The inadequate availability of school and community-based prevention programs for teens (Gould et al., 2003; Kataoka et al., 2003); numerous public schools, especially in lower SES areas, which are deficient in counseling services, including personnel. The first contact for many of these adolescents with mental health professionals is in the emergency room after attempting suicide (Doshi et al., 2005; Hacker et al., 2001; Olfson et al., 2005).

It has also been reported that there is a shortage of bilingual and bicultural mental health professionals. Culture is known to shape and influence our thoughts and behaviors (Canino & Roberts, 2001); so if there are insufficient health professionals that lack the empathy or knowledge of the different Latino subgroups, then services offered may have little impact on reducing suicide risk and drug use in that population.

RECOMMENDATIONS

Future studies should look more closely at Latina youths and the direction of adolescent health. Hispanics by large are the fastest growing population and most of this growth is found in the 18 and younger age group (United States Census Bureau, 2003). Many programs such as adolescents and mental health clinics, psychiatric follow up care and community-based interventions are derived from health models created from white or black non-Hispanic behaviors or health habits which is not necessarily those of Hispanic/Latino adolescents. Previous research has documented the severity of suicide risk and to a lesser extent the use of drugs in Hispanic females. However, the significant difference in concurrent comorbidities found between ethnic and racial groups need further investigations. The high percentages of drug use among female adolescents indicate that any health promotion and health education needs to begin before high school. Greater awareness about the physical and mental health status of Hispanic/Latinas is needed by researchers, policy makers and public health officials to ensure that good mental health programs are available for Latina adolescents.

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