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## Adolescent suicide : a review of contributing risk factors and issues of assessment

Joe S. Rich  
*University of Northern Iowa*

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## Adolescent suicide : a review of contributing risk factors and issues of assessment

### Abstract

Over the past decade, there has been an alarming increase in the rate of suicide among the adolescent population. It has been reported that among the 15 to 24- year-old population, the incidence of suicide has increased 200 percent since 1960. Suicide is now the third leading cause of death among adolescents and adults, ages 15 to 24- year-olds.

The purposes of this literature review are to (1) examine and identify factors that contribute to suicidal ideation in adolescents, (2) evaluate the adequacy of assessment measures of suicidal behavior including self-report, projective, and interviewing techniques, and (3) evaluate the general psychometric properties of three well developed self-report measures of suicidal behavior: the Reasons for Living Inventory (RFL; Linehan, Goodstein, Nielsen, & Chiles, 1983), the Multi-Attitude Suicide Tendency Scale (MAST; Orbach et al., 1991 ), and the Suicide Probability Scale (SPS; Cull & Gill, 1988).

**Adolescent Suicide: A Review of Contributing  
Risk Factors and Issues of Assessment**

**A Research Paper  
Submitted  
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**Joe S. Rich  
University of Northern Iowa**

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has been approved as meeting the  
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**Augustine Osman**

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Director of Research Paper

**Ralph Scott**

---

Co-Reader of Research Paper

**Donald W. Schmits**

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Graduate Faculty Advisor

**Barry J. Wilson**

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Head, Department of Educational  
Psychology & Foundations

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## CHAPTER 1

Introduction

Hopeless, depressed and lonely, many of us have felt this way at one time or another. However, there is an alarming trend among the adolescent population that is ending these negative feelings with a permanent solution. This solution is suicide. There is an increasing concern in light of the overwhelming number of adolescent suicides. Due to the growing number of adolescents that are choosing to take their own lives, it is important for both the scientific and nonscientific communities to examine those factors that contribute to the causes and possible prevention of adolescent suicidal ideation and behavior.

Recently, suicidal behavior has been explained on a continuum in the literature. For example, Lewinsohn, Rohde, and Seeley (1996) have suggested that "*Suicidal ideation* can be defined as thoughts or wishes to be dead or to kill oneself; *Suicide attempts* are defined as self-inflicted behavior intended to result in death, and *Suicide completions* are self-inflicted death." (p. 26)

The true magnitude of suicidal behavior may not be known. The under-reporting of suicide has always been a concern. Religious implications, cultural expectations and

family factors may be just a few of the major reasons for this under-reporting. Garland and Zigler (1993) claim that many sudden deaths may be suicide; however, with no direct evidence such as a suicide note, sudden deaths are often ruled accidents.

Over the past decade, there has been an alarming increase in the rate of suicide among the adolescent population. It has been reported that among the 15 to 24-year-old population, the incidence of suicide has increased 200 percent since 1960. Suicide is now the third leading cause of death among adolescents and adults, ages 15 to 24-year-olds (National Center for Health Statistics, 1996). However, suicide as a potential cause of death falls behind accidents and homicide (Henry, Stephenson, Hanson & Hargett, 1993; Lester, 1997; Garland & Zigler, 1993). Lester (1997) reports that every 45 seconds someone attempts suicide, and every 16.9 minutes someone succeeds in killing himself or herself. The National Center for Health Statistics (NCHS; 1996) reports that in 1996, eleven deaths per 100,000 were attributed to suicide. The NCHS also reports there were 30,862 suicide completions in the United States in 1996.

The purposes of this literature review are to (1)

examine and identify factors that contribute to suicidal ideation in adolescents, (2) evaluate the adequacy of assessment measures of suicidal behavior including self-report, projective, and interviewing techniques, and (3) evaluate the general psychometric properties of three well developed self-report measures of suicidal behavior, the Reasons for Living Inventory (RFL; Linehan, Goodstein, Nielsen, & Chiles, 1983), the Multi-Attitude Suicide Tendency Scale (MAST; Orbach et al., 1991 ), and the Suicide Probability Scale (SPS; Cull & Gill, 1988).

## CHAPTER 2

Suicidal Risk Factors

It is important to understand the factors that contribute to suicidal ideation in adolescents. A solid understanding of these factors would aid in the construction of programs that would lead to the prevention of teen suicide. It would also lead to the development and rigorous validation of useful instruments that could be used in the screening of adolescents for early signs of suicidal ideation.

Demographic Risk Factors

Suicide rates have been shown to vary with race, age, and gender. It has been reported that the rates of suicide completion rise in older age samples. The highest rates of suicide are among white males above the age of 85; the overall rate in this category suggests 68.2 deaths per 100,000.(suicide facts). It has also been reported that among the population of young black males, the rate has increased 358 percent in the last twenty years (Garland & Zigler, 1993). Shaffer, Gould and Hicks (1994) state that among the African American population the rate of suicide completions are approximately half that of Whites. There are



also reports that there is a great difference among genders when looking at the rates of both suicide completions and attempts.

#### Gender Differences in Suicidal Ideation and Behavior

It has been reported that in western countries females have a much higher rate of suicidal ideation and subsequent attempts. However, males typically have a much higher rate of completions than females (Canetto & Sakinofsky, 1997). Many investigators have looked into the apparent association of gender and suicidal ideation and attempts. Among the adolescent population it has been reported that females attempt suicide more often than males (Andrews & Lewinsohn, 1992; Garland & Zigler, 1993; Lester 1997). The National Institute of Mental Health (NIMH, 1996) reports that females attempt suicide about 2 times to every 1 time that a male attempts suicide (Suicide Facts). They do go on to report that males complete suicide about 6.4 times more often than females. This higher rate of suicide completions may be due largely in part to the lethal methods that males employ. It has been shown that males tend to use methods such as shooting and hanging more often than females (Lewinsohn et al., 1996).

A recent study that examines the issue of gender as a

risk factor for suicidal ideation was conducted by Peterson, Zhang, Santa Lucia, King, and Lewis(1996). This study utilized 1,436 consecutive psychiatric emergency room visits for children that were younger than 16 years of age. The data collection took place over a 10-year period.

Participants were classified broadly as either possessing suicidal ideation, suicidal behavior, oppositional defiance or aggression. All of the subjects were interviewed by child psychiatric personnel between 1983 and 1994.

Information that would characterize the individuals were recorded (i.e., race, gender, and age). It was reported that of the 1,436 participants, 429 exhibited either suicidal ideation or suicidal behavior.

The authors report that in the sample, when looking at gender, the odds that a female would exhibit suicidal ideation was 1.6 to 1 of a male. They also report that when examining suicide attempts, it is 2.2 times as likely that the attempter will be a female.

This study lends support to the notion that females are more likely than males to attempt suicide. However, the authors note that there are limitations to this study. They state that guideline for classification of subjects as suicidal (ideation or behavior), oppositional defiant, or

aggressive were very broad. They also state that the sample was only 11 to 16 year-old's and the findings could not be generalized to larger and older population of adolescents.

There is another body of research that looks into the completion rate of suicide attempters. Grøholt, Ekeberg, Whichstrøm, and Haldorsen (1997) are researchers that have examined the issue of gender and suicide completions. In a 1997 study designed to look at suicide completion rates in youth in Norway between the years 1990 and 1992, the authors used a small sample of 127 children. The participants range in age from 10 to 19 years. The researchers examined all of the medical records that had been classified a suicide in the county to determine the characteristics of the attempters.

The researcher found that the suicide rate for boys ages 15 to 19 was 18.6 per 100,000 and that the suicide rate for females of the same age was only 6.3. They also reported that the completion rate for males ages 10 to 14 years old was 2.7 per 100,000. Moreover, they stated that the rate for females of the same age was only 0.5.

The findings of the studies by Grøholt et al. (1997) and Peterson et al. (1996) do lend additional support to the notion that although females may possess more suicidal

thought than males, the methods that males use may be a factor that weighs heavily on the difference in completion rates. Next, we will examine differences between boys and girls in terms of the methods used to attempt suicide.

#### Methods of Suicidal Behavior

It has been reported that males tend to use a more lethal method of ending their lives. It has also been shown that females more often use methods such as drug overdoses or carbon monoxide poisoning to commit suicide.

In a recent study, Beautrais, Joyce, and Mulder (1996) examined the effects of risk factors for serious suicide attempters. The subjects (N=129) ranged in age from 13 to 24. Males made up 45.7% of the sample with 54.3% of the sample being comprised by females. A non-attempter control group was selected to meet the characteristics of the suicide attempters. The researchers measured a large number of sociodemographic factors, childhood factors, and psychiatric morbidity in order to better understand the factors that may contribute to suicidal ideation and behavior. These factors included such items as educational qualifications, annual income, parental care, and psychiatric factors. Many self-report measures were used to help identify the characteristics of the sample. The

authors also reported the methods that were used to make the suicide attempts.

The finding shows that indeed there may be some difference in the methods that males and females select to make a suicide attempt. The study shows that in the sample of 129, 10.1% of the attempts were made with a firearm and all of those attempts were made by males. Moreover, they report that a majority of the attempts were made by drug overdose with twice as many females (51.2%) using this method as males (25.6%). The researchers also report that of the carbon monoxide and hanging attempts, 10.9% of the females selected this method and only 2.3% of the males did.

Ohberg, Lohnqvist, Sarna, and Vuori (1996) investigated suicidal trends among two Finnish groups (ages 15-19 and ages 20-24). The purpose of the study was to examine suicide rates and methods utilized. The data used for this study was taken from the Finnish annual official statistics on mortality from 1947 to 1991. Suicide methods including poisoning, hanging, drowning, firearms, and other (jumping from high places, or lying in the way of something) were all examined.

Results from the study indicated that suicide rates had nearly doubled between 1947 to 1991 in both genders and age

groups. The researchers reported that the most significant finding of the study was the sharp increase in the total suicide rate between the mid-1960s and the mid-1970s. During that time, suicide by firearms and hanging increased sharply among 15 to 19 year-old's, accounting for 41% and 40% respectively. The study also indicated that between 1947 and 1991, suicide by males increased by all methods examined with the exception of drowning. Within the 15-19 year old male group, the most significant trend was in the rate of suicide by firearms. In the group of 20-24 males, the most significant trend was in the rate of suicide by poisoning. In the female group, there were no significant trends by any single method.

#### Social-Cultural Risk Factors

Many factors tend to combine to make a child who he or she is. The great debate over the nature vs. nurture factors continues to escalate around the world. What is it that makes a child see the world as he or she does? When examining this question within the context of suicidal thought patterns, there is also some discussion as to what the contributing factors are. Many researchers have looked into the factors that color the thoughts and actions of today's adolescents. It may be concluded that many factors

working together make up a child. Social and cultural factors that have been shown to contribute to suicidal ideation in teens are as common as the movies we see, to the type of families that we have, and what religious background we come from. The present discussion will focus on five of this multitude of socio-cultural factors.

### Familial Factors

There are many familial factors that may contribute to suicide in adolescents. First, there is the genetic influence that the parents have on the child. In the book, Making Sense of Suicide, Lester (1997) reviews a classic study by Kallman (1953). This study looked at the concordance rate of suicide when one twin had killed himself or herself. The study looked at monozygotic (MZ) and dizygotic (DZ) twin pairs. Monozygotic twins are twins that were spawned from the same ovum making the genetics of both twins identical. Dizygotic twins on the other hand come from two separate eggs thus, they have the genetic makeup of siblings. If suicide had a genetic cause, one would expect to see the concordance rate among the MZ twins to be much higher than that of the DZ twins.

It was shown that MZ twins did have a higher concordance rate than that of DZ twins. Lester warns that

future studies need to be conducted in this area with twins that were separated early and raised in different social environments to control for social factors that may have contributed to the higher concordance rate in MZ twins.

Other familial factors that may contribute to suicidal ideation have also been examined in the literature. A recent study looked at the characteristics of child survivors of a family suicide (Pfeffer et al., 1997). The purpose of the study was to examine psychosocial characteristics of children and adolescents who had recently experienced a loss of parent or sibling due to suicide. The sample included 16 families with children ranging in age from 5 to 14. Each subject had experienced the loss of a relative within one year from the initial phase of the research. The prevalence and severity of suicidal ideation was assessed using the Spectrum of Suicidal and Assaultive Behavior Scale (Pfeffer, Plutchik, & Mizoruchi, 1983).

Results indicated that 25 percent of the subjects had reported symptoms that were associated with depression. Depressive symptoms are often associated with suicidal ideation. Moreover, the study reported that an alarming 31 percent of the families had at least one child that reported suicidal ideation (Pfeffer et al., 1997).



Tishler, McKenry, and Morgan (1981) also identified other family factors that further contribute to suicidal ideation among adolescents, including the rise in divorce rates and marital dissatisfaction of parents. Data were collected over a two-year period at a children's hospital emergency room.

The results of the study showed that of the 108 adolescents suicide attempters, (mean age 15.07) only 49 percent were living at home with both parents. They also reported that of the children that were living with both parents, 60 percent rated their parents' marriages as poor, and 18 percent reported that at least one of their parents currently had a drinking problem. An additional factor that was demonstrated in this study was that 22 percent of the adolescents reported that someone in their family had attempted suicide.

The combination of findings from these studies suggest that the family makeup presents as a significant risk factor for adolescent suicidal behavior.

#### Religious Factors

Siegrist (1996) investigated the influence of religion on attitudes toward suicide. The sample consisted of 2,034 participants, all of whom were 15- to 30-year-old Germans.

The sample included three groups: Catholics, Protestants, and persons without a religious affiliation. The research examined the degree of approval vs. disapproval of suicide in hopeless situations. Siegrist (1996) examined the relationship of the variables of denomination, church attendance, education, and suicide of an acquaintance with suicide ideology.

Contrary to the findings of Stack and Lester (1991), the results supported the original hypothesis of Durkheim (1897) that religious denomination affects suicide ideology. Specifically, church attendance and religious denomination influenced suicide ideology. Those participants who were Catholics reported less approval than Protestants, and Protestants reported less approval than those who had no religious affiliation. A limitation of the study was noted by the author. Siegrist (1996) noted that the conclusions of the study were based on attitudes about suicide rather than suicide behavior.

Donahue and Benson (1995) examined the relationship between religiousness of U.S. adolescents ages 12 to 18, and prosocial values and behaviors (valuing and helping others etc.), mental health issues (suicide ideation, suicide attempts etc.), and at-risk behaviors (alcohol and tobacco

use etc.). Both suicide measures correlated  $-.05$  with religious activity, and  $-.09$  with church attendance. The authors of the study noted that as demonstrated in this study, religion has a relatively small impact on suicide ideology or attempts. However, it should be noted that the methods for measuring religion are somewhat generic in this study. Researchers have agreed that religiosity is relatively difficult to measure.

### Media Factors

Media contributes largely to the way in which we perceive events. Movies and news coverage have specifically been shown to affect the rate of suicide in teens.

Biblarz, Brown, Biblarz, Pilgrim, and Baldree (1991) investigated the question of whether or not mass media stories about suicide influence adolescents and young adults suicidal behavior. Their investigation used an experimental design to explore attitudes toward suicide. The sample consisted of 119 university students (35 males and 84 females) ages 18 to 20 years. A screening questionnaire was administered that included items to assess demographic characteristics, locus of control, attitudes and feelings reflecting relations with parents and friends, attitudes and feelings concerned with emotional and control issues, and

problems that could be associated with serious suicidal tendencies. These measures included the Beck's Hopelessness Scale (1974) and measures of prior suicidal behavior, aggressiveness, emotional problems, and previous hospitalization for such problems. Those participants who scored high in any of these areas were not permitted to continue in the study. The original sample was reduced to 60 (19 males and 41 females). These participants were involved in the three experimental sessions of the study: the experimental questionnaire (prefilm); postfilm 1, and postfilm 2.

The experimental questionnaire was designed to measure attitudes toward suicide, attitudes toward aggression, and arousal before, immediately after, and two weeks after the films were shown. Following the completion of the questionnaire, participants were randomly assigned to three film groups. Each group was shown a different film. One film dealt with the suicide of two teenagers (Surviving); a second with considerable violent content (Death Wish); and the third was a neutral film having neither suicide or violent content (That's Entertainment). Participants in each group were given the same experimental questionnaire they had completed earlier. Two weeks later, this

questionnaire was administered again, followed by a debriefing session.

The researchers found that university students who are not typically at risk for suicide were, nevertheless, influenced by films with suicidal or violent content. Participants who viewed Surviving and Death Wish films showed a significant increase in arousal immediately after viewing the film, with arousal returning to prefilm level two weeks later. While none of the groups showed a significant increase in positive perceptions of suicide or aggression, some students who viewed the two films did change their perceptions of suicide in a more positive direction after seeing the films. These suicide change scores were systematically related to viewers' changing levels of emotional arousal. Furthermore, students in both of these film groups perceived that their relationships with parents were important predictors of film-induced changes in attitudes toward suicide.

#### Exposure to Suicide

In his review, Ackerman (1993) reported that 60 percent of the adolescents in a recent investigation had direct knowledge of another teen that had attempted suicide. It has also been shown that peer suicide is a factor that

contributes highly to suicidal ideation among the adolescent population (Lester, 1997). Brent and colleagues (1992) examined the effects that two suicide completions had on a high school with a student body of 1,496. More specifically, the study reports that within an 18-day period following the two original suicides, seven students attempted suicide. It also reports that 23 students manifested suicidal ideation. These incidents of suicidal attempts and ideation are much higher than occur naturally in the general population. It was noted that this rate was 1,435 times the expected incidence rate. The completions fell within four days of one another. The findings of this study support the idea that exposure to suicide has a direct influence on suicidal ideation.

### School Problems

Educational personnel are becoming more and more aware of the mental health needs of adolescents. The increasing prevalence of depression and high risk behavior, such as suicide, have forced schools and educators to prioritize these students. What once was considered to be a minority of students who were at risk, now includes approximately 10-12% of all high school students (Reynolds, 1994). Specific attention is currently being paid to the differences among

those students who are average in academic performance, gifted students, and exceptionally gifted students.

Baker (1995) examined the prevalence and nature of depression and suicidal ideation in a sample of academically talented students and their peers. It was expected that little difference would be present between gifted students, exceptionally gifted students, and average ability students.

The participants included 146 students from Midwestern community schools. The exceptionally gifted students included 32 individuals from the 9<sup>th</sup> grade (25 students), 10<sup>th</sup> grade (6 students) and the 11<sup>th</sup> grade (1 student). The sample consisted of 56% male and 44% female students. Of the students 90% were Caucasian, 3% Asian, 3% Hispanic, and 3% other. The gifted students included 46 individuals from the upper 5% of their class rankings in grades 10 through 11. The sample was 29% male, and 71% female. Ninety five percent of this sub-sample were Caucasian, 3% Asian, and 2% Hispanic. Finally, the academically average group consisted of 56 students in grades 9 through 11 who were ranked at the midpoint in their class rankings. The sample was 55% male and 45% female. 96% of the students, were Caucasian, 2% African American, and 2% Hispanic.

Assessment measures included the Reynolds Adolescent

Depression Scale (Reynolds, 1986) and the Suicidal Ideation Questionnaire (SIQ; Reynolds, 1987). Results indicated that there were no significant differences among the three groups in the level, severity or nature of depression or suicide ideation. However, while there were no differences among the groups, the study found that 8% of the gifted adolescents, 9% of the average adolescents, and 12% of the exceptional adolescents reported significant levels of depression. The levels of depression found in the students calls for educators to understand and attempt to prevent further mental health difficulties including suicide with all groups of students.

#### Psychological Risk Factors

There has been a large amount of research into the area of mental illness and suicide. There is some research that suggests that the incidence rate of mental illness in those who commit suicide are as high as 94% (Lester, 1997).

In a recent study, examiners reviewed the relationships between a series of risk and associated factors for serious suicide attempts (Beautrais, Joyce, & Mulder, 1996). The factors the researchers chose to look at were childhood experiences and mental disorders. The sample was composed of 129 individuals that had made at least one serious



suicide attempt.

"Individuals were included in the study if they required treatments such as antidotes for drug overdoses, telemetry, or repeated tests or investigations. In addition, individuals who made suicide attempts with a high risk of fatality, such as hanging or gunshot, and who were hospitalized for more than 24 hours but who did not meet the above treatment criteria were also included in the sample of serious suicide attempters." (p. 1175)

The participants were comprised of individuals that ranged in age from 13 to 24 years of age. All of the attempters had made their attempts between September 1, 1991 and May 31, 1994. The researchers also utilized a control sample that consisted of 153 individuals that were selected from an electoral roll to represent the gender and age distribution of the attempters' sample.

The examiners used a modified version of the Structured Clinical Interview for DSM-III-R to make the DSM-III-R (1994) Diagnoses. One of the results of the study was that of the 129 individuals that had made a serious attempt of suicide, 89.2 % met DSM-III-R criteria for at least one psychological disorder. This is compared with only 31.4% of

the control sample.

### Depression

Of the psychological factors that have been shown to contribute to suicidal ideation, none may be as important as the symptoms of depression. Many studies have looked at the area of depression and the part that it plays in adolescent suicidal ideation. It has been reported that many of the people that attempt and succeed at suicide are shown to have symptoms associated with depression (Baker, 1995; de Man, Leduc & Labreche-Gauthier, 1993; Flanagan & Flanagan, 1995; Garland & Zigler, 1993; Lester, 1997; Myers, McCauley, Calderon, Mitchell, & Schloredt, 1991; Rotheram-Borus, Ferns & Walker, 1996).

Individuals who are depressed tend to see the world as an uninviting place to be. They also believe that their situation is not going to improve. The thought of remaining in a life situation that is so unbearable with no hope of getting better becomes too much for the individual to deal with (Battin, 1995). The clinical literature suggests, however, that most people do not attempt suicide while in the depths of depression. Lester (1997) observed that individuals with severe depressive symptoms may not have the energy to commit suicide. Lester also states that it is

most likely that the individual would try and kill himself or herself when the depression begins to lift.

Other research has been shown to support the idea that depression is an important factor in the study of suicidal ideation.

For example, in a recent study designed to assess the suicidal behavior and risk factors of middle-class adolescents, Rothem-Borus, Ferns and Walker (1996) utilized a sample of 1,616 predominately middle-class adolescents who were seeking crisis services. The sample was 60% male, 66% were white, 26% were African American, 5% Native American, and 2% were Mexican American. Approximately 96% of the sample was between the ages of 11 and 17 years of age. A large sample of 1,616 participants were interviewed at a large community based nonresidential crisis-counseling center(55%) and at two residential shelters(45%).

Depression was assessed using 21 items adapted from the K-SADS (Chambers et al., 1985) and the Center of Epidemiological Studies of Depression Scales (Radloff, 1977). Results showed that twice as many suicide attempters as non-attempters presented symptomatology that were associated with depression.

Metha and McWhirter (1997) attempted to examine the

relationship between depression and suicide along with several other risk factors in gifted adolescents. The purposes of the study were: (1) to evaluate differences if any, between gifted and nongifted adolescents in the number and perceived stressfulness of life change events, depression, and suicide ideation, (2) to examine the relationship between stress, depression, and suicide ideation in gifted and nongifted adolescents, and (3) to examine the impact of stress, depression, drug and alcohol use, and parent death in suicide ideation among gifted and nongifted students. The sample included 72 students (30 males and 42 females) in seventh and eighth grades from the inner-city of a large southwestern city. Of the participants, 47% were considered gifted and 53% were considered nongifted. The groups were equitable in socioeconomic status, gender, race, and age. The Adolescent Life-Change Event Scale (ALCES; Ferguson, 1981) was utilized as a measure of life-change events and perceived stressfulness, as well as the Beck Depression Inventory (BDI; Beck, 1961) as a measure of depression severity. Finally, suicide ideation was measured by summing the responses on item 20 of the ALCES within the previous one year, item 20 of the ALCES any time prior to the last year

and item 9 of the BDI. All measurements were administered to each participant individually.

Results pertinent to this review indicated that stress and depression were significantly correlated with suicide ideation in both the gifted and non-gifted subgroups. In the gifted subgroup, a correlation of .51 was obtained between depression and suicide ideation. Among the nongifted subgroup, a correlation of .60 was obtained between depression and suicide ideation. These results support previous literature on the relation between depression and suicide but are inconsistent with previous literature which does indicate a difference between gifted and nongifted students. However, the authors noted that a major limitation of the study was the small sample size. But, the data should remain useful to those concerned about students, depression, and suicide.

Depressive symptoms may also correlate with suicide ideation through other related factors. For example, Overholser, Adams, Lehnert, and Brinkman (1995) investigated the indirect link between self-esteem and suicide, as self esteem is correlated with depression. The sample included 542 adolescents; approximately 254 were inpatients. The inpatient subgroup included 108 males and 146 females with a

mean age of 15.19. The remaining 288 participants were recruited from two local public high schools and one private high school. Measures included in the study were the Rosenberg Self Esteem Scale (RSE; Rosenberg, 1965) the Children's Depression Inventory (CDI; Kovacs, 1985) and the Hopelessness Scale for Children (HSC; Kazdin French, Unis, Esveldt-Dawson, & Sherick, 1983).

Results indicated that participants with low self-esteem were more likely to have previously attempted suicide. The authors claim that this finding provides an indirect link between depression and suicide, since self-esteem has been negatively correlated with depression in previous literature (Olverholser et al., 1987).

Another correlate of depression that has been shown to be related to suicide is hopelessness. Much research also has been done in the area of hopelessness. Next, the literature relating hopelessness to adolescent suicidal behavior will be examined.

### Hopelessness

One of the most powerful correlates of adolescent suicidal behavior is hopelessness. Hopelessness is defined as negative beliefs towards oneself and the future. It has been concluded that, for adolescents, hopelessness is an

even more powerful predictor of suicidal behavior than depression (Steer, Kumar, & Beck, 1993).

Cotton and Range (1996) attempted to examine the relationship between suicidal ideation and feelings of hopelessness. Further, the authors examined adolescents' attitudes of life and death.

Drawing upon the work by Orbach and his colleagues (1991) in Israel, the researchers reported that children and adolescents possess four basic attitudes toward life and death: (1) attraction to life, (2) repulsion by life, (3) attraction to death and (4) repulsion by death. While some of these constructs may appear to overlap, they are truly distinct emotions. Attraction to life (AL) is the degree to which one's life experiences have been satisfying or pleasurable. Repulsion by life (RL) is the degree to which one's life experiences have been dissatisfying or unpleasurable. Attraction to death (AD) is the degree to which an individual fantasizes about death, perceiving it to be more exciting than life. Finally, repulsion by death (RD) is the degree to which an individual feels fear or anxiety about death.

Cotton and Range (1996) hypothesized that AL, RL, AD, RD, and hopelessness would all contribute to suicide

ideation. It was also hypothesized that suicidal adolescents would exhibit more RL and AD, and less AL and RD, than their nonsuicidal counterparts. Finally, it was hypothesized that hopelessness would be positively correlated with suicidality, RL, and AD, and negatively correlated with AL.

Participants included 84 high school students and 15 psychiatric inpatient adolescents. The sample included 64 females and 35 males. The sample consisted of 8 African Americans, 75 Caucasians, and 1 Asian American. Assessment measures included the Suicidal Behaviors Questionnaire (SBQ; Linehan, 1981) and the Multi-Attitude Suicide Tendency Scale for Adolescents (MAST; Orbach et al., 1991). Results indicated that suicidal adolescents have less AL, and more RL and AD, supporting previous research. Hopelessness was negatively associated with AL, and positively correlated with RL, and RD. Finally, hopelessness and RL were found to be the best predictors of suicide.

Further research has provided additional support that hopelessness is a specific and distinct factor contributing to adolescent suicidal behavior. The purpose of the study conducted by Steer, Kumar, and Beck (1993) was to evaluate whether hopelessness is related to suicidal ideation in



adolescents when depression is controlled statistically in the analysis.

Subjects included 108 adolescents ranging in age from 12 to 17 from a psychiatric inpatient unit of a general hospital in New Jersey. The sample consisted of 38 males and 70 female subjects. Of the patients, 62 reported at least one past suicidal attempt.

Assessment measures included the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, & Erbaugh, 1961) to measure the presence and severity of depressive symptoms. The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) was utilized to determine the patients' negative expectancies about the future. The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) was used to assess the severity and presence of anxiety symptoms. Finally, the Beck Suicidal Ideation (BSI; Beck & Steer, 1991) scale was administered to assess suicide ideation.

Results of this study indicated that when gender, ethnicity, age, diagnosis, history of past suicide attempts, current level of depression, and anxiety symptoms were controlled for, a significant association of hopelessness and suicidal ideation were shown. These findings provided

satisfactory support for previous research conducted by Beck and his colleagues (1986) with adult inpatients.

### Substance Abuse

There is a body of research that looks at the effects of substance use and abuse in relation to suicide ideation and behavior. Specifically, some of these studies have reported that the incidence of adolescents using drugs or alcohol at the time of a suicide attempt is as high as one half of all categories of attempters. However, there are some reports that there is a major difference among the genders in the use of substances in relation to suicidal behavior (King, Hill, Naylor, Evans & Shain, 1993)

In a study by Brent et al. (1992), findings support the report that up to one half of attempters do use some kind of controlled substance. The purpose of this study was to examine the psychiatric effects that the suicide of a close friend or acquaintance had on adolescents. This study reported some of the characteristics of 10 teens with a mean age of 17.5 that had completed suicide. The victim sample was made up of adolescents that had committed suicide between December of 1988 and November of 1989 in one of six counties surrounding Pittsburgh. The authors report that 100% of the completers were white and that 80% were males.

The results of a toxicology screening show that as many as 50% of the completers were under the influence of alcohol or drugs.

In 1993, King and colleagues investigated the effects of substance abuse on suicidal ideation and behavior in a sample of young females. This study examined the consumption of alcohol by 54 adolescent females ages 13 to 18 ( $M = 15.4$ ) in relation to depression severity and family dysfunction as a predicting factor of suicidal ideation and behavior. Suicidality was measured with the Suicide Ideation Questionnaire (SIQ-Jr.; Reynolds, 1987) and the Spectrum of Suicide Behavior Scale (SSB; Pfeffer, 1986). Alcohol consumption was measured with the Diagnostic Interview for Children and Adolescents (DICA; Herjanic & Campbell, 1977). The lifetime suicide severity scores from the SSB were reported as 18% showing no significant verbal ideation of suicidal behavior, 23% verbalizing significant suicidal ideation, 34% reporting active suicidal intent or gestures, and 25% making at least one serious suicide attempt. The researches report that there is a difference between genders when looking at the use of alcohol as a contributing factor to suicidal behavior. The authors report that 21% of the females reported a low consumption of alcohol use, 24% a

moderate consumption and 13% reported a heavy consumption of alcohol. The researchers found that 41% of the subjects reported no use of alcohol at all. The researchers concluded that suicidal ideation was significantly correlated with measures of alcohol consumption, family dysfunction and depression level. However, they noted that alcohol consumption did not independently contribute to the prediction of suicidal ideation.

The contrast in findings between these two studies may show that there may be a difference in the use of alcohol use among males and females when looking at those factors that contribute to adolescent suicidal behavior.

#### Problem Solving Deficits

The years of adolescence are filled with turmoil. Family conflict, peer pressure, and expectations to perform well in school are all factors that contribute to the daily stress of a teen. Some researchers have examined the ways in which adolescents perceive and solve problems. Researchers have found, for example that the methods teens use to problem solve may be useful predictors of suicidal behavior. It has been shown that adolescents with poor ability to solve most everyday problems tend to have higher rates of suicidal ideation.

In a study by Adams and Adams (1996), 80 adolescent psychiatric inpatients, ages 12 to 18, were evaluated to determine if problem solving was a positive predictor of suicidal ideation. Specifically, the purpose of this study was to examine if (1) negative life events are related to higher levels of depression; and (2) higher levels of depression are related to specific negative perceived problem solving alternatives in adolescent psychiatric patients. The second general goal of the study was to determine whether adolescent psychiatric patients with negative life events who frequently tend to use negative problem solving alternatives are more likely (1) to be depressed, and (2) to focus on suicidal ideation. Data for this study were collected as part of a regular psychiatric evaluation. A code was assigned to each subject to provide confidentiality. Several measures were administered including the Life Events Survey (LES; Adams & Adams, 1991), the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1987), the Problem Solving Alternatives Scale (PSAS; Adams & Adams, 1991) and the Reynolds Suicidal Ideation Questionnaire (RSIQ; Reynolds, 1987).

These authors found that negative problem solving orientation was highly associated with both depression and

suicidal ideation. They also found that adolescent psychiatric patients with negative life events and negative problem solving alternatives were at the greatest risk for depression and suicidal ideation.

Yang and Clum (1994) hypothesized that problem-solving deficits, life stress, and social support would predict depressive symptoms, hopelessness and suicide ideation. The sample included 101 international students (73 male and 28 female) at a southeastern university in the United States. The assessment measures included in the study were the Modified Scale for Suicide Ideation (MSSI; Miller, Norman, Bishop, & Dow, 1986), Zung's Self-Rating Depression Scale (ZDS; Zung, 1965), the Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, and Trexler, 1974), the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978), the Modified Means-End Problem-Solving Procedure (MMEPS; Schotte & Clum, 1987) and the UCLA Loneliness Scale (UCLA; Russell, Peplau, & Ferguson, 1978). Participants completed all measures.

Results of the study indicated that problem-solving skills had significant indirect effects on suicide ideation. The researchers found that those participants who generated fewer alternatives to problems and more cons than pros for alternatives were also found to have higher levels of

suicidal ideation. These findings provided support for previous investigations in the area of problem solving deficits.

Sadowski and Kelley (1993) investigated whether interpersonal problem solving deficits would be related to suicidal behavior in adolescents. The sample consisted of 60 adolescent inpatients from several state psychiatric facilities as well as 30 junior and senior high school students. Of the 60 inpatients, 30 were included in the suicidal group and 30 patients were included in the nonattempting group. The total sample included 57 female and 33 male adolescents ranging in age from 12 to 18 years with a mean age of 14.83. The sample was 88% White and 12% Black. The study utilized the Social Problem-Solving Inventory (SPSI; D'Zurilla & Nezu, 1990), the Hopelessness Scale for Children (HSC; Kazdin, French, Unis, Esveldt-Dawson & Sherick, 1983), the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986), the Youth Self-Report (YSR; Achenbach & Edelbrock, 1987), the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983; the RADS-Parent Version (RADS-P; Reynolds, 1986), the Suicide Intent Scale (SIS; Beck, Beck, & Kovacs, 1975), and the Risk-Rescue Rating Scale (Weisman & Worden, 1972). The researchers

administered the CBCL, RADS-P, and a demographic questionnaire to a parent of each participant. Each of the participants completed the remaining assessment measures.

Results of the study indicated that the suicide attempter group had greater difficulty generating alternatives to problems than the control participants. Further, the suicide attempter group demonstrated greater difficulty in making decisions as well as greater difficulty implementing solutions. However, the analyses indicated that there were no specific correlations between suicide intent and any of the dimensions of social problem-solving skills. However, suicidal participants in general had more difficulty than their nondistressed peers with social problem-solving tasks.

#### Psycho-Social Risk Factors

With the increase in the adolescent suicide rate, it is of the utmost importance to understand the factors that contribute to suicidal behavior. Many factors have been identified as useful predictors of adolescent suicidal behavior. Recently, it has been reported that as many as 94% of all suicide completers have some history of being diagnosed with mental illness (Lester, 1997). Besides mental illness, some form of other risk factors have been



noted to contribute to adolescent suicidal behavior. For example, Andrews and Lewinsohn (1992) conducted a study designed to examine the factors that were present in adolescents that had history of past suicide attempts. This study was made up of 1,710 adolescents that ranged in age from 14 to 18 years old. The participants were students at high schools throughout the state of Oregon. Of the 1,710 adolescents, 7.1% had attempted suicide at some point in their lives. Young women had a significantly higher rate of attempts with 10.1% than did males with only 3.8%. The sample also provided some insight into other risk factors that correlate highly with suicidal behavior. For example, as noted previously, these findings suggested that being raised by a single parent was one of the risk factors that increased the likelihood that one would display suicidal ideation, although it is probable that it was the absence of father from the home that presented as a risk factor. It was also reported that the father was likely not to have a college degree. Other factors examined in this research included history of past suicidal attempts and mental disorders. It was also reported that approximately 80% of the teens who had attempted suicide met the Diagnostic and Statistical Manual of Mental Disorders criteria (DSM-IV;

American Psychiatric Association, 1994) for at least one psychological disorder. Disorders with the strongest association were depression, substance abuse, and dependency disorders.

A second study (Lewinsohn, Rohde & Seeley, 1992) was performed on the original data from the Oregon Research Institute in 1992. Further re-analyses of the original data were to concentrate on the psychosocial risk factors that are uniquely associated with past suicide attempts. The sample was the same 1,710 students ages 14 to 18. This study was unique in that it controlled for the current depression level. Participants were paid for their participation in the study. Participants were interviewed with the Schedule for Affective Disorders and the Schizophrenia for School-Aged Children (K-SADS; Chamber et al., 1985). The authors reported that the interview was adapted to provide information on the presence of DSM-III-R psychiatric disorders. It was reported that interrater reliability was good with a kappa index greater than 0.80.

These researchers found that several factors were associated with suicidal behavior. Those factors that seemed to be the most highly associated with past suicide attempts included internalizing and externalizing problem

behaviors, past psychiatric disorders, depressotypic cognition, coping, school problems, health problems and gender. The researchers reported that the probability of engaging in a subsequent attempt of suicide increases with the combination of factors that the adolescent may possess. The researchers also noted that females tended to present more of the psychosocial risk factors and to be more susceptible to those factors. Females that had made previous attempts also had more problems with family conflicts than males.

## CHAPTER 3

Assessment of Suicide Ideation

The seriousness and permanence of suicide in the adolescent population calls for a careful examination of the assessment procedures used to assess and identify those who are contemplating suicide. Some of the commonly used assessment tools have included projective measures, clinical interviews, and self report instruments.

Projective Measures

One controversial method sometimes utilized for identifying those individuals with serious suicidal ideation is the use of projective techniques. Unlike the clinical interview, or self-report measures, projective tests are an indirect method of assessment. The purpose of the projective test is to get the participant to discuss something unrelated to him or herself. The discussion is later analyzed and inferences are made about the participants personality using relevant background information and responses for the given tests. Proponents of projective measures argue that this indirect method greatly increases the honesty of the participant, and taps the unconscious as well as the conscious thoughts of the participant. Two such measures are the Rorschach

(Rorschach, 1921/1942) and the Thematic Aperception Test (TAT; Morgan & Murray, 1935).

The Rorschach Inkblot Test consists of ten bilaterally symmetrical, mirror-imaged if folded in half, inkblots which are printed on separate cards. The test includes five black and white cards; two black, white and red cards; and three multicolored cards. No test manual, administration procedures, scoring or interpretation instructions are included with this early version of the test.

In the assessment of suicide ideology, several different interpretation methods have been used with the Rorschach. Eyman and Eyman (1991) reviewed the interpretation techniques and clinical research. Among the interpretation methods are the *single sign* approach, and *color shading response* approach. However, Eyman and Eyman (1991) observed that in some cases no relationship exists between suicidal behavior and the responses given to select cards. Another promising interpretation method was developed by Exner (1978) known as the Adult Suicide Constellation method. After it was discovered that the adult method was not developmentally appropriate for children and adolescents, the Children's Suicide Constellation method was developed for youth ages 8-18.

However, Eyman and Eyman (1991) reported that no clinical studies support the use of the method as it is unable to discriminate suicidal from non-suicidal groups.

Another commonly used projective measure is the Thematic Apperception Test (TAT; Morgan & Murray, 1935). The measure consists of 30 picture cards portraying a variety of scenes. The participant is asked to tell what events might have led up to the scene on the card, what is happening at that moment, and what might happen next. Participants are also asked to perceive what the people portrayed in the cards might be thinking and feeling. Eyman and Eyman (1991) report that little research has been completed utilizing the TAT to assess suicidal risk. However the few studies that have been conducted, demonstrate that the TAT failed to differentiate suicidal from nonsuicidal groups.

### Clinical Interviews

A commonly used technique for identifying those individuals with serious suicidal ideation is the clinical interview. Advantages of the interviewing process include direct contact with the individual, the opportunity to ask questions about factors that contribute to suicide which may not be apparent to others, and access to those students who

are in need of immediate help. Reynolds and Mazza (1994) report that youth are generally reliable reporters of their own suicidal behaviors which may or may not have been previously reported to peers and family members. However, disadvantages to the clinical interview include that some individuals are not comfortable discussing their suicidal thoughts (Kaplan et al., 1994). Further, the interviewing process is time consuming and may be cumbersome in systems level assessment. Finally, clinical research has demonstrated that the process of interviewing adds little to information that may be gained from self-report measures. Specifically, Kaplan and colleagues (1994) investigated the utility of clinical interviews when compared with self-report measures. Participants included 125 outpatients at the Anxiety and Depression Clinic of Montefiore Medical Center in Bronx, New York. Participants completed several self-rating surveys prior to being interviewed. Results indicated that when participants were asked the same questions, there was no discrepancy between the information gained from the interview and the information gained from the self-report measure. In fact, questions pertaining to recent suicide ideation, were disclosed more often on self-report measures than in the clinical interview.

### Self Report Measures

Previous research has indicated that self-report measures are useful in the assessment of suicidal behavior. For example, research suggests that self-report measures obtain reliable information about recent suicidal ideation as well as risk factors that may not be openly discussed (Kaplan, 1994). In addition, self-report measures are easily administered, are less time consuming than either projective measures or clinical interviews, and may be administered in the schools by personnel other than the psychologist. Finally, self-report measures are useful for group administration which may prove to be essential in the schools during a time of crisis. Specifically, Brent and colleagues (1992) demonstrated that exposure to suicide in the schools lead to a sharp increase in suicide ideation and attempted suicides. A group administration of suicide self-report measures may be helpful to the school psychologist during this period of systems level crisis intervention. Three commonly used self-report measures of adolescent suicidal ideation and behaviors that will be reviewed include: (1) the Multi-Attitude Suicide Tendency Scale (MAST; Orbach et al., 1991), (2) the Suicidal Probability Scale (SPS; Cull & Gill, 1988), and (3) the Reasons for



Living Inventory (RFL; Linehan, Goodstein, Nielsen, & Chiles, 1983).

#### The Multi-Attitude Suicide Tendency Scale (MAST)

One of the self-report measures utilized for suicide assessment in adolescents is the Multi-Attitude Suicide Tendency Scale (MAST; Orbach et al., 1991). This instrument is designed to measure tendencies toward and repulsion by life and death in adolescents. This self-report measure was developed based on the assumption that conflicting feelings regarding life and death mediate suicide.

The MAST contains 30 items that may be administered to a group or an individual. The self-report measure asks participants to rate their responses on a five-point Likert-type scale addressing issues related to life and death. Participants, for example, are asked to respond to the following statements: "My problems can't be solved," and "I like to do many things." Participants indicate how they feel ranging from strongly agree to strongly disagree.

The four factors, identified by Orbach et al. (1991), were extracted utilizing principle components factor analysis with the orthogonal rotation (1991). Specifically the factors include attraction to life, repulsion by life, attraction to death, and repulsion by death. The study

included 90 Israeli participants and was replicated utilizing 165 Israeli normal, suicidal and psychiatric participants ages 15 through 18.

Osman and colleagues (1993, 1994) have investigated further the factor structure of the MAST utilizing an exploratory principal components factor analysis with a varimax rotation, and an eigenvalue equal to or greater than one criteria. Items less than .45 were not retained on a factor in the analyses. Participants of the study included 178 males and 238 females ages 18 to 24. Participants were recruited from an introductory psychology course at a medium sized Midwestern university.

Results of the study supported Orbach's findings that the MAST is made up of four factors, with the exception of Items 8 and 19 which loaded at less than .45 on the attraction to death factor. As a result of these findings, Osman and colleagues (in press) designed a study specifically to investigate this psychometric issue, by utilizing a more sensitive confirmatory factor analysis.

Participants of this study included 180 adolescents ages 14 to 17 years, from an adolescent unit of a psychiatric inpatient state hospital. Assessment measures included the Minnesota Multiphasic Personality Inventory for

adolescents (MMPI-A; Butcher et al., 1992), a background information questionnaire and a packet of self-report measures. The packet included the following assessment measures: the Suicidal Behaviors Questionnaire (SBQ; Linehan & Nielsen, 1981), the MAST, the Suicide Probability Scale (SPS; Cull & Gill, 1982), the Brief Reasons for Living Inventory for Adolescents (BRFL-A; Osman et al., 1996), the Piers-Harris Children's Self-Concept Scale (PHCS; Piers, 1984), and the Brief Symptom Inventory (BSI; Derogatis, 1992). Confirmatory factor analysis was conducted to assess the fit of each model. Within the four-factor model, Items 8 and 19 were removed from the attraction to death factor.

Results indicated that there is support for the four-factor structure proposed by Orbach (1991) and Osman et al., (1993, 1994). As predicted, Items 8 and 19 were found to have relatively low loadings on the attraction to death factor. The authors concluded that these two items may be "tapping another dimension of suicide (e.g., religious and beliefs related to life-after-death)." (Osman et al., in press)

Osman and colleagues (1993) also investigated the concurrent validity of the MAST. Pearson partial correlation coefficients were calculated comparing the MAST

factors and related measures of suicidal ideation/behavior and suicidal risk/tendency. Specifically, the MAST was compared with the Suicide Behaviors Questionnaire (SBQ; Linehan & Nielsen, 1981) and the Suicide Probability Scale (SPS; Cull & Gill, 1982). After controlling for general psychopathology, results indicated that attraction to life, repulsion by life, and attraction to death factors were significantly correlated with suicidal ideation, threats, and likelihood from SBQ scales. The attraction to life and repulsion by life factors were low to moderately correlated with all four SPS scales. The negative correlations indicate that as one's attitude toward life becomes more positive, feelings of hopelessness, suicide ideation, negative self-evaluation, and hostility decrease.

Finally, Osman and colleagues (1994) examined further whether the MAST would discriminate suicide ideology from other psychopathology by utilizing a psychiatric suicidal inpatient group, along with other high school nonsuicidal and psychiatric adolescent controls. Three of the four factors did adequately discriminate the three groups.

#### Suicide Probability Scale

The Suicide Probability Scale (SPS; Cull & Gill, 1982) is a 36-item self-report measure designed to tap into

attributes and behaviors associated with suicidal risk. The items in this instrument ask participants to rate responses between 1 and 4, with 1 being that symptoms are experienced "none or little of the time" and 4 being that they are experienced most of the time. For example, participants are asked to respond to the following statement: "I think of things to bad to share with others." The SPS was designed for adults and adolescents over the age of 14.

In a study by Tatman and colleagues (1993) the factor structure of the SPS was examined as compared with findings from the original investigation. The study included 217 high school students ages 15-19 with a mean age of 16.2. Overall internal consistency was strong at .90.

In the original study Cull and Gill (1982) identified four factors of the SPS. Specifically, the factors were labeled: hopelessness, suicidal ideation, negative self-evaluation, and hostility. Further research (Tatman et al., 1993) identified four factors as well. However, the fourth factor, which included two items, had only modest loadings at .47 and .50. These findings led the researchers to dispose of the four factor solution. A second principle components factor analysis was conducted with an extraction criteria of three factors. Results indicated that the

factors had adequate reliability. More specifically, suicidal despair had an alpha coefficient of .90, the second factor, angry frustration, had an alpha coefficient of .80; and the third factor, low self-efficacy, had an alpha coefficient of .79. Tatman et al. (1993) concluded that the discrepancies among factors existed due to the differences among samples. The differing factor structure for adolescents leads researchers to recommend that the measure be used with caution until further research may be conducted (Range & Knott, 1997).

Range and Knott (1997) reported it was originally claimed that the SPS could adequately discriminate between nonclinical children, psychiatric patient children, and suicide-attempting children. However, in the study conducted by Tatman et al. (1993), the SPS failed to differentiate between the adolescent sample utilized, and the inpatient psychiatric sample utilized by Cull and Gill (1982).

The SPS may be a useful tool for educators as it assesses the probability of suicide in youth. However, researchers have demonstrated the necessity for further research with this instrument in adolescent samples.

### Reasons for Living Inventory

One self-report measure which differentiates itself from others is the Reasons for Living Inventory (RFL; Linehan, Goodstein, Nielson, & Chiles, 1983). This measure taps into life affirming attributions based on reasons for living from non-suicidal adults. The RFL was designed for an adult population and utilizes 48 positively worded items. The items ask participants to rate the importance of each reason for not committing suicide on a six-point Likert-type scale. Participants, for example, are asked to respond to the following statements: "I care enough about myself to live," and "I am afraid of the unknown." Participants rate their responses from 1, (not at all important) to 6, (extremely important).

In the initial study of 431 adults, Linehan ( et al., 1983) identified a six-category factor structure including: (1) survival and coping beliefs; (2) responsibility to family; (3) child related concerns, (4) fear of suicide, (5) fear of social disapproval, and moral objections related to suicide. The Cronbach alpha coefficients for the six factors ranged from .72 to .89 indicating moderate reliability (Lewinsohn, Garrison, Langhinrichsen, & Marsteller, 1989).

However, more recently, researchers began to question whether the RFL was appropriate for use with adolescents. Cole (1989) investigated the psychometric properties of the RFL using a general adolescent population of 168 females and 117 males grades 10 through 12. An additional sample of 85 juvenile delinquents (65 male and 14 female ages 12 to 18) were also utilized. Participants completed the RFL and several other measures in random order including the Children's Hopelessness Scale (CHS; Kazdin, Rodgers, & Colbus, 1986), the Children's Depression Inventory (CDI; Kovacs, 1985), the Edwards Social Desirability Scale (EDS; Edwards, 1970), and the Marlowe-Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1964). Cole (1989) eliminated three items designed to assess child-related concerns.

Results of the study indicated a significant correlation between the six factors and measures of hopelessness, depression, and social desirability (Cole, 1989). The author reported that the moderate correlation with social desirability suggest some degree of discriminant validity. Finally, the RFL subscales related to suicide when depression and hopelessness were controlled for, providing evidence for construct validity. This study lends



support to the psychometric validity of the RFL but proposes that some items may not be appropriate for youth.

Osman and colleagues (1993) investigated the psychometric properties of the RFL for use with adolescent samples. Participants included 407 (128 male and 279 female) students from introductory psychology courses. Assessment measures included the Suicide Probability Scale (SPS; Cole & Gill, 1982), and the Suicide Behavior Questionnaire (SBQ; Linehan & Nielsen, 1981). Results supported Linehan's (1983) study indicating that the RFL items loaded on six distinct factors. However, the authors reported that only three of the factors were useful in predicting suicide risk and general psychopathology. Specifically, the fear of suicide, fear of social disapproval, and survival and coping beliefs subscales were significantly correlated with the SPS hopelessness subscale. Further, the survival and coping beliefs was significantly correlated with three of the four SPS subscales.

More recently, Osman et al., (1996) used a modified version of the original RFL, the Brief Reasons for Living Inventory for Adolescents (BRFL-A; Osman et al., 1996), with a mixed adolescent sample. The BRFL-A is made up of 14 items derived from five factors. Participants included 115

high school students, 40 adolescents from a short-term adolescent unit of a state psychiatric hospital and 105 college freshmen from introductory psychology courses at a large Midwestern university. An additional sample included 120 consecutive admissions to an adolescent unit of an inpatient psychiatric state hospital. Assessment measures for Sample 1 included a brief demographic questionnaire, the RFL and several other self-report measures used for another study. Sample 2 completed a brief demographic questionnaire, the BRFL-A, the Suicide Probability Scale (SPS; Cull & Gill, 1982), the Brief Symptom Inventory (BSI; Derogatis, 1992), and the Minnesota Multiphasic Personality Inventory-Adolescents (MMPI-A; Butcher et al., 1992).

Results of the factor analysis of the items indicated that the BRFL-A was made up of five factors. Specifically the factors included: fear of social disapproval (FS), moral objections (MO), survival and coping beliefs (SCB), responsibility to family (RF), and fear of suicide (FS). Alpha coefficients for the factors were as follows: FS .80; MO .79; SCB .76; RF .74; FS .67. Alpha coefficients for the BRFL-A overall was found to be .75.

The authors concluded that the BRFL-A had adequate discriminant validity as it discriminated psychiatric

inpatients with various levels of suicidal ideation from appropriate controls. Furthermore, adolescents with only moderate to extensive histories of suicidal ideation scored lower on the BRFL-A. The authors noted that these results are only preliminary and need to be examined in future investigations.

## CHAPTER 4

Conclusion

Over the past decade the rate of suicides among adolescents has risen dramatically. It is now the third leading cause of death among the 12 to 21-year-old age group. For this reason, it is essential to examine the factors that contribute to suicide and suicidal ideation among teens.

Many researchers have examined the area of suicide and the factors that lead a young person to consider taking his or her own life. It has been found that many factors may play an important role in the development of suicidal thoughts in adolescents. Moreover, it has been reported that the more risk factors that an individual exhibits the more likely that person is to develop suicidal thoughts. During the course of this paper I have examined both positive and negative risk factors that have been implicated in adolescent literature. It has been reported that demographic (white, female, ages 15-to-24), social-cultural (non-religious, exposure to peer or familial suicide, and difficulty in an educational setting), and psychological factors (a high level of depressive symptoms, hopelessness, substance abuse, and deficits in problem solving) are among

the factors that are most often reported in the literature as contributing to adolescent suicidal ideation.

The present review has examined, assessment procedures for suicidal ideation and behaviors. Projective techniques, interviews, and self-report measures all have been examined as possible assessment procedures for the school psychologist. Due to the nature of self-report instruments, in that it is easy to administer, as well as validate their psychometric properties, self-report measures are most commonly chosen by the school psychologist. Furthermore, research indicates that adolescents are more likely to share private suicidal thoughts through this assessment procedure.

Throughout this review of the literature, the following self-report measures were examined: (1.) the Reasons for Living Inventory (RFL; Linehan et al., 1983), (2.) The Multi-Attitude Suicide Tendency Scale (MAST; Orbach et al., 1991), and (3.) the Suicide Probability Scale (SPS; Cull & Gill, 1988). Upon examination of these instruments, it may be concluded that a self-report measure which is specifically designed for the assessment of adolescent suicidal ideation and behavior is necessary. Each of the self-report assessment instruments reviewed here were designed for use with adults, and have simply extended to

the adolescent population.

Finally, it should be noted that an instrument which taps specifically into those factors that are most often reported to contribute to adolescent suicidal behavior, may be useful for the school psychologist. While self-report instruments which were examined did tap into some of the factors contributing to adolescent suicidal behaviors and ideation, many commonly reported factors including social-cultural, psychological, and demographic risk factors have also been neglected.

In conclusion, this review has serious implications for the school psychologist. It is essential for the school psychologist to recognize factors that contribute to adolescent suicide, and to have an expertise in assessing for suicidal ideation and behaviors. Furthermore, the school psychologist should have an understanding of the research which has examined adolescent suicide.

This literature review has examined many aspects of suicidal ideation and behavior as well as assessment techniques which may be employed. However, the fact that prevention strategies were not examined, is a limitation of this literature review. Future investigations should focus on primary prevention strategies that would be useful to the

school psychologist. These strategies may include the training of school personnel in the identification of suicidal risk factors in adolescents.

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