2005

Suicide Attempt and Characteristics of Religiously Affiliated Puerto Rican Adolescents and Young Adults

Sa{acute}ul Rivera
Andrews University

Andrews University

School of Education

SUICIDE ATTEMPT AND CHARACTERISTICS OF RELIGIOUSLY AFFILIATED PUERTO RICAN ADOLESCENTS AND YOUNG ADULTS

A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Saúl Rivera

July 2005

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

SUICIDE ATTEMPT AND CHARACTERISTICS OF RELIGIOUSLY AFFILIATED PUERTO RICAN ADOLESCENTS AND YOUNG ADULTS

A dissertation
presented in partial fulfillment
of the requirements for the degree
Doctor of Philosophy

by

Saúl Rivera

APPROVAL BY THE COMMITTEE:

Chair: Nancy J. Carbonell

Dean, School of Education
James R. Jeffery

Member: Frederick A. Kosinski, Jr.

Member: Jerome D. Thayer

External: Edwin I. Hernández

Date approved 7/29/05

ABSTRACT

SUICIDE ATTEMPT AND CHARACTERISTICS OF RELIGIOUSLY AFFILIATED PUERTO RICAN ADOLESCENTS AND YOUNG ADULTS

By

Saúl Rivera

Chair: Nancy J. Carbonell

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

TITLE: SUICIDE ATTEMPT AND CHARACTERISTICS OF RELIGIOUSLY AFFILIATED PUERTO RICAN ADOLESCENTS AND YOUNG ADULTS

Name of researcher: Saúl Rivera

Name and degree of faculty chair: Nancy J. Carbonell, Ph.D.

Date completed: July 2005

Problem

Recent research has identified several risk factors associated with attempted suicide among the general population. Puerto Ricans, in general, and Puerto Rican Seventh-day Adventists (SDAs), in particular, may face unique challenges that are related to their familial, social, and religious environment that may affect the suicidal attempts among this group. Therefore, this study examined family-related factors, history of being abused, religiosity factors, sexuality factors, gender, substance

abuse, age, and socioeconomic status factors among a sample of religiously affiliated Puerto Ricans (73.2% SDAs) living on the island.

Methodology

The data for the study came from the *Avance PR* study. *Avance PR* is a continuation of the *Avance* study, the largest denominational study among the Hispanic population of any denomination in the U.S. (Ramírez-Johnson & Hernández, 2003). The youth sample (ages 13-25) consisted of 598 males and 788 females (N = 1,406). A total of 35 independent variables (22 numerical and 13 categorical) were studied. These variables were tested using ANOVA, chi-square, two-way ANOVA, and Discriminant Analysis.

Results

Of the total sample, 12.5% admitted having attempted suicide in the 12-month period prior to the survey. Analysis of the numerical variables using ANOVA indicated 16 of them being significantly related to suicide attempt ($p< .05$). Of the categorical variables tested using Chi-square, 11 variables were found significantly related to suicide attempt ($p< .05$). Analysis of four selected dichotomous variables (gender, age groups, sexual orientation and family status) using two-way ANOVAs,

indicated significant interaction between these variables on suicide attempt with several numerical variables ($p < .05$). Finally, discriminant analysis of 28 variables that were found significant in previous analyses yielded a significant function.

Conclusions

Religiously affiliated Puerto Rican adolescents and young adults have a rate of suicide attempts similar to the rate in the general population. Seven variables were significantly related to suicide attempt in various analyses and showed a large effect size. These were: family cohesion, parental understanding, parental knowledge of youth activities, verbal abuse, sexual abuse, physical abuse, and substance abuse.

Dedicated to my wife Arleen,

and my sons Zamyr and Zuryhel

TABLE OF CONTENTS

LIST OF TABLES

AKNOWLEDGMENTS

I want to express my gratitude to a number of people without whom this research would not have been possible. First, I want to thank my wife Arleen and my sons Zamyr and Zuryhel who supported and tolerated me during this process. Second, I want to thank Dr. Edwin I. Hernandez for allowing me to use the *Avance PR* data for this study. Finally, I also want to thank the members of my dissertation committee for their invaluable contribution to the completion of this study: Dr. Nancy J. Carbonell, chair; Dr. Frederick A. Kosinski, Jr., second reader; and Dr. Jerome D. Thayer, third reader and statistics advisor.

CHAPTER I

INTRODUCTION

Suicide continues to be a major public health problem. The level of concern of the governmental agencies and the general public about suicide has increased during recent years. In 1996, suicide was the ninth leading cause of death in the United States (U.S.). According to the Surgeon General, nearly 31,000 people committed suicide in the U.S. during 1996 alone (U.S. Public Health Service, 1999). That number is more than 50% higher than the number of homicides for the same year (around 20,000), therefore, making suicide a greater problem than homicides. According to data published by the Centers for Disease Control and Prevention (CDC), each year about 500,000 people require emergency-room treatment as a result of attempted suicide (McCraig & Strussman, 1996).

Recent data from the CDC (2003) indicate that intentional self-harm (suicide) is the third cause of death in the U.S. for individuals between the ages of 10-34. This surpasses other causes of death considered as pandemic such

as Human Inmunodeficency Virus (HIV), heart disease, and cancer. When one looks at ethnicity, suicide is the second cause of death for Caucasians between the ages 10-34, and the third cause of death for Blacks between the ages 15-24 (CDC, 2003). If the numbers of successfully completed suicides are alarming, it becomes more so when the issue of suicide attempts and their effects are considered.

Although no official data accounting for the totality of suicide attempts in the U.S. is available, from the data presented above, an average of 16.1 suicide attempts per each completed suicide could be extrapolated. A recent study using epidemiological data from eight states found a rate of 61 suicide attempts involving hospitalization per 100,000 population, and an estimated 58 suicide attempts involving only a visit to the emergency department for an estimated 119 suicide attempts per 100,000 population (Spicer & Miller, 2000).

These figures are considered very conservative estimates since they account only for the cases receiving medical treatment for injuries reported as suicide attempts. To these figures, the cases of attempted suicide that were reported as accidents and those which never received medical treatment after attempting suicide should be added. To this effect, researchers have estimated the

actual number of suicide attempts to be between 10 and 200 per each completed suicide (Gould, Shaffer, Fisher, Kleinman & Morishima, 1992; Gunnell, 2000; Husain, 1990; McIntosh, 1990; Spicer & Miller, 2000).

During the past few years, a large body of research has been generated in an attempt to account for the psychological, social, and environmental factors associated with suicide. Among such factors, ethnicity, family, religion, gender, age, and socioeconomic status (SES) factors have been explored in order to determine significant differences in suicide rates among different groups.

There is evidence which shows that suicide rates vary among ethnic groups. Several recent studies have focused on finding and describing such differences on suicidal behavior among ethnic groups in the U.S. (McKenzie, Serfaty & Crawford, 2003; Oquendo et al., 2001; Range et al., 1997; Range et al., 1999; Spicer & Miller, 2000). The National Center for Injury Prevention and Control (NCIPC, n.d.), a subdivision of the CDC, reported that in 1999 suicides among Whites accounted for 90% of all suicides in the U.S., and White males accounted for 70% of all suicides.

Oquendo et al. (2001) compared ethnic and gender differences, and suicide rates relative to major depression

in the U.S. They studied data from a national survey that identified the following ethnic groups: Whites, Blacks, Los Angeles Hispanics, Mexican Americans, Cuban Americans, and Puerto Rican Americans. They reported that when compared to Whites, the rate of depression was significantly higher for Puerto Ricans and significantly lower for Mexican Americans when compared to the other groups. Even though both Mexican Americans and Puerto Ricans reported lower completed suicide rates than did the White males, Puerto Ricans obtained the highest rate for 1-year prevalence of Major Depression associated with suicide for both males and females on each one of the correlates studied (separation and/or divorce, low income, and unemployment). In other words, Puerto Ricans were significantly more depressed and more likely to report higher prevalence of the correlates of suicidal behavior mentioned above than any of the other groups studied.

Few studies have focused exclusively on suicide among the Hispanic population in the U.S. (Hovey, 1999; Magni, Rigatti-Luchini, Fracca, & Merskey, 1998; Queralt, 1993; Trivino, 1999; Ungemack & Guarnaccia, 1998). Trivino (1999) studied a sample of Hispanic Seventh-day Adventist (SDA) adolescents of varied Hispanic ancestry who reported suicidal attempts. Using discriminant analysis, she found

that among the subjects of her study, a Hispanic SDA adolescent who perceived less family cohesion, who was highly acculturated, who perceived a less warm church climate, who was female, and who had suffered sexual and physical abuse was more likely to have attempted suicide. Hovey (1999) studied religion and suicidal ideation among a sample of Latin American immigrants of varied Hispanic ancestry. He found that the following were significantly negatively associated with suicidal ideation among Latin American immigrants: self-perception of religiosity; influence of religion; and church attendance. Ungemack and Guarnaccia (1998) studied suicidal ideation and suicidal attempts in a sample of Mexican Americans, Puerto Ricans, and Cuban Americans. They found that Puerto Ricans consistently reported higher rates of suicidal ideation and attempts than either Mexican Americans or Cuban Americans. Lifetime prevalence of 14.1% for suicidal ideation and 8.8% for suicidal attempts were reported among the Puerto Rican sample; in contrast to 8.6% and 3.1% respectively for Mexican Americans and 5.9% and 2.0% for Cuban Americans respectively.

These aforementioned studies that have focused on the Hispanic population not only suggest differences among the various Hispanic groups, but also point to an alarming high

incidence of suicidal behavior among one particular group, namely the Puerto Ricans. In spite of the high rates of suicide and suicide attempts reported among Puerto Ricans in studies considering the Hispanic population in general, only a few studies have specifically studied the suicidal behavior among this subgroup (Alsina-Pomales & Rodriguez-Gomez, 1995; Fernandez-Pol, 1986; Marrero, 1998; Trautman, 1961).

All the studies mentioned above used a sample of Puerto Ricans residing on the U.S. mainland. A study has never been conducted on the characteristics of those attempting suicide among Puerto Ricans using a sample of those living on the island. More research is needed in this area.

Statement of the Problem

This study investigated the characteristics of those who admitted attempting suicide among a sample of Puerto Ricans living on the island. Because the literature often identifies the variables of family, religiosity, gender, age, and SES as significantly correlated to suicidal behavior, this study examined such variables among a sample of religiously affiliated Puerto Rican adolescents and young adults, mostly Seventh-day Adventists (SDAs),

residing in Puerto Rico who reported attempting suicide in the *Avance: Puerto Rico* (*Avance PR*) survey.

Purpose of the Study

First, this study seeks to aid those interested in suicide prevention by contributing to the body of knowledge which identifies the characteristics of those who had attempted suicide. Second, this investigation hopes to shed light on suicidal behavior among Puerto Ricans. Third, this study will increase the awareness and knowledge about suicidal behavior among members of the SDA church, more specifically the Puerto Rican members. Previous studies (Dudley & Gillespie, 1992; Trivino, 1999) have found SDAs to be at similar risk of attempting suicide than the general population, with Hispanics being one of the ethnic groups with a greater rate than the general population of attempted suicide among SDAs. Finally, this study aims to increase the awareness and knowledge about the relationship between religiosity and suicidal behavior among Puerto Ricans living on the island.

Significance of the Study

The significance of this study could be seen as fourfold. First, this is the first time a study about the characteristics of those who attempt suicide among Puerto

Ricans was conducted using a sample of subjects residing on the island. Previous studies have either used epidemiological data of completed suicides on the island (Alsina-Pomales & Rodriguez-Gomez, 1995) or Puerto Rican subjects who attempted while residing on the mainland (Fernandez-Pol, 1986; Marrero, 1998; Trautman, 1961).

Second, although other studies have investigated suicidal attempts among Puerto Rican adolescents or young adults, this was the first time both groups were considered in one study in order to determine the differences among the age groups. This would help to clarify whether the risk of suicidal attempts is age-related or if it is the same for both age groups.

Third, other studies have used as sample subjects inner-city, low SES individuals, therefore, making the sample pool a rather homogenous one. The sampling of the *Avance PR* survey was heterogeneous, collected in both urban and rural settings in Puerto Rico and included subjects of various SES. Finally, other studies have used subjects seeking medical attention for injuries reported as consequences of suicidal attempts. In turn, this study used sample subjects who anonymously reported attempting suicide during the 12-month period prior to completing the survey. Although not without limitations, this sampling procedure

presumably allows for those individuals who might have reported their injuries as accidents or who never requested medical attention for their injuries to report their attempts.

Theoretical Framework

No single or unique characteristic has been identified as the sole or main risk factor for suicidal behavior among the general population. In turn, the literature on the subject suggests that several risk factors might be associated with suicidal behavior depending on the particularities of the group studied (i.e., ethnicity, age, gender). In light of this, the present investigation assumed the risk factors model as its theoretical framework. More specifically, this investigation was based on the works of the Secretary's Task Force on Youth Suicide (Alcohol, Drug Abuse, and Mental Health Administration [ADAMHA], 1989) and E. Mościcki (1995, 1999).

In 1985, due to the sharp increase in the number of suicides among individuals from 15 to 24 years old, the Secretary of the U.S. Department of Health and Human Services appointed a Task Force to study the problem. Among the group's responsibilities was to analyze and summarize the scientific literature available on the subject, as well

as recommend and initiate strategies for addressing the problem. They suggested as a promising scientific approach "the identification of risk factors, or characteristics of individuals that are associated with an increased risk of suicide" (ADAMHA, 1989, vol. 1, p. 19).

As a result, an increased number of studies have been conducted in recent years attempting to identify the characteristics of the suicidal individuals or of those at risk of attempting or committing suicide (Brent, 1995; Brent et al., 1993; Hopes & Williams, 1999). Some studies have investigated the Hispanic population (Husain, 1990; Queralt, 1993; Razin et al., 1991; Zayas & Dyche, 1995), while a few have investigated the Puerto Rican subgroup (Alsina-Pomales & Rodriguez-Gomez, 1995; Marrero, 1998).

More specifically, Husain (1990) identified several psychosocial factors related to suicidal behavior among Hispanic adolescents: Demographic factors (age, gender), sociocultural factors (racial, religious, and cultural variables), family-related factors (family turmoil, disturbed parent-child relationships, physical and sexual abuse), and depression. Trivino (1999) found that family cohesion, parental religiosity, abuse (verbal, physical, and sexual), faith maturity, church attendance, and family status significantly correlated with suicidal attempts

among Hispanic SDA adolescents. Hovey (1999) identified several religious variables (religiosity, influence of religion, and church attendance) to be negatively correlated with suicidal ideation among Latin American immigrants. Marrero (1998) found that poverty, unemployment, severe psychopathology, physical and sexual abuse, and suicide in family history were significant predictors of suicidal attempts among Puerto Ricans.

More recently, Mościcki (1995, 1999) proposed an epidemiological framework for the investigation of risk factors in suicide. Her proposed framework classified the many risk factors into two main categories: (a) distal risk factors and (b) proximal risk factors. Distal risk factors are viewed as "the foundation upon which suicidal behavior is built . . . a threshold that increases individual risk for later vulnerability to proximal risk factors" (Mościcki, 1995, p. 28). Their relationship to suicide is indirect, and are viewed as necessary but not sufficient for suicide to occur. Distal risk factors include psychopathology, substance abuse, neurochemical risk factors, familial risk factors (which include being physically or sexually abused), and sexual orientation. On the other hand, proximal risk factors are "closely associated with the suicide event . . . and can act as

precipitants. In and of themselves, proximal risk factors are neither necessary nor sufficient for suicide" (p. 28). According to Mościcki, "the combination of powerful distal risk factors with proximal events, however, can lead to the necessary and sufficient conditions for suicide" (p. 28). Proximal risk factors include access to firearms, stressful life events (such as conflicts, separation, or rejection), economic difficulties, and physical illness.

Based on this, the present study assumes as its theoretical framework that suicide attempts among Puerto Ricans are prompted by the presence of powerful distal and proximal risk factors. This study examined a total of eight distal and proximal factors as reported in the *Avance PR* study. Distal factors include family-related factors, history of abuse, sexuality factors, and substance use or abuse. Proximal factors include age, gender, religiosity, and SES.

Research Questions

A total of 35 variables were analyzed in this study. These variables were grouped into eight different groups: family-related factors, history of abuse, sexuality issues, substance use or abuse, age, gender, and socioeconomic status (SES). Furthermore, these variables were divided

into two categories: 22 numerical variables and 13 categorical variables. The numerical variables include: family cohesion scale, parental religiosity role model scale, parental authoritarianism scale, parental understanding scale, parental limits scale, parental knowledge of youth activities scale, verbal abuse, physical abuse, sexual abuse, Thayer short form scale of faith maturity, devotional life scale, grace orientation scale, law orientation scale, church attendance, warm church climate, quantity of family worship, quality of family worship, religious salience, substance abuse scale, family income, mother's level of education, and father's level of education. The categorical variables include: family status, verbal abuse by non-parent, verbal abuse by parent, physical abuse by non-parent, physical abuse by parent, sexual abuse by non-parent, sexual abuse by parent, gender, sexual orientation, premarital sexual intercourse, age groups, combination of family worship, and religious affiliation.

Research Question 1: Is there any difference between those who have attempted suicide and those who have not attempted suicide on each of the numerical and categorical variables?

Research Question 2: Is there an interaction between gender and suicide attempt on each of the numerical variables?

Research Question 3: Is there an interaction between age and suicide attempt on each of the numerical variables?

Research Question 4: Is there an interaction between sexual orientation and suicide attempt on each of the numerical variables?

Research Question 5: Is there an interaction between family status and suicide attempt on each of the numerical variables?

Research Question 6: Which of the numerical and categorical variables, when considered together, will significantly discriminate between those who have attempted suicide and those who have not attempted suicide?

Definitions

The following terms are used throughout this study with the following meanings:

Adolescent: Includes males and females from 13-17 years of age.

Family cohesion: The degree of commitment and love to help and support family members and provide for one

another. This term may be interchangeable with family unity.

Hispanic: Derived from the name *Hispania*, the European peninsula shared by Spain and Portugal, this term was created in the early 1970s by the federal government as an attempt to group those in the U.S. with ancestry from Spanish- or Portuguese-speaking countries living in the U.S. As used by the federal government, it may apply to individuals from Spain, the Caribbean, and North, Central, or South America, Portugal, or Brazil. This term is used interchangeably in the literature with the term *Latino*, or its feminine form *Latina*. Although some object to the term Hispanic (Vázquez, 2004), it is preferred in this study and applies to individuals living in the U.S. with cultural and linguistic ancestry from Mexico, the Spanish-speaking countries of the Caribbean, and Central and/or South America.

Island: Refers to the commonwealth of Puerto Rico, unless otherwise specified.

Mainland: Refers to the contiguous 48 states of the U.S.

Socioeconomic Status (SES): Refers to level of annual family income and educational level.

Suicidal behavior: It encompasses all sorts of intentions or actions intended to harm self, including suicidal ideation, suicidal attempt, and/or suicide.

Suicidal ideation: a person's active consideration of taking his or her own life, with or without a specific plan.

Suicide: Lethal and intentional harm to self.

Suicide attempt: Unsuccessfully trying to harm or harming oneself with the intention to die.

Young Adult: Males and females from ages 18-25.

Young People: Includes both adolescents and young adults.

Delimitations

Delimitations constraining this study are related to the subjects and the variables studied. Since the sample was selected from Puerto Ricans of mostly one religious denomination, namely SDAs, it might be possible that the findings are reflective of unique characteristics of this group not necessarily representative of other Christian denominations or religious groups. Although not all the subjects were SDAs, they were surveyed while attending to an Adventist church or school. Also, research has revealed a number of other possible biological, psychological, and

sociological characteristics related to suicidal attempts that are not included in the present study.

Limitations

Several limitations that may have an impact in the generalizability of this study include the following:

1. The *Avance PR* survey was collected during youth meetings—typically held Friday nights in Puerto Rico—or at specially designated meetings, therefore, the responses of the participants may not apply to all Puerto Rican SDAs. The same cautionary statement made by Hernandez (1995a) about the first *Avance* survey could apply to this one: "The sample is biased toward the more committed and faithfully attending members" (p. 48).

2. The individuals who participated in the survey did so voluntarily; therefore, the study may reflect only the suicide behavior of those who consented to participating in the survey but not of those who refused to participate.

3. It is possible that some individuals may not have reported their suicidal attempts out of a sense of shame, distrust in the anonymity of the survey, or social desirability.

4. Since some of the questions were asked after the fact (i.e., instances of abuse, number of suicide attempts

in a 12-month period), problems in recall might have been present.

Organization of the Dissertation

This dissertation is organized into five chapters. Chapter 1 presents the problem, purpose, significance, theoretical framework, and limitations and delimitations of the study. Chapter 2 presents the review of related literature. Chapter 3 describes the methodology used in the study including a description of the *Avance PR* survey, the population sample, variables included in the study, research hypotheses, and method of analyses. Chapter 4 presents the results of the analyses of data. Finally, Chapter 5 presents a review of the purpose and methodology of the study, a summary of the review of literature, a discussion of the findings, and recommendations.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents an extensive review of the professional literature about suicidal behavior. This chapter begins with a brief profile of Hispanics in the U.S. since it is assumed that Puerto Ricans face some of the same problems that other Hispanics face. It continues with a profile of the Puerto Rican population in the U.S., including both those living in the mainland and those living on the island. It also presents a review of how the variables of family, religion, age, gender, sexuality, substance abuse, and SES relate to suicidal behavior.

Profile of the Hispanic Population in the U.S.

According to the most recent census, Hispanics are the largest minority group in the U.S. (U.S. Census Bureau, 2000a), with an estimated 35.5 million or 12.5% of the population. Although treated as a homogenous group because of the obvious similarities among them (i.e., the use of Spanish), the truth is that Hispanics are a very diverse

group. This diversity encompasses racial, ethnic, and cultural differences. Differences are also observed in terms of their national origin, history, heritage, the social composition of each country of origin and group of immigrants, and the reasons for which each group has migrated to the U.S.

The three largest and most important Hispanic groups residing in the U.S. are Mexican Americans, Cuban Americans, and Puerto Rican Americans. This section provides a brief overview for both Cuban Americans and Mexican Americans. Puerto Ricans are discussed in the following section.

Cuban Americans

There are more than 1.2 million Cuban Americans residing in the U.S. They account for about 0.4% of the total population and 3.5% of the Hispanic population in the U.S. (U.S Census Bureau, 2000a). Although mainly concentrated in Miami, Florida, there are secondary centers of residency in other parts of Florida, New York City, and New Jersey (Guarnaccia, Martinez, & Acosta, 2002).

The large majority of Cuban immigrants migrated to the states after the Cuban Revolution in 1960 which led to the establishment of Communism in Cuba by Fidel Castro. Since

then, the U.S. government has traditionally treated Cubans as political refugees. Once they arrive in the U.S. they are eligible for permanent residency and even citizenship.

According to Guarnaccia et al. (2002), the first Cuban migrants, who were more educated and professional, received considerable aid from the federal government to secure loans, start businesses, and to transfer their professional credentials as doctors, lawyers, etc. However, recent migration waves, like the Mariel migration in 1980, led the U.S. to change its policies about the treatment given to Cubans. The U.S. Citizenship and Immigration Service (USCIS; formerly known as the Immigration and Naturalization Service [INS]) has adopted the controversial "wet foot/dry foot" policy under the Cuban Adjustment Act of 1996. Such policy requires Cuban *balseros* (Spanish for "rafters") caught at sea to be deported back to Cuba, meanwhile those who set foot on U.S. land can request political asylum (Caputo, 2004; USCIS, 2003).

As a group, Cubans have both the highest socioeconomic status of all Hispanic groups and the highest rate of retention of Spanish as their primary language (Guarnaccia et al., 2002). In terms of their mental health, Cubans have been found to have lower rates of distress, depression, substance abuse, suicide, and other mental disorders when

compared to other Hispanic groups (Guarnaccia et al., 2002; Figueroa-Moseley, 1998; Lee, Markides, & Ray, 1997; Oquendo et al., 2001; Ungemack & Guarnaccia, 1998).

Mexican Americans

Mexican Americans are the largest Hispanic group in the U.S. They comprise 20.6 million or 7.3% of the total population. Mexican Americans represent 58.5% of the Hispanic population in the U.S.(U.S. Census Bureau, 2000a). As a group, Mexican Americans widely differ in terms of the generation when they migrated to the U.S., length of residency, their preference for either English or Spanish as their primary language, their legal status, socioeconomic status, ethnic background, and reasons for their migration.

As pointed out by Guarnaccia et al. (2002), a large segment of the population with Mexican ancestry cannot (and should not) be referred to as immigrants. This group, often referred to as *chicanos*, originally were settlers of the Southwestern territories. Such territories once were part of Mexico and were later incorporated into the U.S. Paradoxically, Mexicans are also the single largest group of new immigrants to the U.S.

Although many Mexican Americans work in agricultural settings and make up the largest ethnic group among the migrant farm workers, the vast majority of them work in the service and industrial sectors. Mexican Americans are dispersed throughout the nation, with large concentrations of them residing in metropolitan areas in the Southwest, especially in San Antonio and Los Angeles.

For recent Mexican immigrants, living conditions in the U.S. are difficult. On one hand, the earning differential compared to their earnings in Mexico make frequent trips and prolonged stays in the U.S. attractive. On the other hand, long hours of work, difficult and often unsafe or substandard working conditions, and social isolation have taken a toll on their physical and mental health. Mexican farm workers are particularly at higher risk of psychological problems due to the combination of stressful work and living conditions, toxic exposure to pesticides that may have a negative neurological effect, and high incidence of substance abuse (Guarnaccia et al., 2002).

Mexican Americans living in the U.S. for two or more generations are also at increased risk of developing psychological disorders, including suicidal behavior. It has been theorized that by the second generation several

issues such as discrimination, lack of job mobility, economic decline in areas with high density of Hispanics, and frustrated social and economical aspirations might raise the level of psychological distress, thus triggering the development of psychological disorders (Vega, Kolody, et al., 1998). Also, acculturation to the larger society has been deemed to increase the risk of developing a substance abuse disorder among this group (Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998).

Profile of the Puerto Rican Population

Puerto Ricans are divided into two main groups, the ones living on the U.S. mainland and those living on the island of Puerto Rico. Puerto Ricans account for 10% of the Hispanic population in the U.S. There are 3.5 million Puerto Ricans on the mainland, who comprise about 1.2% of the general population (U.S Census Bureau, 2000b). The largest Puerto Rican enclaves on the mainland are in New York City, Chicago, Philadelphia, Newark (NJ), and Hartford (CT).

By virtue of the political status of the island as a U.S. territory since 1898, all Puerto Ricans are American citizens. This gives them parity of rights with other Americans and greater mobility back and forth from the

island when compared to the mobility experienced by other Hispanics. Despite this, Puerto Ricans have the lowest socioeconomic status of all the major Hispanic groups in the U.S. (Guarnaccia et al., 2002), the highest rate of divorce or separation, and the highest percentage of female-headed households (Group for the Advancement of Psychiatry, 1989; Landale & Orgena, 1995). Some of the economic problems that Puerto Ricans face include the deindustrialization of the Northeast, the rise of poorly paid jobs with limited benefits, and high levels of discrimination (Guarnaccia et al., 2002).

In places like New York and other cities of the Northeast, Puerto Rican families spanning one or more generations have lived there all their lives with English as their first language. This has led to the emergence of a distinctive group among the Puerto Ricans, called *Nuyoricans* (contraction of "New Yorker" and "Puerto Rican"). Although the Nuyorican culture seems to be flourishing and becoming a vibrant artistic and literary force on the mainland, they experience discrimination from their islander peers (Flores, 1993). They have been described as being "neither here, nor there" in terms of their cultural identification and identity. Verin-Shapiro (2000) conducted an ethnographic investigation about the

reasons why Puerto Ricans seem to discriminate against Nuyoricans. She contends that Puerto Ricans tend to reject Nuyoricans because of the negative stereotypes attributed to them from which Puerto Ricans wish to distance themselves. In her opinion, the Nuyoricans represent, in the eyes of many Puerto Ricans, what is considered worst of the North American culture and a betrayal to the Puerto Rican cultural ways.

As for those living in Puerto Rico, there are 3.8 million Puerto Ricans according to the U.S. Census Bureau (2000b). The largest Puerto Rican city is San Juan, the capital city. An alarming 44.6% of the Puerto Ricans living on the island are below the poverty line. This is about five times the national average of 9.2%.

Similar to their mainland peers, the disintegration of the Puerto Rican family is also evident. As indicated by the U.S Census Bureau (2000a, 2000b), 21.3% of the Puerto Rican families on the island are headed by a female with no husband present in the family. The aforementioned number is almost twice the national average of 12.2%. Although the percentage of divorced individuals on the island (9.6%) is similar to the national average (9.7%), the percentage of separated individuals among Puerto Ricans on the island is

63% higher than the national average (3.3% compared to 2.2%, respectively).

Suicidal Behavior and Its Terminology

As explained earlier, suicidal behavior includes a variety of intentions or actions intended to harm self. Although there is a debate about the proper nomenclature for each type of suicidal behavior, suicidal behavior is commonly classified into three different, yet interrelated, types of such behavior commonly discussed in the literature: suicidal ideation, suicidal attempts, and completed suicide.

This classification was first suggested by Beck and his colleagues in 1973 (as cited in Maris, 1992a) per request of the National Institute of Mental Health (NIMH). Although Beck's classification of suicidal behavior is still commonplace in the professional literature, some have criticized it as unsophisticated or simplistic (Maris, 1992a).

Schneidman (1985) persuasively argues that "suicide is the human act of self-inflicted and self-intentioned cessation" (p. 14). Therefore, he argues, the expression "suicidal attempt" should only be used for cases in which the individual attempted to truly commit suicide, that is,

to truly end his/her life—and fortuitously survived. Other self-inflicted but sub-lethal acts should be termed as "quasi-suicides" or "parasuicides". He argues that these should not be confused with pseudosuicidal gestures. Parasuicidal behaviors (i.e., self-mutilation, excessive drug dosage) represent a genuine psychological crisis and a focused effort to resolve some intense difficulty where the end goal is not cessation (total and irreversible death). Meanwhile, pseudosuicidal gestures are viewed as carrying a malingering, manipulative, or attention-seeking connotation.

Conversely, Fremouw, Perczel, and Ellis (1990) argued that the term *parasuicide* encompasses all forms of intentional self-harming behaviors, including both lethal and sub-lethal attempts. They also argue that this term should be the preferred one on the basis that, in clinical practice, individuals truly wanting to end their lives are rarely encountered. Oftentimes, the goal of those who engage in parasuicidal behavior is not to kill themselves. In their view, the term *parasuicide* communicates the seriousness of the behavior while refraining from making inferences about the motives or value judgments about the desirability of the act. Also, they warn not to lightly dismiss non-lethal or sub-lethal behavior.

With the intent to further classify different types of suicidal behaviors not mentioned by others, Firestone (1997) introduced the term *microsuicide* to refer to behaviors, attitudes, or lifestyles that are self-induced and threaten the physical health, emotional well-being, and/or personal goals of the individual. Firestone has suggested that microsuicidal behavior exists on a continuum, ranging from asceticism or self-denial, to accident proneness, substance abuse, and other self-defeating behaviors that culminate in self-mutilation and actual suicide.

As noted by Hawton and Catalán (1982), all the terms suggested so far have their drawbacks: "parasuicide" unintendedly implies suicidal intention; "pseudosuicide" suggests mimicry of suicide while dismissing the possible lethality of the gesture. Recognizing these limitations and remaining aware of the controversy about the accurateness of terminology as described above, this study uses Beck's classifications of suicidal behaviors. Also, this study also uses the phrase "suicide attempt" as defined by Schneidman, meaning, unsuccessfully trying to harm or harming oneself with the intention to die.

Suicidal Behavior Among the General Population

Suicidal Ideation

Almost invariably suicidal attempts and suicides are preceded by suicidal ideation. According to Jacobs, Brewer, and Klein-Benheim (1999), suicidal ideation includes "more than just thoughts of death. . . . [It] includes a person's active consideration of taking his or her own life, with or without specific plan" (p. 20). They cite several studies that indicate that about 70% of all suicide victims have communicated their thoughts about suicide shortly before their death.

Suicidal ideation seems to be a fairly common phenomenon. Fremouw et al. (1990) report that depending on the population studied, lifetime prevalence of suicidal ideation has been estimated to be as low as 40% and as high as 80%. In a groundbreaking study in the subject, Schneidman (1971) conducted a survey through *Psychology Today* with over 30,000 responses. He found that over 50% of his sample acknowledged seriously contemplating suicide at least once in their lifetime.

Suicide Attempts

Studies suggest that previous suicide attempts are significant predictors of completed suicide (Clayton, 1993;

Maser et al., 2002; Wolford, Reihman, & Tars, 1991). Shafii, Carrigan, Whittinghill, and Derrick (1985) have stated that "the suicidal ideation of yesterday is highly likely to become the suicide threat or attempt of today or the completed suicide of tomorrow" (p. 1064). Thus, identifying the characteristics of suicide attempters may help to determine those who might be at risk of engaging in self-injurious or suicidal behavior.

The literature reports that a massive increase in the number of people engaging in suicidal attempts has occurred since the 1960s (Hawton & Catalán, 1982; Kerkhof, 2000). The importance and impact of this phenomenon for the public health and society at large are obvious. The individual usually is hospitalized, resulting in financial loss and carries the stigma of being a psychiatric patient. In addition to the individual effects, suicide attempts usually have devastating effects on the individual's family, relatives, and significant others.

The issues mentioned above become especially alarming when one considers the high rates of self-inflicted injuries reported each year. Brickman and Mintz (2003) reported that although the National Institute of Mental Health (NIMH) estimates that there are between 8 and 25 suicide attempts for every completed suicide, the actual

number may be much higher. They studied the rates of death by suicide from 1992 to 1999 and compared that to the rates of self-inflicted injuries treated at emergency rooms during that same period. They found that although there was a slight reduction in the number of suicides (from 12 to 10.7 per every 100,000 individuals), the number of self-inflicted injuries treated at emergency rooms almost tripled during the same period (from 600 to 1,600 per every 100,000 individuals). Also, they indicated that the CDC had found that at least 60% of those injuries could be considered as probable suicide attempts, 10% as possible attempts, and in the remaining 30% of the cases the information is unclear or not reported.

Based on the information provided above, up to 70% (1,120) of the 1,600 self-inflicted injuries per every 100,000 individuals reported each year could be categorized as probable and/or possible suicide attempts. When that number is divided by the number of completed suicides per 100,000 individuals (10.7), an estimate of about 105 probable and/or possible suicide attempts per completed suicide could be extrapolated. The actual number of attempts should be considered to be much higher since the previous estimate is not accounting for self-inflicted injuries reported as accidents, those treated by physicians

at private offices, those treated at home or not treated, and those for which the information is either unclear or not reported.

Several characteristics of individuals who had attempted suicide have been identified in the professional literature. These characteristics are in some aspects markedly different from those of suicide completers. For instance, Fremouw et al. (1990) have reported that suicide attempters often differ from completers in terms of their gender, age, and methods. Suicide attempters are usually younger, female, and utilize low lethality methods. Adolescent females seem to have higher rates of attempted suicide, whereas older males have higher rates of successfully committing suicide. The literature consistently indicates that self-poisoning is the most common method of attempted suicide, accounting for as much as 90% of all attempts (Kerkhof, 2000; McIntosh, 1992). Other common methods include self-cutting, self-stabbing, and carbon monoxide poisoning (Mościcki, 1999).

In an interesting review of the literature on suicide attempters, Black and Winokur (1990) describe suicidal attempters as likely to be female, younger than 35 years, often acting impulsively, making provisions for rescue, and using ineffective or slowly effective methods. They also

report that fewer suicide attempters are psychiatrically ill, when compared to completers, with the more common diagnoses being depression, alcohol and drug abuse, somatization disorder, and antisocial personality.

Suicide attempts are often considered to be an important predictor of completed suicide. Although the relationship between attempted suicide and eventual suicide completion is a complex one (Maris, 1992b), the literature consistently reports that between 10-15% of those who attempt suicide eventually commit suicide, and that between 30-40% of those who commit suicide have attempted suicide previously (Fremouw et al., 1990; Kerkhof, 2000; McIntosh, 1992).

Completed Suicide

Suicide is one of the leading causes of death in the U.S. In 1996, suicide was the ninth cause of death in the U.S. with nearly 31,000 committing suicide. The total number of suicides for 1996 was 55% greater than the total number of homicides for the same year, about 20,000 (U.S. Public Heath Service, 1999). Although it is generally recognized that suicide figures might be inaccurate and underestimated in official statistics due to different factors, such as difficulties in differentiating suicides

from accidents in some instances, new research in the area tends to suggest that the undercount might be modest (Mościcki, 1999).

Rates of suicide vary according to age, gender, and race. Recent national data (CDC, 2003) present suicide as the third cause of death for individuals of both sexes from 10-34 years of age; the eighth cause for males of all ages and races; the third cause for all males from 10-44; and the fourth cause for all females from 15-24. More information about variations in suicide rates is provided further in this study.

Firearms are the primary method of suicide for both men and women of all ages. It has been estimated that up to 60% of all suicidal deaths are by firearms. For males, the second most common method is hanging, and for females it is self-poisoning (Mościcki, 1999, Spicer & Miller, 2000).

Completed suicides show a seasonal relationship. They seem to increase during the warmer months (between spring and fall); particularly during April, May, and June. Suicide attempts and suicides seem to be somewhat less frequent just prior to or during holidays and more frequent immediately after major holidays, especially Christmas and Easter (Buda & Tsuang, 1990; Kerkhof, 2000; Maris, 1992b).

Suicidal Behavior Among Hispanics

Although lower than for Caucasian Americans, suicidal behavior is also frequent among Hispanics. According to Firestone (1997), the suicide rate for Hispanics in 1990 was 12.3 per 100,000 for males, and 2.3 per 100,000 for females. Among Hispanics, suicide seems to be a phenomenon more common among younger individuals. Olvera (2001) studied a sample of adolescents from an ethnically diverse middle school. He found that Hispanic and mixed-ancestry (biracial) adolescents in his sample displayed a significantly higher risk of suicidal ideation when compared to their Caucasian peers, even when controlling for other factors.

Similarly, Tortolero and Roberts (2001) studied ethnic and gender differences in suicide ideation among a large sample of middle-school students in the Southwest. They found that Mexican American participants reported a significantly higher prevalence of suicide ideation than did their Caucasian counterparts. Mexican Americans were 1.8 times more likely to have high suicide ideation than Caucasian Americans. Also, the suicide ideation risk for Mexican Americans remained unchanged after controlling for other variables. Blum et al. (2000) found that Hispanic 7^{th}- and 8^{th}-graders in their sample reported the highest

percentage (11.9%) in measures of suicidal ideation or pervious attempts. In the same study, Hispanic 9th- to 12th-graders had the second highest percentage of reported suicidal ideation and attempts.

Sorenson and Shen (1996) investigated the difference in suicide rates between U.S.-born and foreign-born individuals in California from 1970-1992. They found that foreign-born individuals were consistently underrepresented in their rates of suicide deaths. More specifically, they found that although Hispanics born outside of the U.S. were at significantly lower risk of suicide than U.S.-born Hispanics, the difference between the two groups has diminished over time.

Higher rates of suicide for Hispanics have also been found among military personnel. Hourani, Warrack, and Cohen (1999) studied suicide among members of the Marine Corps and compared the observed rates with the expected rates for the employed, general population in the U.S. Their study found that the suicide rate for Hispanic males in the Marines (19 per 100,000 individuals) was 20% higher than the expected rate for Hispanic males among the civilian population when adjusted for age and employment (15.2 per 100,000 individuals).

Suicidal Behavior Among Puerto Ricans

Looking at intragroup differences among the Hispanic population, researchers have found increased rates of suicidal behavior among the Puerto Rican group. Jacobziner (1965) studied epidemiological data of attempted suicide by poisoning among adolescents (ages 12-20) as reported to the New York City Poison Control Center between 1960 and 1961. He found an elevated and statistically significant number of cases that were Puerto Rican. In fact, 22% of all the cases of attempted suicide in his study were of Puerto Rican descent.

Monk and Warshauer (1974) studied the rates of attempted and completed suicides among Caucasians, Hispanics, and African Americans in the East Harlem area of New York City. They recorded all the instances of attempted and completed suicides that occurred in the area for a period of 3 years (1968-1970). Several remarkable findings were noted. Puerto Rican males had the highest suicide of all the groups studied. The suicide rate for Puerto Rican males was more than 40% higher than that of the Caucasians or African Americans, and almost three times higher than the suicide rate for Puerto Rican males living on the island. The suicide rate for Puerto Rican females also exhibited a threefold elevation when compared to the rate

for females living on the island during the same period. Also, they found that an overwhelming majority of Puerto Ricans who committed suicide were born on the island (87%), compared to 13% who were born on New York. However, 68% of the Puerto Rican suicide victims had been living on the mainland for over 15 years, as opposed to 21% who had been living between 5 and 14 years on the mainland, and 11% who had been living on the mainland for less than 5 years.

More recently, Ungemack and Guarnaccia (1998) compared the prevalence and sociodemographic correlates of suicidal ideation and attempts in a large sample of Mexican Americans, Cuban Americans, and Puerto Rican Americans using data collected between 1982-1984 in the Hispanic Health and Nutritional Examination Survey (HHANES). In their study, they found that Puerto Rican respondents consistently reported higher lifetime rates of suicidal ideation and suicide attempts compared to either Mexican Americans or Cuban Americans. The rates of suicidal ideation and suicide attempts for Puerto Ricans on the mainland (14.1% and 8.8%, respectively) were found to exceed the rates of suicidal ideation and attempts for Mexican Americans (8.6% and 3.1%, respectively), for Cuban Americans (5.9% and 2.0%, respectively), and even exceeded the rates (10.6% and 6.8%, respectively) found in a study

of a representative sample of Puerto Rican adults residing in Puerto Rico conducted in 1984 by Reyes-Pulliza (as cited in Ungemack & Guarnaccia, 1998).

In a similar fashion, Magni et al. (1998) investigated suicidal ideation and suicide attempts among Hispanics with chronic abdominal pain using data from the HHANES. They found that both suicidal ideation and attempts were two to three times more frequent in those with chronic abdominal pain than among those without pain, particularly among the Puerto Rican subgroup.

Only a handful of studies have been conducted specifically addressing suicidal behavior among Puerto Ricans. Trautman (1961) examined data from 93 Puerto Rican clients (76 females and 17 males) from New York City who were admitted at the Lincoln Hospital in Bronx, New York. These patients were described as having a nonpsychotic "hysterical reaction" and acting under a state of intense emotionality that he termed a "suicidal fit."

Trautman (1961) described the suicidal fits as occurring in two phases. The fits were initiated by the impulsive escape from the stressful scene to a place of seclusion and privacy, followed by the impulsive act of grabbing hold of and ingesting whatever poisonous substance was available. He reported that Puerto Rican females were

more prone than males to suicidal fits. For females, suicidal attempts were reported to peak between the ages 18 to 29; and for males, between 27 and 29 years of age.

Since Trautman's study (1961), the theory of the suicidal fits to explain suicidal attempts among Puerto Ricans became commonplace, although some had argued against it. Zayas (1989) critiqued Trautman's study as obsolete and influenced by both psychoanalytic theory and by the medical establishment, and by a misunderstanding of *ataque de nervios*. In Zayas's words:

> Trautman's findings were hampered by limited knowledge of suicide and culture shock for Puerto Ricans. . . . Generalizing from the experiences of a small, homogenous group of suicide attempters to a particular ethnic group, and labeling the experience as a syndrome, is not a viable approach to identifying psychiatric entities or risk hazards. (p. 55)

Zayas clarified that his intent was not to dismiss Trautman's work for its methodological and conceptual flaws. Instead, he acknowledged Trautman's work as an early effort to understand suicidal behavior among Puerto Ricans, and he urged current researchers to continue what Trautman began. He stated that "more rigorous clinical research . . . [was] needed to dispel myths, verify realities, generate new assumptions and blaze future trails" (p. 55), in order to better understand suicidal behavior among

Hispanics in general, and among Puerto Ricans in particular.

More than 40 years after Trautman's study, only two other studies have specifically addressed suicide attempts among Puerto Ricans (Fernandez-Pol, 1986; Marrero, 1998). Fernandez-Pol (1986) examined data from 77 Puerto Ricans with low SES living in Bronx, New York, who attempted suicide. Of her sample, 53 subjects were born in Puerto Rico and 24 were born in the U.S. from Puerto Rican ancestry. She found that alcohol and other substance abuse was a significant predictor of attempted suicide, but place of birth (Puerto Rico vs. mainland U.S.) was not.

More recently, Marrero (1998) studied a sample of 60 Puerto Rican clients who attempted suicide and were seen at an emergency room at a city hospital. Males were found by Marrero to have diagnoses of substance use disorders more commonly than females, and hopelessness was found to correlate with suicidal intent. Those who attempted suicide in her sample showed many risk factors for suicidal behavior such as impoverished living conditions, high unemployment, severe psychopathology, histories of physical and sexual abuse, and family histories of suicide. However, no significant relationship was found between suicidal

intent and stress, depression, negative life events, psychotic disorders, or substance use disorders.

When looking at completed suicides, Puerto Ricans seem to have lower than expected rates of suicides. Oquendo et al. (2001) compared ethnic and gender differences and suicide rates in the U.S. relative to major depression among five different ethnic groups. They reported that when compared to Whites, the rate of depression was significantly higher for Puerto Ricans and lower for Mexican Americans. Furthermore, the prevalence of depression among Puerto Ricans (6.9 per 100,000) was almost twice that of Caucasian Americans (3.6 per 100,000), who have the second highest rate of depression. However, both Mexican Americans and Puerto Ricans reported lower suicide rates than White males. Overall, Puerto Ricans ranked fourth in suicide rates. Interestingly, when the annual suicide rates relative to major depression were computed, Puerto Ricans ranked in the last (fifth) place with a rate of 31 per 100,000, that is, almost half the rate for the group in fourth place (Mexican Americans = 58 per 100,000), and 3.3 times lower than the group who scored the highest (Whites = 102 per 100,000). Therefore, one could conclude that factors other than depression may have a significant contribution in the suicide rates for Puerto Ricans. When

other sociodemographic factors commonly associated with suicide (separation and/or divorce, low income, and unemployment) were added to the equation, Puerto Ricans obtained the highest rate for both males and females on each one of the correlates studied. In other words, Puerto Ricans were found significantly more likely to report both higher 1-year prevalence of major depression associated with suicide, and higher prevalence of the correlates of suicidal behavior mentioned above than any of the other groups studied.

As for Puerto Ricans living on the island, Canino et al. (as cited in Earls, Escobar, & Manson, 1990) reported epidemiological data indicating that the lifetime rate of suicide ideation and suicide attempts to be lower for Puerto Ricans living on the island than for their peers living on the mainland. Puerto Ricans living on the island showed rates of 14% for suicide ideation and 6% for suicide attempts, compared to 14.1% and 8.8%, respectively, for Puerto Ricans on the mainland as reported by Ungemack and Guarnaccia (1998). Earls et al. (1990) also quote a study by Gonzalez-Manrique and Rodriguez-Llauger indicating that the prevalence of completed suicides among Puerto Ricans on the island was 9.2 per every 100,000 individuals.

Since Hispanics are the largest minority in the U.S., and Puerto Ricans are the second largest subgroup among the Hispanics and reportedly have higher than expected rates of suicides and suicide attempts, it is unfortunate that only a handful of studies have been conducted addressing the study of suicidal behavior among Puerto Ricans. Therefore, this investigation represents a contribution to the understanding of suicidal behavior among Puerto Ricans.

The relationship between psychological problems or psychiatric syndromes and suicidal behavior has been well established (Brent, 1995; Brent et al., 1993; Hopes & Williams, 1999; Marrero, 1998). However, these factors fail to establish a comprehensive profile of those attempting suicide. It is known that the majority of patients with depression, schizophrenia, or substance use disorders are not suicidal (Hendin, 1995). Therefore, it could be hypothesized that several other important psychological and social factors must also contribute to suicidal behavior.

Risk Factors in Suicidal Behavior

As mentioned before, the identification of risk factors or characteristics of individuals who are at an increased risk of attempting or committing suicide has been identified as a promising way to understand and possibly

prevent suicidal behavior (ADAMHA, 1989). However, this approach has been criticized by some researchers because of its substantial within-group variability; that is, many of the individuals in the groups identified as "high-risk" are not truly at risk of suicide (Hatton, Valente, & Rink, 1977, as cited in Firestone, 1997).

Others have argued that although the statistical examination of completed suicides has proven to be helpful, a mere examination of total suicide rates may be misleading. Due to overrepresentation, White males (who may account for as much as two-thirds of the total suicides each year) might skew the results enough to make the whole population resemble the characteristics of that group (Maltsberger, 1986).

In contrast, defenders of the identification of risk factors argue that even though the causes of suicides (even at the individual level) may be many and complex, and even though each suicide may present a unique set of circumstances, the careful examination of large numbers of suicides and suicidal behaviors allows for patterns to emerge. These patterns allow scientists to draw general conclusions about the conditions that may place some groups of individuals at an increased risk of attempting or committing suicide (ADAMHA, 1989).

Despite its limitations, the identification of risk factors continues to be the most helpful approach in understanding suicidal behavior in order to formulate and to implement preventive strategies. The rest of this section is devoted to presenting a review of the factors associated with high risk of suicidal behaviors that have been selected for this study.

Family-Related Factors

In 1989 the ADAMHA published a list of risk factors associated with youth suicide in the general population. Among these factors, the family influences factor was included. A breakdown of this factor included: history of violence in the family, genetic traits (such as predisposition to affective illnesses), parental loss, family disruption, and suicidal behavior among parents and relatives. The presence of either of these characteristics or combinations thereof was associated with high risk of suicide.

In her meta-analysis, Pfeffer (1989) found three types of family factors that were consistently associated with suicidal behavior: (a) family stresses involving changes in the family composition due to losses, deaths, or separation/divorce, (b) family violence especially

involving physical or sexual abuse, and (c) symptoms of depression and/or suicidal behavior among other family members. A review of the professional literature of two selected familial variables (divorce/separation and family cohesion) is presented below.

Divorce

Divorce and/or separation have been linked to increased risk of suicidal behavior. It has been noted that a strong relationship exists between the rise in the numbers of divorce and the rise in divorce rates. Referring to the rise in adolescent suicide and divorce in the U.S. between 1968 and 1983, Giffin and Felsenthal (1983) reported that both the number of divorces granted and the number of young suicides committed tripled during the same period. A study by Wagner, Silverman, and Martin (2003) found that parental separation or divorce, and family history of suicidal behavior and alcohol or substance abuse problems were more strongly associated with completed suicide than with other suicidal behaviors among the youth.

As for adults, the relationship between divorce and suicide has been noted in the professional literature since Emile Durkheim's (1897/1951) classical work *Le Suicide.* He concluded that suicide rates vary inversely to the

integration of the social groups that the individual forms a part. Durkheim identified religion, the family, and the nation's political situation as the three most important groups to which an individual belongs. Whenever any of these groups shows disintegration, suicide rates rise. Among other things, his work showed that suicide rates for the unmarried and the divorced exceed the rates of the married. Recently, Evans and Farberow (1988) illustrated Durkheim's proposition by pointing out that the state of Nevada was the state with the highest rates of both suicides and divorces during 1980. They contrasted that with the rates of the state of New Jersey in both categories for the same year. New Jersey ranked 44th in divorce rates and 50th in deaths by suicide.

Recently, other investigators have also examined the relationship between divorce and suicidal behavior. Gunnell, Middleton, Whitley, Dorling, and Frankel (2003) investigated the factors associated with a rise of completed suicides among young men (age <45) in England and Wales from 1950-1998. They found that among the factors most commonly associated with suicide were increases of divorce and declines in marriage. Similarly, a study by Rubenstein, Halton, Kasten, Rubin, and Stechler (1998) studied a sample of 272 10th- and 11th-graders by

administering a comprehensive battery of instruments. They found that parental separation, divorce, and remarriage of parents increased the risk of suicidal behavior in their sample of adolescents.

Family Cohesion

Family cohesion has been described as involving a degree of commitment and love to help and support the family members and provide for one another (Trivino, 1999). Low levels of family cohesion have been associated with high risk for suicidal behavior, especially among youth.

Husain (1990) examined several psychosocial factors related to suicidal behavior among Hispanic adolescents. Family-related factors such as family turmoil, disturbed parent-child relationships, physical and sexual abuse, and hostile rejecting parental attitudes were identified as the most significant promoters of suicidal behavior among youth.

Likewise, a study by Miller, King, Shain, and Naylor (1992) found that most of the adolescents in their sample who attempted suicide perceived their families as being less cohesive, less affectionate, and more disengaged. On the other hand, adolescents who described their family life as having a high degree of mutual involvement, shared

interests, and support were significantly less likely to be suicidal.

Similarly, a study by Rubenstein, Heeren, Housman, Rubin, and Stechler (1989) showed that the combination of low family cohesion and high stress increased the suicidal behavior among adolescents from 20% to 57%. Likewise, Wagner et al. (2003) reported that family systems problems such as low cohesion, low adaptability, and insecure parent-child attachments were more consistently associated with nonfatal suicidal behaviors than with completed suicides among the youth.

Previous studies, like the one by McKenry, Tishler, and Kelley (1982), found a relationship between the perceived negative familial environment and attempted suicide. McKenry et al. studied 46 adolescent suicidal attempters and compared them with 46 non-attempters and their parents. They were administered a psychological battery that included measures of depression and anxiety, marital adjustment, family conflict and cohesion, and suicidal ideation. Results showed that attempters presented a more negative view of their relationships with their parents, viewed the time spent with their parents as less enjoyable, and viewed their parents' marriage as less well adjusted than did the non-attempters.

More recently, other researchers have found the same relationship of a perceived negative family environment and suicidality. Brent (1995) reported several other familial factors associated with adolescent suicidal behaviors. These included parental depression and substance abuse, family discord, and poor family support. Each of these factors may certainly lower the level of family cohesiveness. Similarly, Hovey and King (1996) studied a group of second-generation Hispanic adolescents from Southern California and found that family dysfunction and negativistic expectations for the future were significant predictors of acculturative stress, depression, and suicidal ideation.

High levels of family cohesiveness have been suggested to have a preventive or protective effect against suicidal behaviors (McKenry et al., 1982; Miller et al., 1992; Rubenstein et al., 1998; Trivino, 1999).

History of Abuse

Among the risk factors commonly associated with suicidal behavior, history of abuse is commonplace in the literature. A number of recent studies provide empirical support for the link between abuse and suicidal behavior.

Deykin, Albert, and McNamara (1985) investigated the records of the Massachusetts Department of Social Services for evidence of contact with the agency for reporting abuse or neglect for 159 adolescents admitted to an emergency service after attempting suicide. For each attempting adolescent, two adolescents of the same age and gender treated for other conditions at the same setting were assigned as a control group for comparison. They found that those who attempted suicide were 3-6 times more likely to have records of previous contact with the Massachusetts Department of Social Services than the subjects in the control group. This study is considered as providing strong evidence for the association of abuse or neglect and suicidal attempts because all the contacts with the social service department were made prior to the suicidal attempt and those contacts were recorded by personnel who had no awareness of the future psychological status of the subjects.

Rew, Thomas, Horner, Resnick, and Beuhring (2001) studied a large sample of 8,806 adolescents of 7^{th}-, 9^{th}-, and 11^{th}-grade students. Data from three ethnic groups (African, Hispanic, and Caucasian Americans) were analyzed, and the best explanatory variables for suicide attempts were identified. Among other individual risk factors, they

found physical and sexual abuse to be significantly correlated to suicide attempts for all the ethnic groups.

In a study aimed to assess the relationship between perceived abuse, neglect, and suicidal behavior, Lipschitz et al. (1999) investigated 71 adolescents hospitalized for various psychiatric issues who completed self-reported measures of abuse (sexual, physical, and emotional), neglect (physical and emotional), current suicidal ideation, lifetime suicide, and self-mutilation attempts. In their sample, 37.5% of the males and 43.7% of the females reported sexual and physical abuse. Fifty-one percent of the youngsters also reported having made a suicidal attempt. Multivariate analysis of the data revealed that female gender, sexual abuse, and emotional neglect were significant predictors of self-mutilation and suicidal ideation. As for suicide attempts, female gender and sexual abuse were identified as significant predictors.

Abused males have been found to have a similar proneness to engage in suicidal behaviors. Chandy, Blum, and Resnick (1997) examined suicidal involvement, disordered eating behaviors, sexual risk taking, delinquent behaviors, substance use, and school performance of 370 male teenagers with a reported history of sexual abuse and compared those results with those of 370 controls without a

history of sexual abuse. Adolescent males with a history of being sexually abused had higher rates than the controls of adverse correlates in all the examined areas with the exception of school performance.

Studies using adults have also found a correlation between abuse and suicidal behavior. McHolm, MacMillan, and Jamieson (2003) studied adult women from a community sample who met criteria for major depressive disorder. Measures of childhood physical abuse history were also collected. They reported that suicidal ideation was most strongly associated with a history of childhood physical abuse.

Similarly, Ullman and Brecklin (2002) examined demographic and psychosocial correlates of suicidal ideation and suicide attempts in women with histories of sexual assault during childhood and/or adulthood. Their data analysis showed that women with histories of sexual assault in both childhood and adulthood reported significantly greater odds of lifetime suicide attempts, when controlling for demographic factors and other psychosocial characteristics.

In a large study using 1,991 same-sex adult pairs of twins, Nelson et al. (2002) investigated the relationship between self-reported child sexual abuse (CSA) and adverse psychological outcomes during adulthood. The study found

that females reporting CSA were at significantly higher risk of depression and suicidal attempts among other adverse psychological outcomes. In order to control for genetic or environmental predisposition for developing adverse psychological outcomes, they examined CSA-discordant pairs of twins, that is, pairs in which only one of the participants reported a history of CSA. The CSA-positive group had a significant greater risk for all the adverse psychological outcomes studied, including suicidal attempts, when compared to the CSA-negative group of twins.

Sexuality Factors

Sexual orientation and being sexually active during adolescence have been identified as risk factors for attempting suicide. Catalán (2000) in his review of literature on the topic suggested that even though the study of sexual orientation and suicidal behavior is a complex and under-researched area, there are studies that point to an increase in suicide and attempted suicide rates among homosexuals. Reportedly, gay men and lesbians have greater lifetime prevalence of deliberate self-harm than do heterosexual men and women (Catalán, 2000). Bagley and Tremblay (1997) studied a sample of 750 men ages 18-27. Of their sample, 13% classified themselves as engaging in

homosexual or bisexual behavior. They found that sexually active gay men reported greater lifetime prevalence of self-harm (10% of the sample) than did sexually active heterosexuals (3% of the sample). They also reported that the highest lifetime prevalence of self-harm was obtained by celibate young men, among which celibate gay men obtained a greater rate (46%) than did celibate heterosexuals (18%). Furthermore, gay males accounted for 62.5% of suicide attempters in their sample and were 13.9 times more at risk for a serious suicide attempt than heterosexual males. A study conducted by O'Donnell, O'Donnell, Wardlaw, and Stueve (2004) among urban African American and Latino youth found that being female, having basic needs unmet, engaging in same-gender sex, and depression were significantly related to suicidal ideation.

A study by King et al. (2001) examined risk behaviors among 1,285 randomly selected adolescents (ages 9-17) of whom 42 had attempted suicide and 67 had expressed suicidal ideation only. After adjusting for sociodemographic characteristics, a significant association was found between suicidal ideation or suicide attempt and several risk behaviors, among them sexual activity. Walter et al. (1995) studied the prevalence of involvement in sexual, assaultive, and suicidal behaviors among urban minority

adolescents (n = 3,738, ages 11-17). They found that 31% of males and 7% of females reported involvement in sexual intercourse, 27% of males and 8% of females reported involvement in assaultive behavior, and 10% of males and 19% of females reported suicide intentions/attempts. They also found that the risk for involvement in each of the three risk behaviors was substantially increased by involvement in the other two behaviors.

Substance Use or Abuse

The relationship between substance abuse and suicidal behavior is discussed extensively in the professional literature. Brent (1995), after discussing the literature on risk factors for adolescent suicide, reported that psychosocial autopsies of suicide victims, longitudinal studies, and epidemiological studies reveal a number of risk factors strongly associated with suicidal behaviors, including substance abuse. Gould et al. (1998) studied 1,285 randomly selected children and adolescents (ages 9-17) and found that mood, anxiety, and substance abuse/dependence disorders independently increased the risk of suicide attempts. Abusing substances has also been linked to repeated suicidal attempts. Sakinofsky (2000)

found that suicide attempters who abuse substances are more likely than non-abusers to reattempt.

Substance abuse, especially of alcohol, has been reported as a common characteristic of suicide attempters (Murphy, 2000). Fernandez-Pol (1986) found that abusing alcohol and/or other substances was a significant predictor of attempted suicide among a sample of 77 adult Puerto Rican patients hospitalized after attempting suicide.

Age

Age is also associated with different types of suicidal behaviors. Suicide is the third cause of death for individuals between the ages of 10-34, the second cause of death for Caucasians between the ages 10-34, and the third cause of death for Blacks between the ages 15-24 (CDC, 2003).

Suicide attempters are likely to be younger than suicide completers (Fremouw et al., 1990). The highest rate for females is found between the ages 15 to 24. For males, the highest rates occur between the ages 25 to 34 (Hawton & Catalán, 1982; Kerkhof, 2000).

A study about suicide attempts among female adolescent twins was recently conducted by Glowinski et al. (2001). They found that from a total sample of 3,416 female

adolescent twins with ages ranging from 12 to 23, 4.2% of the subjects reported having attempted suicide at least once. They also found that in every case the first suicidal attempt happened before age 18, at a mean age of 13.6.

Completed suicides are known to increase with age (Mościcki, 1999). In recent years, however, researchers have found that although the trend of suicide rates increasing as age progresses continues to be true, the rates for the elderly have actually declined over time by as much as 52% (McIntosh, 1990). Researchers have also found, according to a study made by Rosenberg et al. (as cited in Buda & Tsuang, 1990), that from 1950 to 1980 the suicide rates for adolescents ages 15-19 have increased by 305% and the rates for young adults ages 20-24 have increased by 196%. Based on these observed trends, McIntosh described the rates of suicide by age in the U.S. as bimodal, increasing with age. It peaks in early life followed by a slight decrease in mid-life. Later it increases again to reach its highest peak after age 65. A similar bimodal pattern is also observable in the suicide rates for American males. On the other hand, Stack (2001) reported that American females follow a different pattern. Suicide rates for females increased with age until age 50 and then declined, forming an inverted U-shaped pattern.

After a comprehensive literature review comparing the patterns of suicide and suicidal behavior for adolescents and adults to identify age-related similarities and differences in suicidal behaviors, Safer (1997) found several important similarities and differences among these groups. The major findings were: (a) adults and adolescent suicide completers are similar with respect to their gender ratio, use of guns in the attempt, completion of the initial attempt, and serious psychopathology; (b) adolescents differ from adults in suicidal behavior in their greater attempt rate, higher attempt-completion ratio, and lower rates of short and intermediate completion following psychiatric treatment; (c) the suicide outcome following psychiatric hospitalization is eightfold greater in adults than in youths during the first 3.5 years post-discharge; and (d) the 5:1 male/female ratio is the same for both adolescent attempters who later suicide and for all U.S. 15-19-year-old suicide completers.

Gender

Gender is known to correlate in different ways to different suicidal behaviors. Suicide attempters are at least three times more likely to be females (Black & Winokur, 1990; Fremouw et al., 1990). Conversely, suicide

completers are more likely to be males, at a ratio of at least 4:1 (Black & Winokur, 1990; Mościcki, 1999).

The aforementioned researchers have explained this difference, partially, by attributing it to higher rates of survival in females after attempting suicide due to the fact that oftentimes they would choose low lethality or slow methods for attempting suicide, or would make some provisions for rescue.

These gender differences were hypothesized to diminish over time. Due to the impact of the women's movement, the increased number of women in the workforce, and the increase in stress for women, suicide among females was expected to rise, thus closing the gap between female versus male suicide rates. However, the contrary has occurred. The suicide rates for females have remained stable whereas suicide rates for males have increased, thus increasing the difference between them (McIntosh, 1990).

These gender differences are observable across different ethnicities. One group that has recently received special attention is the female Hispanics since they have been found to have high rates of suicide attempts. Sorenson and Golding (1988) examined the lifetime prevalence of suicide ideation and suicide attempts among a sample of 1,425 Hispanics and 1,309 non-Hispanic Whites. Among their

findings they reported that for both groups, females had a higher prevalence of both suicidal ideation and suicide attempts than males. Similarly, as discussed earlier, Rew et al. (2001) found in their study that the percentage of suicide attempts was significantly higher among Hispanic girls than in any other ethnic-gender group in their study.

Socioeconomic Status

Durkheim (1897/1951) viewed poverty as a protective factor against suicide. In his view, poverty has a restraining effect over suicide since he believed that the less one has, the less one is tempted to expand one's range of perceived needs. On the other hand, the wealthy would have a wider range of perceived needs. They are more educated, usually less religious than the poor, and, therefore, more apt to question moral traditions and more prone to commit suicide.

Modern researchers have largely failed to corroborate Durkheim's proposition, finding the opposite to be true. Stack (2001) commented on a review of literature conducted by Boxer, Burnett, and Swanson in 1995 and agreed with their conclusion that the current knowledge about SES and suicide risk indicates a negative relationship between the two: the lower the SES, the higher the suicide risk. As an

example, he quotes his own findings about blue-collar workers in Detroit having a suicide rate (87.5 per 100,000) five times higher than the rate of their white-collar counterparts (17.8 per 100,000).

Similarly, Adam (1990) concluded that adverse social and economic conditions have a mediating effect on suicidal behavior. Poverty, transience, poor living conditions, and other indicators of social disorganization were found to be characteristics of geographical areas with high rates of suicidal behaviors. Meanwhile, high SES, residential stability, and other indices of social integration are characteristics of areas with low rates of suicidal behaviors. Gunnell et al. (2003) found that among the factors most commonly associated with completed suicides among young men (age <45) in England and Wales from 1950-1998 were increases in income inequalities along with increases of divorce and declines in marriage.

Several adverse socioeconomic conditions mentioned previously have also been found to adversely influence the proneness to attempt suicide among the Puerto Rican population. Fernadez-Pol (1986), in her study of 77 Puerto Ricans who attempted suicide while in New York City, found that the place of birth (mainland vs. island) was not a significant predictor. In contrast, she found that

unemployment was a significant correlate with suicidal attempt. Of the subjects in her sample, 98% were unemployed when they attempted suicide.

Religiosity

Since Durkheim's work (1897/1951), the proposition that religion may have a direct effect in suicide rates has been commonplace. More specifically, Durkheim's hypothesis was that Catholicism has a preventive or protective effect on suicide, whereas Protestantism seems to have a positive correlation with the increase of suicide rates. Since then, many researchers have attempted to test Durkheim's proposition, or modified versions of it with conflicting results.

On one hand, published research works show that the size of the Catholic population is negatively associated with suicide rates (Breault, 1986; Burr, McCall, & Powell-Griner, 1994; Faupel, Kowalski, & Starr, 1987; Kowalski, Faupel, & Starr, 1987; Pescosolido & Georgianna, 1989). On the other hand, other researchers have not found support for the relationship between the size of the Catholic population and suicide. They have found a negative relationship between rates of church membership (regardless of creed), church attendance and/or self-perception of

religiosity, and suicide rates (Hovey, 1999; Rew et al., 2001; Stark, Doyle, & Rushing, 1983).

As for the Hispanic population, religion has been found to have a protective effect. Sorenson and Golding (1988) found in their sample that for both Hispanics and non-Hispanic Whites, those who described themselves as Catholics were less likely to have attempted suicide than those who described themselves as non-Catholics. Hovey (1999) studied religion and suicidal ideation among a sample of Latin American immigrants of varied Hispanic ancestry. In his study, no relationship between suicidal ideation and religious affiliation was found. However, his study did find that self-perception of religiosity, influence of religion, and church attendance were significantly negatively associated with suicidal ideation among Latin American immigrants. A multiple regression analysis conducted showed that the influence of religion was a significant predictor of suicidal ideation, thus providing empirical support that high religiosity, regardless of denominational differences, may play a protective role against suicidal behaviors.

Hovey and King (1997) argued for the protective role of religion, especially Catholicism, against suicide among Mexican Americans. They contend that Catholicism may serve

as a deterrent against suicide due to its doctrinal teachings, such as considering suicide as a sin under any circumstances and the belief in the afterlife. Another way in which the Catholic religion may have a protective role against suicide may be through its influence on cultural norms. In the Mexican American culture, several religious ceremonies are considered as social events as well (i.e., baptism, communion, confirmation, *Quinceañera* celebration). It must be said that these attributes are not exclusive of either Catholicism or Mexican American culture. Other religious traditions as well as other Hispanic groups share the same views.

Recently, Nonnemaker, McNeely, and Blum (2003) examined the association of public (PUR) and private (PRR) religiosity and adolescent health-related outcomes using data from the National Longitudinal Study of Adolescent Health, a nationally representative sample of American adolescents in Grades 7-12. The PUR variable combined two items measuring frequency of attendance at religious services and frequency of participation in religious youth group activities. The PRR variable combined two items measuring frequency of prayer and importance of religion. Both PUR and PRR were protective against risky behaviors that included the use of cigarettes, alcohol, and

marijuana. Both PUR and PRR were also associated with a lower probability of having ever had sexual intercourse. Remarkably, only PUR was associated with lower emotional distress; and only PRR was significantly associated with a lower probability of having had suicidal thoughts or having attempted suicide. Thus, this study presents evidence that public expressions of religiosity seem to have no correlation with suicidal behavior, whereas private expressions of religiosity seem to be protective factors against suicidal ideation or attempts.

The Valuegenesis study (Dudley & Gillespie, 1992) surveyed SDA youth in order to identify the specific characteristics and needs of this group. A few years later, and as a follow-up to the Valuegenesis study, the *Avance* (Spanish for *Advancement*) study was conducted (Hernandez, 1995a) focusing on the unique characteristics and needs faced by the Hispanic SDA community in the U.S. Shortly after, Hernandez (1995b) conducted a similar study using a sample of over 2,000 Puerto Rican SDAs residing on the island, to whom a modified version of the *Avance* survey was administered. This study came to be known as *Avance PR*. In each of the three studies mentioned above, data concerning suicide attempts and other sociodemographic factors were collected. The present investigation utilizes data from the

Avance PR study, and more specifically from the youth sample of the study, to investigate the characteristics of Puerto Rican SDAs who, when surveyed, admitted having attempted suicide.

CHAPTER III

METHODOLOGY

Introduction

The data for the study came from the *Avance PR* study. *Avance PR* is a continuation of the *Avance* study, the largest denominational study among the Hispanic population of any denomination in the U.S. (Ramírez-Johnson & Hernández, 2003). The *Avance PR* data were collected between March and October 1995.

Avance and *Avance PR* used a survey approach that followed the design of an earlier study known as *Valuegenesis* (Dudley & Gillespie, 1992). *Valuegenesis* utilized several core questions that the Search Institute in Minnesota developed for a study of adolescents and adults in six major Protestant denominations. In turn, *Avance* included several of the core questions and scales used and validated by the Search Institute for *Valuegenesis*. In addition to these questions, *Avance* added specific questions developed to address topics that are relevant to Hispanic individuals (Hernández, 1995a).

Sampling Procedures and Population

In 1995, the SDA church in PR was organized into two conferences: the Western Puerto Rican Conference of the Seventh-day Adventist Church and the Eastern Puerto Rican Conference of the Seventh-day Adventist Church. Each conference comprised one half of the island. Although both conferences were invited to participate in the study, only the western conference and three schools of the eastern conference accepted the invitation.

For the *Avance PR* study, a total of 36 churches in the Western Puerto Rican Conference of the Seventh-day Adventist Church (WPRC-SDA) were selected. In order to ensure an adequate representation of large versus small and urban versus rural churches, and that the selected churches be distributed in way that was representative of the composition of WPRC-SDA, the churches were first stratified by region and by the size of the church and then locations were randomly selected (E. Hernández, personal communication, April 25, 2004). Data were also collected at six schools in the WPRC-SDA, the Antillean Adventist University in Mayagüez, Puerto Rico, and at three schools in the Eastern Puerto Rican Conference of the Seventh-day Adventist church.

The total sample of 2,064 respondents included youth (n = 1,406) and adults (n = 658). In 1993, the WPRC-SDA consisted of 127 churches and companies (i.e., small congregations) with a total membership of 13,553 members (Hernández, 1995b). Therefore, it is believed that the sample collected by the *Avance PR* team was an accurate representation of the total membership of the WPRC-SDA. The present study used only the youth sample. Some demographic data of the sample are presented in Table 1.

The participants of the *Avance PR* study were assured of the anonymity and confidentiality of their responses. The surveys administered at church meetings were collected during youth meetings known in Puerto Rico as *Sociedad de Jóvenes* (Youth Society). The *Sociedad de Jóvenes* meetings are held weekly and sponsored by the local youth ministry department. They usually take place on Friday nights. Although the programs at the *Sociedad de Jóvenes* meetings are done by and for the church youth, both youth and adults attend these meetings. Normally, these meetings are the second-best attended weekly church meeting. The pastors from the selected churches coordinated and promoted the project at their sites. A survey administrator, properly trained by the lead researcher, attended the designated *Sociedad de Jóvenes*

Table 1

Avance PR Sample by Age, Gender, Family Status, and Sexual Orientation

Group	*n*	%
Total Sample	1,406	100.0
Age		
Adolescents	1,011	71.9
Young Adults	393	28.0
Gender		
Male	598	42.5
Female	788	56.0
Family Status		
Intact	985	70.1
Non-intact	387	27.5
Sexual Orientation		
Heterosexual	1,330	94.6
Non-heterosexual	54	3.8
Religious Affiliation		
Non-SDA	307	21.8
SDA	1,029	73.2

meeting and proctored the administration of the survey to all the youths and adults who consented to participate. Two different questionnaires were used in the study. One questionnaire was administered to single youths (ages 13-25 years, single) and another to married youths and adults (26 years and over; and/or less than 26 but married). The participants were divided into these two groups and completed the appropriate questionnaire.

This study analyzed the *Avance PR* data to find the difference between two groups: (a) Puerto Rican young people who reported making at least one suicidal attempt within the 12-month period prior to the administration of the survey, and (b) those who did not report having made a suicidal attempt during the same period.

Instrumentation

The *Avance* research team consisted of eight Adventist scholars (Ramírez-Johnson & Hernández, 2003) and other research consultants and assistants with the support of V. Bailey Gillespie, director of the *Valuegenesis* project and led by E. Hernández (1995a) as the principal investigator.

The surveys used presented the items in two columns: One column in English and the other column in Spanish (see Appendix A). The same surveys used in the U.S. were used in Puerto Rico with some alterations. Participants in Puerto Rico received a list of changes along with the surveys (see Appendix B).

The *Avance* surveys included the already validated scales used in *Valuegenesis*, which were validated using both SDAs as well as other Christian populations (Benson & Donahue, 1990; Dudley & Gillespie, 1992). In addition, the *Avance* surveys included topics relative to the specifics of

the Hispanic population in the U.S. (i.e., ethnic and cultural issues, generation in the U.S., language preferences).

Several of the scales originally developed for *Valuegenesis* and adopted by the *Avance* team were used in this study in its original form. Others, however, were modified to fit the purpose of this study. These modified scales are the Parental Role Model scale, the Parental Authoritarianism scale, the Faith Maturity scale, and the Law Orientation scale. Since the items comprising the Parental Role Model scale are measures of perceived parental religiosity, this study renamed this scale as the Parental Religiosity Role Model scale. The Parental Authoritarianism scale as used in *Avance* contained six items. A reliability test of the scale revealed that one of the items (#198. "My parents encourage me to take my own decisions") was negatively correlated with the scale. Therefore this item was removed from the scale. This change caused the reliability coefficient of the scale to increase from .544 to .670.

Another scale used in *Valuegenesis* and *Avance*, the Faith Maturity scale, was used in its modified version for this study as suggested by Thayer (1993), namely the Thayer Short-Form scale. More details about the development of

this scale are presented later in this chapter. The Law Orientation scale used by *Avance* included five items. However, after noticing some conflicting results in a preliminary data analysis, a factor analysis of the scale was conducted. As a result, two items were eliminated. Thus, this study used a modified version of the original Law Orientation scale that contained only three items.

Research Variables

Dependent Variable: Suicide Attempt

The dependent variable of this investigation was called suicide attempt, created from item #178 from the *Avance* survey. This item measured suicidal attempts and read: "In the past twelve months, have you ever tried to kill yourself?" (underlined in the original). The possible answers were the following: (1) "No"; (2) "Yes, once"; (3) "Yes, twice"; and (4) "Yes, more than two times." These answers were recoded as follows: Group 1 = response 1 only (i.e., "No"); Group 2 = responses 2, 3, and 4 (i.e., all possible "yes" responses). The reported number of suicidal attempts made was not considered in this study.

Independent Variables

A total of 35 variables were used in this study. These variables were grouped into eight different groups: family

related factors, history of abuse, sexuality issues, substance use or abuse, age, gender, and socioeconomic status (SES). Furthermore, these variables were divided into two categories: numerical variables that were quantitative in nature and categorical variables that were descriptive in nature. The 22 numerical variables included: Family Cohesion scale, Parental Religiosity Role Model scale, Parental Authoritarianism scale, Parental Understanding scale, Parental Limits scale, Parental Knowledge of Youth Activities scale, Verbal Abuse, Physical Abuse, Sexual Abuse, Thayer Short-Form scale of Faith Maturity, Devotional Life scale, Grace Orientation scale, Law Orientation scale, Church Attendance, Warm Church Climate, Quantity of Family Worship, Quality of Family Worship, Religious Salience, Substance Abuse scale, Family Income, Mother's Level of Education, and Father's Level of Education. The 13 categorical variables included: Family Status, Verbal Abuse by Non-parent, Verbal Abuse by Parent, Physical Abuse by Non-parent, Physical Abuse by Parent, Sexual Abuse by Non-parent, Sexual Abuse by Parent, Gender, Sexual Orientation, Premarital Sexual Intercourse, Age Groups, Combination of Family Worship, and Religious Affiliation.

Family-Related Factors

This study examined seven family-related variables. These variables were a single item that measured family status, the Family Cohesion scale, the Parental Religiosity Role Model scale, Parental Authoritarianism scale, Parental Understanding scale, Parental Limits scale, and Parental Knowledge of Youth Activities scale.

The Family Cohesion scale (Family Cohesion) has six items using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Since all of the items were stated positively, high numbers indicated higher levels of family cohesion whereas lower numbers indicated lower levels of family cohesion. One of the items (#188) read: "My family life is happy." A complete list of the items comprising this and all other scales and variables is provided in Appendix C.

The Parental Religiosity Role Model scale (Parental Religiosity) was comprised of three items using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). One of the items (#203) read: "My parents live up to the standards of the church." (See Appendix C for the complete scale.)

The Parental Authoritarianism scale (Parental Authoritarianism) measured authoritarian parenting style as

perceived by the respondent. This scale has five items, and uses a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). One of the items (#194) read: "If I break one of the rules set by my parents, I usually get punished." (See Appendix C for the complete scale.)

The Parental Understanding scale (Parental Understanding) measured how well the respondents felt their parents understood them. It was formed by two items (#200 and #201) using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items read: (#200) "My parents don't understand my problems" and (#201) "Sometimes I feel that my parents have forgotten what it means to be young." These items were reverse-coded. Higher numbers indicated higher levels of parental understanding whereas lower numbers indicated lower levels of parental understanding.

The Parental Limits scale (Parental Limits) measured the limits set by the parents regarding several youth activities. The scale is formed by three items using a 5-point Likert scale ranging from 1 (*Does not apply*) to 5 (*Very often*). The items were preceded by the statement: "How often do your parents do the following?" The items read: "Limit the amount of time you spend watching TV?",

"Limit the amount of time for going out with friends during school nights?", and "Limit the types of music you listen to."

Family status (Family Status) was measured by a single item (#187) which read: "What is your family status?" The recoded responses for this item were: 1 = intact family; or 2 = non-intact families (see Appendix C for the original response format).

Parental Knowledge of Youth Activities scale (Parental Knowledge) was measured by a scale of five items (#212 a-e). The items started with the statement: "How much do your parents REALLY know . . ." The initial statement was followed by these phrases: ". . . who your friends really are?" ". . . where you go at night?" ". . . how you spend your money?" ". . . what you do with your free time?" ". . . where you are most afternoons after school?" The possible responses were coded as 1 = Don't Know, 2 = Know a Little, and 3 = Know a Lot. Higher numbers indicated higher levels of parental knowledge, whereas lower numbers indicated lower levels of parental knowledge.

History of Abuse

Abuse was measured by three separate items (#165, #166, and #167), one for each form of abuse explored:

verbal, physical, and sexual. These items were divided into two parts each. The first part asked the participant if they had ever experienced that particular form of abuse. The answers were given in a 5-point Likert scale that ranged from *Never* to *Almost all the Time* (see Appendix C). These were recoded using 1 = Yes (presence of abuse), and 2 = No (absence of abuse). The second part of the item asked the participants to indicate their relationship to the perpetrator (i.e., parent, spouse, close relative, friend or neighbor, other). The responses given were recoded as 1 = Parent, 2 = Non-parent (spouse, close relative, friend or neighbor, and other) for each type of abuse. The variables were labeled as: verbal abuse by parent (V-Abuse Parent), verbal abuse by non-parent (V-Abuse Non-Parent), physical abuse by parent (P-Abuse Parent), physical abuse by non-parent (P-Abuse Non-Parent), sexual abuse by parent (S-Abuse Parent), and sexual abuse by non-parent (S-Abuse Non-Parent).

Religious Factors

Religiosity factors were measured using the Thayer Short-Form Faith Maturity scale, the Devotional Life scale, Law Orientation scale, Grace Orientation scale, and a single item that measured Church Attendance. Other

religious factors studied include Perceived Warm Church Climate, Religious Salience, Quantity of Family Worship, Quality of Family Worship, and Combined Quantity, Quality of Family Worship, and Religious Affiliation.

The original Faith Maturity scale was developed between 1988 and 1990 by the Search Institute. It contained 38 items and was used in a study of youths and adults in six major Protestant denominations as well as in *Valuegenesis* (Dudley & Gillespie, 1992). It considered two main themes: vertical faith—one's relationship with God; and horizontal faith—one's devotion to serve others.

Thayer (1993) disputed the validity of the Faith Maturity scale for SDAs. Then, he developed two different scales: a 15-item scale known as the Thayer Long-Form scale and the 8-item scale named the Thayer Short-Form scale. These scales were later compared to others created by the Search Institute, such as the 12-item scale known as the Donahue scale, which was the scale used in the *Avance* surveys.

In creating the Short-Form scale, Thayer removed 7 items of the 15 that were originally included in his Long-Form scale. This new 8-item scale, known as the Thayer Short-Form scale (Faith Maturity), is the one used in this study. It must be noted that the Thayer Short-Form scale

contains items only belonging to the vertical faith category. It appears that among SDAs, faith maturity is better defined as a relationship with God than as serving others (Thayer, 1993).

The Devotional Life scale (Devotional Life) measured the involvement of the respondent in devotional activities. The set of items was preceded by the statement: "How often do you do each of the following?" The items used a 5-point Likert scale ranging from 1 (*Never*) to 5 (*More than once a day*). One of the items (#23) stated: "Pray or meditate, other than at church or before meals." Please refer to Appendix C for the complete scale.

The Grace Orientation scale (Grace Orientation) measured the belief that salvation is given only by the goodness (grace) of God as a gift that cannot be earned by our efforts. This belief is a fundamental teaching in Protestantism. The Grace Orientation scale was formed by two items using a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). One of the items (#32) read: "I know that God loves me no matter what I do." Please refer to Appendix C for the complete scale.

The Law Orientation scale (Law Orientation) is the belief that salvation is given to humans because of their good work and obedience to God's precepts as expressed in

the 10 Commandments and other biblical rules. This belief is considered wrong among Protestants. Endorsing this belief may point out a lack of doctrinal knowledge by the respondent and may lead to a sense of distress by failing at attempting to live a perfect life. The Law Orientation scale was formed by three items (#34, 35, 36) using a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). A sample item of this scale is item #34: "The more I follow Adventist standards and practices, the more likely it is that I will be saved." Please refer to Appendix C for the complete scale.

Church attendance, a commonly accepted measure of religiosity that has been studied in relation to suicide attempts (Hovey, 1999; Sorenson & Golding, 1988), was measured by a single item (#86): "How often do you attend church?" Six possible responses ranged from 1 = "Never" to 6 = "Several times a week or more" (see Appendix C for the complete range).

The Warm Church Climate variable (Warm Church) intended to measure the extent to which the participants perceived their leaders as leaders as warm and friendly and their congregations as warm, friendly places where people feel at home (Dudley & Gillespie, 1992). Warm Church Climate was measured by a single item (#66): "The leaders

at my church are warm and friendly towards the youth." The responses ranged from 1 = strongly disagree to 5 = strongly agree (see Appendix C).

Religious Salience, the attribution of importance given to one's religion, was measured by item #89: "Overall, how important is religion in your life? Mark only ONE answer." The possible responses ranged from "It is the least important influence in my life" to "It is the most important influence in my life." Please see Appendix C for the complete range.

Quantity of Family Worship (Quantity Fam-Worship) was measured by item #213: "How often does your family have family worship (prayers or religious devotions away from church services)?" The possible responses ranged from *Never* to *More than once a day*. Please see Appendix C for the complete range.

Quality of Family Worship (Quality Fam-Worship) was measured by item #214: "How would you evaluate your family worship?" The possible answers for this item were: "Does not apply (we don't have family worship)," "A waste of time," or "Meaningful/spiritual."

The Combination of Quantity and Quality of Family Worship variable (Combination Fam-Worship) assessed the combined effect of frequency of family worship and the

perceived quality of it. The items included in both the Quantity of Family Worship scale and the Quality of Family Worship were combined and recoded as follows: 1 = *Never*, 2 = *Seldom and Bad*, 3 = *Seldom but Good*, 4 = *Often and Bad*, 5 = *Often and Good*.

The Religious Affiliation variable distinguished between SDA and Non-SDA respondents. This variable was created from the recoded responses to items #60 and #88. Item #60 read: "At what age did you join the Seventh-day Adventist church (through baptism or profession of faith)?" The possible responses for this item were: "I have not been baptized", "under 9", "10-13", "14-17", "18-21", "22-25", "over 26." Item #88 read: "Are or were your parents Seventh-day Adventists?" The possible responses for this item were: "No one in my family is or was an Adventist.", "I am the only Adventist in my family.", "My father is or was but not my mother.", "My mother is or was but not my father.", "Both my parents are or were Adventists." The responses were recoded: Group 1 (Non-SDA) = answer #1 to both questions, Group 2 (SDA) = all other possible combinations.

Gender

Gender was measured with item #13, "Are you male or female?" The responses were coded 1 = male and 2 = female.

Sexuality Factors

Sexuality factors were measured by two single items relating to sexual orientation and premarital sexual intercourse. Sexual orientation was measured by item #76, "What is your sexual preference?" The possible responses for this item were: "Heterosexual (straight)," "Homosexual," "Lesbian," "Bi-sexual," and "I am not sure of sexual identity." Due to the low rate of responses endorsing sexual orientations other than heterosexual, the responses were recoded as 1 = Heterosexual, 2 = Non-heterosexual.

Premarital sexual intercourse (Premarital Sex) was measured by item #158. The section that included this item was preceded by the statement: "How many times during the last 12 months did you do each of the following?" Item #158 read: "Have premarital sex or sex outside of marriage." The possible responses for this item were stated in an 8-point Likert scale ranging from 1 (*Never*) to 8 (*More than once a day*). Please see Appendix C for the complete range.

Substance Use or Abuse

Substance use or abuse (Substance Abuse) was measured by a scale of four items that asked about alcohol use, binge drinking, tobacco use, and illicit drug use. This scale was created using items #144, 145, 149, and 152. The section that included this item was preceded by the statement: "How many times during the last 12 months did you do each of the following?" The responses for these items used an 8-point Likert scale ranging from 1 (Never) to 8 (More than once a day). One sample of these items is #144, "Drink alcohol (beer, liquor, wine, etc.)." Please refer to Appendix C for the complete set of items and range of responses.

Age

The age (Age Groups) of the respondents was measured by item #77, "How old are you?" Although the surveys included 15 possible age groups to select from, the instructions of the *Avance* surveys specified that only single individuals whose ages ranged from 13 to 25 could complete the youth survey. Therefore, the respondents to the youth survey could only possibly fit in 4 of the 15 age groups listed: (1) 13 or less, (2) 14-17, (3) 18-21, (4) 22-25. Then they were recoded as follows: Group 1

(Adolescents) = age groups 1 and 2 (i.e., 13-17-year-olds); and Group 2 (Young Adults) = age groups 3 and 4 (i.e., 18-25-year-olds).

Socioeconomic Status

Socioeconomic status was measured by two items. Family income was measured by Item #99, "How much money did your family or household make last year? (Answer this question even if you're single and independent.)" Respondents were asked to select one of eight possible income ranges. (See Appendix C for the complete ranges.)

Item #16, "Indicate the HIGHEST level of education completed by each person. Mark only one answer for each column." Respondents were to select one answer for each person named (themselves, their mother, and their father) among seven possible educational levels (see Appendix C for the complete ranges). For this item, only the responses given for parental education (Mother's Education, Father's Education) were considered.

Hypotheses and Statistical Analysis

The following null hypotheses were tested in this study:

Hypothesis 1: There is no difference between those who have attempted suicide and those who have not attempted

suicide on each one of the numerical and categorical variables.

Hypothesis 2: There is no interaction between gender and suicide attempt on each of the numerical variables.

Hypothesis 3: There is no interaction between age and suicide attempt on each of the numerical variables.

Hypothesis 4: There is no interaction between sexual orientation and suicide attempt on each of the numerical variables.

Hypothesis 5: There is no interaction between family status and suicide attempt on each of the numerical variables.

Hypothesis 6: There is no linear combination of the numerical and categorical variables that significantly discriminates between those who had attempted suicide and those who have not attempted suicide.

These hypotheses were tested by using ANOVA, two-way ANOVA, chi-square, and discriminant analysis. All of the hypotheses were tested at the .05 significance level.

Summary

This chapter presented the development of the *Avance* survey, data collection procedures, description of the population and sampling procedures, instrumentation,

research hypotheses, and the statistical procedures used in analyzing the data.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to identify some of the characteristics of the Puerto Rican SDA adolescents and young adults who reported having attempted suicide on the *Avance PR* survey. This chapter presents a description of the youth sample of the *Avance PR* study, as well as the results of testing the null hypotheses stated in the previous chapter.

Descriptive Analysis of the Sample

The target population of this study was the Puerto Rican SDA adolescents and young adults living in Puerto Rico. The sample was taken from the youth sample of the *Avance PR* study. The sample was then divided into two age groups: adolescents (13-17-year-olds) and young adults (18-25-year-olds). Of the total sample (N = 1,406) only 13 cases did not answer the question about suicide attempts, leaving a usable N of 1,393 cases. Of these, 174 (12.5%) admitted having attempted suicide at least once during the 12-month period prior to the *Avance PR* survey. Male suicide

attempters accounted for 11.2% of the males in the sample. Female suicide attempters accounted for 13% of the females in the sample. Suicide attempters from the adolescents group accounted for 13.9% of the subjects in this age group, whereas suicide attempters from the young adults group accounted for 9% of the subjects in that age group. Table 2 presents the number and percentages of suicide attempters by age group, gender, and other demographics.

Table 2

Suicide Attempters by Age, Gender, Family Status, and Sexual Orientation (N = 1,393)

	Suicide Attempters		Non-Attempters	
Variable	*n*	%	*n*	%
Total Sample	174	12.5	1,219	87.5[a]
Age				
Adolescents	139	13.9	863	86.1
Young Adults	35	9.0	355	91.0
Gender				
Male	66	11.2	524	88.8
Female	102	13.0	681	87.0
Family Status				
Intact	111	11.4	865	88.6
Non-intact	60	15.6	324	84.4
Sexual Orientation				
Heterosexual	158	12.0	1,163	88.0
Non-Heterosexual	12	23.1	40	76.9
Religious Affiliation				
Non-SDA	50	16.4	254	83.6
SDA	116	11.4	905	88.6

[a] Percentages are computed horizontally.

Statistical Analyses for Hypothesis Testing

Six null hypotheses were tested in this study. Hypothesis 1 was tested by using two different procedures. First, the 35 independent variables under study were divided into two categories: numerical variables and categorical variables. Then, the numerical variables were tested by Analysis of Variance (ANOVA), and the categorical variables were tested by Chi-square. Hypotheses 2-5 were tested by two-way ANOVAS. Finally, Hypothesis 6 was tested by using a multivariate technique, discriminant analysis, to determine which factors differentiated between the two groups in this study (attempters and non-attempters). All the hypotheses were tested at the .05 level of significance.

Hypothesis 1

Hypothesis 1: There is no difference between those who have attempted suicide and those who have not attempted suicide on each one of the numerical and categorical variables.

Hypothesis 1 was tested by using two different procedures, ANOVA and Chi-square. The numerical variables were tested by ANOVA, and the categorical variables were tested by Chi-square.

Of the 22 numerical variables tested by ANOVA, 16 showed significant ($p<.05$) differences between attempters and non-attempters. Tables 3 and 4 present the results of the ANOVA tests for each variable.

Suicide attempters obtained significantly lower means on family cohesion, parental religiosity role model, parental understanding, parental knowledge of youth activities, faith maturity, devotional life, grace orientation, law orientation, church attendance, perceived warm church climate, and religious salience. It was also found that suicide attempters obtained significantly higher means on parental authoritarianism, verbal abuse, physical abuse, sexual abuse, and substance abuse. The following variables were found to not be significant: parental limits, quantity of family worship, quality of family worship, family income, mother's education, and father's education. Of the 16 significant variables, four had an effect size higher than .6: family cohesion (-.825), verbal abuse (.739), sexual abuse (.736), and physical abuse (.605).

Of the 13 categorical variables tested by Chi-square, 11 showed significant ($p<.05$) differences between attempters and non-attempters. Table 5 presents the results of the Chi-square test for each variable.

Table 3

Analyses of Variance (One-way ANOVAS) of Suicide Attempt by Variable

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
Family Cohesion					
Between Groups	74.252	1	74.252	109.693	.000**
Within Groups	915.857	1353	.677		
Total	990.110	1354			
Parental Religiosity					
Between Groups	24.233	1	24.233	17.764	.000**
Within Groups	1829.345	1341	1.364		
Total	1853.578	1342			
Parental Authoritarianism					
Between Groups	14.153	1	14.153	18.863	.000**
Within Groups	987.417	1316	.750		
Total	1001.570	1317			
Parental Understanding					
Between Groups	34.112	1	34.112	23.361	.000**
Within Groups	1982.999	1358	1.460		
Total	2017.111	1359			
Parental Limits					
Between Groups	.773	1	.773	.789	.375
Within Groups	1339.683	1368	.979		
Total	1340.456	1369			
Parental Knowledge					
Between Groups	7.787	1	7.787	35.559	.000**
Within Groups	276.130	1261	.219		
Total	283.917	1262			
Verbal Abuse					
Between Groups	81.000	1	81.000	86.787	.000**
Within Groups	1287.035	1379	.933		
Total	1368.035	1380			
Physical Abuse					
Between Groups	21.911	1	21.911	56.842	.000**
Within Groups	525.396	1363	.385		
Total	547.307	1364			
Sexual Abuse					
Between Groups	20.843	1	20.843	83.516	.000**
Within Groups	332.682	1333	.250		
Total	353.525	1334			

Table 3—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
Faith Maturity					
Between Groups	8.841	1	8.841	17.684	.000**
Within Groups	655.423	1311	.500		
Total	664.264	1312			
Devotional Life					
Between Groups	5.091	1	5.091	6.174	.013*
Within Groups	1109.914	1346	.825		
Total	1115.005	1347			
Grace Orientation					
Between Groups	5.538	1	5.538	17.954	.000**
Within Groups	421.672	1367	.308		
Total	427.210	1368			
Law Orientation					
Between Groups	12.462	1	12.462	7.518	.006**
Within Groups	2252.732	1359	1.658		
Total	2265.193	1360			
Church Attendance					
Between Groups	52.261	1	52.261	22.304	.000**
Within Groups	3198.380	1365	2.343		
Total	3250.641	1366			
Warm Church					
Between Groups	34.498	1	34.498	25.692	.000**
Within Groups	1824.849	1359	1.343		
Total	1859.348	1360			
Quantity Fam-Worship					
Between Groups	2.031	1	2.031	3.392	.066
Within Groups	806.951	1348	.599		
Total	808.981	1349			
Quality Fam-Worship					
Between Groups	2.025	1	2.025	2.163	.142
Within Groups	1255.472	1341	.936		
Total	1257.497	1342			
Religious Salience					
Between Groups	12.650	1	12.650	13.057	.000**
Within Groups	1338.002	1381	.969		
Total	1350.652	1382			
Substance Abuse					
Between Groups	53.193	1	53.193	43.894	.000**
Within Groups	1638.406	1352	1.212		
Total	1691.599	1353			

Table 3—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
Family Income					
Between Groups	1.465	1	1.465	1.275	.259
Within Groups	1396.356	1216	1.148		
Total	1397.820	1217			
Mother's Education					
Between Groups	.312	1	.312	.185	.668
Within Groups	1863.631	1104	1.688		
Total	1863.942	1105			
Father's Education					
Between Groups	4.892	1	4.892	2.268	.132
Within Groups	2359.764	1094	2.157		
Total	2364.656	1095			

**p<.05. **p<.01.*

Table 4

Means and Standard Deviations by Variable

Variable	Suicide Attempt	*n*	*M*	*SD*	Effect Size
Family Cohesion					
	Yes	171	3.550	1.048	
	No	1,184	4.255	.785	
	Total	1,355	4.166	.855	-.825
Parental Religiosity					
	Yes	167	3.182	1.100	
	No	1,176	3.589	1.177	
	Total	1,343	3.538	1.175	-.346
Parental Authoritarianism					
	Yes	162	2.911	.895	
	No	1,156	2.600	.862	
	Total	1,318	2.634	.872	.357
Parental Understanding					
	Yes	172	2.692	1.246	
	No	1,188	3.168	1.203	
	Total	1,360	.108	1.218	-.391
Parental Limits					
	Yes	170	2.855	.981	
	No	1,200	2.927	.991	
	Total	1,370	2.918	.990	-.073
Parental Knowledge					
	Yes	153	2.387	.561	
	No	1,110	2.628	.454	
	Total	1,263	2.598	.474	-.508
Verbal Abuse					
	Yes	171	2.591	1.114	
	No	1,210	1.855	.943	
	Total	1,381	1.946	.996	.739
Physical Abuse					
	Yes	171	1.673	.810	
	No	1,194	1.290	.589	
	Total	1,365	1.338	.633	.605
Sexual Abuse					
	Yes	166	1.524	.777	
	No	1,169	1.145	.447	
	Total	1,335	1.192	.514	.736
Faith Maturity					
	Yes	161	3.600	1.048	
	No	1,152	3.847	.785	
	Total	1,313	3.817	.855	.289

Table 4—*Continued.*

Variable	Suicide Attempt	*n*	*M*	*SD*	Effect Size
Devotional Life					
	Yes	166	2.660	.957	
	No	1,182	2.847	.901	
	Total	1,348	2.824	.910	-.205
Grace Orientation					
	Yes	171	2.532	.672	
	No	1,198	2.725	.537	
	Total	1,369	2.700	.559	-.345
Law Orientation					
	Yes	170	3.294	1.313	
	No	1,191	3.584	1.284	
	Total	1,361	3.547	1.291	-.225
Church Attendance					
	Yes	170	4.394	1.789	
	No	1,197	4.987	1.491	
	Total	1,367	4.913	1.543	-.384
Warm Church					
	Yes	170	3.465	1.385	
	No	1,191	3.947	1.123	
	Total	1,361	3.886	1.169	-.412
Quantity Fam-Worship					
	Yes	170	1.694	.770	
	No	1,180	1.811	.774	
	Total	1,350	1.796	.774	-.151
Quality Fam-Worship					
	Yes	168	1.917	.925	
	No	1,175	2.034	.974	
	Total	1,343	2.019	.968	-.121
Religious Salience					
	Yes	173	3.809	1.143	
	No	1,210	4.099	.960	
	Total	1,383	4.062	.989	-.293
Substance Abuse					
	Yes	165	2.218	1.375	
	No	1,189	1.612	1.057	
	Total	1,354	1.687	1.119	.542
Family Income					
	Yes	153	2.261	1.180	
	No	1,065	2.157	1.055	
	Total	1,218	2.170	1.072	.097

Table 4—*Continued.*

Variable	Suicide Attempt	*n*	*M*	*SD*	Effect Size
Mother's Education					
	Yes	133	4.053	1.339	
	No	973	4.001	1.293	
	Total	1,106	4.007	1.299	.040
Father's Education					
	Yes	124	3.750	1.523	
	No	972	3.961	1.462	
	Total	1,096	3.937	1.470	-.144

Table 5

Variables Tested by Chi-square

Variable	*df*	Chi-square	*p*
Family Status	1	4.533	.022*
V-Abuse Non-Parent	1	5.872	.011*
V-Abuse Parent	1	10.447	.002**
P-Abuse Non-Parent	1	17.427	.000**
P-Abuse Parent	1	10.142	.002**
S-Abuse Non-Parent	1	14.000	.000**
S-Abuse Parent	1	1.861	.147
Gender	1	1.061	.172
Sexual Orientation	1	5.699	.021*
Premarital Sex	1	10.439	.001**
Age Groups	1	6.157	.007**
Combination Fam-Worship	4	24.681	.023*
Religious Affiliation	1	5.529	.014*

**p<.05. **p<.01.*

Suicide attempters were found significantly more likely than non-attempters to: (a) belong to non-intact families, (b) have experienced verbal abuse by their parents, (c) have experienced verbal abuse by non-parents, (d) have experienced physical abuse by their parents, (e) have experienced physical abuse by non-parents, (f) have experienced sexual abuse by non-parents, (e) be of non-heterosexual orientation, (g) have had premarital sex, (h) belong to the adolescents group, (i) never or seldom have family worships and considered them of poor quality when they have them, and (j) to be non-SDA.

Sexual abuse by a parent was not found to be significantly related to suicide attempt despite a 9.4% difference between groups. These results may be due to the low number of subjects that reported having been abused by their parents (n = 23). From the suicide attempters group (n = 166), only 5 reported having been sexually abused by their parents. Table 6 presents the number and percentages of suicide attempters and non-attempters by variable. Of the 11 variables with significant interaction, 10 showed differences between groups raging from 4.2% to 11.1%. One variable (combination of family worship) compared five groups and showed a difference of 20.2% between the smallest and the largest group. Based on the results

Table 6

Suicide Attempters and Non-attempters by Categorical Variable

	Suicide Attempt			
	Yes		No	
Variable	Count	%	Count	%
Family Status				
Intact	111	11.4	865	88.6
Non-Intact	60	15.6	324	84.4
V-Abuse Non-Parent				
Yes	63	15.8	335	84.2
No	109	11.1	875	88.9
V-Abuse Parent				
Yes	37	19.6	152	80.4
No	134	11.2	1,058	88.8
P-Abuse Non-Parent				
Yes	57	19.7	232	80.3
No	114	10.6	964	89.4
P-Abuse Parent				
Yes	34	20.1	135	79.9
No	137	11.5	1,059	88.5
S-Abuse Non-Parent				
Yes	50	19.5	207	80.5
No	116	10.8	962	89.2
S-Abuse Parent				
Yes	5	21.7	18	78.3
No	161	12.3	1,151	87.7
Gender				
Male	66	11.2	524	88.8
Female	102	13.0	681	87.0
Sexual Orientation				
Heterosexual	158	12.0	1,163	88.0
Non-Heterosexual	12	23.1	40	76.9
Premarital Sex				
Never	122	10.9	997	89.1
Yes	43	18.5	189	81.5
Age Groups				
Adolescents	139	13.9	863	86.1
Young Adults	35	9.0	355	91.0

Table 6—*Continued.*

	Suicide Attempt			
	Yes		No	
Variable	Count	%	Count	%
Combination Fam-Worship				
Never	84	14.7	486	85.3
Seldom/Bad	17	29.3	41	70.7
Seldom/Good	30	9.1	301	90.9
Often/Bad	4	28.6	10	71.4
Often/Good	28	10.1	249	89.9
Religious Affiliation				
Non-SDA	50	16.4	254	83.6
SDA	116	11.4	905	88.6

presented in Tables 3, 4, 5, and 6, the null hypothesis was rejected for 27 of the 35 variables.

Hypothesis 2

Hypothesis 2: There is no interaction between gender and suicide attempt on each of the numerical variables. This hypothesis was tested by two-way ANOVAS. Suicide attempt was tested for possible interaction with gender on the 22 numerical variables. Gender showed a significant ($p<.05$) interaction with suicide attempt on 2 of the 22 numerical variables: family cohesion and parental knowledge of youth activities.

Although both male and female suicide attempters reported lower means on the family cohesion and parental knowledge of youth activities when compared to non-attempters, males were more affected by lack of family cohesion and lack of knowledge of their activities than were females. Tables 7 and 8 present the results for the two-way ANOVAS. Based on these results, the null hypothesis was rejected for 2 of the 22 variables. The main effects for suicide attempt on the two-way ANOVAs are not tested or reported for hypotheses 2 through 5 since they were reported for hypothesis 1.

Table 7

Two-way ANOVA Tables: Suicide Attempt and Gender

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Family Cohesion			
SUI_ATT	70.591	1	70.591	105.098	.000
GENDER	.149	1	.149	.222	.638
SUI_ATT*GENDER	4.419	1	4.419	6.580	.010*
Error	893.991	1331	.672		
Total	24169.667	1335			
		Parental Religiosity			
SUI_ATT	21.524	1	21.524	15.875	.000
GENDER	.600	1	.600	.443	.506
SUI_ATT*GENDER	1.183	1	1.183	.872	.351
Error	1789.712	1320	1.356		
Total	18414.778	1324			
		Parental Authoritarianism			
SUI_ATT	13.198	1	13.534	18.392	.000
GENDER	2.358	1	2.358	3.205	.074
SUI_ATT*GENDER	.162	1	.162	.221	.639
Error	952.230	1294	.736		
Total	9945.840	1298			
		Parental Understanding			
SUI_ATT	33.835	1	33.835	23.183	.000
GENDER	.005	1	.005	.003	.953
SUI_ATT*GENDER	.002	1	.002	.001	.974
Error	1952.832	1338	1.460		
Total	13174.250	1342			
		Parental Limits			
SUI_ATT	.451	1	.451	.464	.496
GENDER	.036	1	.036	.037	.847
SUI_ATT*GENDER	.027	1	.027	.028	.867
Error	1308.733	1347	.972		
Total	12735.667	1351			
		Parental Knowledge			
SUI_ATT	9.026	1	9.026	41.995	.000
GENDER	6.126	1	6.126	28.501	.000
SUI_ATT*GENDER	1.426	1	1.426	6.635	.010*
Error	266.953	1242	.215		
Total	8693.160	1246			
		Verbal Abuse			
SUI_ATT	71.247	1	71.247	76.672	.000
GENDER	2.135	1	2.135	2.297	.130
SUI_ATT*GENDER	.626	1	.626	.674	.412
Error	1261.914	1358	.929		
Total	6490.000	1362			

Table 7—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Physical Abuse			
SUI_ATT	19.105	1	19.105	49.460	.000
GENDER	.254	1	.254	.657	.418
SUI_ATT*GENDER	.035	1	.035	.091	.762
Error	518.382	1342	.386		
Total	2940.000	1346			
		Sexual Abuse			
SUI_ATT	17.387	1	17.387	70.556	.000
GENDER	.204	1	.204	.827	.363
SUI_ATT*GENDER	.058	1	.058	.235	.628
Error	324.295	1316	.246		
Total	2213.000	1320			
		Faith Maturity			
SUI_ATT	7.871	1	7.871	15.866	.000
GENDER	1.378	1	1.378	2.777	.096
SUI_ATT*GENDER	.034	1	.034	.068	.795
Error	640.932	1292	.496		
Total	19528.875	1296			
		Devotional Life			
SUI_ATT	4.262	1	4.242	5.186	.023
GENDER	2.002	1	2.002	2.436	.119
SUI_ATT*GENDER	.091	1	.091	.110	.740
Error	1088.098	1324	.822		
Total	11705.375	1328			
		Grace Orientation			
SUI_ATT	3.791	1	3.791	12.428	.000
GENDER	.042	1	.042	.138	.711
SUI_ATT*GENDER	.302	1	.302	.989	.320
Error	410.272	1345	.305		
Total	10270.000	1349			
		Law Orientation			
SUI_ATT	13.593	1	13.593	8.208	.004
GENDER	.004	1	.004	.002	.961
SUI_ATT_GENDER	.992	1	.992	.599	.439
Error	2215.723	1338	1.656		
Total	19058.000	1342			
		Church Attendance			
SUI_ATT	47.730	1	47.730	20.481	.000
GENDER	15.427	1	15.427	6.620	.010
SUI_ATT*GENDER	3.061	1	3.061	1.314	.252
Error	3132.079	1344	2.330		
Total	35764.000	1348			

Table 7—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Warm Church			
SUI_ATT	30.961	1	30.961	23.095	.000
GENDER	.091	1	.091	.068	.795
SUI_ATT*GENDER	.076	1	.076	.057	.812
Error	1795.092	1339	1.341		
Total	22141.000	1343			
		Quantity Fam-Worship			
SUI_ATT	2.360	1	2.360	3.933	.048
GENDER	.809	1	.809	1.347	.246
SUI_ATT*GENDER	1.877	1	1.877	3.128	.077
Error	796.860	1328	.600		
Total	5096.000	1332			
		Quality Fam-Worship			
SUI_ATT	2.063	1	2.063	2.196	.139
GENDER	.646	1	.646	.687	.407
SUI_ATT*GENDER	1.186	1	1.186	1.262	.261
Error	1241.876	1322	.939		
Total	6641.000	1326			
		Religious Salience			
SUI_ATT	14.275	1	14.275	14.714	.000
GENDER	1.618	1	1.618	1.668	.197
SUI_ATT*GENDER	2.120	1	2.120	2.185	.140
Error	1319.439	1360	.970		
Total	23811.000	1364			
		Substance Abuse			
SUI_ATT	51.867	1	51.867	43.842	.000
GENDER	26.323	1	26.323	22.250	.000
SUI_ATT*GENDER	2.534	1	2.534	2.142	.144
Error	1573.430	1330	1.183		
Total	5459.000	1334			
		Family Income			
SUI_ATT	1.257	1	1.257	1.108	.293
GENDER	6.032	1	6.032	5.316	.021
SUI_ATT*GENDER	.171	1	.171	.151	.698
Error	1358.096	1197	1.135		
Total	7016.000	1201			
		Mother's Education			
SUI_ATT	.943	1	.943	.564	.453
GENDER	10.426	1	10.426	6.238	.013
SUI_ATT*GENDER	2.378	1	2.378	1.423	.233
Error	1820.114	1089	1.671		
Total	19345.000	1093			

Table 7—*Continued*.

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Dad's Education			
SUI_ATT	3.439	1	3.439	1.623	.203
GENDER	9.704	1	9.704	4.580	.033
SUI_ATT*GENDER	.098	1	.098	.046	.830
Error	2288.290	1080	2.119		
Total	19228.000	1084			

*p< .05. ** p< .01.

Table 8

Two-way ANOVA Means for Variables With Significant Interaction: Suicide Attempt and Gender

Family Cohesion

	Gender		
	Male	Female	Overall
Suicide Attempters	3.444	3.665	3.550
Non-Attempters	4.336	4.190	4.255
Overall	3.890	3.923	4.166

Parental Knowledge

	Gender		
	Male	Female	Overall
Suicide Attempters	2.182	2.513	2.387
Non-Attempters	2.561	2.676	2.628
Overall	2.371	2.594	2.598

Hypothesis 3

Hypothesis 3: There is no interaction between age and suicide attempt on each of the numerical variables.

This hypothesis was tested by two-way ANOVAs. Suicide attempt was tested for possible interaction with age on the 22 numerical variables. Age showed a significant ($p<.05$) interaction with suicide attempt on 1 of the 22 numerical variables: grace orientation. Although suicide attempters on both age groups (adolescents and young adults) reported lower means on the grace orientation scale when compared to non-attempters, the difference was greater for the young adults than it was for the adolescents. Tables 9 and 10 present the results for the two-way ANOVAS. Based on these results, the null hypothesis was rejected for 1 of the 22 variables.

Hypothesis 4

Hypothesis 4: There is no interaction between sexual orientation and suicide attempt on each of the numerical variables.

This hypothesis was tested by two-way ANOVAS. Suicide attempt was tested for possible interaction with sexual orientation on the 22 numerical variables. Sexual orientation showed a significant ($p<.05$) interaction with

Table 9

Two-way ANOVA Tables: Suicide Attempt and Age Groups

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Family Cohesion			
SUI_ATT	62.992	1	62.992	93.159	.000
AGE_GRPS	1.469	1	1.469	2.173	.141
SUI_ATT*AGE_GRPS	2.458	1	2.458	3.635	.057
Error	912.840	1350	.676		
Total	24478.306	1354			
		Parental Religiosity			
SUI_ATT	14.352	1	14.352	10.587	.001
AGE_GRPS	5.694	1	5.694	4.200	.041
SUI_ATT*AGE_GRPS	.016	1	.016	.012	.913
Error	1813.945	1338	1.356		
Total	18643.667	1342			
		Parental Authoritarianism			
SUI_ATT	2.130	1	2.130	4.234	.040
AGE_GRPS	6.095	1	6.095	12.117	.001
SUI_ATT*AGE_GRPS	.309	1	.309	.614	.433
Error	651.931	1296	.503		
Total	11144.556	1300			
		Parental Understanding			
SUI_ATT	14.659	1	14.659	10.229	.001
AGE_GRPS	20.874	1	20.874	14.566	.000
SUI_ATT*AGE_GRPS	1.202	1	1.202	.839	.360
Error	1941.798	1355	1.433		
Total	13370.750	1359			
		Parental Limits			
SUI_ATT	1.217	1	1.217	1.317	.251
AGE_GRPS	26.719	1	26.719	28.909	.000
SUI_ATT*AGE_GRPS	.026	1	.026	.028	.868
Error	1261.637	1365	.924		
Total	13000.222	1369			
		Parental Knowledge			
SUI_ATT	4.001	1	4.001	18.281	.000
AGE_GRPS	.003	1	.003	.012	.912
SUI_ATT*AGE_GRPS	1.426	1	.169	.770	.380
Error	275.341	1258	.219		
Total	8807.400	1262			
		Verbal Abuse			
SUI_ATT	60.625	1	60.625	64.953	.000
AGE_GRPS	1.611	1	1.611	1.726	.189
SUI_ATT*AGE_GRPS	.417	1	.417	.447	.504
Error	1284.317	1376	.933		
Total	6599.000	1380			

Table 9—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Physical Abuse			
SUI_ATT	14.526	1	14.526	37.637	.000
AGE_GRPS	.037	1	.037	.095	.758
SUI_ATT*AGE_GRPS	2.364E-06	1	2.364E-06	.000	.998
Error	525.296	1361	.386		
Total	2990.000	1365			
		Sexual Abuse			
SUI_ATT	15.382	1	15.382	61.824	.000
AGE_GRPS	.906	1	.906	3.640	.057
SUI_ATT*AGE_GRPS	.044	1	.044	.175	.676
Error	330.913	1330	.249		
Total	2251.000	1334			
		Faith Maturity			
SUI_ATT	7.216	1	7.216	14.733	.000
AGE_GRPS	2.304	1	2.304	4.704	.030
SUI_ATT*AGE_GRPS	.728	1	.728	1.487	.223
Error	640.661	1308	.490		
Total	19775.391	1312			
		Devotional Life			
SUI_ATT	1.264	1	1.264	1.570	.210
AGE_GRPS	14.566	1	14.566	18.086	.000
SUI_ATT*AGE_GRPS	.709	1	.709	.880	.348
Error	1081.613	1343	.805		
Total	11850.188	1347			
		Grace Orientation			
SUI_ATT	6.720	1	6.720	21.836	.000
AGE_GRPS	.732	1	.732	2.380	.123
SUI_ATT*AGE_GRPS	1.359	1	1.359	4.416	.036*
Error	419.772	1364	.308		
Total	10407.000	1368			
		Law Orientation			
SUI_ATT	7.525	1	7.525	4.539	.033
AGE_GRPS	.830	1	.830	.501	.479
SUI_ATT*AGE_GRPS	.199	1	.199	.120	.729
Error	2247.968	1356	1.658		
Total	19376.000	1360			
		Church Attendance			
SUI_ATT	24.330	1	24.330	10.720	.001
AGE_GRPS	46.654	1	46.654	20.556	.000
SUI_ATT*AGE_GRPS	.634	1	.634	.279	.597
Error	3091.261	1362	2.270		
Total	36210.000	1366			

Table 9—*Continued*.

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Warm Church			
SUI_ATT	19.952	1	19.952	14.869	.000
AGE_GRPS	.371	1	.371	.276	.599
SUI_ATT*AGE_GRPS	.464	1	.464	.346	.556
Error	1819.599	1356	1.342		
Total	22388.000	1360			
		Quantity Fam-Worship			
SUI_ATT	1.819	1	1.819	3.036	.082
AGE_GRPS	.040	1	.040	.067	.796
SUI_ATT*AGE_GRPS	.175	1	.175	.292	.589
Error	805.948	1345	.599		
Total	5161.000	1349			
		Quality Fam-Worship			
SUI_ATT	1.443	1	1.443	1.541	.215
AGE_GRPS	.240	1	.240	.256	.613
SUI_ATT*AGE_GRPS	.035	1	.035	.037	.848
Error	1253.376	1338	.937		
Total	6725.000	1342			
		Religious Salience			
SUI_ATT	4.336	1	4.336	4.546	.033
AGE_GRPS	12.885	1	12.885	13.510	.000
SUI_ATT*AGE_GRPS	.924	1	.924	.968	.325
Error	1314.241	1378	.954		
Total	24147.000	1382			
		Substance Abuse			
SUI_ATT	29.948	1	29.948	24.742	.000
AGE_GRPS	3.063	1	3.062	2.530	.112
SUI_ATT*AGE_GRPS	.296	1	.296	.245	.621
Error	1632.812	1349	1.210		
Total	5540.000	1353			
		Family Income			
SUI_ATT	.008	1	.008	.007	.931
AGE_GRPS	12.013	1	12.013	10.605	.001
SUI_ATT*AGE_GRPS	1.434	1	1.434	1.266	.261
Error	1374.073	1213	1.133		
Total	7117.000	1217			
		Mother's Education			
SUI_ATT	.757	1	.757	.475	.491
AGE_GRPS	22.642	1	22.642	14.218	.000
SUI_ATT*AGE_GRPS	3.305	1	3.305	2.076	.150
Error	1753.311	1101	1.592		
Total	19620.000	1105			

Table 9—*Continued*.

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Dad's Education			
SUI_ATT	4.014	1	4.014	1.881	.170
AGE_GRPS	9.174	1	9.174	4.300	.038
SUI_ATT*AGE_GRPS	.183	1	.183	.086	.770
Error	2327.422	1091	2.133		
Total	19344.000	1095			

*p< .05. **p< .01.

Table 10

Two-way ANOVA Means for Variables With Significant Interaction: Suicide Attempt and Age Groups

Grace Orientation

	Age Groups		
	Adol.	Young Adults	Overall
Suicide Attempters	2.574	2.371	2.532
Non-Attempters	2.716	2.747	2.725
Overall	2.645	2.559	2.700

suicide attempt on 5 of the 22 numerical variables: sexual abuse, grace orientation, law orientation, warm church climate, and family income.

The difference between attempters and non-attempters was greater for non-heterosexuals than it was for heterosexuals on all five variables. The non-heterosexual suicide attempters obtained higher means on sexual abuse and family income, and lower means on grace orientation scale, law orientation scale, and warm church climate when compared to non-heterosexuals non-attempters or heterosexuals. Tables 11 and 12 present the results for the two-way ANOVAs. Based on these results, the null hypothesis was rejected for 5 of the 22 variables.

Table 11

Two-way ANOVA Tables: Suicide Attempt and Sexual Orientation

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Family Cohesion			
SUI_ATT	9.910	1	9.910	14.715	.000
SEX_OR	.542	1	.542	.804	.370
SUI_ATT*SEX_OR	1.260	1	1.260	1.871	.172
Error	896.372	1331	.673		
Total	24154.917	1335			
		Parental Religiosity			
SUI_ATT	3.785	1	3.785	2.756	.097
SEX_OR	.503	1	.503	.366	.545
SUI_ATT*SEX_OR	.149	1	.149	.108	.742
Error	1814.076	1321	1.373		
Total	18402.889	1325			
		Parental Authoritarianism			
SUI_ATT	.046	1	.046	.089	.765
SEX_OR	3.686	1	3.686	7.198	.007
SUI_ATT*SEX_OR	1.200	1	1.200	2.344	.126
Error	655.399	1280	.512		
Total	10994.389	1284			
		Parental Understanding			
SUI_ATT	1.179	1	1.179	.811	.368
SEX_OR	3.892	1	3.892	2.676	.102
SUI_ATT*SEX_OR	3.349	1	3.349	2.302	.129
Error	1944.862	1337	1.455		
Total	13209.000	1341			
		Parental Limits			
SUI_ATT	.360	1	.360	.368	.544
SEX_OR	7.049	1	7.049	7.211	.007
SUI_ATT*SEX_OR	.008	1	.008	.009	.926
Error	1316.644	1347	.977		
Total	12818.667	1351			
		Parental Knowledge			
SUI_ATT	2.349	1	2.349	10.830	.001
SEX_OR	1.588	1	1.588	7.320	.007
SUI_ATT*SEX_OR	.133	1	.133	.612	.434
Error	269.384	1242	.217		
Total	8708.200	1246			

Table 11—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Verbal Abuse			
SUI_ATT	33.943	1	33.943	36.371	.000
SEX_OR	3.481	1	3.481	3.730	.054
SUI_ATT*SEX_OR	3.134	1	3.134	3.358	.067
Error	1266.405	1357	.933		
Total	6521.000	1361			
		Physical Abuse			
SUI_ATT	7.646	1	7.646	19.737	.000
SEX_OR	.046	1	.046	.119	.730
SUI_ATT*SEX_OR	.517	1	.517	1.335	.248
Error	519.860	1342	.387		
Total	2948.000	1346			
		Sexual Abuse			
SUI_ATT	12.236	1	12.236	49.543	.000
SEX_OR	3.613	1	3.613	14.631	.000
SUI_ATT*SEX_OR	2.274	1	2.274	9.208	.002**
Error	324.023	1312	.247		
Total	2225.000	1316			
		Faith Maturity			
SUI_ATT	5.646	1	5.646	11.313	.001
SEX_OR	.129	1	.129	.258	.612
SUI_ATT*SEX_OR	1.078	1	1.078	2.160	.142
Error	643.878	1290	.499		
Total	19532.375	1294			
		Devotional Life			
SUI_ATT	.994	1	.994	1.214	.271
SEX_OR	.241	1	.241	.294	.587
SUI_ATT*SEX_OR	.000	1	.000	.001	.981
Error	1084.777	1325	.819		
Total	11722.000	1329			
		Grace Orientation			
SUI_ATT	5.787	1	5.787	19.033	.000
SEX_OR	3.472	1	3.472	11.419	.001
SUI_ATT*SEX_OR	2.262	11	2.262	7.441	.006**
Error	408.943	1345	.304		
Total	10267.000	1349			
		Law Orientation			
SUI_ATT	16.635	1	16.635	9.998	.002
SEX_OR	.583	1	.583	.350	.554
SUI_ATT*SEX_OR	6.614	1	6.614	3.975	.046*
Error	2226.250	1338	1.664		
Total	19167.000	1342			

Table 11—*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Church Attendance			
SUI_ATT	15.006	1	15.006	6.492	.011
SEX_OR	6.064	1	6.064	2.624	.106
SUI_ATT*SEX_OR	.418	1	.418	.181	.671
Error	3108.887	1345	2.311		
Total	35888.000	1349			
		Warm Church			
SUI_ATT	34.734	1	34.734	26.181	.000
SEX_OR	6.594	1	6.594	4.970	.026
SUI_ATT*SEX_OR	12.283	1	12.283	9.258	.002**
Error	1776.429	1339	1.327		
Total	22121.000	1343			
		Quantity Fam-Worship			
SUI_ATT	.009	1	.009	.015	.901
SEX_OR	.014	1	.014	.024	.877
SUI_ATT*SEX_OR	.406	1	.406	.677	.411
Error	795.307	1327	.599		
Total	5093.000	1331			
		Quality Fam-Worship			
SUI_ATT	.421	1	.421	.450	.503
SEX_OR	.004	1	.004	.004	.948
SUI_ATT*SEX_OR	.019	1	.019	.020	.888
Error	1237.825	1322	.936		
Total	6637.000	1326			
		Religious Salience			
SUI_ATT	6.454	1	6.454	6.710	.010
SEX_OR	10.303	1	10.303	10.712	.001
SUI_ATT*SEX_OR	1.148	1	1.148	1.193	.275
Error	1308.068	1360	.962		
Total	23809.000	1364			
		Substance Abuse			
SUI_ATT	24.704	1	24.704	20.662	.000
SEX_OR	8.839	1	8.839	7.393	.007
SUI_ATT*SEX_OR	3.503	1	3.503	2.930	.087
Error	1591.331	1331	1.196		
Total	5416.000	1335			
		Family Income			
SUI_ATT	7.357	1	7.357	6.422	.011
SEX_OR	2.859	1	2.859	2.496	.114
SUI_ATT*SEX_OR	6.024	1	6.024	5.258	.022*
Error	1373.696	1199	1.146		
Total	7031.000	1203			

Table 11—*Continued*.

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Mother's Education			
SUI_ATT	1.558	1	1.558	.924	.337
SEX_OR	.513	1	.513	.304	.581
SUI_ATT*SEX_OR	.935	1	.935	.555	.457
Error	1839.007	1091	1.686		
Total	19483.000	1095			
		Dad's Education			
SUI_ATT	.087	1	.087	.040	.841
SEX_OR	.088	1	.088	.041	.839
SUI_ATT*SEX_OR	.484	1	.484	.226	.635
Error	2317.422	1081	2.144		
Total	19160.000	1085			

*p< .05. **p< .01.

Table 12

Two-way ANOVA Means for Variables With Significant Interaction: Suicide Attempt and Sexual Orientation

Sexual Abuse

	Sexual Orientation		
	Heterosex.	Non-Heter.	Overall
Suicide Attempters	1.490	2.083	1.524
Non-Attempters	1.144	1.212	1.145
Overall	1.317	1.648	1.192

Grace Orientation

	Sexual Orientation		
	Heterosex.	Non-Heter.	Overall
Suicide Attempters	2.574	2.000	2.532
Non-Attempters	2.728	2.667	2.725
Overall	2.651	2.333	2.700

Law Orientation

	Sexual Orientation		
	Heterosex.	Non-Heter.	Overall
Suicide Attempters	3.314	2.727	3.294
Non-Attempters	3.579	3.897	3.584
Overall	3.447	3.312	3.547

Table 12—*Continued.*

Warm Church

	Sexual Orientation		
	Heterosex.	Non-Heter.	Overall
Suicide Attempters	3.535	2.500	3.465
Non-Attempters	3.943	4.103	3.947
Overall	3.739	3.301	3.386

Family Income

	Sexual Orientation		
	Heterosex.	Non-Heter.	Overall
Suicide Attempters	2.203	2.917	2.261
Non-Attempters	2.158	2.027	2.157
Overall	2.181	2.472	2.170

Hypothesis 5

Hypothesis 5: There is no interaction between family status and suicide attempt on each of the numerical variables.

Hypothesis 5 was tested by two-way ANOVAs. Suicide attempt was tested for possible interaction with family status on the 22 numerical variables. Family status showed a significant ($p<.05$) interaction with suicide attempt on 4 of the 22 numerical variables: sexual abuse, substance abuse, faith maturity, and devotional life.

The difference between attempters and non-attempters was greater for respondents from non-intact families on sexual abuse, and for respondents from intact families on faith maturity, devotional life, and substance abuse. Sexual abuse had a greater impact on suicide attempt for respondents from non-intact families. On the other hand, substance abuse, low faith maturity, and lower devotional life had a greater impact on suicide attempt for respondents from intact families. Tables 13 and 14 present the results for the two-way ANOVAs. Based on these results, the null hypothesis was rejected for 4 of the 22 variables.

Table 13

Two-way ANOVA Tables: Suicide Attempt and Family Status

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Family Cohesion			
SUI_ATT	57.914	1	57.914	89.027	.000
FAM_STAT	13.306	1	13.306	20.454	.000
SUI_ATT*FAM_STAT	.072	1	.072	.111	.739
Error	858.037	1319	.651		
Total	23950.472	1323			
		Parental Religiosity			
SUI_ATT	12.417	1	12.417	9.677	.002
FAM_STAT	40.372	1	40.372	31.462	.000
SUI_ATT*FAM_STAT	1.326	1	1.326	1.034	.309
Error	1677.127	1307	1.283		
Total	18225.889	1311			
		Parental Authoritarianism			
SUI_ATT	2.797	1	2.797	5.483	.019
FAM_STAT	.837	1	.837	1.640	.201
SUI_ATT*FAM_STAT	.091	1	.091	.179	.672
Error	645.913	1266	.510		
Total	10892.889	1270			
		Parental Understanding			
SUI_ATT	27.920	1	27.920	19.186	.000
FAM_STAT	.143	1	.143	.098	.754
SUI_ATT*FAM_STAT	.346	1	.346	.238	.626
Error	1928.216	1325	1.455		
Total	13082.500	1329			
		Parental Limits			
SUI_ATT	.402	1	.402	.417	.519
FAM_STAT	3.935	1	3.935	4.076	.044
SUI_ATT*FAM_STAT	.273	1	.273	.283	.595
Error	1286.590	1333	.965		
Total	12694.111	1337			
		Parental Knowledge			
SUI_ATT	4.542	1	4.542	21.092	.000
FAM_STAT	.984	1	.984	4.569	.033
SUI_ATT*FAM_STAT	.345	1	.345	1.600	.206
Error	265.075	1231	.215		
Total	8622.920	1235			
		Verbal Abuse			
SUI_ATT	67.143	1	67.143	71.895	.000
FAM_STAT	.818	1	.818	.876	.350
SUI_ATT*FAM_STAT	.211	1	.211	.226	.634
Error	1255.161	1344	.934		
Total	6462.000	1348			

Table 13–*Continued.*

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Physical Abuse			
SUI_ATT	18.923	1	18.923	50.382	.000
FAM_STAT	3.821	1	3.821	10.172	.001
SUI_ATT*FAM_STAT	.022	1	.022	.058	.810
Error	498.797	1328	.376		
Total	2896.000	1332			
		Sexual Abuse			
SUI_ATT	20.211	1	20.211	82.558	.000
FAM_STAT	3.769	1	3.769	15.394	.00
SUI_ATT*FAM_STAT	1.111	1	1.111	4.537	.033*
Error	317.66	1298	.245		
Total	2192.000	1302			
		Faith Maturity			
SUI_ATT	3.781	1	3.781	7.676	.006
FAM_STAT	.504	1	.504	1.024	.312
SUI_ATT*FAM_STAT	3.993	1	3.993	8.106	.004**
Error	629.575	1278	.493		
Total	19357.750	1282			
		Devotional Life			
SUI_ATT	1.509	1	1.509	1.841	.175
FAM_STAT	.417	1	.417	.509	.476
SUI_ATT*FAM_STAT	5.190	1	5.190	6.333	.012*
Error	1076.751	1314	.819		
Total	11637.813	1318			
		Grace Orientation			
SUI_ATT	5.488	1	5.488	17.710	.000
FAM_STAT	2.122	1	2.122	6.848	.009
SUI_ATT*FAM_STAT	.212	1	.212	.683	.409
Error	412.772	1332	.310		
Total	10149.000	1336			
		Law Orientation			
SUI_ATT	10.087	1	10.087	6.060	.014
FAM_STAT	1.212	1	1.212	.728	.394
SUI_ATT*FAM_STAT	.649	1	.649	.390	.533
Error	2207.228	1326	1.665		
Total	18965.000	1330			
		Church Attendance			
SUI_ATT	31.085	1	31.085	13.579	.000
FAM_STAT	4.112	1	4.112	1.796	.180
SUI_ATT*FAM_STAT	8.024	1	8.024	3.505	.061
Error	3046.783	1331	2.289		
Total	35385.000	1335			

Table 13—*Continued*.

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Warm Church			
SUI_ATT	25.315	1	25.315	18.820	.000
FAM_STAT	.432	1	.432	.321	.571
SUI_ATT*FAM_STAT	1.365	1	1.365	1.015	.314
Error	170.889	1324	1.345		
Total	21880.000	1328			
		Quantity Fam-Worship			
SUI_ATT	.791	1	.791	1.339	.247
FAM_STAT	2.489	1	2.489	4.214	.040
SUI_ATT*FAM_STAT	1.187	1	1.187	2.009	.157
Error	776.753	1315	.591		
Total	5050.000	1319			
		Quality Fam-Worship			
SUI_ATT	.853	1	.853	.919	.338
FAM_STAT	3.314	1	3.314	3.569	.059
SUI_ATT*FAM_STAT	1.055	1	1.055	1.136	.287
Error	1214.669	1308	.929		
Total	6584.000	1312			
		Religious Salience			
SUI_ATT	7.651	1	7.651	7.842	.005
FAM_STAT	.102	1	.102	.105	.746
SUI_ATT*FAM_STAT	1.687	1	1.687	1.729	.189
Error	1313.271	1346	.976		
Total	23583.000	1350			
		Substance Abuse			
SUI_ATT	32.967	1	32.967	27.851	.000
FAM_STAT	.012	1	.012	.010	.920
SUI_ATT*FAM_STAT	8.403	1	8.403	7.099	.008**
Error	1561.264	1319	1.184		
Total	5370.000	1323			
		Family Income			
SUI_ATT	1.217	1	1.217	1.068	.302
FAM_STAT	9.022	1	9.022	7.916	.005
SUI_ATT*FAM_STAT	.033	1	.033	.029	.864
Error	1353.875	1188	1.140		
Total	6995.000	1192			
		Mother's Education			
SUI_ATT	.131	1	.131	.077	.782
FAM_STAT	.388	1	.388	.228	.633
SUI_ATT*FAM_STAT	.004	1	.004	.002	.964
Error	1838.788	1080	1.703		
Total	19280.000	1084			

Table 13—*Continued*.

Variable	Sum of Squares	*df*	Mean Square	*F*	Sig.
		Dad's Education			
SUI_ATT	4.791	1	4.791	2.229	.136
FAM_STAT	2.337	1	2.377	1.106	.293
SUI_ATT*FAM_STAT	.779	1	.779	.362	.547
Error	2311.020	1075	2.150		
Total	19060.000	1079			

*p< .05. **p< .01.

Table 14

Two-way ANOVA Means for Variables With Significant Interaction: Suicide Attempt and Family Status

Sexual Abuse

	Family Status		
	Intact	Non-Intact	Overall
Suicide Attempters	1.430	1.696	1.524
Non-Attempters	1.124	1.203	1.145
Overall	1.277	1.450	1.192

Faith Maturity

	Family Status		
	Intact	Non-Intact	Overall
Suicide Attempters	3.527	3.770	3.600
Non-Attempters	3.882	3.766	3.847
Overall	3.704	3.768	3.817

Devotional Life

	Family Status		
	Intact	Non-Intact	Overall
Suicide Attempters	2.579	2.839	2.660
Non-Attempters	2.891	2.746	2.847
Overall	2.735	2.793	2.824

Table 14—*Continued*.

Substance Abuse

	Family Status		
	Intact	Non-Intact	Overall
Suicide Attempters	2.298	2.052	2.218
Non-Attempters	1.535	1.801	1.612
Overall	1.916	1.926	1.687

Hypothesis 6

Hypothesis 6: There is no linear combination of the numerical and categorical variables that significantly discriminates between those who had attempted suicide and those who have not attempted suicide.

This hypothesis was tested by discriminant analysis. Discriminant analysis is often used when the goal is to identify variables that distinguish between two groups (i.e., attempters and non-attempters). It also develops a procedure for predicting group membership for new cases whose group membership is undetermined.

Initially, a direct method (all variables together) was used. Because this method eliminates the cases with missing data in any of the 35 variables (i.e., listwise), the usable number of cases was reduced by two-thirds. In order to preserve a larger number of usable cases, 7 variables that were found not significant on the analyses of hypotheses 1 through 5 were eliminated. These variables were hypothesized not to be significant in a multivariate procedure since they were not significant as independent variables. These variables were: parental limits, sexual abuse by parents, quantity of family worship, quality of family worship, gender, mother's education, and father's education. Of the remaining 28 variables, 5 had missing

data for more than 5% of the cases. For these variables, a mean substitution procedure for the missing data was used. These variables were: parental authoritarianism (missing data = 5.4%), parental knowledge of youth activities (missing data = 9.5%), faith maturity (missing data = 5.7%), family income (missing data = 12.7%), combination of family worship (missing data = 10.5%). Using this procedure, a total of 981 usable cases was obtained. Table 15 shows the structure matrix produced by the function. The discriminant function was significant: χ^2 (28, N = 981) = 188.30, p< .001. The means on the discriminant function were 1.273 for the suicide attempters and -.169 for non-attempters.

A common interpretation procedure is to note all of the coefficients that are at least 50% of the maximum coefficient. Seven weights were ranked in Table 15. The function indicated that a Puerto Rican young person who perceived less family cohesion, who experienced verbal, sexual, and physical abuse, who used or abused substances, whose parents did not know much about his or her activities, and who felt misunderstood by his or her parents, was more likely to attempt suicide. Table 16 shows the classification matrix produced by the discriminant function.

Table 15

Structure Matrix (n = 981)

Variable	Function 1	Rank
Family Cohesion	-.670	1
Verbal Abuse	.565	2
Sexual Abuse	.533	3
Physical Abuse	.507	4
Substance Abuse	.426	5
Parental Knowledge	-.363	6
Parental Understanding	-.355	7
Faith Maturity	-.320	
Church Attendance	-.292	
Grace Orientation	-.265	
Warm Church	-.263	
Religious Salience	-.257	
Parental Religiosity	-.245	
Law Orientation	-.234	
V-Abuse Parent	-.226	
P-Abuse Non-Parent	-.224	
Religious Affiliation	-.219	
P-Abuse Parent	-.214	
Parental Authoritarianism	.207	
Sexual Orientation	.203	
Premarital Sex	.203	
S-Abuse Non-Parent	-.198	
Devotional Life	-.147	
Combination Fam-Worship	-.137	
Family Status	.134	
Age Groups	-.101	
V-Abuse Non-Parent	-.061	
Family Income	.048	

Table 16

Classification Results

	Predicted Group Membership		
	Attempters	Non-attempters	Total
	Number		
Actual Group Membership			
Attempters	72	43	115
Non-attempters	162	704	866
	Percentages		
Actual Group Membership			
Attempters	62.6[a]	37.4	100
Non-attempters	18.7	81.3[b]	100

Note: 79.1% of the original grouped cases were correctly classified.
[a]62.6% of the suicide attempters were correctly classified.
[b]81.3% of the non-attempters were correctly classified.

Table 16 indicates that 62.6% of the attempters, and 81.3% of the non-attempters were correctly identified by this discriminant function. Based on the results presented above, the null hypothesis was rejected.

Summary

All the null hypotheses were rejected in this study. Table 17 presents a visual summary of the findings by variable, procedure used, and level of significance.

Analysis of the numerical variables using ANOVA indicated 16 of them were significantly related to suicide

Table 17

Summary of Findings

Variable	ANOVA	Chi-Square	Two-way ANOVA	Discriminant Anal. (Ranks)
Family Cohesion	**		**G	1
Par. Religiosity	**			
Par. Authoritarianism	**			
Par. Understanding	**			7
Par. Limits				
Par. Knowledge	**		*G	6
Family Status		*		
Verbal Abuse	**			2
Physical Abuse	**			4
Sexual Abuse	**		**SO,*FS	3
V-Abuse Parent		**		
V-Abuse Non-Parent		*		
P-Abuse Parent		**		
P-Abuse Non-Parent		**		
S-Abuse Parent				
S-Abuse Non-Parent		*		
Faith Maturity	**		**FS	
Devotional Life	*		*FS	
Grace Orientation	**		**SO,*AG	
Law Orientation	**		*SO	
Church Attendance	**			
Warm Church	**		*SO	
Religious Salience	**			
Quant. Fam-Worship				
Qual. Fam-Worship				
Comb. Fam-Worship		*		
Religious Affiliation		*		
Gender				
Substance Abuse	**		**FS	5
Sexual Orientation		*		
Premarital Sex		**		
Age Groups		**		
Family Income			*SO	
Mom's Education				
Dad's Education				

Note: G=Gender, AG=Age Group, SO=Sexual Orientation, FS=Family Status
*$p < .05$. **$p < .01$.

attempt ($p< .05$). (Refer to Tables 5 and 6 for the specific variables and their significance level.)

Analysis of the categorical variables using Chi-square also yielded 11 variables that were significantly related to suicide attempt ($p< .05$). (Refer to Tables 5 and 6 for the specific variables and their significance level.)

Analysis of four selected dichotomous variables (gender, age groups, sexual orientation, and family status), using two-way ANOVAs, indicated significant interaction between these variables and suicide attempt with several numerical variables ($p< .05$). (Refer to Tables 7 through 14 for the specific variables and their significance level.)

Finally, discriminant analysis of 28 variables that were found significant in previous analyses indicated that a Puerto Rican young person who perceived less family cohesion, who experienced verbal, sexual, and physical abuse, who used or abused substances, whose parents did not know much about his or her activities, and who felt misunderstood by his or her parents, was more likely to attempt suicide.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMENDATIONS

This final chapter briefly summarizes the problem and purpose of the study, the literature review, the methodology, and the results. This chapter also presents a discussion of the results, and conclusions or hypotheses drawn from the results. Finally, suggestions for prevention and future research are presented.

Summary of the Problem

Although there is evidence that psychological problems or psychiatric disorders are commonly related to suicidal behavior, these characteristics fail to establish a comprehensive profile of suicidal attempters. Current research has identified several psychological and sociocultural risk factors associated with attempted suicide. These factors include family-related factors, history of being abused, religiosity factors, sexuality factors, gender, substance abuse, age, and socioeconomic status.

Puerto Ricans, in general, and Puerto Rican Seventh-day Adventists, in particular, may face unique challenges that are related to their familial, social, and religious environment that may affect the suicidal attempts among this group. Therefore, this study examined family-related factors, history of being abused, religiosity factors, sexuality factors, gender, substance abuse, age, and socioeconomic status factors among a sample of Puerto Rican SDAs living on the island in order to examine the influence of such factors among the suicidal attempters in the sample.

Summary of the Purpose of the Study

The purpose of the study was (a) to aid those interested in suicide prevention by contributing to the body of knowledge which identifies the characteristics of those who had attempted suicide, (b) to shed light on suicidal behavior among Puerto Ricans particularly those living on the island, (c) to increase the awareness and knowledge about suicidal behavior among Puerto Rican members of the SDA church, and (d) to increase the awareness and knowledge about the relationship between religiosity and suicidal behavior among Puerto Ricans living on the island.

Summary of the Literature Review

According to the most recent census, Hispanics are the largest minority group in the U.S. with an estimated 35.5 million or 12.5% of the population (U.S. Census Bureau, 2000a). Although treated as a homogenous group, Hispanics are a very diverse group. The three largest and most important Hispanic groups residing in the U.S. are Mexican Americans, Cuban Americans, and Puerto Rican Americans.

Among the Hispanics, Puerto Ricans have been found to have higher than expected rates in both suicide attempts and completed suicides. These elevated rates in suicidal behavior have long been documented in the literature (Jacobziner, 1965; Magni et al., 1998; Monk & Warshauer, 1974; Trautman, 1961; Ungemack & Guarnaccia, 1998). Also, several studies have found Puerto Ricans living on the mainland to have higher rates of suicide attempts than their peers residing on the island. Puerto Ricans living on the island, according to Canino et al. (as cited in Earls, et al., 1990), showed rates of 14% for suicide ideation and 6% for suicide attempts. These rates are compared to 14.1% and 8.8% respectively for Puerto Ricans on the mainland (Ungemack & Guarnaccia, 1998). A study by Gonzalez-Manrique and Rodriguez-Llauger (as cited in Earls et al., 1990) found that the prevalence of completed suicides among

Puerto Ricans on the island was 9.2 per every 100,000 individuals.

Recent studies on suicidal behaviors among Puerto Ricans on the mainland have found that Puerto Ricans who have attempted suicide have higher prevalence of risk factors commonly associated with suicidal behaviors such as: low SES, abuse of alcohol and other substances, divorce and separation, and history of physical and sexual abuse (Fernandez-Pol, 1986; Marrero, 1998; Oquendo et al., 2001).

The identification of risk factors or characteristics of individuals who are at an increased risk of attempting or committing suicide has been identified as a promising way to understand and possibly prevent suicidal behavior (ADAMHA, 1989; Mościcki, 1995, 1999). Among the many possible risk factors, eight were selected for this study: family-related factors, history of being abused, religiosity factors, sexuality factors, gender, substance abuse, age, and socioeconomic status.

A review of the literature on these factors suggests that:

1. Low levels of family cohesion are associated with high risk for suicidal behavior, especially among youth (Trivino, 1999). Adolescent suicide attempters have a more negative view of their relationships with their parents

(McKenry et al., 1982), and are more likely to belong to non-intact families (Rubenstein et al., 1998; Trivino 1999).

2. A history of being abused, whether verbally, physically, and/or sexually, has been found to be significantly related to suicide attempts (Chandy et al., 1997, Lipschitz et al., 1999; Rew et al., 2001).

3. Religious affiliation has been found to have a protective effect against suicidal behavior (Hovey, 1999; Hovey & King, 1997; Nonnemaker et al., 2003; Sorenson & Golding, 1988). Also, indicators of low religiosity have been associated with suicidal behaviors (Durkheim, 1897/1951; Hovey, 1999; Rew et al., 2001; Stark et al., 1983).

4. Among sexuality-related factors, being sexually active during adolescence has been found to be significantly correlated to suicidal ideation and suicide attempt (King et al., 2001; Walter et al., 1995). Also, individuals of non-heterosexual orientations have been found to have higher rates of suicide attempts and other suicidal behaviors (Bagley & Tremblay, 1997; Catalán, 2000; O'Donnell et al., 2004).

5. Gender is known to correlate in different ways to different suicidal behaviors. Suicide attempters are at

least three times more likely to be females (Black & Winokur, 1990; Fremouw et al., 1990). Conversely, suicide completers are more likely to be males, at a ratio of at least 4:1 (Black & Winokur, 1990; Mościcki, 1999).

6. Alcohol and/or substance use or abuse, especially among adolescents, has been found to be highly correlated with suicide attempts (Brent, 1995; Gould et al., 1998; Murphy, 2000; Sakinofsky, 2000).

7. Suicide attempters are likely to be younger than suicide completers (Fremouw et al., 1990; Hawton & Catalán, 1982; Kerkhof, 2000).

8. Suicide attempters are more likely to score higher than non-attempters on indicators of low socioeconomic status (Adam, 1990; Fernadez-Pol, 1986; Gunnell et al., 2003; Stack, 2001).

Summary of Methodology

The data for the study came from the *Avance PR* study. *Avance PR* is a continuation of the *Avance* study, the largest denominational study among the Hispanic population of any denomination in the U.S. (Ramírez-Johnson & Hernández, 2003). The *Avance PR* data were collected between March and October, 1995. The youth sample (ages 13-25) consisted of 598 males and 788 females.

A total of 35 independent variables (22 numerical and 13 categorical) were studied. As detailed in chapter 4, several of the scales were used as designed by the original *Avance* research team. Other variables or scales were modified to fit the purpose of this study.

The dependent variable in this study was a dichotomous variable created from item #178 called Suicide Attempt. This variable measured self-reported suicide attempts as follows: "In the last *twelve* months, have you ever tried to kill yourself?" The possible answers were: No; Yes, once; Yes, twice; Yes, more than two times. These answers were recoded: Group 1 = all the respondents answering "No"; Group 2 = all of the respondents that answered "Yes, once; Yes, twice; or Yes, more than two times."

Summary of the Results

Six research questions were the focus of this study. For each research question a null hypothesis was generated. The results are summarized below in relation to each null hypothesis. A description of the variables that were found significant will be presented on the discussion section following.

Hypothesis 1 stated: There is no difference between those who had attempted suicide and those who have not

attempted suicide on each one of the numerical and categorical variables.

This hypothesis was tested by ANOVA and Chi-square tests. Sixteen of the numerical variables and 11 of the categorical variables showed significant differences between groups. Therefore, the null hypothesis was rejected for 26 of the 35 variables.

Hypothesis 2 stated: There is no interaction between gender and suicide attempt on each of the numerical variables.

This hypothesis was tested using two-way ANOVAs. Two variables showed significant interaction between gender and suicide attempt. Therefore, the null hypothesis was rejected for 2 of the 22 variables.

Hypothesis 3 stated: There is no interaction between age and suicide attempt on each of the numerical variables.

This hypothesis was tested using two-way ANOVAs. One variable showed significant interaction between age and suicide attempt. Therefore, the null hypothesis was rejected for 1 of the 22 variables.

Hypothesis 4 stated: There is no interaction between sexual orientation and suicide attempt on each of the numerical variables.

This hypothesis was tested using two-way ANOVAs. Five variables showed significant interaction between sexual orientation and suicide attempt. Therefore, the null hypothesis was rejected for 5 of the 22 variables.

Hypothesis 5 stated: There is no interaction between family status and suicide attempt on each of the numerical variables.

This hypothesis was tested using two-way ANOVAs. Four variables showed significant interaction between family status and suicide attempt. Therefore, the null hypothesis was rejected for 4 of the 22 variables.

Hypothesis 6 stated: There is no linear combination of the numerical and categorical variables that significantly discriminates between those who had attempted suicide and those who have not attempted suicide.

This hypothesis was tested by discriminant analysis. The discriminant function was significant. The function indicated that a Puerto Rican young person who perceived less family cohesion, who experienced verbal, sexual, and physical abuse, who used or abused substances, whose parents did not know much about his or her activities, and who felt misunderstood by his or her parents, was more likely to attempt suicide.

Discussion

The results of the *Avance* study (Trivino, 1999) found the Hispanic SDA adolescents in the U.S. to be at similar risk of attempting suicide (12% 1-year prevalence) than the Hispanic adolescents (CDC, 1998) in the general population (10.7% 1-year prevalence). This study found a similar 1-year prevalence of suicide attempts (12.5%) among the religiously affiliated Puerto Rican young people residing on the island. In this study, religious affiliation had a protective effect among the Puerto Rican SDA adolescents and young adults in the sample. The 1-year prevalence of suicide attempts for SDA respondents was 11.4%. Non-SDA respondents obtained a 1-year prevalence of suicide attempts of 16.4%. In the light of this, the results of this study are important in identifying the characteristics of both Puerto Rican SDAs and non-SDAs that may be at-risk of attempting suicide in order to increase awareness about the problem and informing prevention efforts. This section presents a discussion of the results organized by the eight categories of variables studied: family-related factors, history of being abused, religiosity factors, sexuality factors, gender, substance abuse, age, and socioeconomic status factors.

Family-Related Factors

In this study, suicide attempters obtained significantly lower scores on family cohesion, parental religiosity role model, parental understanding, and parental knowledge of youth activities. Also, suicide attempters obtained significantly higher scores on parental authoritarianism. These results are consistent with similar findings reported in the literature (McKenry et al., 1982; Pfeffer, 1989; Rubenstein et al., 1998; Trivino, 1999). Suicide attempters were found significantly more likely to belong to non-intact families, this was also consistent with the literature (Giffin & Felsenthal, 1983; Wagner et al., 2003). Unexpectedly, suicide attempters did not obtain significantly different scores in parental limits when compared to the non-attempters group. In other words, even though the suicide attempters in the sample perceived their parents and/or families negatively in many respects, they did not perceive their parents as imposing neither more nor less limits than the non-attempters. Overall, the findings of this study further confirm the use of family-related variables as predictors of suicide attempts. Puerto Rican SDA adolescents and young adults seem to be affected by family turmoil in a similar way as their peers in the

general population (Husain, 1990; Miller et al., 1992; Trivino, 1999).

History of Abuse

In this study, verbal abuse, physical abuse, and sexual abuse were found to be significant predictors of suicide attempt. Suicide attempters were found significantly more likely to have experienced verbal abuse by both parents and non-parents (V-Abuse Parent, V-Abuse Non-Parent), to have experienced physical abuse by both parents and non-parents (P-Abuse Parent, P-Abuse Non-Parent), and to have experienced sexual abuse by non-parents. These results are consistent with the literature on abuse and suicide attempts (Chandy et al., 1997; Lipschitz et al., 1999; Rew et al., 2001). These results are also similar to those found by Trivino (1999) in the *Avance* sample. These results are also indicative of the negative family environment experienced by many of the suicide attempters in the sample.

However, in this study, being sexually abused by one's parents (S-Abuse Parent) was not found to be significantly related to suicide attempt. These results may be due in part to the low number of respondents who responded affirmatively to the question. Of the total number of

respondents for this question (*n* = 1,344), only 23 (1.6%) reported having been sexually abused by their parents. Among the suicide attempters who responded to this question (n = 166), only five respondents (3%) reported having been sexually abused by their parents.

Religiosity Factors

Of the 11 measures of religiosity studied, 9 were found to be significantly related to suicide attempt: faith maturity, devotional life, grace orientation, law orientation, church attendance, perceived warm church climate, religious salience, combination of family worship, and religious affiliation. Suicide attempters were found to score significantly lower on eight of the aforementioned variables when compared to the non-attempters, and more likely to be non-SDA. These results are consistent with the findings among the general and Hispanic populations in the U.S. (Durkheim, 1897/1951; Hovey, 1999; Hovey & King, 1997; Rew et al., 2001; Sorenson & Golding, 1988; Stark et al., 1983).

The low scores on both grace orientation and law orientation, two variables expected to be inversely correlated variables, may be attributed to a lack of sophistication in the doctrinal understanding of these

concepts by the respondents. This issue of lacking the depth of doctrinal knowledge may have occurred due to developmental causes since the majority of the suicide attempters (79.9%) were adolescents. Another possibility could be that the individuals among the suicide attempters group were generally less religious, and, therefore, less concerned about doctrinal distinctions. In an attempt to clarify this issue, a correlation of these scales was computed. The Law Orientation scale and the Grace Orientation scale were found positively correlated with each other (r = .206, p< .01), thus pointing to possible confusion on behalf of the respondents.

One last attempt to verify if ascribing to a law or grace orientation of salvation had any effect on suicide attempt was made. A forced-choice item (#180) that measured grace versus law orientation was analyzed. The item read: "Which one of the following is the best description of you concept of salvation? Mark only ONE." (emphases in the original). The possible responses were: "God's gift of salvation is free yet I must keep the law to be worthy of receiving it.", "Since keeping the law has no merit with God, salvation means I no longer need to keep the law.", "By faith I accept the God's free gift of salvation, and as a result God gives me the power to keep the law.", and "My

salvation depends on whether I keep the law perfectly." The responses were recoded: Group 1 (Law Orientation) = responses 1 and 4, and Group 2 (Grace Orientation) = responses 2 and 3. A chi-square analysis revealed that there were no significant differences between attempters and non-attempters on law versus grace orientation: χ^2 (1, N = 1,362) = .154, p = .089.

Quantity of family worship and quality of family worship (when considered separately) were found not to be significantly related to suicide attempt. Considering the fact that in this study family turmoil was significantly related to suicide attempt, the finding that quantity and quality of family worships seem unrelated to suicide attempt is interesting. The quantity and quality of family worships seem neither to have a protective effect against suicide attempt nor to promote them. The combination of these two variables was, however, significantly related to suicide attempt. Suicide attempters were found to never or seldom have family worships and considered them of poor quality when they have them. Thus, neither frequent nor unappealing family worships have any effect on suicide attempt, but frequent *and* meaningful family worships could be viewed as protective against suicide attempts. In light of this, parents should be encouraged to increase both the

frequency of family worships and the overall quality of them as perceived by their children.

In this study, religious affiliation had a protective effect among the Puerto Rican SDA adolescents and young adults in the sample. The 1-year prevalence of suicide attempts for SDA respondents was 11.4%. Non-SDA respondents obtained a significantly higher 1-year prevalence of suicide attempts of 16.4%.

Sexuality Factors

Both of the measures on sexuality were significantly related to attempted suicide. Suicide attempters were found significantly more likely to be of non-heterosexual orientation, and significantly more likely to have had premarital sex. These results are consistent with the findings of other studies among the general population (Bagley & Tremblay, 1997; Catalán, 2000; King et al., 2001; O'Donnell et al., 2004; Walter et al., 1995).

Also, the results of this study indicated significant interaction between sexual orientation and suicide attempt on the following variables: sexual abuse, grace orientation, law orientation, warm church climate, and family income. Suicide attempters of non-heterosexual orientations were more likely to report higher incidence of

sexual abuse, lower scores on grace orientation, lower scores on law orientation, lower scores on perceived church warmth, and higher socioeconomic status when compared to their non-attempting peers. The lower scores obtained by the non-heterosexual suicide attempters on grace orientation and law orientation could be attributed to either the subjects being confused about these doctrines or being generally less religious. Additionally, these results may indicate that non-heterosexual individuals in Puerto Rico may feel unaccepted and unwelcome in some of their local churches. Although statistically significant, these results should be interpreted cautiously due to the small sample size (n = 12) of non-heterosexual suicide attempters.

Gender

In this study, gender was not found to be significantly related to suicide attempt. Female suicide attempters accounted for 13.0% of the total number of females (n = 783). Meanwhile, male suicide attempters accounted for 11.2% of the total number of males (n = 590). Therefore, it could be concluded that the male and female subjects in this sample had similar rates of suicide attempts. These results differ from the findings in the

general population of females being significantly more likely to attempt suicide (Black & Winokur, 1990; Fremouw et al., 1990). Parents of both male and female children among the Puerto Rican SDAs, as well as other church leaders, should be equally concerned about their children being at risk of attempting suicide.

Significant interaction was found between gender and the Family Cohesion scale on suicide attempt. Male attempters reported significantly lower means on the Family Cohesion scale compared to attempting females. They also obtained lower means than both non-attempting males and/or females.

Significant interaction was also found between gender and the Parental Knowledge of Youth Activities scale on suicide attempt. Male attempters reported significantly lower scores on the Parental Knowledge of Youth Activities scale compared to attempting females and non-attempting males or females. In this study, males were more likely to be affected by family turmoil and lack of parental knowledge of their activities than were females. These results contradict the common stereotype that male adolescents are less affected by family problems and that they require less parental attention or involvement.

Substance Abuse

When compared to non-attempters, suicide attempters obtained significantly higher scores on substance usage or abuse. Also, substance abuse was found to have a significant interaction with family status on suicide attempt. Suicide attempters from intact families had significantly higher scores on the Substance Abuse scale than did the non-attempters from intact families. These findings were consistent with the literature on suicide attempt among the general population (Brent, 1995; Gould, et al., 1998; Murphy, 2000; Sakinofsky, 2000) as well as Puerto Ricans (Fernandez-Pol, 1986; Marrero, 1998).

Age

Age was also found to be significantly related to suicide attempt. Suicide attempters were significantly more likely to be adolescents than to be young adults. In fact, 13.9% (n = 139) of all the adolescents (n = 1,002) reported having attempted suicide. Of the young adults (n = 390), only 9% (n = 35) reported having attempted suicide in the 12-month period prior to the survey. These results are consistent with the literature on suicide attempt among the general population, which suggests that suicide attempters

are likely to be younger (Fremouw et al., 1990; Hawton & Catalán, 1982; Kerkhof, 2000; Trivino, 1999).

The one-year prevalence of suicide attempts for both groups (13.9% for adolescents and 9% for young adults) is higher than the prevalence in the general population. Both of these figures are higher than has been reported for Hispanic SDA adolescents or adolescents in the general population (Trivino, 1999) or for Puerto Rican adults on the mainland or on the island (Earls et al., 1990; Ungemack & Guarnaccia, 1998).

As discussed previously, this study also found a significant interaction between suicide attempt and age group, on grace orientation. Suicide attempters among the young adults obtained significantly lower means on grace orientation than their non-attempting peers. Although suicide attempters were more likely to be adolescents, there was only one significant interaction indicating that a risk factor, grace orientation, affected suicide attempts of young adults differently from adolescents.

Socioeconomic Status (SES)

In this study, SES was not found to be significantly related to suicide attempt. However, one measure of SES (family income) was found to have a significant interaction

with sexual orientation on suicide attempt. Non-heterosexual suicide attempters reported higher socioeconomic status than their non-attempting peers. These findings are inconsistent with the findings reported among the general population suggesting low SES as a correlate of suicide attempts (Adam, 1990; Fernadez-Pol, 1986; Gunnell et al., 2003; Stack, 2001).

Conclusions

Based on the above discussion, the following conclusions are drawn:

1. Puerto Rican SDA adolescents and young adults had a similar percentage of suicide attempts compared to Hispanic SDA adolescents in the U.S., Hispanic adolescents among the general population in the U.S., Puerto Ricans on the mainland, and the general population of Puerto Ricans on the island.

2. SDA respondents reported significantly lower rates of suicide attempts than non-SDA respondents.

3. Puerto Rican adolescents were more likely than the young adults to report having attempted suicide during the last 12-month period prior to the survey.

4. Males and females were similarly likely to report having attempted suicide. Males were more affected than

females by family turmoil and lack of parental knowledge of their activities.

5. Several of the same variables related to suicide attempts in the general population (i.e., sexual orientation, family cohesion, history of being abused, and substance abuse) were also related to suicide attempts among Puerto Rican adolescents and young adults.

6. Seven variables were significantly related to suicide attempt in various analyses and showed a large effect. These were: family cohesion, parental understanding, parental knowledge of youth activities, verbal abuse, sexual abuse, physical abuse, and substance abuse.

Recommendations

Based on the discussion and conclusions presented above, the following recommendations for parents, church leaders, mental health professionals, and future researchers are made:

Recommendations for Parents

1. Parents should know that the influence of religion and the church is not enough to protect young people from attempting suicide.

2. Parents should create a supportive family environment that will foster adequate family unity and communication.

3. Parents should make efforts to become less authoritarian in their parenting style.

4. Parents should make an effort to truly understand the difficulties that the young people go through, and to communicate that they understand (at least in part) such difficulties.

5. Parents should become aware of the influence of their religiosity in the lives of the young people.

6. Parents should become involved in and informed of the activities, friendships, and lifestyles of their children, particularly males.

7. Parents should make efforts to increase the frequency and quality of their family worships, making sure that these worships address the felt needs of their children.

8. Parents should seek immediate help from qualified mental health professionals if any member of the family attempts suicide (whether adult or child).

Recommendations for Church Leaders (Pastors, Educators, Youth Leaders)

1. Church leaders should become aware of the problem of suicide attempts among the youth and raise the awareness about the problem among their church membership.

2. Church leaders should frequently present themes and programs related to improving family relationships, communication, and parenting skills.

3. Church leaders should encourage parents to increase the frequency of family worships, educate them in how to improve the quality of family worships, and instruct them how to evaluate if these worships are addressing the needs of their children.

4. Church leaders should educate their membership on how to prevent, recognize, and intervene with any form of abuse in their midst.

5. Church leaders should send a clear message to parents and the rest of the congregation that no form of abuse will be condoned, excused, or tolerated by them or the church.

6. Church leaders should find appropriate ways to intervene when parents disclose difficulties with their adolescent children, or conversely when adolescents disclose having problems with their parents.

7. Church leaders should educate themselves on how to recognize possible risk factors that might indicate potential suicidal behavior.

8. Church leaders should plan for special youth meetings to encourage young people to become aware of the problem and to express their opinions, feelings, or struggles with suicidal behaviors. This may help church leaders to identify individuals at higher risk.

9. Church leaders should be aware of competent and qualified mental health professionals willing to bring educational information on suicide prevention to their congregations or to make referrals if needed.

Recommendations for Mental Health Professionals

1. Mental health professionals should remember that many of the risk factors associated with suicide behaviors among adolescents and young adults in the general population also affect Puerto Rican young people.

2. Mental health professionals should not assume that because of their religious affiliation Puerto Rican adolescents and young adults are at a lower risk of attempting suicide.

3. Mental health professionals should conduct a thorough assessment of suicidality and associated risk factors when working with this population.

4. Mental health professionals should be willing to provide prevention information on suicide to this population when approached by church leaders.

5. Mental health professionals should make efforts to reduce the stigma associated with seeking help for mental health problems among this population.

Recommendations for Future Research

1. Although this study analyzed data from young adults (18-25 years old), this group was underrepresented among the suicide attempters group. Therefore, further research is needed to better understand the characteristics of the young adults group.

2. Gender-specific research among this population is still needed in order to better understand the different risk factors associated with suicide attempts for males and females.

3. More research among this population is needed in order to assess the impact of other well-documented risk factors among the general population that were not assessed

by the *Avance PR* survey (i.e., depression, self-esteem, etc.).

4. Further research is also needed to clarify some of the findings in this study that were inconsistent with the literature on suicide attempts among the general population (i.e., no differences among genders or SES).

APPENDIX

APPENDIX A
Sample Page of the *Avance* Questionnaire

How many times, during the last 12 months did you do each of the following?

Choose from these answers:

8. More than once a day
7. Once a day
6. Several times a week
5. About once a week
4. Two or three times a month
3. About once a month
2. Less than once a month
1. Never

144. Drink alcohol (beer, liquor, wine, etc.) 1 2 3 4 5 6 7 8
145. Smoke or chew tobacco 1 2 3 4 5 6 7 8
146. Wear jewelry (chains, rings, earrings, etc.) 1 2 3 4 5 6 7 8
147. Listen to rock music 1 2 3 4 5 6 7 8
148. Dancing 1 2 3 4 5 6 7 8
149. Use an illegal drug (marijuana, cocaine, etc.) 1 2 3 4 5 6 7 8
150. Watch TV or videos in your home 1 2 3 4 5 6 7 8
151. Eat meat 1 2 3 4 5 6 7 8
152. Have five alcoholic drinks or more in a row 1 2 3 4 5 6 7 8
153. See a movie at a movie theater 1 2 3 4 5 6 7 8
154. Go to a party where people were drinking 1 2 3 4 5 6 7 8
155. Take something from a store without paying for it 1 2 3 4 5 6 7 8
156. Watch sexually explicit videos or magazines 1 2 3 4 5 6 7 8
157. Drink caffeinated drinks (cola, coffee) 1 2 3 4 5 6 7 8
158. Have premarital sex or sex outside of marriage 1 2 3 4 5 6 7 8
159. Attend Friday night or Saturday secular activities 1 2 3 4 5 6 7 8

En los últimos 12 meses, ¿cuántas veces realizó Ud. lo siguiente?

Elija entre estas respuestas:

8. Más de una vez por día
7. Una vez por día
6. Varias veces por semana
5. Alrededor de una vez por semana
4. Dos o tres veces por mes
3. Alrededor de una vez al mes
2. Menos de una vez al mes
1. Nunca

144. Beber bebidas alcohólicas (cerveza, licor, vino, etc.) 1 2 3 4 5 6 7 8
145. Fumar o masticar tabaco 1 2 3 4 5 6 7 8
146. Usar joyas (cadenas, sortijas, aretes/pantallas, etc.) 1 2 3 4 5 6 7 8
147. Escuchar música "rock" 1 2 3 4 5 6 7 8
148. Bailar 1 2 3 4 5 6 7 8
149. Usar drogas ilegales (marihuana, cocaína, etc.) 1 2 3 4 5 6 7 8
150. Mirar TV o videos en su casa 1 2 3 4 5 6 7 8
151. Comer carne 1 2 3 4 5 6 7 8
152. Tomar cinco o más tragos de bebidas alcohólicas de una vez 1 2 3 4 5 6 7 8
153. Ver una película en el cine (teatro) 1 2 3 4 5 6 7 8
154. Ir a una fiesta donde haya gente que esté tomando bebidas alcohólicas 1 2 3 4 5 6 7 8
155. Tomar algo de una tienda sin pagar por ello 1 2 3 4 5 6 7 8
156. Mirar videos o revistas de temas pornográficos 1 2 3 4 5 6 7 8
157. Tomar bebidas cafeinadas (cola, café) 1 2 3 4 5 6 7 8
158. Tener relaciones sexuales antes o fuera del matrimonio .. 1 2 3 4 5 6 7 8
159. Asistir a actividades seculares el viernes por la noche o en sábado 1 2 3 4 5 6 7 8

APPENDIX B
List of Changes Made to the *Avance* Questionnaire for the *Avance PR* Study

HOJA ERRATA PARA EL CUESTIONARIO DE JOVENES

Las siguientes preguntas corresponden a las preguntas en el cuestionario y deben sustituir las preguntas del mismo. Utilice las burbujas del cuestionario para indicar su respuesta.

19 ¿Cuánto conoce Usted de los siguientes colegios y universidades adventistas? (Marque todo lo que se aplique en su caso).

1. Estudié o estudio allí.
2. Pensé asistir o enviar a mi hijo/a.
3. Tengo conocimiento, pero nunca he considerado asistir o enviar a mis hijos.
4. No tengo conocimiento.

Andrews University	1	2	3	4
Atlantic Union College	1	2	3	4
Universidad Adventista de las Antillas	1	2	3	4
Columbia Union College	1	2	3	4
La Sierra University	1	2	3	4
Loma Linda University	1	2	3	4
Universidad Adventista Dominicana	1	2	3	4
Pacific Union College	1	2	3	4
Southern College	1	2	3	4
Southwstern SDA College	1	2	3	4
Universidad de Montemorelos	1	2	3	4
Walla Walla College	1	2	3	4

61. ¿Dónde fue bautizado? Marque UNA sola respuesta.
No se aplica, no soy bautizado.
En un país fuera de Puerto Rico.
En Puerto Rico.

69. He sido menospreciado porque no hablo bien el inglés.

73. La iglesia debiera proveer programas bilingües (escuela sabática, sermones) para aquellos miembros que no entiendan el español.

#163. Los pastores necesitan recibir entrenamiento para tratar con los problemas sociales de Puerto Rico.

#164. Los pastores en Puerto Rico serían más efectivos si fueran completamente bilingües.

#226. **¡NO CONTESTE ESTA PREGUNTA!**

#228. **¡NO CONTESTE ESTA PREGUNTA!**

#229. Me han hecho sentir inferior por ser extranjero.

#253. Mi pastor promueve y participa de las costumbres culturales representadas en la congregación.

#256. (Eliminar "LA MIGRA")

#289. El asistir a la iglesia me ayuda a reafirmar mi fe.

#290. Me gusta adorar a Dios con gente de mi edad.

#291. **¡NO CONTESTE ESTA PREGUNTA!**

APPENDIX C

RESEARCH VARIABLES: SCALES AND SINGLE ITEMS

This appendix contains a transcription of the scales and single items used in this investigation. All of the items, as well as many of the scales, were developed and identified by the *Avance* research team as explained in Chapter 3. The number in front of each item corresponds to the original number of the item in the *Avance* survey. Although the original survey was presented to the participants in English and Spanish, only the English version is presented here.

Family Related Variables

Family Cohesion Scale (Family Cohesion)

Item stem: How much do you agree or disagree with each of the following?

188. My family life is happy.

189. There is a lot of love in my family.

190. I get along well with my parents.

191. My parents give me help support when I need it.

192. My parents often tell me they love me.

193. I cherish the moments when my whole family (grandparents, cousins, aunts, uncles, brothers, sisters, parents) are together.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5 Alpha Coefficient: .885

Parental Religiosity Role Model Scale

(Parental Religiosity)

202. My parents are good examples of the Christian life.

203. My parents live up to the standards of the church.

204. My parents actively participate in the life of the church.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5 Alpha Coefficient: .849

Parental Authoritarianism Scale

(Parental Authoritarianism)

194. If I break one of the rules set by my parents, I usually get punished.

195. I don't have much participation in the decisions of my home.

196. My parents are harsh and unfair when administering discipline.

197. It seems that what's more important at home is not what I think but what my parents think.

198. My parents encourage me to make my own decisions.

199. My parents push their religious convictions on me.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5 Alpha Coefficient: .544

Parental Understanding (Parental Understanding)

200. My parents don't understand my problems.

201. Sometimes I feel that my parents have forgotten what it means to be young.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5 Alpha Coefficient: .654

Parental Limits Scale (Parental Limits)

206. Limit the amount of time you can spend watching TV.

208. Limit the amount of time for going out with friends on school nights.

209. Limit the types of music you listen to.

Answer format:

1 = Does not apply

2 = Never

3 = Sometimes

4 = Often

5 = Very often

Score range: 1-5 Alpha Coefficient: .643

Family Status

187. What is your family status?

Answer format:

1 = Both parents live together.

2 = My parents are separated.

3 = My parents are divorced.

Parental Knowledge of Youth Activities

(Parental Knowledge)

212. How much do your parents REALLY know...

212b. who your friends are?

212c. where you go at night?

212d. how you spend your money?

212e. what you do with your free time?

212f. where you are most afternoons after school?

Answer format:

1 = Does not apply; don't live with parents

2 = Don't know

3 = Know a little

4 = Know a lot

Score range: 1-4 Alpha Coefficient: .837

History of Abuse

Verbal Abuse

165a. Have you ever experienced verbal or emotional abuse (being humiliated, told that you were "no good," being regularly "put down", made to feel worthless?

Answer format:

1 = Never

2 = Rarely

3 = Some of the time

4 = Very often

5 = Almost all the time

Score range: 1-5

Physical Abuse

166a. Have you ever experienced physical abuse (beaten until one had bruises or other marks, or being pinched, or slapped in the face)?

Answer format:

1 = Never

2 = Rarely

3 = Some of the time

4 = Very often

5 = Almost all the time

Score range: 1-5

Sexual Abuse

167a. Have you ever experienced sexual abuse (being touched or fondled in sexual areas of the body, raped or seduced, or pressured into having sex against your will)?

Answer format:

1 = Never

2 = Rarely

3 = Some of the time

4 = Very often

5 = Almost all the time

Score range: 1-5

Verbal Abuse: Parent (V-Abuse Parent)

165b. If you have experienced verbal or emotional abuse, by whom?

Answer format:

1 = Parents

2 = Spouse

3 = Close relative

4 = Friend or neighbor

5 = Other

Score range: 1-5

Verbal Abuse: Non-parent (V-Abuse Non-Parent)

165b. If you have experienced verbal or emotional abuse, by whom?

Answer format:

1 = Parents

2 = Spouse

3 = Close relative

4 = Friend or neighbor

5 = Other

Score range: 1-5

Physical Abuse: Parent (P-Abuse Parent)

166b. If you have experienced physical abuse, by whom?

Answer format:

1 = Parents

2 = Spouse

3 = Close relative

4 = Friend or neighbor

5 = Other

Score range: 1-5

Physical Abuse: Non-parent (P-Abuse Non-Parent)

166b. If you have experienced physical abuse, by whom?

Answer format:

1 = Parents

2 = Spouse

3 = Close relative

4 = Friend or neighbor

5 = Other

Score range: 1-5

Sexual Abuse: Parent (S-Abuse Parent)

167b. If you have experienced sexual abuse, by whom?

Answer format:

1 = Parents

2 = Spouse

3 = Close relative

4 = Friend or neighbor

5 = Other

Score range: 1-5

Sexual Abuse: Non-parent (S-Abuse Non-Parent)

167b. If you have experienced sexual abuse, by whom?

Answer format:

1 = Parents

2 = Spouse

3 = Close relative

4 = Friend or neighbor

5 = Other

Score range: 1-5

Religiosity Factors

Faith Maturity (Thayer Short Form

Scale on Faith Maturity)

1. I help others with their religious questions and struggles.

2. I seek out opportunities to help me grow spiritually.

5. I feel God's presence in my relationships with other people.

6. My life is filled with meaning and purpose.

9. My life is committed to Jesus Christ.

10. I talk with other people about my faith.

11. I have a real sense that God is guiding me.

12. I am spiritually moved by the beauty of God's creation.

Answer format:

1 = Never true

2 = Rarely true

3 = Sometimes true

4 = Often true

5 = Always true

Score range: 1-5 Alpha Coefficient: .829

Devotional Life (Devotional Life)

23. Pray or meditate, other than at church or before meals.

24. Watch religious programs on television or listen to religious radio programs.

25. Read the Bible on my own.

27. Read religious magazines, newspapers, or books.

Answer format:

1 = Never

2 = Less than 3 times a month

3 = Several times a week

4 = Once a day

5 = More than once a day

Score range: 1-5 Alpha Coefficient: .722

Grace Orientation (Grace Orientation)

32. I know that God loves me no matter what I do.

37. I am loved by God even when I sin.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5 Alpha Coefficient: .668

Law Orientation Scale (Law Orientation)

31. The more I follow Adventist standards and practices, the more likely it is that I will be saved.

35. The way to be accepted by God is to try sincerely to live a good life.

36. The main emphasis of the gospel is on God's rules for right living.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5 Alpha Coefficient: .525

Church Attendance

86. How often do you attend church?

Answer format:

1 = Never

2 = Less than once a month

3 = About once a month

4 = Two or three times a month

5 = About once a week

6 = Several times a week or more

Score range: 1-6

Warm Church Climate (Warm Church)

66. The leaders at my church are warm and friendly toward the youth.

Answer format:

1 = Strongly disagree

2 = Disagree

3 = I'm not sure

4 = Agree

5 = Strongly Agree

Score range: 1-5

Quantity of Family Worship (Quantity Fam-Worship)

213. How often does you family have family worship (prayers or religious devotions away from church services)?

Answer format:

1 = Never

2 = Less than once a month

3 = About once a month

4 = About 2-3 times a month

5 = About once a week

6 = Once a day

7 = More than once a day

Score range: 1-7

Quality of Family Worship (Quality Fam-Worship)

214. How would you evaluate you family worship?

Answer format:

1 = Does not apply (we don't have worship)

2 = A waste of time

3 = Meaningful/spiritual

Score range: 1-3

Religious Salience

89. Overall, how important is religion in you life?

Answer format:

1 = It is the least important influence in my life.

2 = It is one of the least important influences in my life.

3 = It is a somewhat important influence in my life.

4 = It is one of the most important influences in my life.

5 = It is the most important influence in my life.

Score range: 1-5

Gender

Gender

13. Are you male or female?

Answer format:

1 = Male

2 = Female

Score range: 1-2

Sexuality Factors

Sexual Orientation

76. What is you sexual preference?

Answer format:

1 = Heterosexual ("straight")

2 = Homosexual

3 = Lesbian

4 = Bi-sexual

5 = I am not sure of my sexual identity.

Score range: 1-5

Premarital Sexual Intercourse (Premarital Sex)

158. Have premarital sex or sex outside of marriage.

Answer format:

1 = Never

2 = Less than once a month

3 = About once a month

4 = Two or three times a month

5 = About once a week

6 = Several times a week

7 = Once a day

8 = More than once a day

Score range: 1-8

Substance Abuse

Substance Abuse Scale (Substance Abuse)

144. Drink alcohol (beer, liquor, wine, etc.)

145. Smoke or chew tobacco

149. Use an illegal drug (marijuana, cocaine, etc.)

152. Have five alcoholic drinks or more in a row.

Answer format:

1 = Never

2 = Less than once a month

3 = About once a month

4 = Two or three times a month

5 = About once a week

6 = Several times a week

7 = Once a day

8 = More than once a day

Score range: 1-8 Alpha Coefficient: .802

Age

Age (Age Groups)

77. How old are you?

Answer format:

1 = 13 or younger

2 = 14-17

3 = 18-21

4 = 22-25

5 = 26-29

6 = 30-33

7 = 34-37

8 = 38-41

9 = 42-45

10 = 46-49

11 = 50-53

12 = 54-57

13 = 58-61

14 = 62-65

15 = 66 and over

Score Range: Only items 1-4 were applicable to the youth sample

Socioeconomic Status (SES)

Family Income (Family Income)

99. About how much money did your family or household earn last year? (Answer this question even if you're single and independent.)

Answer format:

1 = Less than $5,000

2 = $5,000-$9,000

3 = $10,000-14,999

4 = $15,000-$24.999

5 = $25,000-$34,999

6 = $35,000-49,999

7 = $50,000-$74,999

8 = $75,000 or more

Score range: 1-8

Mother's Level of Education (Mother's Education)

16b. Indicate the HIGHEST level of education completed by each person.

Answer format:

1 = No formal schooling

2 = Grad school

3 = High school

4 = Some college

5 = Graduated from college

6 = Masters Degree

7 = Postgraduate (Ph.D., M.D., Ed.D. etc.)

Score range: 1-7

Father's Level of Education (Father's Education)

16c. Indicate the HIGHEST level of education completed by each person.

Answer format:

1 = No formal schooling

2 = Grad school

3 = High school

4 = Some college

5 = Graduated from college

6 = Masters Degree

7 = Postgraduate (Ph.D., M.D., Ed.D, etc.)

Score range: 1-7

REFERENCE LIST

Adam, K. (1990). Environmental, psychosocial and psychoanalytic aspects of suicidal behavior. In S. J. Blumenthal & D. J. Kupfer (Eds.), *Suicide over the life cycle: Risk factors, assessment, and treatment of suicidal patients* (pp. 39-96). Washington, DC: American Psychiatric Press.

Alcohol, Drug Abuse, and Mental Health Administration. (1989). *Report of the secretary's task force on youth suicide.* (DHSS Publication No. ADM-89-1623, Vols. 1-4). Washington, DC: U.S. Government Printing Office.

Alsina-Pomales, S., & Rodriguez-Gomez, J. R. (1995). El suicidio entre los ancianos Puertorriqueños. *Revista Latinoamericana de Psicología, 27*(2), 263-282.

Bagley, C., & Tremblay, P. (1997). Suicidal behaviors in homosexual and bisexual males. *Crisis, 18*(1), 24-34

Benson, P. L., & Donahue, M. J. (1990). *Valuegenesis: Report 1: A study of the influence of family, church and school on the faith, values and commitment of Adventist youth.* Minneapolis, MN: Search Institute.

Black, D. W., & Winokur, G. (1990). Suicide and Psychiatric Diagnosis. In S. J. Blumenthal & D. J. Kupfer (Eds.), *Suicide over the life cycle: Risk factors, assessment, and treatment of suicidal patients* (pp. 135-153). Washington, DC: American Psychiatric Press.

Blum, R. W., Beuring, T., Shew, M. L., Bearing, L. H., Sieving, R. E., & Resnick, M. D. (2000). The effects of race/ethnicity, income and family structure on adolescent risk behaviors. *American Journal of Public Health, 90*(12), 1879-1884.

Brent, D. A. (1995). Risk factors for adolescent suicide and suicidal behavior: Mental and substance abuse disorders, family environmental factors, and life stress. *Suicide & Life-Threatening Behavior, 25*, 52-63.

Brent, D. A., Perper, J. A., Moritz, G., Allman, C., Friend, A., Roth, C., et al. (1993). Psychiatric risk factors for adolescent suicide: A case-control study. *Journal of the American Academy of Child & Adolescent Psychiatry, 32*(3), 521-529.

Breault, K. D. (1986). Suicide in America: A test of Durkheim's theory of religious and family integration, 1933-1980. *American Journal of Sociology, 92*, 628-656.

Brickman, A. L., & Mintz, D. C. (2003). U.S. rates of self-inflicted injuries and suicide, 1992-1999. *Psychiatric Services, 54*(2), 168.

Buda, M., & Tsuang, M. T. (1990). The epidemiology of suicide: Implications for clinical practice. In S. J. Blumenthal & D. J. Kupfer (Eds.), *Suicide over the life cycle: Risk factors, assessment, and treatment of suicidal patients* (pp. 17-37). Washington, DC: American Psychiatric Press.

Burr, J. A., McCall, P. L., & Powell-Griner, E. (1994). Catholic religion and suicide: The mediating effect of divorce. *Social Science Quarterly, 75*(2), 300-318.

Caputo, M. (2004). *Martinez gambling on Cuba stand.* Retrieved March 6, 2005, from http://www.canf.org/2004/1in/noticias-de-cuba/2004-jul-19-marinez-gamblin-on-cuba-stand.htm

Catalán, J. (2000). Sexuality, reproductive cycle and suicidal behaviour. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 300-310). Chichester, England: John Wiley & Sons.

Chandy, J. M., Blum, R. W., & Resnick, M. D. (1997). Sexually abused male adolescents: How vulnerable are they? *Journal of Child Sexual Abuse, 6*(2), 1-16.

Centers for Disease Control and Prevention. (1998, August). CDC surveillance summaries. *Morbidity and Mortatlity Weekly Report, 47*(SS-3). Retrieved June 7, 2005, from http://www.cdc.gov/mmwr/PDF/SS/SS4703.pdf

Centers for Disease Control and Prevention. (2003). *National Vital Statistics Reports, 52*(9). Retrieved December 11, 2003, from http://www.cdc.gov/nchs/fastats/pdf/nvsr52_09t1.pdf

Clayton, P. I. (1993). Suicide in panic disorder and depression. *Current Therapeutic Research, 54*(6), 825-831.

Deykin, E. Y., Albert, J. J., & McNamara, J. J. (1985). A pilot study of the effect of exposure to child abuse or neglect on adolescent suicidal behavior. *American Journal of Psychiatry, 142*(11), 1299-1303.

Dudley, R. L., & Gillespie, V. B. (1992). *Valuegenesis: Faith in the balance.* Riverside, CA: La Sierra University Press.

Durkheim, E. (1951). *Suicide* (J. A. Spaulding & A. G. Simpson, Trans.). New York: Free Press. (Original work published in 1897)

Earls, F., Escobar, J. I., & Manson, S. M. (1990). Suicide in minority groups: Epidemiologic and cultural perspectives. In S. J. Blumenthal & D. J. Kupfer (Eds.), *Suicide over the life cycle: Risk factors, assessment, and treatment of suicidal patients* (pp. 571-598). Washington, DC: American Psychiatric Press.

Evans, G., & Farberow, N. L. (1988). *The encyclopedia of suicide.* New York: Facts on File.

Faupel, C. E., Kowalski, G. S., & Starr, P. D. (1987). Sociology's one law: Religion and suicide in the urban context. *Journal for the Scientific Study of Religion, 26*, 523-534.

Fernandez-Pol, B. (1986). Characteristics of 77 Puerto Ricans who attempted suicide. *American Journal of Psychiatry, 143*(11), 1460-1463.

Figeroa-Moseley, C. D. V. (1998). Latino youth substance use and abuse: Some findings from the Hispanic health and nutrition examination survey. *Dissertation Abstracts International, 58*(01), 12B. (UMI No. 9818835)

Firestone, R. W. (1997). *Suicide and the inner voice: Risk assessment, treatment, and case management.* Thousand Oaks, CA: SAGE Publications.

Flores, J. (1993). *Divided borders: Essays on Puerto Rican identity.* Houston: Arte Público Press.

Fremouw, W., Perczel, M., & Ellis, T. (1990). *Suicide risk: Assessment and response guidelines.* Boston: Allyn and Bacon.

Giffin, M. E., & Felsenthal, C. (1983). *A cry for help.* Garden City, NY: Doubleday.

Glowinski, A. L., Bucholz, K. K., Nelson, E. C., Fu, Q., Madden, P. A. F., Reich, W., & Heath, A. C. (2001). Suicide attempts in an adolescent female twin sample. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(11), 1300-1307.

Gould, M. S., King, R., Greenwald, S., Fisher, P., Schwab-Stone, M., Kramer, R., et al. (1998). Psychopathology associated with suicidal ideation and attempts among children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 37*(9), 915-923.

Gould, M. S., Shaffer, D., Fisher, P., Kleinman, M., & Morishima, A. (1992). The clinical prediction of adolescent suicide. In R. W. Maris, A. L. Berman, J. T. Maltsberger, & R. I. Yufit (Eds.), *Assessment and prediction of suicide* (pp. 130-143). New York: Guilford Press.

Group for the Advancement of Psychiatry. (1989). Suicide among Hispanic-Americans. In *Suicide and ethnicity in the United States* (pp. 72-94). Philadelphia: Brunner/Mazel.

Guarnaccia, P. J., Martinez, I., & Acosta, H. (2002). *Comprehensive in-depth literature review and analysis of Hispanic mental health issues with specific focus on members of the following ethnic groups: Cubans, Dominicans, Mexicans and Puerto Ricans.* Retrieved March 22, 2004, from http://www.njmhi.org/litre-viewpdf.pdf

Gunnell, D. J. (2000). The epidemiology of suicide. *International Review of Psychiatry, 12*(1), 21-26.

Gunnell, D. J., Middleton, N., Whitley, E. Dorling, D., & Frankel, S. (2003). Why are suicides rising among young men but falling for the elderly? A time-series analysis of trends in England and Wales. *Social Science and Medicine, 57*(4), 595-611.

Hawton, K., & Catalán, J. (1982). *Attempted suicide: A practical guide to its nature and management.* New York: Oxford University Press.

Hendin, H. (1995). Psychological perspective. *Suicide & Life-Threatening Behavior, 17,* 151.

Hernandez, E. (1995a). The browning of American Adventism. *Spectrum, 25,* 29-50.

Hernandez, E. (1995b). *Avance PR.* Unpublished raw data.

Hopes, L. M., & Williams, A. (1999). Depression, self-defeating, and self-destructive behaviors as predictors of suicide ideation in males and females. *Psychological Reports, 84*(1), 63-66

Hourani, L. L., Warrack, A. G., & Cohen, P. A. (1999). Suicide in the U.S. Marine Corps, 1990 to 1996. *Military Medicine, 164*(8), 551-555.

Hovey, J. D. (1999). Religion and suicidal ideation in a sample of Latin American immigrants. *Psychological Reports, 85*(1), 171-177.

Hovey, J. D., & King, C. A. (1996). Acculturative stress, depression, and suicidal ideation among immigrant and second-generation Latino adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*(9), 1183-1192.

Hovey, J. D., & King, C. A. (1997). Suicidality among acculturating Mexican Americans: Current knowledge and directions for research. *Suicide & Life Threatening Behavior, 27*(1), 92-103.

Husain, S. A. (1990). Current perspective on the role of psychosocial factors in adolescent suicide. *Psychiatric Annals, 20*(1), 122-127.

Jacobs, D. G., Brewer, M., & Klein-Benheim, M. (1999). Suicide Assessment. In D. G.Jacobs (Ed.), *The Harvard Medical School guide to suicide assessment* (pp. 3-39). San Francisco: Jossey-Bass Publishers.

Jacobziner, H. (1965). Attempted suicide during adolescence. *Journal of the American Medical Association, 191*(1), 7-11.

Kerkhof, A. J. F. M. (2000). Attempted suicide: Patterns and trends. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 49-64) Chichester, England: John Wiley & Sons.

King, R. A., Schwab-Stone, M., Flisher, A. J., Greenwald, S., Kramer, R. A., Goodman, S. H., et al. (2001). Psychosocial and risk behavior correlates of youth suicide attempts and suicidal ideation. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(7), 837-846.

Kowalski, G. S., Faupel, C. E., & Starr, P. D. (1987). Urbanism and suicide: A study of American counties. *Social Forces, 66*, 85-101.

Landale, N. S., & Orgena, N. B. (1995). Migration and union dissolution among Puerto Rican women. *International Migration Review, 29*(3), 671-692.

Lee, D. J., Markides, K. S., & Ray, L. A. (1997). Epidemiology of self reported past heavy drinking in Hispanic adults. *Ethnicity and Health, 2*(1-2), 77-88.

Lipschitz, D. S., Winegar, R. K., Nicolau, A. L., Hartnick, E., Wolfson, M., & Southwick, S. M. (1999). Perceived abuse and neglect as risk factors for suicidal behavior in adolescent inpatients. *Journal of Nervous & Mental Disease, 187*(1), 32-39.

Magni, G., Rigatti-Luchini, S., Fracca, F., & Merskey, H. (1998). Suicidality in chronic abdominal pain: An anaysis of the Hispanic Health and Nutrition Examination Survey (HHANES). *Pain, 76*(1-2), 137-144.

Maltsberger, J. T. (1986). *Suicide risk: The formulation of clinical judgment.* New York: New York University Press.

Maris, R. W. (1992a). How are suicides different? In R. W. Maris, A. L. Berman, J. T. Maltsberger, & R. I. Yufit (Eds.), *Assessment and prediction of suicide* (pp. 65-87). New York: Guilford Press.

Maris, R. W. (1992b). The relationship of nonfatal suicide attempts to completed suicides. In R. W. Maris, A. L. Berman, J. T. Maltsberger,& R. I. Yufit (Eds.), *Assessment and prediction of suicide* (pp. 362-380). New York: Guilford Press.

Marrero, D. N. (1998). Suicide attempts among Puerto Ricans of low socioeconomic status. *Dissertation Abstracts International, 58*(7-B). (UMI No. AAT 9802701)

Maser, J. D., Akiskal, H. S., Schettler, P., Scheftner, W., Muller, T., Endicott, J., et al. (2002). Can temperament identify affectively ill patients who engage in lethal or near-lethal suicidal behavior? A 14-year prospective study. *Suicide & Life-Threatening Behavior, 32*(1), 10-32.

McCraig, L. F., & Strussman B. J. (1996). National hospital ambulatory care survey. In: *CDC Emergency department summary: Advance data from vital and health statistics, 1997* (no. 293). Hyattsville, MD: National Center for Health Statistics.

McHolm, A. E., MacMillan, H. L., & Jamieson, E. (2003). The relationship between childhood physical abuse and sucidality among depressed women: Results from a community sample. *American Journal of Psychiatry, 160*(5), 933-938.

McIntosh, J. L. (1990). Epidemiology of suicide in the United States. In A. A. Leenaars (Ed.), *Life span perspectives of suicide: Time-lines in the suicide process* (pp. 55-69). New York: Plenum Press.

McIntosh, J. L. (1992). Methods of suicide. In R. W. Maris, A. L. Berman, J. T. Maltsberger, & R. I. Yufit (Eds.), *Assessment and prediction of suicide* (pp. 381-397). New York: Guilford Press.

McKenry, P. C., Tishler, C. L., & Kelley, C. (1982). Adolescent suicide: A comparison of attempters and nonattempters in an emergency room population. *Clinical Pediatrics, 21*(5), 266-270.

McKenzie, K., Serfaty, M., & Crawford, M. (2003). Suicide in ethnic minority groups. *British Journal of Psychiatry, 183*(2), 100-101.

Miller, K. E., King, C. A., Shain, B. N., & Naylor, M. W. (1992). Suicidal adolescents' perceptions about their family environment. *Suicidal & Life Threatening Behavior, 22*(2), 226-239.

Monk, M., & Warshauer, M. E. (1974). Completed and attempted suicide in three ethnic groups. *American Journal of Epidemiology, 100*(4), 333-345.

Mościcki, E. K. (1995). Epidemiology of suicidal behavior. *Suicide & Life Threatening Behavior, 25*(1), 22-35.

Mościcki, E. K. (1999). Epidemiology of suicide. In D. G. Jacobs (Ed.), *The Harvard Medical School guide to suicide assessment* (pp. 40-51) San Francisco: Jossey-Bass Publishers.

Murphy, G. E. (2000). Psychiatric aspects of suicidal behavior: Substance abuse. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 135-146). Chichester, England: John Wiley & Sons.

National Center for Injury Prevention and Control. (n.d.) *Suicide in the United States.* Retrieved March 29, 2004, from http://www.cdc.gov/ncipc/factsheets/suifacts.htm

Nelson, E. C., Heath, A. C., Madden, P. A. F., Cooper, L., Dinwiddie, S. H., Bucholz, K. K., et al. (2002). Association between self-reported childhood sexual abuse and adverse psychological outcomes. *Archives of General Psychiatry, 59*(2), 139-145.

Nonnemaker, J. M., McNeely, C. A., & Blum, R. W. (2003). Public and private domains of religiosity and adolescent health risk behaviors: Evidence from the National Longitudinal Study of Adolescent Health. *Social Science & Medicine, 57*(11), 2049-2054.

O'Donnell, L., O'Donnell, C., Wardlaw, D. M., & Stueve, A. (2004). Risk and resiliency factors influencing suicidality among urban African American and Latino youth. *American Journal of Community Psychology, 33*(1-2), 37-49.

Olvera , R. L. (2001). Suicidal ideation in Hispanic and mixed-ancestry adolescents. *Suicide & Life Threatening Behavior, 31*(4), 416-427.

Oquendo, A. M., Ellis, S. P., Greenwald, S., Malone, K. M., Weissman, M. M., & Mann, J. J. (2001). Ethnic and sex differences in suicide rates relative to major depression in the United States. *American Journal of Psychiatry, 158*(10), 1652-1658.

Pescosolido, B. A., & Georgianna, S. (1989). Durkheim, suicide, and religion: Toward a network theory of suicide. *American Sociological Review, 54*, 33-48.

Pfeffer, C. R. (1989). Family characteristics and support systems as risk factors for youth suicidal behavior. In Alcohol, Drug Abuse and Mental Health Administration, *Report of the secretary's task force on youth suicide: Vol. 2. Risk factors for youth suicide.* Washington, DC: Department of Health and Human Services.

Queralt, M. (1993). Risk factors associated with completed suicide in Latino adolescents. *Adolescence, 28*(112), 831-850.

Ramirez-Johnson, J., & Hernandez, E. I. (2003). *AVANCE: A vision for a new mañana*. Loma Linda, CA: Loma Linda University Press.

Range, L. M., McIntyre, D., Rutherford, D., Billie, S., Payne, B., Knott, E., et al. (1997). Suicide in special populations: A review. *Aggression and Violent Behavior, 2*(1), 53-63.

Range, L. M., Leach, M. M., McIntyre, D., Posey-Deters, P. B., Marion, M. S., Kovac, S. H., et al. (1999). Multicultural perspectives on suicide. *Aggression and Violent Behavior, 4*(4), 413-430.

Razin, A. M., O'Dowd, M.A., Nathan, A., Rodriguez, E., Goldfield, A., Martin, C., et al. (1991). Suicidal behavior among inner-city Hispanic adolescent females. *General Hospital Psychiatry, 13*(1), 45-48.

Rew, L., Thomas, N., Horner, S., Resnick, M. D., & Beuhring, T. (2001). Correlates of recent suicide attempts in a triethnic group of adolescents. *Journal of Nursing Scholarship, 33*(4), 361-367.

Rubenstein, J. L., Halton, A., Kasten, L., Rubin, C., & Stechler, G. (1998). Suicidal behavior in adolescents: Stress and protection in different family contexts. *American Journal of Orthopsychiatry, 68*(2), 274-284.

Rubenstein J. L., Heeren, T., Housman, D., Rubin, C., & Stechler, G. (1989). Suicidal behavior in "normal" adolescents: Risk and protective factors. *American Journal of Orthopsychiatry, 59*(1), 59-71.

Safer, D. J. (1997). Adolescent/adult differences in suicidal behavior and outcome. *Annals of Clinical Psychiatry, 9*(1), 61-66.

Sakinofsky, I. (2000). Repetition of suicidal behavior. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 135-146). Chichester, England: John Wiley & Sons.

Schneidman, E. (1971, June). You and death. *Psychology Today, 5*(1), 43-45.

Schneidman, E. (1985). *Definition of suicide*. New York: John Wiley & Sons.

Shafii, M, Carrigan, S., Whittinghill, J. R., & Derrick, A. (1985). Psychologycal autopsy of completed suicide in children and adolescents. *American Journal of Psychiatry, 142,* 1061-1064.

Sorenson, S. B., & Golding, J. M. (1988). Suicide ideation and attempts in Hispanics and non-Hispanic Whites: Demographic and psychiatric disorder issues. *Suicide & Life-Threatening Behavior, 18*(3), 205-218.

Sorenson, S. B., & Shen, H. (1996). Youth suicide trends in California: An examination of immigrant and ethnic group risk. *Suicide & Life Threatening Behavior, 26*(2), 143-154.

Spicer, R. S., & Miller, T. R. (2000). Suicide acts in 8 states: Incidence and case fatality rates by demographics and method. *American Journal of Public Health, 90*(12), 1885-1891.

Stack, S. (2001). Sociological research in suicide. In D. Lester (Ed.), *Suicide prevention: Resources for the millennium* (pp. 17-29). Philadelphia, PA: Brouner-Routledge.

Stark, R., Doyle, D. P., & Rushing, J. L. (1983). Beyond Durkheim: Religion and suicide. *Journal for the Scientific Study of Religion, 22,* 120-131.

Thayer, J. D. (1993). Measuring faith maturity: Reassessing Valuegenesis and development of a denomination-specific scale. *Journal of Research on Christian Education, 2*(1), 93-113.

Tortolero, S. R., & Roberts, R. E. (2001). Differences in nonfatal suicide behaviors among Mexican Americans and European American middle school children. *Suicide & Life Threatening Behavior, 31*(2), 214-223.

Trautman, E. C. (1961). The suicidal fit: A psychobilogic study on Puerto Rican immigrants. *Archives of General Psychiatry, 5*, 76-83.

Trivino, J. E. (1999). Characteristics of Hispanic Seventh-day Adventists adolescents who had attempted suicide. (Doctoral dissertation, Andrews University). *Dissertation Abstracts International*, 60(12-B).

Ullman, S. E., & Brecklin, L. R. (2002). Sexual assault history and suicidal behavior in a national sample of women. *Suicide & Life-Threatening Behavior, 32*(2), 117-130.

U.S. Census Bureau. (2000a). Profile of the general demographic characteristics: 2000 (Geographic area: United States). Retrieved April 4, 2004, from http://censtats.census.gov/data/US/01000.pdf

U.S. Census Bureau. (2000b). Profile of the general demographic characteristics: 2000 (Geographic area: Puerto Rico). Retrieved April 4, 2004, from http://censtats.census.gov/data/PR/04072.pdf

U.S. Citizenship and Immigration Service. (2003). *Cuban nationals or citizens seeking lawful permanent resident status.* Retrieved March 6, 2005,from http://uscis.gov/graphics/services/residency/caa.htm

U.S. Public Health Service. (1999). *The Surgeon General's call to action to prevent suicide.* Washington, DC: Author.

Ungemack, J. A., & Guarnaccia, P J. (1998). Suicidal ideation and suicide attempts among Mexican Americans, Puerto Ricans and Cuban Americans. *Transcultural Psychiatry, 35*(2), 307-327.

Vázquez, R. L. (2004). ¿Hispanic or Latino? Retrieved August 4, 2004, from http://www.lasculturas.com/aa/aa070501a.htm.

Vega, W. A., Alderete, E., Kolody, B., & Aguilar-Gaxiola, S. (1998). Illicit drug use among Mexicans and Mexican Americans in California: The effects of gender and acculturation. *Addiction, 93*(12), 1839-1850.

Vega, W. A., Kolody, B., Aguilar-Gaxiola, S., Alderete, E., Catalano, R., & Caraveo-Anduaga, J. (1998). Lifetime prevalence of *DSM-III-R* psychiatric disorders among urban and rural Mexican Americans in California. *Archives of General Psychiatry, 55*(9), 771-778.

Verin-Shapiro, P. (2000, February). Why "Nuyoricans" are given the cold-shoulder by other Puerto Ricans. *National Association of African American Studies & National Association of Hispanic and Latino Studies: 2000 Literature Monograph Series Proceedings (Social Studies Section)*, Houston, TX.

Wagner, B. M., Silverman, M. A. C., & Martin, C. E. (2003). Family factors in youth suicidal behaviors. *American Behavioral Scientist, 46*(9), 1171-1191.

Walter, H. J., Vaughan, R. D., Armstrong, B., Krakoff, R. Y., Maldonado, L. M., Tiezzi, L., et al. (1995). Sexual, assaultive, and suicidal behaviors among urban minority junior high school students. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(1), 73-80.

Wolford, K. M., Reihman, J., & Tars, S. E. (1991). Psychological autopsy database development: A strategy for the study of suicide. *Forensic Reports, 4*(4), 437-450.

Zayas, L. H. (1989). A retrospective on "the suicidal fit" in mainland Puerto Ricans: Research issues. *Hispanic Journal of Behavioral Sciences, 11*(1). 46-57.

Zayas, L. H., & Dyche, L. A. (1995). Suicide attempts in Puerto Rican adolescent females: A sociocultural perspective and family treatment approach. In J. K. Zimmerman & G. M. Asnis (Eds.), *Treatment approaches with suicidal adolescents* (pp. 203-218). Oxford, England: John Wiley & Sons.