Risk and protective factors for suicidal behaviors in Mexican youth: evidence for the interpersonal theory of suicide

Maria Gabriela Alvarado

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A Thesis
titled
Risk and Protective Factors for Suicidal Behaviors in Mexican Youth: Evidence for the
Interpersonal Theory of Suicide
by
Maria Gabriela Hurtado Alvarado
Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Master of Arts Degree in Psychology

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The University of Toledo
May, 2013
An Abstract of
Risk and Protective Factors for Suicidal Behaviors in Mexican Youth: Evidence for the Interpersonal Theory of Suicide

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Maria Gabriela Hurtado Alvarado

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According to the 2009 Youth Risk Behavior Survey, Latino youth reported engaging in suicidal ideation and attempts more frequently when compared to African American and Caucasian youth. These findings have remained a consistent trend in epidemiological studies for the past 15 years (Duarte-Velez & Bernal, 2007). Building on this knowledge base, it is important to examine specific factors related to suicidal behaviors in Latino youth. The main focus of this study was twofold. First, we aimed to examine suicidal behavior among Mexican youth in the context of well-established predictors of suicide, as well as cultural risk and protective factors that are relevant to their experience. Second, we aimed to examine suicidal behavior among Mexican youth within the framework of the interpersonal theory of suicide (Joiner, 2005). This theory is particularly relevant to Mexican youth. For example, in the presence of the high levels of family conflict Mexican youth may experience a lack of belongingness and an increased sense of perceived burdensomeness. Family cohesion is a core-value of the Latino culture, and thus, family conflict can lead to the loss of important social support systems for Mexican youth.
A total of 152 Mexican adolescents participated in the study. The participants completed a questionnaire packet containing a demographic questionnaire; the Family Environment Scale (Moos & Moos, 1993), the Personal Resources Questionnaire (Weinert, 1987), the Coping Competence Questionnaire (Schroder, 2004), the Interpersonal Needs Questionnaire (Van Orden, Witte, Gordon, Bender, & Joiner, 2008), the Beck Hopelessness Scale (Beck, Weissman, Lester & Trexler, 1974), the Reynolds Adolescent Depression Scale-2 (Reynolds, 1987), and the Suicidal Behaviors Questionnaire-Revised (Osman, Bagge, Gutierrez, Konick, Kopper, & Barrios, 2001). Family conflict, perceived burdensomeness, thwarted belongingness, hopelessness and depression had a positive association with suicidal behaviors. On the other hand, coping competence and social support were negatively associated with suicidal behaviors. Furthermore, those individuals that reported at least one previous suicide attempt reported greater levels of depressive symptomatology, hopelessness, and perceived burdensomeness. Hierarchical regression analyses revealed that family conflict and depression were significant predictors of suicidal behaviors. In addition, perceived burdensomeness and thwarted belongingness were significant moderators in the relationship between depression and suicidal behaviors. The findings of this study can aid in the understanding of factors that are relevant to the experience of Latino youth, and may contribute to suicidal behaviors in this group. The primary implication of these findings is to inform the development of appropriate suicide prevention efforts.
Table of Contents

Abstract iii
Table of Contents v
List of Tables vii
List of Figures viii

I. Introduction 1
   A. Interpersonal Theory of Suicide 3
   B. Risk and Protective Factors in Mexican Youth 5
      a. Family and Social Support 5
      b. Coping Mechanisms 7
         a. Coping Competence 7
      c. Depression in Mexican Youth 8
      d. Hopelessness in Mexican Youth 10
   C. Mexican Adolescent Suicide Studies 11
      a. Limitations of Previous Studies 12
   D. The Present Thesis Study 12
      a. Hypotheses 12

II. Method 15
   A. Participants 15
   B. Measures 16
   C. Procedures 19
   D. Exploratory Data Analysis 21

III. Results 22
a. Descriptive Statistics 22
b. Multiple Regression Analysis of Suicidal Behaviors 23
c. Moderation Analyses of Interpersonal Needs 23
d. Logistic Regression Analyses of Suicidal Behaviors 24

IV. Discussion 25

a. Interpersonal Theory of Suicide 27
b. Limitations 28
c. Clinical Implications 29
d. Future Directions 29

References 31

Appendices

A. Demographic Form 55
B. SAFE 57
C. SBQ-R 59
D. Handout: Suicide and Depression in Latino Adolescents 61
List of Tables

Table 1  Means, Standard Deviations, and Correlations. ........................................49
Table 2  Means and standard deviations of mental health measures in attempters
compared to non-attempters.................................................................50
Table 3  Means and standard deviations of low level intent compared to moderate
          to high level of intent among attempters. ....................................51
Table 4  Multiple Regression Analysis Predicting Suicidal Behaviors. ...........52
Table 5  Logistic Regression Analyses Predicting Suicide Attempts. ..............53
Table 6  Logistic Regression Analyses Predicting Level of Intent Among
          Attempters. ..................................................................................54
List of Figures

Figure 1 Interaction between Perceived Burdensomeness and Depression in Suicidal Behaviors. ..........................................................55

Figure 2 Interaction between Thwarted Belongingness and Depression in Suicidal Behaviors. ..........................................................56
Chapter One

Introduction

According to the 2010 Fatal Injury Reports and Violent Death (NVDRS) from the Center for Disease Control and Prevention (CDC) (Fatal Injury Reports and Violent Death [NVDRS], 2010), suicide is the second leading cause of death in individuals between the ages of 15 to 24 in the United States. The Youth Risk Behavior Survey (YRBS), a national survey of high school students, provides detailed information of suicidal behaviors among adolescents. The results of the survey show that 6.3% of adolescents reported having attempted suicide one or more times within the last 12 months; 1.9% of the participants reported having a suicide attempt that required serious medical attention; and 10.9% reported having made a specific suicide plan (Youth Risk Behavior Survey [YRBS], 2009). These data suggest that adolescents appear to be at an increased risk for suicide.

There are important differences in suicidal behaviors among ethnic groups. In 2009, 8% of Latino youth engaged in suicidal ideation compared to 7% of African American and 5% of Caucasian youth. In particular, Latina adolescents reported the highest rates of suicide attempts (11.1%) (Youth Risk Behavior Survey [YRBS], 2009). To further highlight the high prevalence of suicidal ideation and attempts among Latino adolescents, Garcia and colleagues (2008) conducted a study with Puerto Rican and Mexican high school students (N = 3178) derived from the Minnesota Student Survey (MSS). The MSS is a population-based study that includes almost all 6th, 9th, and 12th graders in the school districts of Minnesota. In this study, one in five Latino adolescents reported having experienced suicidal ideation within the past year. Moreover, 6% to
18.5% of Latino adolescents reported suicidal attempts within the past year. The prevalence of suicidal behaviors was higher among females such that 30% to 40% reported experiencing suicidal ideation; and 14% to 19% reported a suicide attempt within the past year.

The high rates of suicidal behaviors among Latino youth in the U.S. are consistent with suicidal behaviors among adolescents in Mexico (Instituto Nacional de Estadística y Geografía [INEGI], 2010). A few epidemiological studies have revealed that suicide rates have consistently increased among adolescents in Mexico (Borges, Benjet, Medina-Mora, Orozco, Familiar, Nock, & Wang, 2010). For example, suicidal behaviors increased from 3.7 in 2006 to 6.03 in 2007. Unfortunately, there are only a few available studies that have examined suicidal behavior among Mexican youth (e.g., Guiao & Esparza, 1995; Hovey & King, 1996, 1997; Hovey, 1998, 1999a, 1999b; Locke & Newcomb, 2005; Queralt, 1993).

The available research has identified some potential risk and protective factors associated with suicidal behaviors among Mexican adolescents in the U.S. (e.g., social support, family conflict, depression, hopelessness). A few of these studies have been replicated with adolescents in Mexico and obtained similar findings (e.g., Borges et al., 2008; Gonzales-Forteza, Ramos-Lira, Caballero-Gutierrez, Wagner-Echeagarray, 2003). However, it is essential to bridge culturally-centered research and suicide research, as well as available theoretical frameworks in order to comprehensively examine the complexity of suicidal behaviors in Mexican youth. Thus, the main purpose of this study is to examine cultural and psychological risk, as well as protective factors that are
relevant to the experience of Mexican youth within the framework of the interpersonal theory of suicide.

The introduction to this thesis project includes a description of methodological issues associated with the available research focused on Mexican youth, followed by a description of the risk and protective factors, hopelessness, depression, and suicidal behaviors. Additionally, this thesis project evaluates the available research on suicidal behavior among Mexican adolescents. Lastly, the hypotheses that guided the present study are discussed.

**Interpersonal Theory of Suicide**

Suicide is a complex phenomenon influenced by multiple interactions between social and cognitive factors. Researchers have attempted to explain the mechanisms underlying suicide through several different theories. For the purpose of this study, we will use the interpersonal-theory of suicide as a theoretical framework to examine the factors that contribute to suicidal behaviors in Latino youth.

The interpersonal-psychological theory of suicide states that an individual is at an increased risk for suicide when (1) perceived burdensomeness (2) thwarted belongingness are experienced concurrently. Perceived burdensomeness refers to the perception of oneself as a strain for family and friends. Furthermore, thwarted belongingness refers to feelings of alienation from a desired social group. However, in order for suicide to occur, an individual must overcome the need to self-preserve. In this theory, the author refers to this notion as an acquired capacity to die. An individual acquires a capacity to die through repeated exposure and habituation to painful experiences. This subsequently increases tolerance to pain and decreases one’s fear of death. This is a solid theory as it
considers those predictors of suicidal behaviors that have been well-established through previous research (i.e., impulsivity, prevalence of suicidal attempts and behaviors) with the assumption that similar mechanisms underlie all suicidal behaviors (Van Orden, Witte, Cukrowicz, Braithwaite, Selby, & Joiner, 2010).

A handful of studies have examined the different components of the interpersonal theory of suicide. In sum, the findings of these studies suggested that perceived burdensomeness and thwarted belongingness are critical predictors of suicide attempts and suicidal ideation (Conner, Britton, Sworts, & Joiner, 2007; Joiner et al., 2002; Van Orden, Lynam, Hollar & Joiner, 2002). Additionally, one study has shown that acquired capability has a strong relationship with previous suicide attempts (Van Orden, Witte, Gordon, Bender, & Joiner, 2008).

To our knowledge, there has only been one previous study that has examined the interpersonal theory of suicide among Latinos (i.e., Garza and Pettit, 2010). The main focus of this study was to investigate the role of *familismo* and perceived burdensomeness on suicidal ideation in a sample of Mexican women (*n* = 61) at a community health center in the Southwest area of the U.S. The participants completed measures of *familismo*, depression, suicidal ideation, and perceived burdensomeness. The findings revealed that perceived burdensomeness was the only significant predictor of suicidal ideation. Specifically, women with high levels of perceived burdensomeness were 96% more likely to engage in suicidal ideation than those with low levels of perceived burdensomeness. It is important to note that this study was conducted with adult women. The experience of these women may be qualitatively different from that of adolescents. For example, Latina women experience unique stressors due to traditional
gender and family roles. In fact, previous research suggests that women rank their family role as a main stressor in their daily life (Hovey and Seligman, 2006). Thus, as noted by the authors, these findings might reflect the notion that family conflict and reduced cohesion create a higher sense of perceived burdensomeness among adult women due to the saliency of these traditional roles.

**Risk and Protective Factors in Mexican Youth**

**Family and social support.** Several studies have documented the relationship between emotional support, better adjustment and positive mental health outcomes in Mexican adolescents (Barrera, Prelow, Dumka, Gonzales, Knight, Michaels et al., 2002; Bird, Canino, Davies, Zhang, Ramirez, & Lahey, 2001; DuBois, Burk-Braxton, Swenson, Tevendale, Lockers & Moran, 2002; Hovey, 2000). For example, *familismo* is a core value of the Latin culture, which refers to the importance of family (Duarte-Velez & Bernal, 2007; Steidel & Contreras, 2003). This cultural value emphasizes family cohesion, obligation, attachment and interdependence (Zayas, Lester, Cabassa, & Fortuna, 2005). *Familismo* has been identified as protective factor against external stressors and internalizing symptoms (Locke & Newcomb, 2005; Vega, Kolody, Valler & Weir, 1991); and better adjustment (Schneider & Ward, 2003). As an example, Baumann, Kuhlberg, and Zayas (2010) explored the relationship between *familismo* and adolescent suicide, as well as its impact in mother-daughter relationships. In this study, the total participants were 169 Latina mother-daughter dyads. Twelve percent of the sample was Mexican in this study. The results showed that *familismo* was associated with less externalizing behaviors and suicide attempts. *Familismo* was also associated with higher levels of mother-daughter mutuality. According to the authors, these findings highlight
the fact that family interactions are important in considering suicidal behavior in Latina adolescents. In a similar study, Kuhlberg, Pena and Zayas (2010) further examined the pathways by which *familismo* influences suicidal behaviors in Latina adolescents. Twenty-two percent of the sample was of Mexican origin. Specifically, the authors examined the role of *familismo* on parent-adolescent conflict, self-esteem, internalizing behaviors, and suicide attempts. The researchers conducted interviews with 226 Latina adolescents between the ages of 11 and 19. Moreover, the researchers compared Latina adolescents who had recently attempted suicide to non-suicidal Latina adolescents. Path analyses revealed that *familismo* was significantly associated with lower levels of parent-child conflict and lower levels of internalizing symptomatology. Moreover, self-esteem and internalizing symptomatology were identified as mediators between parent-child conflict and suicide attempts.

For Mexican adolescents and families, unfortunately, there are times when family conflict is present (e.g., economic, communication, authority), and thus, individuals lose important personal resources and social networks (Vega, 1995). For Mexican individuals, the loss of family support may be particularly difficult because of the great emphasis given to family and family values in the Latin culture. Disruption of family support networks and increased family conflict has been associated with an increased risk for the development of internalizing disorders (Rogler, Cortes, & Malgady, 1991) and suicidal ideation (Hovey & King, 1996) in Latino adolescents.

Adolescents also receive emotional support through friendships and social relationships. During adolescence, the degree to which individuals rely on friends for support increases dramatically (Siegler, Deloache & Einsenberg, 2006). Peer support has
been shown to have a positive impact on mental and physical health (Kawachi & Berkman, 2000). For example, according to Rodriguez and colleagues (2003), peers’ support is related to better social adjustment and lower levels of stress among Latino adolescents. In sum, these findings suggest that emotional support has significant positive effects on the mental health of Mexican adolescents (Crockett, 2007; Hovey & King, 1996).

**Coping mechanisms.** Previous research findings indicate that coping is crucial in the psychological adjustment in the presence of stressful environments (Lazarus & Folkman, 1984). Coping is defined as the conscious effort to regulate emotion, cognition, behavior, physiology, and the environment as a response to stressful events (Compas, 2001). For example, Guiao and Esparza (1995) evaluated suicidality among Mexican American adolescents ($N = 50$) of 13 to 19 years of age. The results revealed a significant negative relationship was found between effective coping and suicidal behaviors.

**Coping competence.** Coping competence refers to the disposition to cope effectively regardless of the method or style used to adapt to environmental stressors (Schroder, 2004). The concept of coping competence is especially relevant to those populations that experience severe and uncontrollable stressors. Specifically, previous studies suggest that Latinos report high levels of learned helplessness in the presence of high levels of stress (Hovey & Magaña, 2000; Magaña & Hovey, 2003).

The concept of coping competence emphasizes an overall resistance against learned helplessness and hopelessness. The most salient feature of coping competence has been its potential to act as a buffer towards the depressive symptomatology.
(Schroder, 2004). Unfortunately, the research examining the construct of coping competence continues to be scant (Ollis & Schroder, 2008).

**Depression in Mexican youth.** Cognitive theories of depression state that the relationship between mental processes (e.g., perceiving, recognizing, and reasoning) have important implications for the origin and maintenance of depression. Cognitive models of depression suggest that an individual’s cognitive vulnerability predisposes an individual for developing depression when negative life events occur (Abela & Hankin, 2008; Ingram et al, 1998). For example, Beck (1967) proposed a diathesis-stress model of depression. The activation of schemas determines how an individual encodes the information from a specific situation. According to Beck’s cognitive theory, in some individuals the presence of negative life events will trigger dysfunctional attitudes and negative schemas (e.g., loss or failure). The constant activation of an individual’s negative schemas results in a pessimistic view of self and the future; and depressive symptomatology (Beck, 1967). As an example, Hovey and colleagues (Hovey, 2000; Hovey, 1998; Hovey & King, 1996; Hovey & Magaña, 2002) suggest that those individuals that appraise changes that arise from acculturation as stressful are more prone to develop depressive symptomatology and suicidal ideation. Swason and colleagues (1992) also explored the differences in the prevalence and demographic differences on the levels of depressive symptomatology and suicidal ideation among Mexican adolescents ($N = 2,382$) living in their country of origin and Mexican American adolescents ($N = 1,175$) living in the U.S. According to the findings of this study, depression significantly increased the risk for suicidal ideation among both adolescent groups. However, Mexican American adolescents were more likely to report higher
levels of depressive symptomatology and suicidal ideation than those adolescents living in Mexico. The authors concluded that according to their findings, immigration to the U.S. might be a risk factor for the mental health of Mexican adolescents.

Depression is one of the most prevalent and significant mental health problems experienced by adolescents. The findings reported by Shaffer and colleagues suggest that 1 in 4 adolescents in non-clinical samples experience depressive symptomatology. Additionally, 28% of adolescents report having experienced at least one depressive episode by age 19 (Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993). The lifetime prevalence for dysthymic disorders has been reported to fall between 2% and 8% in adolescents (Birmaher, Ryan, Williamson, Bren, Kaufman, Dahl et al., 1996).

Research findings suggest that Mexican adolescents are at a high risk for developing depressive symptoms (Cespedes & Huey, 2008; Hovey & King, 1996; Torres, 2009). For example, Roberts, Roberts and Chen (1997) studied 5,423 students of 10 to 17 years of age. Major Depression and level of impairment were assessed using the Diagnostic Interview Schedule for Children (NIMH-DISC-IV; Shaffer, 2000). The results of this study revealed that Mexican American youth reported higher levels of depression than Caucasian youth. In another study, Siegel and colleagues (1998) conducted structured interviews with 877 adolescents in the community. The interviews assessed emotional distress, behavioral problems, social stressors, coping and demographic characteristics (e.g., SES, gender, race, family size and structure, income, parental level of education). Depressive symptomatology was assessed using the Children Depression Inventory (CDI; Kovacs, 1992). The results of this study revealed that Mexican
adolescents reported higher depressive symptomatology as compared to Caucasian, African American and Asian American adolescents.

Depression appears to be a critical contributor to suicidal behaviors. However, although several studies have found depression to be associated with suicidal thoughts and attempts (e.g., Sourander, Helstela, Haavisto, Bergroth, 2001; Wild, Flisher, & Lombard, 2004), only a few studies have examined depression and completed suicide (Shaffer, 1996). In Shaffer (1996), the authors conducted a psychological autopsy of 120 subjects, and 147 community individuals that served as a control. The control subjects were matched by age, sex and ethnicity to the subjects. The findings revealed that 91% of the subjects met criteria for major depressive disorder compared to 23% of the control subjects. In addition, 52% of subjects had experienced depressive symptoms for more than 3 years compared to 26% of control subjects.

**Hopelessness in Mexican youth.** Hopelessness has been defined as a system conformed of negative expectations regarding oneself and the future (Beck & Weissman, 1974). Previous research has identified hopelessness as a crucial predictor for depression, suicidal ideation and completed suicide (Beck, Brown et al., 1990; Beck, Kovacs & Weissman, 1975; Dyer & Kreitman, 1984). For example, Beck and colleagues (1985) found that hopelessness was a critical predictor of the eventual suicide of those individuals that were hospitalized due to suicidal ideation. Research suggests that hopelessness mediates the relationship between mental health and suicidal ideation and attempts (Goldston et al., 2001; Rudd, Joiner & Rajab, 1996; Spirito, Overholser, & Hart, 1990). For example, Morano, Cisler and Lemerond (1993) found that suicide attempters reported higher levels of hopelessness than non-attempters with similar levels of
depressive symptomatology. Other findings also suggest that the levels of hopelessness increase as suicidal ideation increases (Asarnow & Guthrie, 1989; Rich, Kirkpatrick-Smith, Bonner & Jans, 1992; Spirito, Williams, Stark & Hart, 1988).

Research on hopelessness among Mexican youth is scarce. A few studies have found that Latinos report the highest levels of hopelessness when compared to other ethnic groups (Alegría, Shrout, Woo, Guarnaccia, Sribney, Vila et al., 2007; Phinney & Ong, 2007). In addition, the limited literature available suggests that hopelessness is a critical predictor for depression and suicidal ideation among Latinos (Chang, Sanna, Hirsch, & Jeglic, 2010; Hovey & King, 1996; Karel & Moye, 2002; Myers et al., 2002). For example, Hovey and King (1997) studied 70 students from 14 to 20 years of age. Eighty seven percent of the participants were Mexican American. In this study, hopelessness was found to be a strong predictor of negative mental health outcomes (e.g., depression).

**Mexican Adolescent Suicide Studies**

In the last 20 years, there have been only been a few studies that explored the relationship among cultural, cognitive factors, and suicidal behavior among Latino adolescents (e.g., Baumann, Kuhlberg, & Zayas, 2010; Garcia, Skay, Sieving, Naughton, & Bearinger, 2008; Guiao & Esparza, 1995; Hovey, 1998; Hovey & King, 1996; Kuhlberg, Pena, & Zayas, 2010; Locke & Newcomb, 2005; Pena et. al., 2008; Queralt, 1993; Pumariega, & Holzer, 1992; Razin et. al., 1991; Smokowski, Bacallao, & Buchanan, 2009; Swanson, Linskey, Quintero-Salinas, Zayas, Bright, Alvarez-Sanchez, & Cabassa, 2009). Fewer studies have focused on Mexican adolescents. The introduction presented above contains a brief summary of the published research studies that have
explored suicidal behavior solely among Mexican adolescents. Based on this brief set of literature, we can conclude that cultural values may buffer the risk for suicidal behaviors among Mexican youth (e.g., Guiao & Esparza, 1995). In the other hand, strains related to cultural experiences may increase the risk for internalizing disorders and suicidal behaviors among Mexican youth (e.g. Garcia et. al., 2008).

**Limitations of Previous Studies**

Research that examines suicidal behaviors among Latino youth continues to be scant. Most of the studies that were examined above suggest that Mexican adolescents are at high risk for suicidal behaviors (e.g., Hovey & King, 1996). However, these studies have important limitations that need to be addressed by future research. For example, most of the research studies that were presented were not guided or informed by a specific theoretical framework. A comprehensive theoretical framework that considers complex cultural processes, social, cognitive and contextual factors is needed in order to evaluate the etiology of suicidal behavior among Mexican adolescents.

As stated above, the interpersonal theory of suicide will guide the present study. The interpersonal theory of suicide is promising as it proposes elements that are congruent with the Latin culture. For example, *familismo* is a core-value that emphasizes family cohesion, strong attachment to family, and saliency of family in an individual’s identity (Zayas Lester, Cabassa, & Fortuna, 2005). In the presence of conflict, the support available to Latino adolescents becomes limited and the strong relationships become ruptured. This contributes to an increased level of thwarted belongingness. Family conflict can also contribute to a sense of perceived burdensomeness as individuals may attribute the conflict to themselves or as a strain on family dynamics.
It is important to note that the available research that has examined suicidal behaviors among Latino youth has rarely distinguished within group differences. Specifically, the studies have grouped all Latino subgroups. The lack of distinction among subgroups disregards important characteristics of each subgroup (e.g., acculturation processes, demographic characteristics), and thus, leads to the generalization of these studies to be constrained (Duarte-Velez & Bernal, 2007). The present study will solely focus on Mexican adolescents; therefore, no comparisons between groups will be made.

The Present Thesis Study

Hypotheses

**Hypothesis 1.** It is hypothesized that social support and coping competence will negatively predict suicidal behaviors.

**Hypothesis 2.** Family conflict, thwarted belongingness, perceived burdensomeness, depressive symptomatology, and hopelessness are hypothesized to positively predict suicidal behaviors.

**Hypothesis 3.** Depressive symptomatology, hopelessness, perceived burdensomeness, and thwarted belongingness would significantly predict previous suicide attempts. Specifically, attempters would have significant higher levels of symptomatology than non-attempters.

**Hypothesis 4.** Depressive symptomatology, hopelessness, perceived burdensomeness, and thwarted belongingness would significantly predict level of intent among those individuals that previously attempted suicide. Specifically, higher levels of symptomatology would be associated with moderate to high levels of intent.
Hypothesis 5. Thwarted belongingness and perceived burdensomeness are hypothesized to moderate the relationship between risk and protective factors and suicidal behaviors.
Chapter Two

Method

Participants

A total of 152 Mexican adolescents participated in this study. Thirteen of the participants were identified as outliers. Specifically, their scores fell outside 3 standard deviations from the mean in the mental health measures. Thus, these participants were excluded from further analyses. The present study consists of a total of 139 participants. In regards to the participant’s characteristics, their ages ranged from 14 to 18 years of age (\(M = 16.20, SD = 1.66\)), and 48% was female. Seventy-eight percent of the participants were born in Mexico (\(n = 114\)), and 16% of the participants were born in the United States (\(n = 38\)). Sixty-eight of the participants reported having 4 to 5 people living at their home, 19.4% reported 2 to 3, 6.9% reported 6 to 7, 3.5% reported 8 to 9, and the rest reported 10 or more individuals living at their home. In regards to religion, 81% of the participants identified as Catholic, 13.2% identified as Christian, and 5.6% identified as having other religious affiliation.

SES was assessed with a set of six questions. These questions were obtained through the Resource Center for Minority Aging Research at the University of California in San Francisco (UCSF). These questions asked participants about their difficulties fulfilling their global needs (e.g., “In the past 12 months, was there ever a time when your family did not have enough money to pay its monthly bills?”), basic needs (e.g., “In the past 12 months, was there ever a time when your family did not have enough money for food?”), and health care needs (e.g., “In the past 12 months, was there ever a time when your family did not have enough money for medical care for you or another family member?”).
A composite was made in order to obtain an approximate measure of SES. The composite variable was then dummy coded in order to reflect three economic levels: low, medium, and high. Higher scores in this variable were associated with a higher socioeconomic status. As a result, 89% of the participants were classified within a low socioeconomic status, and the rest of the participants fell within the medium socioeconomic category.

**Measures**

**Demographic form.** This consists of a set of items asking in regards to the participant’s age, gender, grade, ethnicity, religion, country of birth, parents’ country of birth, family income, living accommodations, and parents’ type of work.

**Family Environment Scale (FES; Moss & Moss, 1974).** The FES is a self-report questionnaire that evaluates the actual, preferred and expected environment in the respondent’s family. This scale consists of 90 items. Respondents use a 5-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). For the purpose of this study, only the conflict subscale was used. The scores of each subscale are used to create an overall score that reflects family environment. The FES has shown an adequate reliability ($\alpha = .78$) across a diverse array of samples (Boyd, Gullone, Needleman, & Burt, 1997). In this study, the reliability for the family conflict subscale was 0.65 for the overall sample, 0.68 in English, and 0.63 in Spanish.

**Personal Resources Questionnaire (PRQ-85; Weinert, 1987).** This is a self-report questionnaire consisting of 25-items that measure the multidimensional characteristics of social support. The first part assesses an individual’s personal resources and satisfaction with these resources. In the second part, the dimensions of social
relationships (i.e., intimacy, social integration, nurturance, worth and assistance) are assessed. The respondents use a 7-point Likert scale ranging from 0 (strongly agree) to 6 (strongly disagree). The highest score of the PRQ-85 can be 150 with higher scores indicating higher levels of social support. The reported reliability of this measure has been 0.90 among minority adolescents (Orshan, 1999). In this study, the reliability for this measure was 0.88 for the overall sample, 0.91 in English, and 0.87 in Spanish.

**Coping Competence Questionnaire (CCQ; Schroder, 2004).** The CCQ is comprised of 12 items that assess an individual’s resilience to learned helplessness. This measure uses a 6-point Likert scale ranging from 1 (very uncharacteristic of me) to 6 (very characteristic of me). Scores can range from 12 to 72 with higher scores reflecting resilience towards learned helplessness. The reported reliability of this measure ranges from 0.92 to 0.93 (Schroder, 2004). Unfortunately, this measure has not been tested with an adolescent sample. The reliability for this measure was 0.92 for the overall sample and 0.94 in English. This measure was translated to Spanish for the purposes of this study. The reliability for the translated measure was 0.92.

**Interpersonal Needs Questionnaire (INQ; Van Orden et al., 2008).** The INQ was developed in order to assess the extent to which an individual feels connected to others and the extent to which they feel like a burden to their family and friends. The INQ consists of a total of 25 items. This measure is comprised of 2 subscales that measure thwarted belongingness and perceived burdensomeness. This scale uses a 7-point Likert scale with higher scores reflecting higher levels of perceived burdensomeness and thwarted belongingness. The reported reliability of this measure among adolescents ranges from 0.85 to 0.95 (Van Orden et al., 2010). The reliability for the perceived
burdensomeness subscale was 0.86 for the overall sample and in English. For the thwarted belongingness subscale the reliability was 0.77 for the overall sample and 0.81 in English. Due to the limited research available with this measure, there was not an available Spanish translation of this measure. The measure was translated by the researcher for the purpose of this study. The reliability for the perceived burdensomeness subscale was 0.82 and 0.76 for the thwarted belongingness subscales in Spanish.

**Beck Hopelessness Scale (BHS; Beck et al., 1974).** The BHS is a widely used self-report measure consisting of 20 true-false items measuring the participant’s negative attitudes toward the future. Total scores can range from 0 to 20 with higher scores indicating more severe levels of hopelessness. The BHS has shown a high association with clinical ratings of hopelessness (Beck et al., 1974) and eventual suicide (Beck, Steer, Kovacs & Garrison, 1985). The BHS has shown an excellent reliability and validity in previous studies examining hopelessness in Latino youth (Smokowski, Buchanan, & Bacallao, 2009). The reliability for this measure was 0.80 for the overall sample, 0.73 in English, and 0.80 in Spanish.

**Reynolds Adolescent Depression Scale-2 (RADS-2; Reynolds, 1987).** The RADS consists of 30 items assessing depressive symptomatology in adolescents. The items in this measure are rated in a 4-point Likert scale, ranging from 1 (*almost never*) to 4 (*most of the time*). Higher scores reflect higher levels of depressive symptomatology. The RADS scores can range from 30 to 120, with a score of 77 suggesting a clinical level of depression (Reynolds, 1987). The RADS has shown adequate reliability across samples, including Latino adolescents (Shaffer, 2004; Hovey & King, 1996). The
reliability for this measure was 0.91 for the overall sample, 0.94 in English, and 0.87 in Spanish.

**Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001).** The SBQ consists of 4 items assessing the history of suicide behaviors, suicidal ideation within the past year, frequency of suicidal ideation, previous suicide attempts, and the likelihood of future attempts. Higher risk of future suicidal behavior is associated with higher scores. A cut-off score of 7 has been shown to distinguish suicidal from non-suicidal individuals (Osman et al., 2001). The reported reliability of this measure is 0.88 for adolescent inpatient samples and 0.87 for high school samples (Osman et al., 2001). In this study, the alpha level was 0.83 for this measure in the overall sample, 0.81 in English, and 0.71 in Spanish. For the purposes of this study, three questions were added from the Beck Scale for Suicidal Ideation (BSS; Beck, 1991) in order to examine the participant’s previous suicide attempts. In addition, two of the questions assess the level of suicidal intent in individuals that have previously attempted suicide. The modified questionnaire can be found in Appendix C.

**Procedures**

The participants were recruited from public high schools in Toledo, OH, and in Ciudad Obregon, Sonora, Mexico. Additionally, participants were recruited from community centers in Detroit, MI. During recruitment in community settings the participants were provided with the following statement included with the parental consent form:

*We want to invite your child to participate in a research project which is being conducted by Dr. Joseph D. Hovey and Gabriela Hurtado from the University of Toledo. The purpose of this study is to explore how adolescents respond to stress and the behaviors that they use in order to cope with stressful*
situations. The participation in this study will consist of answering a set of questionnaires. Overall, their participation will take approximately 45 minutes. All of the participants that complete the questionnaire packet will have the opportunity to enter a drawing of four $25 mall gift cards.

All of the participants completed an informed consent. For those individuals that were minors, a parental consent form was required. Once the consent forms were completed and returned, the participants were provided with a questionnaire packet that included the measures described above. The data was collected in group format. The estimated time for completion of the questionnaire packet was of approximately 30 to 35 minutes.

The questionnaire was available to the participants in Spanish and English. Those measures that were not available in Spanish (i.e., INQ, SBQ-R, and CCQ) were translated using the Brislin (1970) method. Specifically, graduate bilingual students translated and back-translated each measure. The English version of the measure was used to determine the correspondence of the back-translated measure. In the presence of discrepancies, they were discussed among the translators until an equivalent measure was achieved. Those measures that were available in Spanish had been previously translated using a double-translation procedure; and had been found to be reliable and valid as shown above.

After the participants completed the questionnaire packet, each of them was provided with preventive information about depression and suicidal behaviors (i.e., depressive symptoms, websites, and hotlines). The information sheet provided to the participants is included in Appendix D. Each participant was debriefed at the end of each data collection session. Specifically, the participants were informed about the main objectives of the study and their reactions to the study were discussed.
Exploratory Data Analysis

Descriptive statistics for the outcome and independent variables are presented in Table 1. Missingness was examined by creating a dummy variable (0= missing, 1= not missing), which was then correlated to sociodemographic variables, independent, and outcome measures. Missingness was not significantly correlated with any of these measures. Therefore, the data was determined to be missing at random (Allison, 2002; Enders, 2010). Full Information Maximum likelihood estimation (FIML) was used in order to handle missing data as this method has been shown to be robust (Enders, 2001; Graham, Hofer, & MacKinnon, 1996).

Correlations were used in order to assess multicollinearity. Predictors that correlate > 0.9 are a potential source of multicollinearity. As shown in Table 2, none of the predictor variables were correlated higher than 0.63. Multicollinearity was also assessed by examining the Variance Inflation Factor (VIF) of the predictors. A value greater that exceeds the value of 10 is considered a potential cause for concern (Myers, 1990). None of the predictors had a VIF value that exceeded 10. Based on these criteria there were no concerns for multicollinearity.
Chapter Three

Results

Descriptive Statistics

As shown in Table 1, all of the means were within the expected range. Specifically, 26% of the participants reported a moderate to severe level of hopelessness and 10% of participants had a clinical level of depressive symptoms. Similarly, 14% of the participants reported a high level of perceived burdensomeness, and 28% reported high levels of thwarted belongingness. In addition, a total of 12% of participants reported a previous suicide attempt.

Out of those individuals that reported a previous suicide attempt, 50% reported a single suicide attempt and 50% reported two or more previous suicide attempts. In regard to their level of intent in their previous suicide attempt, 75% of the participants reported a low level of intent and 25% reported a moderate to high level of intent. As shown in Table 2, attempters and non-attempters also differed on their reported rates of depression, \( t(131) = 1.43, p = .04 \), thwarted belongingness, \( t(131) = 1.73, p = .04 \), and perceived burdensomeness \( t(131) = 2.09, p = .02 \). Specifically, those individuals that reported a previous suicide attempt also reported higher depressive symptomatology, thwarted belongingness, and perceived burdensomeness when compared to non-attempters. In addition, depressive symptomatology differed between those individuals with low levels of intent and moderate to high levels of intent, \( t(132) = 1.85, p = .04 \). These analyses are shown in Table 3. To note, there were no significant gender differences in any of the variables of interest.
Table 1 shows the intercorrelations among all of the variables. All of the variables were associated in the hypothesized direction. Specifically, all of the variables were moderately to strongly correlated with suicidal behaviors, except for the relationship between family conflict and hopelessness which was not significant. Coping competence, depression, and perceived burdensomeness were most strongly associated with suicidal behaviors.

**Multiple Regression Analyses of Suicidal Behaviors**

Suicidal behaviors were regressed on social support, coping competence, family conflict, perceived burdensomeness, thwarted belongingness, depression, and hopelessness. These analyses revealed that family conflict ($\beta = .21, p = .01$) and depression ($\beta = .32, p < .01$) significantly predicted suicidal behaviors. It is important to note that social support showed a statistical trend towards significance ($\beta = -.14, p = .06$).

These analyses are shown in Table 4.

**Moderation Analyses of Interpersonal Needs**

Hierarchical multiple regression analyses were used to assess the role of perceived burdensomeness and thwarted belongingness as moderators in the relationship between well-established predictors of suicide and suicidal behaviors.

Moderation analyses were based on the guidelines proposed by Baron and Kenny (1986). Analyses were conducted to examine the interactions between perceived burdensomeness and depression; perceived burdensomeness and hopelessness; thwarted belongingness and depression; thwarted belongingness and hopelessness. Centered predictor variables were entered in the first step of the regression and interaction terms were entered in the second step. It must be noted that each relationship was examined
separately. As shown in Figure 1, perceived burdensomeness significantly moderated the relationship between depression and suicidal behaviors ($\beta = .20$, $t(134) = 2.07$, $p = .02$). For example, those who were depressed with high levels of perceived burdensomeness reported more suicidal behaviors than those who were depressed with low levels of perceived burdensomeness. Thwarted belongingness also significantly moderated the relationship between depression and suicidal behaviors ($\beta = .19$, $t(134) = 2.44$, $p = .008$) as shown in Figure 2.

**Logistic Regression Analyses of Suicidal Behaviors**

Table 5 summarizes the logistic regression analysis used to further examine the relationship between depression, hopelessness, perceived burdensomeness, thwarted belongingness, and suicide attempts.

To conduct the logistic regression analyses the predictor variables were dichotomized to compare those participants reporting clinical levels of depression, hopelessness, perceived burdensomeness and thwarted belongingness to those reporting subclinical levels. The clinical thresholds were used in order to determine high levels of depressive symptomatology. Specifically, a clinical level of depression was considered to be a score $\geq 77$ in the RADS-2. Additionally, a score of $\geq 9$ was considered to be a clinical level of hopelessness. As there are no available clinical cut-offs for the INQ, the top quartiles were used to determine high and low levels of perceived burdensomeness and thwarted belongingness. The results showed that those with clinical levels of depression ($OR = 2.23$), high levels of hopelessness ($OR = 1.72$), high levels of perceived burdensomeness ($OR = 1.77$) were more likely to attempt suicide.
Table 6 shows the logistic analysis predicting level of intent among those participants that had previously attempted suicide. This analysis showed that those with clinical levels of depression ($OR = 1.75$), high levels of hopelessness ($OR = 7.07$), high levels of perceived burdensomeness ($OR = 1.99$), and high levels of thwarted belongingness ($OR = 2.31$) were more likely to have a high level of intent.
Chapter Four

Discussion

The present study examined risk and protective factors for suicidal behaviors (i.e., ideation, past attempts) among adolescents of Mexican origin. This is particularly important as research examining suicidal behaviors in Latino youth continues to be scant. Based on previous research, family conflict was examined in this study as a potential risk factor for suicidal behaviors (Brent, 1995; Gonzales-Gallegos, 2005; Heredia & Palos, 2006; Zayas, Lester, Calabassa, & Fortuna, 2005). The findings in this study were consistent with previous research as family conflict was a strong predictor of suicidal behaviors. Specifically, higher levels of family conflict predicted greater suicidal behaviors. These findings highlight the importance of family relationships for this particular group. Family conflict can have a long lasting impact in the mental health of adolescents. In fact, two previous studies suggest that family conflict is the most common cause of suicidal behaviors among Mexican youth (Castro & Borges, 1996; INEGI, 2010; Holguin, Rodriguez, Perez & Valdez, 2009; Valadez-Figueroa, Amezcu-Fernandez, Quintanilla-Montoya, Gonzales-Gallegos, 2005).

Social support was examined as a protective factor for suicidal behaviors. Consistent with previous research findings, social support was negatively associated with suicidal behaviors. The relationship between social support and suicidal behaviors has been well-documented in previous studies across a variety of samples (e.g., Morano, Cisler & Lemerond, 1993). As noted above, the importance placed on social relationships across Latino subgroups makes it a crucial predictor of mental health in this group.
Previous research has found that social support ameliorates negative mental health outcomes (i.e., depression, anxiety) in this ethnic group (Canino & Roberts, 2001).

Coping competence was also examined as a protective factor for suicidal behaviors. This construct reflects a sense of learned helplessness and a sense of disengaged coping that has been observed in previous studies with Latinos (Hovey & Magana, 2003; Hurtado, Mendizabal, & Hovey, 2011). Additionally, this construct is particularly relevant as it assesses a general form of coping, thriving in the presence of stress, which is similar to resilience. Unfortunately, the construct of coping competence has not been thoroughly studied. In fact, to our knowledge this is the first study to use a comprehensive measure of coping competence in Latinos.

Finally, depression and hopelessness were examined as risk factors of suicidal behaviors. These have been identified as the two most critical predictors of suicidal ideation, attempts and completed suicide in general samples, clinical samples, and Latino subgroups (Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck, 2006; Hovey & King, 1996; Cole, 1989). The findings of this study were therefore as expected such that both depression and hopelessness were strongly associated with suicidal behaviors.

**Interpersonal Theory of Suicide**

The interpersonal theory of suicide was used as a theoretical framework in this study. As a reminder, this theory states that an individual is at an increased risk for suicide when perceived burdensomeness, thwarted belongingness, and an acquired capacity to die are all experienced at the same time. The evidence supporting the interpersonal theory of suicide continues to grow. There have been a few studies that indicate that the elements outlined are successful in predicting suicidal behaviors (e.g.,
elderly and young adults) (e.g., Selby, Anestis, Bender, Ribeiro, Nock, Rudd et. al., 2010; Jahn, Cukrowicz, Linton, & Prabhu, 2011; Van Orden, Witte, Gordon, Bender, & Joiner, 2008). However, to our knowledge this is the first study to use the interpersonal theory of suicide to examine suicidal behaviors in Latino adolescents.

The findings of this study provide additional support for the interpersonal theory of suicide. Specifically, perceived burdensomeness and thwarted belongingness were significant moderators in the relationship between well-established predictors of suicide (i.e., hopelessness, and depression) and suicidal behaviors. In short, these findings suggest that these interpersonal constructs are particularly relevant to Mexican adolescents as the Latin culture places a high level of importance in interpersonal relationships and responsibility towards one’s family, and ethnic group.

The evidence for the acquired capacity to die as a contributing factor on suicidal ideation is scant. This could be due to the limited assessment tools available for this construct. It is important to note that the acquired capacity to die was assessed in this study through a comprehensive self-report measure. However, the psychometric properties of the measure used in this study were not reliable in Spanish.

**Limitations**

A larger sample would allow us to examine differences between the U.S. and Mexican-origin youth. In addition, it would allow us to differentiate between different generations of immigrants in the U.S. This is particularly important as second generation individuals appear to be at a higher risk for depression and suicidal behaviors than first generation immigrants (Hovey & King, 1996). The cross-sectional nature of this study limits the generalization of its findings. A longitudinal study would allow us to
understand if the prevalence of suicidal behaviors changes across time. Specifically, it would allow us to determine if the high prevalence of suicidal ideation and attempts continues through young adulthood or if it is unique to adolescence. Similarly, a longitudinal study would clarify the interplay of factors that contribute to suicidal behaviors in this group. Specifically, it would allow us to examine the interaction of these variables over time and its relationship to completed suicide.

**Clinical Implications**

In this study, the interpersonal need variables acted as significant moderators between depression and suicidal behaviors. The findings from this study suggest that perceived burdensomeness and thwarted belongingness have a significant role in the development of suicidal behaviors. The identification of these factors through suicide risk assessments can lead to more timely suicide prevention efforts, thus reducing the likelihood of suicide happening. In addition, interventions can aid in the amelioration of these risk factors. For example, clinicians can target an individual’s sense of perceived burdensomeness through using interpersonal effectiveness skills as done in dialectical behavioral therapy. The findings of this study could also inform family therapy such that problem-solving strategies are provided to Latino families.

**Future Directions**

The use of larger samples and more complex statistical techniques (i.e., structural equation modeling) in the future would allow us to understand the pathways that lead to suicidal behaviors in Latino youth. For example, with these techniques it would be possible to separate suicidal behaviors into its different components (i.e., ideation and previous attempts). Similarly, we would be able to create latent variables that encompass
internalizing behaviors (i.e., anxiety and depressive symptoms), risk factors (e.g., family conflict, acculturative stress), and protective factors (e.g., coping competence, social support) in order to assess these constructs at a higher level.

To my knowledge, there is no well-established measure available of *familismo* in the psychology literature. Therefore, family environment was used as a proxy to measure family orientation, cohesion, conflict, and family responsibility. Future research should develop a comprehensive measure of *familismo* and then examine the relationship between *familismo* and suicidal behaviors in Latino adolescents.

Future research should also examine additional aspects of the interpersonal theory of suicide. Specifically, more research is needed regarding the acquired capacity to die. Assessing this construct through the use of self-report methods has proven difficult (Ribeiro et al., 2012). It would be beneficial to test other aspects associated to the acquired capacity through a diverse array of methods. For example, assessing an individual’s physical pain tolerance would test additional facets of this construct besides psychological pain. Future research should attempt to replicate the findings of this study with other age groups. For example, in Mexico, young adults have the highest numbers of previous suicide attempts. Additionally, these findings should be replicated in clinical settings and among other cultural groups to widen the generalizability of the interpersonal theory of suicide to these groups.
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suicide attempts, substance use, and depressive symptoms among Latino


Table 1

Means, Standard Deviations, and Correlations

<table>
<thead>
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<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Mean</th>
<th>SD</th>
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<td>--</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>137.27</td>
<td>19.78</td>
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<td>2. CCQ</td>
<td>.39**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>52.89</td>
<td>14.27</td>
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<tr>
<td>3. FES Conflict</td>
<td>-.19**</td>
<td>-.31**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.92</td>
<td>2.09</td>
</tr>
<tr>
<td>4. BHS</td>
<td>-.42**</td>
<td>-.39**</td>
<td>.02</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.80</td>
<td>3.00</td>
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<td>5. RADS-2</td>
<td>-.45**</td>
<td>-.58**</td>
<td>.27**</td>
<td>.45**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td>55.37</td>
<td>14.25</td>
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<tr>
<td>6. Burdensomeness</td>
<td>-.49**</td>
<td>-.52**</td>
<td>.30**</td>
<td>.40**</td>
<td>.54**</td>
<td>--</td>
<td></td>
<td></td>
<td>2.15</td>
<td>1.00</td>
</tr>
<tr>
<td>7. Belongingness</td>
<td>-.62**</td>
<td>-.42**</td>
<td>.25**</td>
<td>.52**</td>
<td>.52**</td>
<td>.59**</td>
<td>--</td>
<td></td>
<td>2.62</td>
<td>1.16</td>
</tr>
<tr>
<td>8. SBQ</td>
<td>-.34**</td>
<td>-.42**</td>
<td>.33**</td>
<td>.29**</td>
<td>.42**</td>
<td>.42**</td>
<td>.35**</td>
<td>--</td>
<td>5.80</td>
<td>2.49</td>
</tr>
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</table>

Note. ** p ≤ .01 (one-tailed)
Table 2

*Means and standard deviations of mental health measures in attempters compared to non-attempters*

<table>
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<tr>
<th></th>
<th>Attempters</th>
<th>Non-Attempters</th>
<th>t</th>
<th>p</th>
<th>d</th>
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</thead>
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<tr>
<td>Depression</td>
<td>65.19 (14.91)</td>
<td>53.85 (13.74)</td>
<td>3.07</td>
<td>.001</td>
<td>.79</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>3.75 (3.47)</td>
<td>2.63 (2.90)</td>
<td>1.41</td>
<td>.08</td>
<td>.35</td>
</tr>
<tr>
<td>Perceived burdensomeness</td>
<td>2.60 (1.28)</td>
<td>2.09 (0.93)</td>
<td>1.93</td>
<td>.03</td>
<td>.46</td>
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<tr>
<td>Thwarted belongingness</td>
<td>3.10 (1.43)</td>
<td>2.57 (1.10)</td>
<td>1.76</td>
<td>.04</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>Moderate to High Intent</td>
<td>Low Intent</td>
<td>t</td>
<td>p</td>
<td>d</td>
</tr>
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<td>---------------------------</td>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Depression</td>
<td>76.25 (18.28)</td>
<td>61.50 (12.36)</td>
<td>1.85</td>
<td>.04</td>
<td>.94</td>
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<tr>
<td>Hopelessness</td>
<td>5.50 (1.95)</td>
<td>2.63 (2.90)</td>
<td>1.18</td>
<td>.12</td>
<td>.78</td>
</tr>
<tr>
<td>Perceived burdensomeness</td>
<td>2.81 (1.88)</td>
<td>2.53 (1.11)</td>
<td>.365</td>
<td>.36</td>
<td>.18</td>
</tr>
<tr>
<td>Thwarted belongingness</td>
<td>3.28 (1.45)</td>
<td>3.15 (1.48)</td>
<td>.272</td>
<td>.39</td>
<td>.15</td>
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Table 4

Multiple Regression Analysis Predicting Suicidal Behaviors

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<th>Predictors</th>
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<th>SE B</th>
<th>β</th>
<th>t</th>
<th>p</th>
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<tr>
<td>Social Support</td>
<td>-.02</td>
<td>.02</td>
<td>-.14</td>
<td>-1.51</td>
<td>.058</td>
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<td>Family Conflict</td>
<td>.25</td>
<td>.11</td>
<td>.21</td>
<td>2.56</td>
<td>.007</td>
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<tr>
<td>Coping Competence</td>
<td>.01</td>
<td>.02</td>
<td>.07</td>
<td>.76</td>
<td>.215</td>
</tr>
<tr>
<td>Perceived Burdensomeness</td>
<td>.30</td>
<td>.33</td>
<td>.12</td>
<td>1.04</td>
<td>.14</td>
</tr>
<tr>
<td>Thwarted Belongingness</td>
<td>.06</td>
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<td>.01</td>
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<td>.45</td>
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<tr>
<td>Depression</td>
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<td>.02</td>
<td>.32</td>
<td>2.71</td>
<td>.004</td>
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<td>-.01</td>
<td>.08</td>
<td>-.01</td>
<td>-.15</td>
<td>.439</td>
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Note. $R^2 = .31$
Table 5
Logistic Regression Analyses Predicting Suicide Attempts

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>Wald</th>
<th>p</th>
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<tr>
<td>Depression</td>
<td>.80</td>
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<td>2.23</td>
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<td>Hopelessness</td>
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<td>.63</td>
<td>1.72</td>
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<td>1.77</td>
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<td>Thwarted Belongingness</td>
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Table 6
Logistic Regression Analyses Predicting Level of Intent Among Those with Previous Suicide Attempts

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<th>OR</th>
<th>Wald</th>
<th>p</th>
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<td>Depression</td>
<td>.58</td>
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<td>1.75</td>
<td>.061</td>
<td>.25</td>
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<td>Hopelessness</td>
<td>1.96</td>
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<td>7.07</td>
<td>1.62</td>
<td>.04</td>
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<tr>
<td>Perceived Burdensomeness</td>
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<td>1.99</td>
<td>.151</td>
<td>.22</td>
</tr>
<tr>
<td>Thwarted Belongingness</td>
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<td>2.31</td>
<td>.269</td>
<td>.38</td>
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</tbody>
</table>
Figure 1
Interaction between Perceived Burdensomeness and Depression in Suicidal Behaviors
Figure 2
Interaction between Thwarted Belongingness and Depression in Suicidal Behaviors
Appendix A

Demographics Form

Age: ______ Day of birth: ____________

Grade: ________

Gender:

☐ Female
☐ Male

Ethnicity:

☐ Caucasian / White
☐ Hispanic / Latino
   If yes, please specify:
   ☐ Mexican
   ☐ Puerto Rican
   ☐ Cuban
   ☐ Central American
   ☐ South American
   ☐ Other: ________________
☐ African American / Black
☐ Asian
☐ American Indian
☐ Pacific Islander
☐ Biracial/Multiracial
☐ Other: __________________

Religion:

☐ Christian
☐ Catholic
☐ Jewish
☐ Muslim
☐ Other: __________________

Country of birth: ___________________

Parents’ country of birth: Mother: ________________  Father: ________________
   If not from the U.S. please specify:
   Years residing in the U.S. ______
   How often do you visit your country of origin? ______
Mother’s level of education: ______________________________
Father’s level of education: ______________________________

Family income (within the last year):

☐ $0 to $4,999
☐ $5,000 to $14,999
☐ $15,000 to $24,999
☐ $25,000 to $34,999
☐ $35,000 to $44,999
☐ $45,000 to $60,000
☐ $60,000 to $80,000
☐ $80,000 or more

Number of people living at home (within the past year): ____________
Mother’s type of work: _________________________________
Father’s type of work: _________________________________
Appendix B

SAFE

Below are a number of statements that might be seen as stressful. For each statement that you have experienced, circle only one of the following numbers (1, 2, 3, 4, or 5), according to how stressful you find the situation.

If the statement does not apply to you, circle number 0: Have Not Experienced.

0 = HAVE NOT EXPERIENCED
1 = NOT AT ALL STRESSFUL
2 = SOMEWHAT STRESSFUL
3 = MODERATELY STRESSFUL
4 = VERY STRESSFUL
5 = EXTREMELY STRESSFUL

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<table>
<thead>
<tr>
<th>Statement</th>
<th>0</th>
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<th>2</th>
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<tbody>
<tr>
<td>I feel uncomfortable when others make jokes about or put down people of my ethnic background.</td>
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<td>I have more barriers to overcome than most people</td>
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<td>It bothers me that family members I am close to do not understand my new values</td>
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<td>Close family members have different expectations about my future than I do</td>
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<td>It is hard to express to my friends how I really feel</td>
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<td>My family does not want me to move away but I would like to</td>
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<td>It bothers me to think that so many people use drugs</td>
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<td>It bothers me that I cannot be with my family</td>
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<td>In looking for a good job, I sometimes feel that my ethnicity is a limitation</td>
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<td>I don't have any close friends</td>
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<td>Many people have stereotypes about my culture or ethnic group and treat me as if they are true</td>
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<td>I don't feel at home</td>
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<td>People think I am unsociable when in fact I have trouble communicating in English</td>
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<td>I often feel that people actively try to stop me from advancing</td>
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<td>It bothers me when people pressure me to become part of the main culture</td>
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<td>I often feel ignored by people who are supposed to assist me</td>
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<td>Because I am different I do not get the credit for the work I do</td>
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<td>I bothers me that I have an accent</td>
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<td>Loosening the ties with my country is difficult</td>
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<td>I often think about my cultural background</td>
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<tr>
<td>Because of my ethnic background, I feel that others often</td>
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<td>exclude me from participating in their activities</td>
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<td>It is difficult for me to &quot;show off&quot; my family</td>
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<td>People look down upon me if I practice customs of my culture</td>
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<td>I have trouble understanding others when they speak</td>
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<td>I feel that I will never gain the respect that I had in my home</td>
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<td>People treat me unfairly because of my ethnicity</td>
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<td>My family and friends are treated unfairly because of their</td>
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<td>I get upset because my parents do not know American ways</td>
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<td>My family dislikes that I prefer American customs</td>
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<td>If I had a choice, I would rather be more American</td>
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<td>I feel uncomfortable when I have to choose between non-Latin</td>
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<td>and Latin ways of doing things</td>
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<td>I believe I have the same chance of doing well in life as</td>
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<td>everyone else</td>
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Appendix C

SBQ-R

Instructions: Please circle the number beside the statement or phrase that best applies to you.

1. Circle the statement that best describes how you have been feeling for the past week, including today:
   1. I have a moderate to strong wish to live.
      I have a weak wish to live.
      I have no wish to live.
   2. I have no wish to die.
      I have a weak wish to die.
      I have a moderate to strong wish to die.
   3. My reasons for living outweigh my reasons for dying.
      My reasons for living or dying are about equal.
      My reasons for dying outweigh my reasons for living.

2. Have you thought about or attempted to kill yourself? (Circle only one):
   1. Never
   2. It was just a brief passing thought.
   3a. I have had a plan at least once to kill myself but did not try to do it.
   3b. I have had a plan at least once to kill myself and really wanted to die.
   4a. I have attempted to kill myself, but did not want to die.
   4b. I have attempted to kill myself, and really hoped to die.

3. How often have you thought about killing yourself in the past year? (Circle only one):
   1. Never
   2. Rarely (1 time)
   3. Sometimes (2 times)
   4. Often (3-4 times)
   5. Very Often (5 or more times)

4. Have you ever told someone that you were going to commit suicide, or that you might do it? (Circle only one):
   1. No
   2a. Yes, at one time, but did not really want to die.
   2b. Yes, at one time, and really wanted to do it.
   3a. Yes, more than once, but did not want to do it.
   3b. Yes, more than once, and really wanted to do it.
4. How likely is it that you will attempt suicide someday? (Circle only one):
   0. Never
   1. No chance at all
   2. Rather Unlikely
   3. Unlikely
   4. Likely
   5. Rather Likely
   6. Very Likely

5. How many times have you ever attempted to kill yourself?
   1. Never
   2. Once
   3. Twice
   4. Three or more times
Appendix D

Suicide and Depression in Latino Adolescents

- In 2009, suicide was the third cause of death among Latino adolescents (15 to 24 years of age).
- In the same year, 31.6% of all Latino high school students reported having feelings of sadness or hopelessness within the last year. This percentage was higher among Latina adolescents (39.7%).
- In addition, 15.4% of Latino youth reported that they have seriously considered attempting suicide within the last year. These numbers are higher than those reported by Non-Latino adolescents.

The following information was obtained through the American Association of Suicidology (2009) at http://www.suicidology.org/c/document_library/get_file?folderId=262&name=DLFE-529.pdf
For more information you can visit www.suicidology.org

The good news is that suicide can be prevented. Most suicidal people desperately want to live; they are just unable to see alternatives to their problems. Most suicidal people give definite warning signals of their suicidal intentions, but other are often unaware of the significance of these warning or unsure what to do about them.

**Common symptoms of depression, reoccurring almost every day:**
- Depressed mood (e.g. feeling sad or empty)
- Lack of interest in previously enjoyable activities
- Significant weight loss or gain, or decrease or increase in appetite
- Insomnia or hypersomnia
- Agitation, restlessness, irritability
- Fatigue or loss of energy
- Feelings of worthlessness, hopelessness, guilt
- Inability to think or concentrate, or indecisiveness
- Recurrent thoughts of death, recurrent suicidal ideation, suicide attempt or plan for completing suicide

Individuals who are *depressed* and exhibit the following symptoms are at *particular* risk for suicide:
- Extreme hopelessness
- A lack of interest in activities that were previously pleasurable
- Heightened Anxiety and/or panic attacks
- Insomnia
- Talk about suicide or have a prior history of attempts
- Irritability and agitation
Be Aware of the Warning Signs
A suicidal person may:
- Talk about suicide, death and/or no reason to live.
- Be preoccupied with death and dying.
- Withdraw from friends and/or social activities.
- Have a recent severe loss (esp. relationship) or threat of a significant loss.
- Experience drastic changes in behavior.
- Lose interest in hobbies, work, school, etc.
- Prepare for death by making out a will (unexpectedly) and final arrangements.
- Give away prized possessions.
- Have attempted suicide before.
- Take unnecessary risks; be reckless, and/or impulsive.
- Lose interest in their personal appearance.
- Increase their use of alcohol or drugs.
- Express a sense of hopelessness.
- Be faced with a situation of humiliation or failure.
- Have a history of violence or hostility.
- Have been unwilling to “connect” with potential helpers.

Be Aware of Feelings, Thoughts, and Behaviors

People in the midst of a crisis often perceive their dilemma as inescapable and feel an utter loss of control. Frequently, they:
- Can’t stop the pain
- Can’t think clearly
- Can’t make decisions
- Can’t see any way out
- Can’t sleep, eat, or work
- Can’t get out of the depression
- Can’t make the sadness go away
- Can’t see the possibility of change
- Can’t see themselves as worthwhile
- Can’t get someone’s attention
- Can’t seem to get control

If you experience any of these feelings, get help! If you know someone who exhibits these feelings, offer help!

Talk to Someone – You are not Alone. Contact:
- A community mental health agency
- A school counselor or psychologist
- A suicide prevention/crisis intervention center
• A private therapist
• A family physician
• A religious/spiritual leader

If you or someone that you know is suicidal, please call a mental health professional or the National Suicide Prevention Lifeline (24/7) 1-800-273-TALK(8255). In an emergency case, please call 911. To obtain psychological services you can call the University of Toledo Psychology Clinic at (419) 530-2721.