

# **Risk and protective factors for adolescent mental health and substance abuse problems**

## **Adolescent suicide in Indiana and the US – Why Hispanic girls are particularly at risk**

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*Adolescence is a challenging time for young people during which they are transitioning from childhood to adulthood and seeking to establish their personal identity, independence and self-management in the context of a developing body and a complex world. Depression (mood disorders) and substance abuse (alone or in combination with mood disorder) place people, including adolescents, at increased risk for suicide. In fact, almost all persons who die by suicide suffer at the time of the event from mental illness, substance abuse, or both (NAMI, 2007). This paper discusses risk and protective factors related to adolescent suicide, looking broadly at the United States, more specifically at Indiana, and then focusing on the case of Hispanic female high school students and reasons why they are at particularly high risk. This paper points out many useful resources and statistics of interest to Substance Abuse Library and Information Specialists (SALIS) members serving related research fields and the public.*

### **Keywords**

Substance abuse, Suicide, Latinos/Latinas, Adolescents, Mental health

### **Risk and protective factors for suicide**

#### ***Risk Factors***

Risk factors are conditions that increase the likelihood of a person becoming involved

in drug use, delinquency, dropping out of school and/or violence – unhealthy behaviors. A risk factor precedes the problem behavior and is associated with a higher likelihood of problem outcomes. According to the Centers for Disease Control and Prevention (CDC), leading risk factors for

suicide include: a family history of suicide and/or child maltreatment; previous suicide attempts; a history of mental disorder, especially of clinical depression; a history of alcohol and other substance abuse; feelings of hopelessness; impulsive or aggressive tendencies; cultural or religious beliefs that suicide is a noble way to resolve a personal dilemma; local epidemics of suicide; isolation or feelings of being cut off from others; obstacles to mental health treatment access; loss related to a relationship, social life, work or finance; physical illness; ready access to firearms or other lethal methods; and a refusal to seek help because of stigma associated with mental health disorders, substance abuse or with having suicidal thoughts (CDC, 2013b).

According to the Suicide Prevention Resource Center (SPRC), risk factors that are particularly significant for Hispanic people as a culture group include: alcohol abuse; the lack of access and use of mental health services, alienation, the stresses of acculturation and family conflict; feelings of hopelessness and a tendency to fatalism; and perceived discrimination (SPRC, 2013b). These affect both adults and adolescents. Later in this session we will examine these and other risk factors affecting adolescents.

### ***Protective factors***

Protective factors are conditions that buffer a person from exposure to risk by either reducing the impact of the risks or changing the way the person responds to risks. These are the characteristics at the individual, family, school, community or cultural level that are associated with lower likelihood of problem outcomes and an increased likelihood of healthy, positive attitudes and behaviors. Protective factors named by the CDC include: receiving effective clinical care for mental, physical or substance abuse disorders; having ready access to several options for clinical intervention, along with a support system for doing so; being connected to family and community; receiving support from established physical

and mental health care givers; being skilled at problem-solving and conflict resolution; being able to use environmental methods of dealing with disputes; and having cultural beliefs that affirm the natural instinct for self-preservation and discourage suicide as an optional strategy (CDC, 2013b). (Image source: dreamstime.com)

Protective factors that are particularly significant for Hispanics as a culture group include strong family ties and support (*familismo*), religiosity, and moral objections to suicide; particularly significant for Latina adolescents are ethnic affiliation and caring from teachers (SPRC, 2013b). An additional protective factor is cultural pride, which enhances a positive self-image and supports resiliency (SAMSHA, 2013a).

### **Shared risk and protective factors for substance abuse and mental health**

Some risk and protective factors are shared for both substance abuse and suicide. Shared risk factors include health challenges, adverse childhood experiences, parental/family problems, exposure to violence, and the experience of prejudice or perceived prejudice. Shared protective factors against both substance abuse and suicide include healthy self-esteem, access to mental health services, parent/family support, social support, and cultural pride (Stout, 2015). Later in this piece we will explore several of these in more detail.

### **Incidence and prevalence**

According to the CDC, 41,149 persons died by suicide in the US in 2013 (CDC, 2013a). In Indiana from 2006 to 2010, 19,719 died from injuries, of which 21% or 4,115 were by suicide (ISDH, 2013).

Suicide as of 2012 is the 10th leading cause of death in the U.S with 12.6 deaths per 100,000 persons (CDC, 2014a); it was the 11th leading cause of death in Indiana with 13.1 deaths per 100,000 (ISDH, 2013). Indiana's suicide rates are higher than those

of both the nation as a whole and the Midwest.

Age	US*	IN**
10-14	3rd	3rd
15-24	2nd	2nd
25-34	2nd	2nd
35-44	4th	4th
45-54	5th	4th
55-65	8th	9th
Total Pop.	10th	11th

Table 1. Suicide among top causes of death in U.S. and IN  
 Source: \*CDC, 10 Leading Causes of Death by Age Group, United States – 2013 (2013), [http://www.cdc.gov/injury/wisqars/pdf/leading\\_causes\\_of\\_death\\_by\\_age\\_group\\_2013-a.pdf](http://www.cdc.gov/injury/wisqars/pdf/leading_causes_of_death_by_age_group_2013-a.pdf); \*\*ISDH, Suicide in Indiana Report 2006-2011 (Sept 2013)

### Suicide Warning Signs

Most people who die by suicide exhibit signs of their intention to self-harm. Suicide warning behaviors include showing signs of depression, anxiety and/or low self-esteem. The person may be feeling that there is no reason to live. S/he may be focusing his/her thoughts on death and suicide directly by talking or writing about these topics or indirectly by talking about going away or by making preparations, such as giving away personal treasures or obtaining a lethal weapon. Changes in behavior may be dramatic, like sharply dropping grades, suddenly taking risks, violent acts, or mood reversals. Use of alcohol, tobacco, or other drugs may increase. A potential or recent severe loss can trigger thoughts of suicide. Unwillingness to accept help from others is also a cause for concern (DoD, 2013).

### Age

Nationally as of 2011, the highest rates (prevalence) of suicide occurred among middle-aged adults ages 45 to 54 (19.8/100,000), followed by the elderly aged

85 and older (16.9/100,000). Children and adolescents are influenced by the behaviors of the adults in their environment. From 2006-2010, the greatest number of suicides (incidence) both nationally and in Indiana occurred among 45-54 year-olds, followed by ages 35-44 (ISDH, 2013).

For adolescents and young adults between 15 and 24, though the rates are lower (9.7 – 11.0/100,000), suicide was nonetheless the second leading cause of death in 2011, outnumbering homicides (AAS, 2014a). For the years 2006-2010, suicide was the third leading cause of death nationally, after homicides, for ages 15-24, while in Indiana suicide was the second leading cause of death for this age group, outnumbering homicides (ISDH, 2013). (Indiana state data was not included in the national CDC 2013 Youth Risk Behavior Survey (YRBS) report due to insufficient participation in the survey by Indiana schools.)

10-14	28
15-19	192
20-24	295
25-34	647
35-44	795
45-54	973
55-64	581
65+	585

Table 2. Suicide by age group, IN, 2006-2010  
 Source: ISDH, Suicide in Indiana Report 2006-2011 (Sept 2013)

Findings from the 2014 Indiana Youth Survey (INYS) conducted by the Indiana Prevention Resource Center (IPRC) of the IU School of Public Health – Bloomington show that, compared to high school students nationally, Indiana students reported lower rates of mental health conditions related to suicide as follows: 9<sup>th</sup>-12<sup>th</sup> graders reported lower rates than the nation for “feeling sad or

hopeless,” as did 11<sup>th</sup>-12<sup>th</sup> graders for “considering attempting suicide,” 10<sup>th</sup>-12<sup>th</sup> graders for “planning to attempt suicide,” and 11<sup>th</sup>-12<sup>th</sup> graders for “attempted suicide” (Gassman, et al, 2014).

College students in Indiana who took the Indiana College Substance Abuse Survey conducted by the IPRC responded to questions related to mental health status and suicide. Asked how many days in the past month they experienced poor mental health in the form of stress, depression or problems with emotions, the response was an average of 5.9 days, with females reporting 6.5 days compared to 4.6 days for males. For those under 21, the average was higher at 6.1. In response to other questions, 14.3%, or one in seven students, had thought during the past two weeks that he/she would be “better off dead” or had thought of “hurting themselves in some way.” More female students (15.2% versus 12.9% of males), and more students of either gender under age 21 (15.9% compared to 12.6% of older students) had thoughts of harming themselves or of suicide (King & Jun, 2013).

**Method**

Methods by which people die from suicide vary by gender, with firearms most common among males and poisoning most common among females. Overall in Indiana from 2006-2010, 53.6% of suicides were by firearms, 18.6% by poisoning, compared to 50.6% and 16.6% respectively for the U.S. (ISDH, 2013). The age-adjusted rate of drug poisoning deaths, which include suicide deaths and multiple other causes, doubled from 1999-2012; those involving opioid analgesics increased more than threefold, and those involving heroin by 35% just from 2011 through 2012 (CDC, 2015d). The same source indicates includes a map from the NVSS, Mortality File, showing that Indiana is among the states with a rate of age-adjusted drug-poisoning deaths in 2012 that was significantly higher than the overall U.S. rate. (CDC, 2015d)

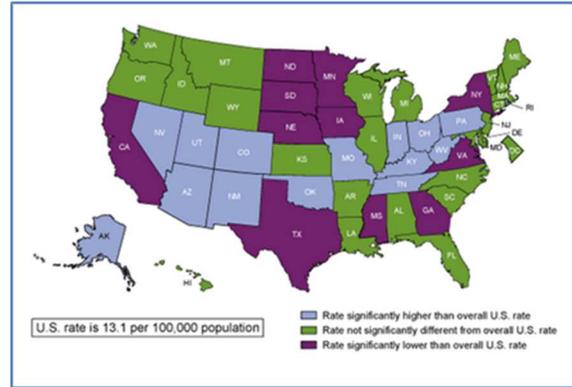


Figure 1

Method	US	IN
Firearms	50.6%	53.6%
Suffocation	25%	23.0%
Poisoning	16.6%	18.4%
Other	7%	14.9%

Table 3. Method used in deaths by suicide  
Source: ISDH, Suicide in Indiana Report 2006-2011 (Sept 2013)

Race	Rate per 100,000
White Non-Hispanic	13
Black Non-Hispanic	5.7

Table 4. Use of firearms, suicide deaths, IN  
Source: ISDH Suicide in Indiana Report 2006-2011 (Sept 2013)

Gender	Rate per 100,000
Male	11.2
Female	1.5

Table 5. Use of firearms, suicide deaths, US  
Source: ISDH, Suicide in Indiana Report 2006-2011 (Sept 2013)

**Race/ethnicity and gender**

Nationally suicide rates among males are at least four times higher than among females. For the U.S. in 2011, males died by suicide at a rate of 20.2 per 100,000

compared to 5.4 for females. Females are three times more likely to attempt suicide than males (AAS, 2014a, 2014b). Indiana's rates mirror the nation's, with males between four and five times more likely to die by suicide (ISDH, 2013). Though behavior patterns can differ by age group and young adults may not behave the same as high school students, it is still of interest to note that based on the National Vital Statistics System (NVSS) from 2009-2013, for Hispanic young adults ages 18-24 death by suffocation was the most common suicide method, with firearms second (CDC, 2015c).

In Indiana in 2010, suicide rates for Whites (14.1/100,000) exceeded the rates for American Indian/Alaska Natives (11.0), Asian/Pacific Islanders (6.2), and Black/African Americans (5.1). Whites accounted for 90.4% of total suicides (ISDH, 2013).

Both nationally and in Indiana, white males have the highest rates of suicide, and Whites account for 90.5% of Indiana's suicide deaths (ISDH, 2013). Among white males in Indiana, rates are highest in the 45-54 age group, followed by seniors 65 and older and then by those ages 35-44 (ISDH, 2013).

Gender/Race	White	Black
Males	22.3	8.8
Females	5.3	1.9

Table 6. Suicide rates by race and sex, IN, 2006-2010  
Source: ISDH, *Suicide in Indiana Report 2006-2011* (Sept 2013)

Race	Rate
White	13.5
Black	5.1
Asian	5.2
American Indian	2.7

Table 7. Suicide Rates by Race, Indiana, 2006-2010  
Source: ISDH, *Suicide in Indiana Report 2006-2011* (Sept 2013)

### Adolescents and young adults

Although American Indian/Alaskan Native, Non-Hispanic Blacks and Hispanics all have lower rates of suicide than Whites as of 2010, this does not hold true for youth. The suicide rate for American Indian/Alaska Native adolescents and young adults ages 15-34, at 31 per 100,000, is 2.5 times higher than the national average for that age group (12.2) (CDC, 2012b). The percentage of Indiana Non-Hispanic Black high school students who reported on the YRBS in 2011 having attempted suicide that resulted in injury, poisoning or overdose needing treatment by a doctor or nurse was nearly two times higher than that of the general high school population (7.6% vs. 3.9%) (CDC, 2015b).

While Non-Hispanic Blacks and Hispanics of any gender have lower rates of suicide than Non-Hispanic Whites, Non-Hispanic Black and Hispanic youth are affected at a disproportionately higher rate than are Non-Hispanic Black and Hispanic adults (SPRC, 2013a, 2013b). Suicide is the 3<sup>rd</sup> leading cause of death for Non-Hispanic Blacks ages 15-24 and for Hispanics ages 15-34, while for Non-Hispanic Blacks the average age of death by suicide (32) is a decade younger than for Non-Hispanic Whites (44) (SPRC, 2013a, 2013b). Suicide is the second leading cause of death for American Indians/Alaska Natives ages 15-34 (CDC, 2012b).

In the 2013 YRBS, comparing US Hispanic high school students of any gender to Black and White Non-Hispanic students, Hispanics as a group were statistically more likely (based on t-test analysis,  $p < 0.05$ ) than either Non-Hispanic Blacks or Non-Hispanic Whites to exhibit four of the five criteria associated with suicide in the YRBS survey: having considered suicide, having made a plan for how to die by suicide, having attempted suicide, and having attempted suicide resulting in an injury that required medical attention (CDC, 2015b). For feeling sad or hopeless during the past two weeks, Hispanics were statistically more likely (based on t-test analysis,  $p < 0.05$ ) than Non-

Hispanic Whites but not more so than Non-Hispanic Blacks.

	Feeling sad or hopeless in last 2 wks.	Considered/thoughts of suicide	Made a plan	Attempted	Attempted with injury resulting in seeking medical attention
U.S.	29.9	17	13.6	10.6	2.7
Hispanics	<b>36.8</b>	<b>18.9</b>	<b>15.7</b>	<b>15.6</b>	<b>4.1</b>
Whites	27.3	16.2	12.8	8.5	2
Blacks	27.5	14.5	10.4	8.8	2.7

Table 8. Percent of high school students reporting suicide-related behaviors, 2013. Source: CDC, 2013 YRBS, 2014

For three of these behaviors reported in the table above, the greater likelihood for Hispanics than Non-Hispanic Whites was statistically significant such that the result has a p-value of 0.00: feelings of sadness or hopelessness, having attempted suicide, and having attempted suicide resulting in an injury that required medical attention (CDC, 2015b).

In the 2013 YRBS Hispanic female high school students were more likely than their Non-Hispanic white female peers and the nation as a whole to report all five behaviors associated with suicide. The difference carried a p-value of 0.00 for feeling sad and hopeless (47.8 vs 35.7) and for having attempted suicide (15.6 vs. 8.5) (CDC, 2015b).

	All	Female	Male
U.S.	8	10.6	5.4
Hispanic	<b>11.3</b>	<b>15.6</b>	<b>6.9</b>
White Non-Hispanic	6.3	8.5	4.2

Table 9. Percent of High School Students reporting having attempted to die by suicide in the past year by race, 2013. Source: CDC, 2013 YRBS, 2015

The difference carried a p-value of 0.01 for having seriously considered suicide (26.0 vs. 21.1) and for reporting having attempted suicide that resulted in injury, poisoning or overdose needing treatment by a doctor or nurse (5.4 vs. 2.8) (CDC, 2015b).

	All	Female	Male
U.S.	29.9	39.1	20.8
Hispanic	<b>36.8</b>	<b>47.8</b>	<b>25.4</b>
White Non-Hispanic	27.3	35.7	19.1

Percent of high school students reporting feeling sad or hopelessness in the past two weeks by race, 2013. Source: CDC, 2013 YRBS, 2015

	All	Female	Male
U.S.	17.0	22.4	11.6
Hispanic	<b>18.9</b>	<b>26</b>	11.5
White Non-Hispanic	16.2	21.1	11.4

Table 10. Percent of high school students reporting seriously considered suicide in the past year by race, 2013. Source: CDC, 2013 YRBS, 2015

	All	Female	Male
U.S.	2.7	3.6	1.8
Hispanic	<b>4.1</b>	<b>5.4</b>	<b>2.8</b>
White Non-Hispanic	2	2.8	1.1

Table 11. Percent of high school students reporting attempted suicide that resulted in an injury, poisoning or overdose that had to be treated by a doctor or nurse in the past year by race, 2013.  
Source: CDC, 2013 YRBS, 2015

Hispanic female high school students were also more likely than their white female peers to have made a plan for dying by suicide (10.1 vs. 15.6), with a p-value of 0.02 (CDC, 2015b).

	All	Female	Male
U.S.	13.6	16.9	10.3
Hispanic	<b>15.7</b>	<b>20.1</b>	<b>11.2</b>
White Non-Hispanic	12.8	15.6	10.1

Table 12. Percent of High School Students reporting having made a plan for dying by suicide in the past year by race, 2013. Source: CDC, 2013 YRBS, 2015

For the most recent year of YRBS data available, 2011, Hispanic females reported higher rates for having seriously considered attempting suicide, making a plan, attempting suicide and for attempts that resulted in injury or harm than any other gender and ethnicity (CDC, 2012). Indiana Non-Hispanic Black females reported the highest rates of having felt sad or hopeless at 43.1%, slightly higher than Hispanics at 36.5% (CDC, 2012). The same data shows that Hispanic females were statistically significantly more likely than White females to have seriously considered suicide (30.2% vs. 19.5%) and to have made a plan (27.2% vs. 12.4%), both carrying a p-value of 0.00.

For having made a suicide attempt (15.6% vs. 9.2%) a p-value was not available, and for having made an attempt with injury resulting in seeking medical attention (5.2% vs. 3.5%), the p-value was 0.34.

	Seriously considered suicide	Made a plan
Hispanics	<b>30.2</b>	<b>27.2</b>
Whites Non-Hispanic	19.5	12.4

Table 13. Percent of Indiana female high school students reporting selected suicide-related behaviors with statistically significantly greater likelihood of Hispanic females compared to White females.  
Source: CDC, 2011 YRBS, 2012

### Populations at high risk

Military personnel and veterans are at high risk. From 2009 to 2012, according to the Department of Veterans Affairs *Suicide Data Report*, approximately 22.2% of deaths by suicide were of military veterans (Kemp and Bossarte, 2012). Deaths by suicide in this population reached an all-time high in 2012 (Burns, 2013). Salient risk factors for military personnel include sexual assault in adulthood (Preidt, 2013) and problems and stresses related to relationships, legal and financial matters (DOD, 2013).

One in 15 high school students nationally has either made a suicide gesture or attempted suicide in the past year (SAMHSA, 2012). For high school students the association between substance abuse and suicide is clear. A study based on data from the CDC Youth Risk Behavior Survey (YRBS) looked at the association between each of ten substances and suicide on different levels (suicidal ideation, plan, attempt and serious attempt). Researchers found the use of any of the ten substances was associated with increased risk of suicide. The strongest association was found for heroin use, followed by steroids and methamphetamine. By contrast, high academic performance is inversely associated with suicide (higher grades – lower risk) (Wong, et al, 2013).

Adolescents who have suffered *adverse childhood experiences* are at higher risk. Research shows that adverse childhood experience is a shared risk factor for substance abuse and mental health disorders

(SAMHSA, n. d.) and that clinical depression and substance abuse are risk factors for suicide (CDC, 2013b; SPRC, 2014b). It is consequently a matter of grave concern that the 2009 YRBS survey found that 17.3% of Indiana's 9<sup>th</sup> to 12<sup>th</sup> grade girls report having suffered forced intercourse, compared to 10.5% nationally in 2010 (CDC, 2010c; Cierniak, et al, 2012). The following year Indiana again ranked second with 14.5% of girls reporting ever having experienced forced intercourse, compared to 11.8% nationally (CDC, 2012c:69). Adding to the seriousness of the situation is the fact that only a fraction of victims report sexual assault to authorities. One report estimates that nationally 60% of rapes are not reported to the police (RAINN, 2009). A survey of Indiana women age 18 and over in Indiana found that only 15% of those suffering sexual assault short of rape and only 12.5% of those suffering rape reported it to the police (Cierniak, et al, 2012).

*LGBTQ youth* are disproportionately victims of bullying, harassment and discrimination and are at especially high risk of suicide (Stout, 2014; CDC, 2014d). Risk of suicidal ideation, attempts and suicide are elevated, with more than twice as many LGBTQ youth attempting suicide as their heterosexual counterparts (CDC, 2014d).

A survey of young gay and bisexual Latino youth found that they report the highest number of rejecting behaviors by parents or caregivers, and they were found to be at higher risk than Latino females or Whites to report having attempted to die by suicide (Haas, 2011). This rejection by parents or caregivers places the youth at a risk of attempting suicide eight times greater than average (Haas, 2011; Ryan, 2009). Ryan, et al, found that Latino men reported "the highest number of negative family reactions to their sexual orientation in adolescence" (Ryan, et al, 2009).

As has been highlighted earlier in this paper, adolescent Hispanic females are at elevated risk for depression and suicide-related behaviors. The reasons for their

elevated risk will be the focus of the rest of this piece.

## **The case of Hispanic girls, nationally and in Indiana**

### ***Brief background on Hispanic culture***

Latinos make up 17.6% of the U.S. population and 6.7% of Indiana's population. Of the about 55.7 million Latinos in the U.S. in 2014, Indiana is home to an estimated 443,500 persons with direct or generational ties to over two dozen nations of Latin America, including Mexico, Cuba, Jamaica, Haiti, and the Dominican Republic. Indiana's Latinos trace their heritage to Latin American countries, each of which has its own history, legends, heroes, dances and culture. Another aspect of the diversity of Latino Americans and Latino Hoosiers is the number of years or generations that they have been in the U.S.

Language is an extremely important element of culture because it is one primary way people make possible the transmission of values and concepts. Spanish is the primary language spoken in Latin America, although others, including many indigenous languages, are also spoken.

A large percentage of Latin Americans are of European and indigenous (*mestizo*), African and indigenous, or African and European ancestry. Mestizos are the majority in over half of the countries of Latin America. Several million Latin Americans are of Asian descent. An estimated 40 million people in Latin America belong to nearly 600 indigenous groups. Cultural identity is made up of many components. For Latinos ethnicity is a much more important characteristic than race; Latinos are proud of their ethnic heritage and want to be recognized, for example, as Mexican American, Cuban American, or Guatemalan American.

Culture is dynamic, shared, ever-changing, and always rooted in the past. At any given moment culture is the sum total of life patterns (linguistic, social, economic, institutional, artistic, culinary, etc.) passed from generation to generation in a given

community. Deep culture includes the thoughts, concepts, and understandings of a group. Deep culture includes concepts about fairness, gender roles, and non-verbal communication. Latinos tend to conceive of the family more broadly, often encompassing several generations. In U.S. culture (individualistic) one's first obligation is to oneself; in Latino culture (collectivistic) it is to the family or society. Latin American society is diversified by, among other things, educational attainment, occupation, socio-economic status, urban and rural lifestyles, and gender roles associated with the many subcultures (Seitz de Martinez, 2014a).

Acculturation refers to "a dynamic and multidimensional process of adaptation that occurs when distinct cultures come into sustained contact" (Organista, et al, 2010). For new immigrants, especially first and second generation immigrants, the experience of acculturation is sufficiently recent to be palpable. Acculturation can affect people's physical and mental health and is associated with risk and protective factors related to substance abuse and other health-related behaviors, including suicide. For the Latino immigrant the process of acculturation begins with the context of exit from the country of origin. Trauma is a risk factor for mental health and substance abuse. Adverse childhood experiences have long-term influences as risk factors for both substance abuse and physical and mental illness throughout the lifespan (Seitz de Martinez, 2014b).

### **Depression**

Research has established that depression and other mood disorders like anxiety are the leading risk factor for suicide, followed by substance abuse (SPRC, 2014; SAMSHA, 2009, 2014; White House, 2013; ONDCP, 2013). The CDC estimates the percentage of the U.S. population with depression in any 2-week period at 8% (CDC, 2015a).

Certain ethnicities report higher depression rates than non-Hispanic Whites. Hispanics, along with Non-Hispanic Blacks

and Non-Hispanic Others, were more likely to report depressive symptoms than non-Hispanic Whites (CDC, 2010a). A national sample of over 16,000 persons ages 18 and over measured depressive symptoms in the past week and found that 27% of Hispanics of either gender met a cut-point indicating they should be referred to a mental health professional for clinical evaluation (Wassertheil, et al, 2014)

According to Faris, women in the US and worldwide are two times more likely than men to suffer depression, and Hispanics are more likely to be depressed than non-Hispanic Whites (Faris, 2012).

Several studies have found Latina women to be at higher risk of depression than other groups, including Latino men, White or African American women. (NAMI, 2009a). Their rate of depression is about twice that of Latinos (Hispanic males) and higher than those of Whites or African American women (NAMI, 2009b).

Latina adolescents have been found to be at especially high risk for depression (Guiao, 2004; Balis and Postoloche, 2008), Cespedes and Huey, 2008). Furthermore, studies have shown that both depression and anxiety are positively correlated with increased rates of suicidal behavior, and adolescents who are depressed are 35-50% more likely to attempt suicide (Dopheid, 2006).

Gender roles, gender discrepancy, *marianismo* and *machismo* are discussed by Cespedes and Huey (2008). Other risk factors associated with depression for Latino adolescents are: the stressors of immigration and acculturation; the adverse experiences of exposure to violence and traumatic events, often associated with migration; and discrimination (Potochnick and Perreira, 2010).

### **Substance abuse**

For the general population of adolescents substance abuse is the second greatest risk factor for suicide after depression and related mood disorders and is often found in combination with mental illness (White

House, SPRC, Harding, Cash, et al, 2009). Substance abuse contributes especially to suicide among older adolescents with co-occurring mental health problems (Cash et al, 2009, Brent, et al, 1999). Youth ages 13 or younger were found to be 2.6 times more likely to report a suicide attempt than their peers who did not report heavy episodic drinking. Youth ages 18 or older were found to be 1.2 times more likely to report a suicide attempt than their peers who did not report heavy episodic drinking (Cash et al, 2009; Aseltine, et al, 2009). The combination of alcohol consumption plus depression in the form of “feeling down” was found to result in a tripling in the risk of reported suicide attempts (Cash, et al, 2009; Shilling, et al, 2009).

Research based on the Indiana Youth Survey has found Hispanic females at greater risk for alcohol use, binge drinking, and other drug abuse problems. The 2013 YRBS found Hispanic high school students were more likely (based on t-test analysis,  $p < 0.05$ ) than Blacks or Whites to have ridden with a driver who had been drinking alcohol (29.1% of Hispanics compared to 21.9% of Blacks and 19.7% of Whites) in the month before the survey (CDC, 2014c). Certain risk factors that affect both sexes appear to affect females more. Suggested reasons for this were increased physical vulnerability of females to the effects of alcohol (by volume consumed), females’ socialization with older male peers who would tend to drink more than the females’ same-age peers, and gender role discrepancy and its associated acculturation dissonance (Vaughan, et al, 2015).

### ***Acculturation stress***

Stresses associated with acculturation place Hispanic immigrants at higher risk of depression and anxiety (Forster, et al, 2013), and consequently risk of suicide (Potochnick and Perreira, 2010). Stressors include having to learn a new language, having to adjust to different social norms and dynamics in the family, and encountering discrimination. Research finds positive association of

acculturation stress with such internalizing behaviors as low self-esteem, depression and increased incidence of suicidal alienation (Potochnick and Perreira, 2010). Protective factors that help buffer Latino youth against these risk factors include family bonding and social support from family, caring teachers, and the broader Hispanic community (Forster, et al, 2013). Also, a longer time in the U.S. tends to reduce stresses associated with immigration and acculturation (Potochnick and Perreira, 2010).

### ***Gender role discrepancy***

In an article titled “Why Do So Many Latina Teens Attempt Suicide,” Zayas et al. propose a model to describe how certain factors are more likely to be close antecedents to a suicide attempt by a Hispanic adolescent female. Zayas et al. offer a model whereby culture and cultural traditions, adolescent development, and family functioning comprise the family sociocultural environment. The character of this environment impacts the emotional vulnerabilities and psychosocial functioning of the adolescent, which in turn affects the adolescent’s subjective experience of a family crisis, and this subjective experience of family crisis affects the adolescent’s likelihood to attempt suicide (Zayas et al., 2005). This model is relevant to the following discussion of gender discrepancy as a risk factor for suicide for Hispanic female adolescents.

Related to cultural traditions and acculturation stress, gender discrepancy can affect multiple generations, though the greatest impact would be expected among new immigrants and first generation children. More than their male peers, Latina adolescents suffer from differences in gender role beliefs and expectations for behaviors. Cultural differences in gender role expectations between traditional culture of origin and U.S. culture tend to be greater for females than males. Differences in beliefs between youth and parents regarding appropriate female gender roles, particularly among recent immigrants between girls and

their mothers, has been found to be a source of stress for Latino adolescents. Gender role discrepancy issues are associated with greater likelihood of depression. This risk was found to be mediated by the degree of family dysfunction. In addition, female, more than male, gender role discrepancy was associated with family dysfunction. For youth of either gender, this research indicates that cultural discrepancy can contribute to youth depression (Céspedes and Huey, 2008; Balis and Postolache, 2008).

There are strong cultural traditions that support different gender roles for Latino boys and girls. Girls were found to perceive significantly more divergence from parents than do boys, and to suffer more family and mental health consequences than boys (Céspedes and Huey, 2008). Girls tend to acculturate to the new culture at a rate much faster than that of their mothers. (Sanchez, 2013)

*Marianismo* is a term used to describe gender ideals for females – rooted in traditional Latino society and Catholicism and associated with the Virgin Mary – that calls upon women to exhibit self-denial and patience, particularly with the males in her life. It suggests women should remain true to tradition, adhere to a higher moral standard, prioritize the needs of others and make sacrifices, be strong, and not ask for help or discuss problems outside the household (Jezzini, et al, 2008; Vasquez and Gil, 2014; Cofresi, 2002).

*Machismo* is a term for male gender ideals that encompasses strength, courage, respect, dignity, honor (especially with regard to the family, e.g. honoring your mother), and the responsibility to provide for and protect the family. The term also has negative connotations associated with dominance and sexuality (Encyclopedia of Immigrant Health, 2012).

### ***Documentation status***

Hispanic adolescents who are undocumented are at increased risk of depression and anxiety compared to their

documented peers. These risks extend to documented family members whose siblings or parents lack documentation, i.e. children in families with mixed status (Potochnick and Perreira, 2010).

### ***Fear***

Fear can stem from many sources, such as fear related to documentation status, fear of police, fear for personal safety or the safety of loved ones, fear of disappointing parents and family, and fear stemming from past experiences of violence and traumatic events. The 2013 YRBS found that Hispanics were statistically more likely than Non-Hispanic Whites (based on t-test analysis,  $p < 0.05$ ) to report not having gone to school because they felt unsafe at school or on their way to or from school (9.8% compared to 7.9% of Non-Hispanic Blacks and 5.6% of Non-Hispanic Whites). Though fewer Hispanics reported having carried a gun (4.6% compared to 5.3% of Blacks and 6.2% of Whites), they were statistically (based on t-test analysis,  $p < 0.05$ ) more likely than Non-Hispanic Whites to have been threatened or injured with a weapon on school property (8.5% compared to 8.4% of Non-Hispanic Blacks and 5.8% of Non-Hispanic Whites). Hispanics were also found to be statistically more likely than White students (based on t-test analysis,  $p < 0.05$ ) to have been injured in a physical fight (4.7% compared to 4.4% of Non-Hispanic Blacks and 2.1% of Non-Hispanic Whites), including physical fights on school property. They were more likely than Non-Hispanic Whites (based on t-test analysis,  $p < 0.05$ ) to ever have been forced to have sexual intercourse (8.7% compared to 8.4% of Non-Hispanic Blacks and 6.1% of Non-Hispanic Whites). Also, more Hispanics reported having experienced physical dating violence (10.4% compared to 10.3% of Non-Hispanic Blacks and 9.7% of Non-Hispanic Whites) and sexual dating violence (11.5% compared to 8.9% of Non-Hispanic Blacks and 9.8% of Non-Hispanic Whites) (CDC, 2014c). Though these dating figures are not statistically significant, the

pattern of having the highest percentage in so many instances is notable.

### ***Exposure to violence and traumatic events***

For first generation Latino youth, aspects of the migration experience can contribute to psychological manifestations of depression, increasing risk of suicide. These youth may experience exposure to violence and trauma prior to migration, in the course of migration, and post-migration. These experiences can also be related to documentation status or discrimination. Other examples of traumatic circumstances include separation from family members and negative impact on social status. The negative impact could be due to events or circumstances that preceded or followed migration (Potochnick and Perreira, 2010).

### ***Shame and stigma***

Shame and stigma associated with mental illness or addiction are related to cultural beliefs. Stigma is culture-bound, reflecting learned behaviors and beliefs informed by our culture and influenced by cultural norms (Abdullah and Brown, 2011). In Hispanic culture mental illness can sometimes be considered a weakness and inadequacy that runs counter to the cultural expectation of resiliency. Mental illness and seeking assistance for it interfere with a person's ability to realize the values associated with *marianismo* (women enduring suffering with dignity) and *machismo* (men being strong, providing for and protecting the family) and *personalismo*. The latter refers to the high value associated with having lasting durable, informal interpersonal relationships, whereas the person suffering from mental illness often has difficulties with interpersonal relationships. For Latinos, both internalized self-stigma and public stigma are concerns (Abdullah and Brown, 2011).

Lower utilization of mental health services among Hispanics may also be attributable to the social consequences of seeking services. Research has suggested that

Hispanics/Latinos are reluctant to seek services because of fear of deportation, distrust of service providers, and fear of law enforcement ([Lewis et al., 2005](#)). Other studies have suggested that individuals fear bringing shame to the family for seeking professional mental health services. Because the family and extended family act as a tight-knit unit, Hispanics view mental health problems as matters that are private and ought not to be shared with others outside the family ([NFL, nd](#)).

### ***Perceived discrimination***

Perceived discrimination is a risk factor for depression and consequently for suicide, and immigrants are at increased risk (Chou, 2012; Tummala-Narra, Pratyusha, and Claudius, 2013; Seaton, et al, 2008). New immigrants experience greater perception of discrimination than more established immigrants, and this risk can be moderated by social support from family and neighborhood (Chou, 2012). Adolescent Hispanics experience discrimination in the school setting, such as bullying, which puts them at increased risk for depressive symptoms (Tummala-Narra and Claudius, 2013). Acculturation stress linked to an increased sense of isolation and anxiety contribute to greater substance use and aggressive behavior, whereas these risks are mediated by family cohesion in the form of strong emotional bonds and support from family members. Bullying mediates the associations between both risk and protective factors, acculturation stress and depression, and between family cohesion (generally protective) and depression (Forster, et al, 2013).

### ***Role reversal***

Role reversal happens when first- or second-generation children take on adult roles, assisting their parents or other family members who are less able to speak English or to navigate the new culture (APA, 2013). Role reversal is a threat to the character of the traditional Latino family, which is a key

protective factor for Hispanics. In the context of acculturation, the child adapts more quickly, learns English more quickly and how to navigate the systems in the new culture. Also called "power inversion," this circumstance often disrupts generational boundaries, confusing family members' roles, and creates stress for the child. In order to address this problem the dominant role of adult family members must be re-established (Garrison, et al, 1999; Frabutt, James M., 2013).

### ***Health disparity in access to mental health services***

Along with African-Americans, Hispanic populations have less access to adequate treatment for depression, such as psychotherapy and anti-depressant medication. Furthermore, care disparities exist between Hispanic and other non-Hispanic youth. Even when "in care," Hispanic youth receive fewer therapeutic services and remain in care for longer periods of time than other non-Hispanic youth groups (Acosta, 2008).

A shortage of bilingual, bicultural mental health professionals and lack of culturally competent services result in poor access for Hispanics to mental health services (Sanchez, 2013; Acosta, 2014). Relative to their percent of the total U.S. population, Hispanics make up a small portion of the healthcare workforce with less than 3% of physicians as of 2009, 1% of clinical psychologists as of 2006, 4.3% of social workers as of 2006 and 1.7% of registered nurses as of 2004 (Acosta, 2015). Acosta lists the following reasons for disparities in access to care for Hispanics: lack of insurance coverage, lack of regular source of care, lack of financial resources, legal barriers, structural barriers, the health care financing system, scarcity of providers, linguistic barriers, health literacy, lack of diversity in the health care workforce, and age. He also names three reasons for disparities in quality of health care: problems with patient-provider communication,

provider discrimination, and lack of preventive care (Acosta, 2015).

Hispanics, compared to non-Hispanic Whites, are less likely to use mental health services and are also less likely to be compliant with recommendations received while under care. They are instead more likely to take guidance from informal sources such as their family members. Of adults who reported thoughts about suicide or attempts, Hispanics were much less likely to have sought or received mental health psychiatric services. They were also less likely to have sought or received such services during the year preceding the thoughts or attempts or to have called a crisis line during a suicidal crisis (SPRC, 2014).

### **Prevention responses**

Many efforts are underway to reduce the risk factors and fortify the protective factors for suicide in order to reduce the number of suicide deaths and attempts. The *2012 National Strategy for Suicide Prevention* (HHS, 2012) established a series of goals and objectives under four general approach categories: healthy and empowered individuals, families and communities; clinical and community prevention services; treatment and support services; and surveillance, research, and evaluation.

Healthy People 2020 has likewise established targeted goals and recommendations, and is promoting school-based, evidence-based and SAMHSA certified suicide prevention programs such as Signs of Suicide (SOS). Goals of SOS include helping teenagers to recognize the association between undiagnosed, untreated mental illness and suicide, and empowering teen peers to take actions to help (Belardo, 2013; Healthy People 2020, *Who's Leading the Leading Health Indicators?* 2013).

The Suicide Prevention Resource Center has developed many resources and is promoting evidence-based prevention programs like the *Kognito At-Risk for High School Educators* program, which was featured in the SPRC presentation at the 2014

National Prevention Network conference. SRSC also promotes its companion programs for At-Risk College Students and *Kognito Family of Heroes* for military personnel recently returned from combat zones (SRSC, 2014a). All three of these prevention programs are included on the SAMHSA NREPP registry of evidence-based programs. Another resource from the Suicide Prevention Resource Center is intended to help schools recover after a suicide, *After a Suicide Toolkit for Schools* (SPRC, 2011).

Research is producing new insights about the links between suicide and trauma, substance abuse, and mental health. The Defense Department's Center for Excellence has taken steps to address stigma and to provide mental health support treatment for stress and depression. SAMHSA has created resources on a variety of related themes and for a variety of audiences. An online print document, *Suicide Prevention Dialogue with Consumers and Survivors: From Pain to Promise*, explores the needs and recommendations of survivors and family members of victims (SAMHSA, 2011). A second online print resource is *Preventing Suicide*, a toolkit for high schools, which provides extensive information and resources to help high schools plan and implement appropriate protocols and programs (SAMHSA, 2012). Another is a Youtube production, "Everyone Plays a Role in Suicide Prevention: Turning Strategy into Action." (SAMHSA, Youtube, 2013).

SAMHSA has targeted suicide prevention in two of its six main initiatives for 2015-2018. Initiative 1 is to prevent substance abuse and mental illness. While promoting wellness by focusing on the links between substance abuse and mental illness, part 1.1 of Goal 1 will promote the protective factors of emotional health and wellness. Part 1.3 of Goal 1 explicitly aims to reduce attempted suicides in high risk groups such as young adults and middle age men. SAMHSA proposes use of integrated approaches, braiding funding from substance abuse and mental health sources; targeting at-risk youth and adults, promoting a zero suicide goal

(recognizing that in follow-ups on suicide attempts a substance is usually found in the person's system); and increasing public awareness and knowledge (Fran Harding, 2014).

## Conclusion

In summary, protective factors that are particularly salient for Hispanic female adolescents include strong family bonds; having a strong, functional, cohesive and supportive family; the collectivistic culture which emphasizes solidarity within the community group; and having a supportive teacher (school environment). Depression and related mood disorders and substance abuse are significant risk factors across all adolescent and adult populations. Risk factors that are particularly salient for Hispanic female adolescents include depression, substance abuse, and gender role discrepancy when associated with family dysfunction. Acculturation-stress-related risk factors include gender discrepancy, documentation status, exposure to violence and traumatic events during or after migration, role reversal, and depression. Risk factors related to Hispanic culture include gender role discrepancy and shame and stigma. Other risk factors associated with living in the U.S. include discrimination and bullying, and health disparities in access to mental health and/or substance abuse services.

Clearly, there is much work to be done to assist adolescents, and particularly Hispanic female girls, to enhance their protective factors and reduce risk factors for suicide. For Hispanics, it may be useful to collect data on the number of years of residence in the U.S., language spoken at home, country of origin, documentation status, and circumstances of migration. These data would be extremely helpful to prevention and treatment professionals for assessment and identification of appropriate strategies for addressing and ameliorating risk factors association with suicide, as well as enhancing protective factors.

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