CHAPTER II
REVIEW OF LITERATURE
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REVIEW OF RELATED LITERATURE AND FORMULATION OF HYPOTHESES

The phenomenon of death has mystified and frightened the mankind since the birth of man. The great religious teachers, the philosophers and various scientists have looked at the phenomenon of death from their own perspective and the last word may never be said.

Society attitudes towards suicide and the suicidal act reveal a wide range between a rational one of acceptance an irrational one of superstition, and a hostile one of punishment. Edwin Shneidman (1985) defined suicide as “Currently in the Western world a conscious act of self-induced inhibition is best understood as a multidimensional malaise in a needful individual who defines an issue for which suicide is perceived as best solution”. Suicide is now regarded as an act scientifically. Scientific research and theory of a sociologic, physiologic and statistical nature began to appear in the literature towards the end of the nineteenth century. The research and interpretation of suicide phenomenon made their greatest advancement in the twentieth century.

In the scientific study of suicide two approaches have been most evident. The first, deriving its impetus from psychoanalytic theory, focuses the search for the cause of suicide upon the individual and his idiosyncratic history. The second derives from the sociologists Durkheim (1897) and his investigation of the influences of societal variables upon suicide rates. In addition the thwarting disorientation (TD) theory of suicide developed from the work of Narroll (1963, 1962), was an attempt to afford recognition to the interaction of both sociologic and psychological factors in determining the suicidal act. In place of distinct sociological and psychological explanation to suicide, Narroll’s theory utilized a concept of thwarting-disorientation (TD) applicable at both the sociological and psychological levels of analysis. Krauss & Krauss (1968) found confirming evidence for Narroll’s theory.

The health of the young is of great importance for the future of societies. In this context, the suicide rate is a sensitive measure of psychological and social
state. As a consequence, suicide has always been a topic of considerable interest in different geographical areas of the world because an examination of the suicide rate, worldwide, of young adults may reveal something of their well-being. Suicide remains such an enigma such that the reasons for so many adolescents and young adults choosing to take their own life are unclear.

Realizing the gravity of the phenomenon of suicidal behaviors, the World Health Organization (WHO) had identified suicide as an increasingly important area of public health, and had issued guidelines to member states in order to develop, implement and coordinate, comprehensive national and international strategies intended to halt this trend by the year 2000 (WHO, 1990). The number of suicide per 100,000 people was about 10.7 in 1998 according to the World Health Organization.

It is important to note that much of the data on suicidal behavior is based on information obtained from developed western countries. All such data need to be evaluated within their specific cultural context as well as cross-culturally, because the number of suicide attempts in third world countries (Unni Sadanandan & Mani, 1996) is also increasing at an alarming rate. As a consequence, this study is in the direction of examining suicide ideation. Intensity of suicide ideation is an important predictor of suicide attempts and eventual suicide (Beck, Brown, & Steer, 1989).

The review of literature has been discussed under the following headings:

A. DEPRESSION AND SUICIDE IDEATION

Depression has been identified as a strong, consistent correlate and significant predictor of adolescent suicidal ideation and previous suicide attempts (Mazza, 2000). Psychological autopsy studies had revealed a strong likelihood of diagnosable depressive disorders among adolescent suicide victims (Brent et al., 1988; Shaffer, 1988). Corresponding results
had been reported in community-based studies (Lewinsohn, Rohde, & Seeley, 1993, 1996; Garrison et al., 1991).

Psychiatric disorders are found in more than 90% of adolescents committing suicide, with affective disorders representing the highest risk factors (Groholt, Ekeberg, Wichstorm, & Haldorsen, 1997; Shaffer et al., 1996; Brent et al., 1993a; Marttunen, Aro, Henriksson, & Lonnqvist, 1991). Epidemiological studies show that the prevalence of disorder increases during adolescence (Birmaher et al., 1996; Earls, 1994).

Most suicide attempters are depressed (Andrews & Lewinsohn, 1992; Rotheram-Borus & Trautman, 1988), but not all depressed individuals are suicidal (Rao, Weissman, Martin, & Hammond, 1993). However, it is difficult to identify the specific characteristics that may increase the risk of suicide among depressed patients. An important area in depression research involves determining which particular symptoms are most prominent in suicide attempters. Suicidal adolescents may not experience depression in the same manner as do adult patients. Also, the course of depression is not well delineated in suicidal versus nonsuicidal depressed adolescents. The differences between suicide among college students and adults have not been fully explicated, suicidality (i.e., ideation, attempts, and death) among college students had been found to be related to depression (Lester, 1999).

Langhinrichsen-Rohling, Catalina, Bowers, O’Brien and Morgan, (2004) emphasized that a history of depression and current levels of negative affect are important to assess in college students because the past and current depression has been associated with suicidality. Depressive symptoms had been repeatedly shown to be a main risk factor for suicidal behavior in college students (Lester, 1999; Dean & Range, 1996).

Recognizing the lack of current data on the health and mental health of college students, the American College Health Association administered its National College Health Assessment Survey (NCHA) in Spring 2000 (American College Health Association, 2001). The NCHA was designed to provide information on a large number of health questions, including suicide ideation and suicide attempts. In this study Kisch, Leino and Silverman, (2005) utilized the data

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from the NCHA to report on the percentage of college students with suicide ideation and suicide attempts, as well as risk factors associated with suicidal behavior, including the relation of depressive symptoms to suicidal behaviors. This study provided the frequency of college students who within the past school year seriously considered attempting suicide or attempted suicide. Self-report data for suicidal behavior was analyzed in relation to the following items: hopelessness, feeling so depressed that it was difficult to function, the diagnosis of depression, and treatment for depression.

Not all students who reported depressive symptoms had considered suicide but, among those who had considered suicide or attempted suicide, depressive symptoms were almost always present. Among those students who considered suicide, 94.9% reported that they experienced feeling so depressed difficult to function (SDDF) at least once during the previous 12 months. Out of 1,153 students, 78.3%, who seriously considered suicide felt so depressed that they could not function on 3 or more occasions. Of the 236 students who reported an attempted suicide, 92.8% reported having felt so depressed that it was difficult to function. Hence, an affirmative response to the question, "In the past 12 months have you felt so depressed it was difficult to function" is a warning sign for seriously considering suicide. Kisch, Leino and Silverman, (2005) found that many students, despite depressive symptoms, did not consider suicide and even fewer attempted suicide. Most students who had made an attempt, reported seriously considering suicide rather than having acted without thought. Among those who made attempts, approximately one third made repeated attempts, as men made more frequent attempts. Few of those who reported suicidal behavior or depressive symptoms received mental health treatment, which suggested campus-wide opportunities for the development and implementation of outreach programs, education about the signs and symptoms of depression and suicidal behavior, and addressing the stigmatization associated with assessing mental health care, especially for men.

The link between depression and suicide in adolescence is very strong. Depression is a common correlate of suicide, suicide attempt, and suicide ideation. Psychological autopsy studies (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999; Shaffer et al., 1996; Marttunen et al., 1991) showed up to 60%
of adolescent suicide victims had a depressive disorder at the time of death. A similarly high proportion of teens with suicide ideation or suicide attempt (40.80%) met the criteria for depression at the time of the attempt (Goldston et al., 1998; Gould et al., 1998; Lewinsohn, Rohde, & Seeley, 1996; Reinherz et al., 1995). Conversely, suicide ideation and behavior are frequently part of the clinical picture of adolescent depression; in clinically referred samples, up to 85% of patients with major depressive disorder or dysthymia will have suicide ideation, 32% will make a suicide attempt sometime during adolescence or young adulthood (Kovacs, Goldston, & Gatsonis, 1993), 20% will make more than one attempt (Harrington et al., 1994), and by young adulthood, 2.5 to 4.4% will commit suicide (Rao et al., 1993; Harrington, Fudge, Rutter, Pickles, & Hill, 1990).

According to Beck's theory (Beck, Steer, Kovacs, & Garrison, 1985; Minkoff, Bergman, Beck, & Beck, 1973), depression was the result of three basic components: the cognitive triad, schémas, and cognitive errors. The cognitive triad is composed of faulty perceptions. Specifically, the person believes he/she has no worth, is defective, or is in some other way worthless. In turn, they believe that the world is a bleak and horrible place and as a result do not believe that the future will be any better. All new experiences are filtered through these beliefs (i.e., schémas) and tainted, hence maintaining the depression. Finally, the consistent logical errors committed by the depressed person makes it difficult if not impossible to recognize information which contradicts their beliefs. One potential outcome, therefore, is to view suicide as the only "logical" way to escape what is deemed to be a desperately bad life that cannot possibly improve.

Based on cognitive-behavioral theories of depression (Beck, Rush, Shaw, & Emery, 1979), learned helplessness (Abramson, Seligman, & Teasdale, 1978), self-efficacy theory (Bandura, 1997; Peterson & Stunkard, 1989), and uncertainty reduction theory (Weisz, Sweeney, Proffitt, & Carr, 1993; Berger & Calabrese, 1975), it can be inferred that exposure to uncontrollable negative outcomes or the loss of important sources of reinforcement generates anxiety, and creates personal expectancies that events and consequences are unrelated to what one does or tries to do. That is, experiencing little influence or control evokes anxiety.
and a sense of helplessness regarding one's ability to influence future outcomes. Such experiences reduce motivation to take action, optimistic attitudes, means-end thinking, and positive outcome expectancies, thus leading to feelings of hopelessness and depression (Bandura, 1997; Peterson & Stunkard, 1989; Beck et al., 1979; Abramson, Seligman, & Teasdale, 1978).

In the research carried out by Scocco, Marietta, Tonietto, Buono and de Leo (2000) psychological symptoms and any relationship with suicidal intention had been studied. They took a sample of subjects recently attempting suicide. They also highlighted the predictive value of this association. An assessment was made of 467 suicidological consultations carried out by the Suicidology Unit of the Department of Neurology and Psychiatry, University of Padua, on 421 patients admitted to hospital following attempted suicide in the 5-year period 1990-1994. Suicidal intention was appraised by the Intent Score Scale (ISS). Suicide mortality was assessed after a mean follow-up period of 3.5 years.

The results indicated that psychiatric evaluation was completely negative in only 8% of cases. The most commonly identified symptom was depressed mood (79% of cases, 22% severe depression), followed by anxiety (43% of cases, 32% severe anxiety). From the study, it emerged that psychopathology seemed to influence suicidal intent, where this was characterized by severe depression. Anxiety and other symptoms appeared to have a secondary role. Assessments of suicidal intent showed that intention heightened as the number of symptoms increased. The symptom 'anxiety' did not prove to have a significant bearing on assessment of the seriousness of suicidal intention, whereas severely depressed mood did.

A number of comparative studies have demonstrated relationships between depression and suicidal thinking or suicide attempts across samples comprising Indian, Chinese, Malaysian, Kuwaiti, Turkish, Mexican American, Philippino, and in Northern Plains and Pueblo Indian tribes (Novins, Beals, Roberts, & Manson, 1999; Wai, Hong, & Heok, 1999; Zhang & Jin, 1996; Lester, Castromayor, & Icli, 1991). Kuwaiti students had significantly higher depression, hopelessness, and obsessive-compulsive scores, but reported less prior suicide ideation. However, in students with suicidal thoughts, depression was the
strongest predictor of suicidal preoccupation both in Kuwaiti and U.S. students (Lester & Abdel-Khalek, 1998).

Marecek (1998) reported that indeed, Western-trained Sri Lankan psychiatrists are quite adamant about drawing a contrast between suicide cases they have seen in Western countries and those in Sri Lanka. Suicide in the West, they said, is often indicative of depression or other serious psychopathology; suicide in Sri Lanka is not. As one Western-trained psychiatrist explained, "Here, suicide is just something people do." Another, in explaining why repeat suicidal acts were (in his opinion) rare, said "For us [Sri Lankans], suicide is just an impulsive thing." The common theme in their reasoning was that suicidal behavior was a response to a specific problem or incident and therefore not a sign of mental illness. As one individual (a 52 year old farmer with 2 years of schooling) had put it: "We are unable to say that [it is an illness]. Household problems, economic problems, personal problems: we should look into these things before we say that someone is mad. When someone is told often that they are mad, they will become mad."

Anxiety: Vanderwerker et al. (2007) reported that anxiety, and not Major Depressive Disorder (MDD), was one of the best predictor of suicidality in White patients is somewhat surprising, given that some studies had reported suicidality rates in anxiety similar to those in MDD (Weissman, Klerman, Markowitz, & Ouellette, 1989), while others had shown lower rates in pure anxiety-related disorders (Friedman, Jones, Chernen, & Barlow, 1992), and still others had found that only comorbid anxiety-related disorders were risk factors for suicidality (Placidi et al., 2000; Warshaw, Dolan, & Keller, 2000). Vanderwerker et al. (2007) findings indicated that, among White patients who were already at high risk for suicidality due to other factors (substance abuse and physical illness), anxiety significantly predicted suicidality while MDD did not.

The finding that MDD was not among the best predictors of suicide in African Americans was less surprising given previous studies that had shown that MDD was more strongly associated with suicide in Whites than in African Americans. For instance, Oquendo et al. (2001) compared rates of DSM-III diagnoses of major depressive disorder obtained from the Epidemiological Catchment Area Study and suicide rates from the Centers for Disease Control
National Center for Health Statistics to determine that the rate of suicide relative to MDD was lower in African Americans than in Whites. Malone and colleagues (2000) found that, among African American and White psychiatric patients who had previously attempted suicide, African Americans with a DSM-III-R diagnosis of current major depressive episode were less likely than Whites with the same diagnosis to have attempted suicide.

The lack of association between any psychiatric diagnosis and suicide in African Americans can be interpreted in a number of ways. Malone et al. (2000) indicated that, among African American patients who were already at high risk for suicidality due to other factors (substance abuse and physical illness), a psychiatric diagnosis was not a significant predictor of suicidality. Another possibility is that African Americans may truly be less likely to commit suicide in the face of psychiatric illness than Whites, regardless of co-existing risk factors. A number of studies had found that African Americans tend to view suicide as a morally unacceptable choice (Marion & Range, 2003; Morrison & Downey, 2000; Early & Akers, 1993). These studies found that African Americans were more likely than Whites to rely on an active coping style, with an emphasis on survival and problem solving, as well as support from family and the religious community (Willis, Coombs, Drentea, & Cockerham, 2003). The importance in the African American community of active coping, as well as the perception that suicide is not acceptable within the community (i.e., it's a "White thing"; Early & Akers, 1993) may act as a buffer against suicidal behavior in the context of psychiatric illness.

On the other hand, Willis and colleagues (2003) suggested that cultural differences in symptom presentation might mask depression in African Americans when standard diagnostic tools were used. They theorized that in African Americans, feelings of depression, rather than turning inwards as self-directed violence, were expressed outwardly as interpersonal violence and aggression (Willis, Coombs, Cockerham, & Frison, 2002). Distrust of medical professionals may also lead to African Americans being less willing to fully describe their psychological symptoms to a mental health professional (Horwath, Johnson, & Hornig, 1993). Consistent with this hypothesis was the finding by Morrison and Downey (2000) that ethnic minority clients at a university
counseling center did not self disclose suicide ideation as readily as White clients. Taken together, these findings suggest that a DSM diagnosis, obtained by a mental health professional or researcher, may not be the most sensitive way to detect symptoms of psychological distress in African Americans.

While a psychiatric diagnosis did not predict suicidality in African Americans, lack of social support was strongly associated with suicidality in these same patients. Social support may be particularly protective for African Americans because family and social networks currently and historically have played a major role in their survival and acted as a cohesive force for African American individuals, as described by Griffith and Bell (1989). They asserted that the loss of such support can result in character depreciation, identity confusion, and suicide ideation.

One factor that increases a risk of suicide was depression (Pfeffer et al., 1994) which might develop from perceived failure or difficulty in coping with loss. Some studies reported that suicide ideation was positively related to pain severity (Smith, Perlis, & Haythorntwaite., 2004; Hinkley and Jarenko, 1994) while others indicated that depression mediates this association (Fisher, Haythorntwaite, Heinberg, Clark, & Reed, 2001). Additional factors contributing to depression, such as life stress, social isolation, deficient or maladaptive coping strategies, and financial pressures (Gutierrez, Rodriguez, & Garcia, 2001; Westefeld & Furr, 1987), are frequently encountered by college students, thereby increasing their vulnerability to developing a depressive disorder and thereby suicidality.

One of the problems with the extensive empirical literature on suicidality is that there has been little effort to make differentiations within the heterogeneous "suicidal" population (Smith & Maris, 1986; Berman & Cohen-Sandler, 1982). Of particular interest is whether adolescent suicide attempters may be differentiated from adolescent suicidal ideators. This question has been the focus of much debate, specifically whether suicide ideation and attempts represent a continuum or are qualitatively distinct phenomena. Carlson and Cantwell (1982) argued that suicide ideation and attempts are discontinuous because there is a stronger relationship between depression and suicide ideation than between depression and suicide attempts. In contrast, Brent et al. (1986) had found that adolescent
suicide attempters and suicidal ideators had an equivalent level of depression and nearly equivalent rates of subsequent suicide attempts. Thus, they concluded that suicide ideation and suicide attempts are continuous manifestations of the same phenomenon.

In the study Wetzler et al. (1996) examined differences between three groups of suicidal adolescents and a control group of nonsuicidal adolescents seeking psychiatric treatment. They evaluated three suicidal groups: suicide attempters who required medical treatment, suicide attempters who did not require medical treatment, and suicidal ideators who had never made a suicide attempt. They evaluated psychopathology, levels of aggression, impulsivity, and stressful life events in order to determine whether these groups can be differentiated in terms of these relevant clinical issues. Interestingly, the three suicidal groups were not different from each other on any of the psychopathological symptom dimensions, although on most clinical dimensions, the non-medically treated attempters had the highest scores. This non-significant elevation might reflect a slightly increased level of distress in the non-medically treated attempters or an indication of a more histrionic, help-seeking response set in the way they approach self-report tests. The absence of substantive clinical differences between the suicidal groups suggested that they were equally depressed, impulsive, aggressive, and susceptible to stressful life events. These similarities suggested that psychopathological dimensions did not increase ability to discriminate which depressed adolescent merely had suicide ideation, which made a less severe suicide attempt, or which made a severe suicide attempt requiring medical treatment. In this sense, suicide attempts among depressed adolescents might be unpredictable. It is important to note, however, that other variables that were not measured, such as family psychopathology, family environment, or social support might have differentiated the groups.

Goldney, Winefield, Tiggermann and Winefield (1991) realized that apart from few clinical observations regarding suicide ideation there had been no studies that had used a random population sample with subsequent follow-up over an extended period of time with recurrent assessment of suicide ideation and its relationship to various measures of psychological morbidity. Hence, they studied suicide ideation with a longitudinal study between 1980 and 1988 of school leavers entering adulthood. Suicide ideation was examined 4 and 8 years after an initial battery of psychological tests were undertaken. Chi-square was used to compare the number of subjects who acknowledged suicide ideation in 1984 and 1988. t-test was used to compare the scores of the psychometric tests of the different subject groups. They observed that depressive affect was significantly associated with lifetime suicide ideation.

de Man (1999) studied the relationship between suicide ideation and selected variables (age, gender, self-esteem, locus of control, stress, social support, anomy, health, alcohol use, and drug use), with the effect of depression removed. The English-Canadian participants were 200 students (104 boys, 96 girls) drawn from the populations of two regional high schools. They ranged in age from 12 to 18 years (M = 14.9 years, SD =1.6). The French-Canadian participants were 558 students (272 boys, 286 girls) ranging in age from 11 to 18 years (M = 14.0, SD = 1.5). Partial correlation analyses showed that removal of the effect of depression resulted in a loss of or a reduction in the respective relationships between suicide ideation and its correlates. Depression was related not only to suicide ideation but also to virtually all other variables. This interrelationship introduced ambiguity in the identification of true correlates of suicide ideation. Subsequent partial correlation analyses of the relationships between suicide ideation and the individual variables with the effect of depression removed resulted in a loss of significance for all correlations except those with health and with alcohol use. This pattern was confirmed by the outcome of a multiple regression analysis (stepwise selection of independent variables) with suicide ideation as the dependent variable and the remaining variables as predictors. The analysis identified depression as the best single predictor, accounting for 36.8% of the variance in suicide ideation.
Bivariate correlations for the French-Canadian respondents showed significant relationships between suicide ideation and all variables except age. Depression was also found to be related to all variables except age. Partial correlation analyses of the associations between suicide ideation and the individual variables, with the effect of depression removed, resulted in a loss of significance for the correlations with gender, internality, powerful others, chance, social support (number), anomy, and health, whereas the relationships with self-esteem, stress, social support satisfaction, alcohol use, and drug use were greatly reduced. A multiple regression analysis (stepwise selection of independent variables) with suicide ideation as the dependent variable and the remaining measures as predictors identified depression as the best single predictor, accounting for 40.7% of the variance in suicide ideation.

These results indicated that depression explains a significant proportion of the variance in suicide ideation. This finding was congruent with the literature concerning the association between depression and suicide ideation published since 1990. In most of the multiple factor models reviewed, depression was identified as the best single predictor of suicide ideation (Zhang, 1996). The results further indicated that significant associations between the individual correlates and suicide ideation are either established or enhanced by the presence of depression. Even though culture can influence the experience and communication of symptoms of depression (American Psychiatric Association, 1994), the effect of depression was observed in both the English-Canadian and French-Canadian adolescents who participated in this study. Therefore, Lester’s (1992) suggestion—that researchers’ must control for psychiatric disturbance (i.e., depression) if they wish to ascertain true correlates of suicidal behavior—is probably valid.

Kuo, Gallo and Eaton (2004) pointed out that the failure to find a significant association between depression and new incident of suicide ideation might arise because suicide ideation/suicidal attempt is one of the diagnostic criteria for depression, not because depression is not associated with suicide ideation. They found that the association of hopelessness and later suicidal behaviors was much stronger than the association between presence of any
depressive episode or substance abuse/dependence and suicidal behaviors. While psychiatric disorders such as depression wax and wane, hopelessness might be a more stable predictor of suicidality in the long run.

In 1987, a survey was conducted of 962 college students from three higher education institutions concerning both depression and suicide (Westefeld & Furr, 1987). The authors found that 81% of the students experienced what the respondents would label as "depression". Thirty-two percent stated they had thought of suicide and 1% reported having made an attempt while in college. Attempters indicated that feelings of hopelessness, helplessness, loneliness, and depression were the most salient contributors to their attempt. In 2001, another survey collected data from a larger sample of 1,455 college students at four higher education institutions focusing on the issues of depression and suicide (Furr, Westefeld, McConnell, & Jenkins, 2001). When the two studies were compared the authors reported that: "The self-labeling of depression in this [2001] survey was 53% compared with 81% in the [first] survey. The percentage of students indicating suicide ideation in this survey was 8.5% compared with 32% in the 1987 survey. The rate of self-reported suicide attempts were basically the same in the two surveys". The reason for the striking decrease in terms of ideation in the two studies may be unique to these two groups of students, or to the fact that overall suicidal thoughts had diminished.

Given the vast literature on the relationships among negative life events (NLE), hopelessness, depression, and suicide ideation, surprisingly few researchers have actually combined these variables in a single study of young adults. Only two known studies have evaluated the combined effects of NLE, hopelessness, depression, and suicide ideation in undergraduates. Bonner and Rich (1987) proposed a theoretical path model that presented life stress, depression, and hopelessness, along with several other variables, as predictors of suicidal behavior in college students. Rather than evaluating the independent effects of these variables, hopelessness and depression were combined with other variables to form a "negative affect" component. Therefore, the direct effects of the variables of interest within their sample remain unknown. In another path analytic study, Rudd (1990) evaluated the relationships among a number of variables, including life stress, hopelessness, depression, and suicide ideation.
Rudd's model accounted for 34% of the variance in suicide ideation and suggested that depression was stronger than hopelessness as a predictor of suicide ideation in college students. While these two studies provided important data regarding significant predictors of suicide ideation, no known replication studies have been conducted with college student samples.

Hence, Konick and Gutierrez (2005) tested a model of suicide ideation in college students. They examined several risk factors-NLE, hopelessness, and depressive symptoms, believed to commonly precipitate suicide ideation in college students. A total of 345 undergraduates participated in the study. Of these, 231 (67%) were females. Participants ranged in age from 18 to 40 years, with an average age of 19 (SD = 2.02). Students completed four self-report questionnaires. Hierarchical regression analyses were used to construct a risk model of suicide ideation. This study confirmed depressive symptoms and hopelessness as predictors of suicide ideation in college students; however, NLE impacted suicidal thoughts through hopelessness and depressive symptoms. Interestingly, depressive symptoms exerted a stronger influence on suicide ideation than hopelessness. Hopelessness served as a partial mediator in the relationship between NLE and depressive symptoms; however, depressive symptoms fully mediated the relationship between NLE and hopelessness.

Depressive symptoms are also a significant predictor of suicide ideation and these results aligned with other studies that presented similar findings in college students (Zhang & Jin, 1996; Bonner & Rich, 1987). In fact, previous research had found depression to be an even stronger predictor of suicide ideation than hopelessness in college students (Rudd, 1990; Schotte & Clum, 1982). The study (Konick & Gutierrez, 2005) replicated these findings by identifying depressive symptoms as stronger than NLE or hopelessness in predicting suicidal thoughts. While feelings of hopelessness should be addressed in college students seeking on campus services, it appeared that depressive symptoms might be more likely to lead to suicidal thinking. Thus, targeted interventions to reduce depressive symptoms should be considered a priority.

Dori and Overholser (1999) designed a study to examine depression, hopelessness, and self-esteem as related to suicidal behavior in three groups of depressed adolescent psychiatric inpatients. Depressed adolescents who had
never attempted suicide were compared to depressed adolescents who had attempted suicide once and to depressed adolescents who had attempted suicide on several different occasions. The sample included 90 adolescent psychiatric inpatients who were recruited from the adolescent unit of a private psychiatric hospital located in the suburbs of a large metropolitan area. This hospital primarily served patients from the middle socioeconomic class, and those who had private health insurance to cover the costs of their treatment. Patients ranged in age from 13 to 18 years old. Adolescent psychiatric inpatients were included in the present study if they received a primary diagnosis of a depressive disorder (i.e., single or recurrent major depression, dysthymia, adjustment disorder with depressed mood, or depression not otherwise specified).

Information regarding suicide attempts made by the adolescents was documented by the attending psychiatrist in their medical charts and was confirmed during a research interview with the patient. Information about suicide attempts was gathered through both structured interview and questionnaire measures. All patients were asked about current suicide ideation, self-injurious behavior, recent suicide attempts during the past month, and the lifetime number of previous suicide attempts. Of the 90 patients, 34 patients were depressed but had never attempted suicide, whereas 56 patients had a history of attempting suicide at least once. Of the adolescents who had attempted suicide, 24 had attempted suicide only once in their life, and 32 had attempted suicide on several separate occasions, ranging from 2 to 11 attempts in their lifetime (M = 3.59, SD = 2.17). Although lethality of attempts was not evaluated, the most common methods used were drug overdose and wrist laceration. Although few of these attempts appeared to be of high lethality, many of the attempts warranted medical intervention. Of the 56 suicide attempters, 45 patients had attempted suicide within the previous month. The 34 non-suicidal patients had never in their lifetime attempted suicide.

Results showed that suicidal adolescents experienced significantly greater depression and hopelessness than did the non-suicidal adolescents. However, all three groups of depressed adolescents reported similar low levels of self-esteem. Measures of depression and hopelessness were useful in classifying the adolescents based on their suicidal behavior. Results suggested that the
treatment of suicidal adolescents could benefit from strategies that focus on reducing feelings of depression and hopelessness.

Numerous studies had supported the link between risk for suicide and both hopelessness and depression (Gould et al., 2003; Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001). However, most individuals who are hopeless or depressed never make a suicide attempt. Thus, although measures of depression and hopelessness exhibit good sensitivity in predicting future suicide (low rate of false negatives), they exhibit fairly poor specificity (high rate of false positives) (Stolberg, Clark, & Bonger, 2002; Brown, Beck, Steer, & Grisham, 2000; Beck, Brown, & Steer, 1989; Beck et al., 1985). Given this, studies are needed to identify factors that may moderate (increase or decrease) the likelihood that depression or hopelessness will contribute to a suicide attempt. Gibb, Andover and Beach (2006) tested the hypothesis that if college students' (n = 230) attitudes toward suicide (the degree to which they see it as an acceptable option under some circumstances) would moderate the link between both hopelessness and depressive symptoms and their levels of suicide ideation. This moderation hypothesis was supported, but only among men. Specifically, among men, levels of hopelessness and depressive symptoms were significantly related to suicide ideation among only those with relatively positive attitudes toward suicide. They expected the relations between both hopelessness and depression and participants' suicide ideation to be strongest among participants reporting positive attitudes toward suicide. The authors found support for the moderating role of attitudes toward suicide, but only among men. Specifically, among men, levels of hopelessness and depressive symptoms were only related to suicide ideation among those with relatively positive attitudes toward suicide. In contrast, among women, hopelessness and attitudes toward suicide appeared to be independent predictors of suicide ideation. Finally, among women, it appeared that attitudes toward suicide had a stronger effect upon suicide ideation at lower, compared to higher, levels of depressive symptoms.

Depressive symptoms and disorders are also a serious problem for adolescents. It is estimated that between 18.1% and 50% of high school students experience depression in some form (Connelly, Johnston, Brown, Mackay, & Blackstock, 1993). More than 90% of adolescents who died by suicide had been
diagnosed with at least one psychiatric disorder (Brent, 1995), typically major depression (Stoelb & Chiriboga, 1998; Lewinsohn, Rohde, & Seeley, 1994), which was considered to be the most significant psychiatric risk factor for suicide (Shaffer et al., 1996).

The association between depression and suicide, as well as the prevalence of depression in high school students, indicates the need for identifying those adolescents at risk for depression in order to treat their symptoms and help to prevent suicide-related behavior. In addition, identifying adolescents at risk for depression would help to reduce the impact of their symptomatology on their general academic, social and behavioral functioning.

B. HOPELESSNESS AND SUICIDE IDEATION

Hopelessness has special clinical importance as one of the strongest and most consistent predictors of suicide ideation (Beck, Steer, Beck & Newman, 1993), suicidal intent (Malone et al., 2000; Dyer & Kreitman, 1984), and completed suicide (Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck et al., 1985). Recently, Simon and colleagues (2001) reported that hopelessness is strongly associated with impulsive suicide attempts.

Eshun (1999, 2003) demonstrated a similar significant positive correlation between suicide ideation and hopelessness in both Americans and Ghanaians, and a negative correlation between suicide ideation and optimism. There are some risk factors that are generalizable to almost all groups, and others more specific to a given culture or ethnic group. The same factors may influence but to a greater or lesser degree, as demonstrated by Perkins and Hartless (2002) in European American and African American students. For example, hopelessness was a significant predictor for African Americans and European Americans but the association was significantly greater for European Americans.

Suicidality (i.e., ideation, attempts, and death) among college students was found to be related to social hopelessness (Heisel, Flett, & Hewitt, 2003).

In order to advance the detection and prevention of suicide, recent research by Smith, Alloy and Abramson (2006) had focused on predictors of suicide ideation and behavior such as cognitive vulnerability as indexed by negative cognitive styles and dysfunctional attitudes, hopelessness, and
rumination. The aim was also to further clarify the relationships among these three risk factors for suicide ideation. One hundred and twenty-seven undergraduates in the Cognitive Vulnerability to Depression project were followed up for 2.5 years. The mean age of the sample was 20.05 years, and 64.1% (n = 82) were female. This project followed initially non depressed freshmen, at either high or low cognitive risk for depression, in order to predict onsets and recurrences of depressive disorders. In line with previous studies of these factors, this study found that high cognitive vulnerability to depression, ruminative response style, and hopelessness were all related to a composite self-report measure of suicide ideation. In addition, rumination and hopelessness were related to duration of suicidal thinking, suggesting that these factors may play a role in sustaining suicide ideation in depressed individuals. Surprisingly, rumination was not related to a dichotomous clinician-rated measure of suicidal thinking; however, cognitive risk status and hopelessness were significant predictors. Although it remained unclear why the two measures of suicidal thinking differed in their relationship to rumination, it might be due to the differences in the relative power of the indices. More specifically, the composite score is a continuous measure, whereas the SADS-C item is a dichotomous indicator ("yes" or "no"), and thus, the composite score might be more sensitive. Nonetheless, this finding implied that hopelessness is a particularly strong predictor of suicidality, consistent with prior work (Abramson et al., 1998; Pinto & Whisman, 1996; Beck et al., 1993; Beck et al., 1990; Wetzel, Margulies, Davis, & Karam, 1980).

Several other studies had also demonstrated links between hopelessness and suicide ideation, as well as attempted and completed suicide (Abramson et al., 1998; Pinto & Whisman, 1996; Beck et al., 1993; Beck et al., 1990; Wetzel et al., 1980). These studies pointed to a central role for hopelessness in predicting suicide ideation and behavior. Aside from its strong predictive relationship to suicide ideation, hopelessness also mediated the associations between other risk factors and suicidality, such as dysfunctional attitudes, childhood maltreatment, and life stress (Gibb et al., 2001; Abramson et al., 1998; Beck et al., 1993; Rudd, 1990). These studies
suggested that hopelessness may be a mechanism through which other risk factors lead to suicide ideation.

Most earlier studies of hopelessness as a risk factor for suicidal behavior were based on either clinical or restricted samples. Using a longitudinal study design with a community sample of more than 3,000 participants, the aim of the researchers (Kuo, Gallon, & Eaton, 2004) was to examine if hopelessness was a long term predictor of suicidal behaviors-completed suicide, self-reported attempted suicide, suicide ideation.

This study was a part of Epidemiologic Catchment Area Program which was investigating psychopathology and health utilization patterns among the population in five U.S. communities conducted between 1980 and 1984. Residents of East Baltimore above 18 years of age were interviewed in 1981, one year later and then after 12-13 years. They were inquired about recency, and onset of suicidal thoughts if ever felt and hopelessness was also measured. Depression was assessed by administering Diagnostic Interview Schedule at baseline and follow up years. They concluded that hopelessness was predictive of all three types of suicidal behaviors in the follow-up persons who expressed hopelessness in 1981 were 11.2 times as likely to have completed suicide over the 13-year follow-up interval. Thus, hopelessness emerged as an independent risk factor for completed suicide, suicidal attempt and suicide ideation (Brown et al., 2000; Rudd, 1990; Minkoff et al., 1973). Kuo, Gallon and Eaton (2004) further analyzed that the structure of the association varied among 3 different suicidal behaviors, with the association the strongest between hopelessness and completed suicide, weakest for suicide ideation but it was significant.

Several studies carried out with the Spanish University population reported that hopelessness makes a significant contribution of the prediction of suicide ideation (Edwards & Holden, 2001; Johns & Holden, 1997; Joiner & Rudd, 1996). With the aim of contributing data relative to the levels of hopelessness in general population and to analyze the relationship of hopelessness, depression, psychopathology and suicide ideation, Poch et al. (2003) studied Spanish university population. A total of 1,277 first and second-year students, from different faculties in Spanish university participated voluntarily in this study. The students were above 18 years of age, with more
than 95% of them falling in the age group of 18-23 years. These students were given various self reporting questionnaires to be filled by them. The subjects that reached high hopelessness scores with absence of or slight symptoms of depression (scores below the BDI cut-off point) said they were not very satisfied with their family relationships, their relationship with their partner, their friendships, recreational activities, the university education they were receiving, their academic result, expressing feelings and communicating moods to others, their commitment to studies, their social relationships (apart from immediate friends and family), their capacity or ability to initiate and maintain social relationships, the emotional support received from others, their participation and commitment to social activities, the social image they present to others and their capacity to face academic demands.

The results obtained in this study once again corroborated the relationship between hopelessness, depression and suicide ideation. Even when controlling for depression, results support previous reports indicating the relationship of hopelessness to suicidal wishes and behavior (Cannon et al., 1999; Chang, 1998; Asarnow & Guthrie, 1989). Kisch, Leino and Silverman (2005) studied that students who reported seriously considering suicide almost always felt hopeless. They found hopelessness more frequent than depression and is often linked to suicidal thought and action.

**Hopelessness And Depression:** Cognitive theories of suicide ideation and behavior had emphasized the critical importance of enduring cognitive patterns or styles (Dieserud et al., 2001; Sheehy & O'Connor, 2002). Most of this research had focused on cognitive styles that might promote hopelessness (O'Connor, Sheehy, & O'Connor, 2000) or depression (Mazure & Maciejewski, 2003).

**Hopelessness is a key factor in understanding depression from a cognitive perspective along with the negative perception of the world and oneself.** Hopelessness is one of the elements of the negative cognitive triad described by Beck (1967) in his theory of depression. The etiological character of hopelessness in depression has been reinforced by Abramson, Metalsky and Alloy (1989), who after reviewing their Learned Helplessness Theory of Depression (Abramson, Seligman, & Teasdale,
1978), had proposed a new theory called the Hopelessness Theory of Depression in which hopelessness was considered to be the main etiological factor of depression. For these authors, hopelessness constitutes the nearest cause as well as sufficient to explain the presence of depressive symptoms. This supposes, consequently, the conceptualization of a new subtype of depression.

Among depressed adults, hopelessness contributed to depressed mood and suicidal wishes (Beck, et al, 1993; Dyer & Kreitman, 1984; Beck, Kovacs, & Weissman, 1975) and completed suicide (Beck, Brown, & Steer, 1989; Fawcett et al., 1987). Research on depressed adults had often found that hopelessness was more useful than depression in explaining the severity of suicide ideation, intent, and behavior (Beck et al., 1990; Bedrosian & Beck, 1979; Beck, Kovacs, & Weissman, 1975; Kovacs, Beck, & Weissman, 1975; Minkoff et al., 1973) and in predicting subsequent suicide attempts (Fawcett, 1988).

Hopelessness is closely linked to depression (Abramson, Metalsky, & Alloy, 1989; Beck et al., 1993; Greene, 1989) and had special clinical importance as one of the strongest and most consistent predictors of suicide ideation (Beck et al., 1993), suicidal intent (Dyer & Kreitman, 1984; Malone et al., 2000), and completed suicide (Beck et al., 1990; Beck et al., 1985). Recently, Simon and colleagues (2001) reported that hopelessness is strongly associated with impulsive suicide attempts. According to Young, Fogg, Schefter and Fawcett (1996), identification of hopeless persons may be considered essential in suicide prevention and it is important to assess and treat hopelessness even though a patient reports little specific depressive symptomatology.

Reich, Newsom and Zautra (1996) employing a sample of older adult subjects undergoing the stresses of a recent health downturn, tested a four-stage model of suicide ideation based on many of the components proposed by Baumeister (1990). They found a significant path from the confused thinking construct to the suicide ideation outcome construct, although the helplessness/hopelessness path was not significant. Other studies (Beck et al., 1993) had found hopelessness to be directly related to suicide ideation, whereas others (Yang & Clum, 1994) had found it to relate only to other constructs-for example, depression-which then in turn relate to suicide ideation. Reich,
Newsom and Zautra (1996) found that the hopelessness construct was not related when confused thinking was also part of the causal model. The data suggested, then, that the variable of helplessness/hopelessness can play a role in leading to suicide ideation, but that its variance is related to the presence of other variables such as confused thinking and perhaps depression. Dixon, Heppner and Rudd (1994); Trenteseau, Hyer, Verenes and Warsaw (1989) also showed that poor appraisal of one's problem-solving abilities related directly to suicide, but appraisal also had a significant indirect effect on suicide by being mediated through its effect on hopelessness. The results of Reich, Newsom and Zautra (1996) did not support that model, because hopelessness did not have a significant path when confused thinking was entered in the equation. This result may be helpful in clarifying the role of the hopelessness variable. Although depressive symptoms can predict suicide ideation and behavior during childhood and adolescence (Kandel, Raveis, & Davies, 1991), hopelessness has not always been useful in distinguishing between depressed suicide attempters and nonattempters (Pinto & Whisman, 1996; de Wilde et al., 1993; Rotheram-Borus & Trautman, 1988; Carlson & Cantwell, 1982). Nonetheless, level of hopelessness during a depressive episode and the relationship between hopelessness and suicidal intent had been found to increase from childhood through adolescence (Ryan et al., 1987). Additionally, youth with the most pessimism about the future had the greatest number of depressive symptoms and frequent suicide ideation (Kashani, Reid, & Rosenberg, 1989). In other cases, hopelessness had shown strong relationships with depression and suicidal behaviors throughout adolescence (Rotheram-Borus & Trautman, 1988; Topol & Reznikoff, 1982).

Thus, both hopelessness and depression appear to be strongly related to one another and to contribute to suicidal tendencies in adolescents. A better understanding of the relationship between hopelessness, depression, and suicidality is particularly significant for those who are already suffering from depression and are at high risk for committing suicide, especially if past suicide attempts have been made.

The findings by Dori and Overholser (1999) paralleled those by Beck et al. (1985) in which adult patients who were prone to hopelessness and became
depressed were at higher suicide risk than those without hopelessness. Hopelessness may create a lasting vulnerability to suicidal behavior, whereas depressed mood is a temporary state of emotional distress (Overholser, Miller, & Norman, 1987).

The findings by Dori and Overholser (1999) suggested that adolescents who experience higher levels of hopelessness during a depressive episode were at increased risk for repeatedly engaging in suicidal behavior. As found in this study and others (Kovacs, Goldston, & Gatsonis, 1993), over 50% of youths who attempt suicide do so multiple times. In previous studies (Brent et al., 1993; Lewinsohn, Rhode, & Seeley, 1993), it had been noted that active suicide attempts are as strongly associated with past attempts as with current level of depression and suicide ideation. In addition, Goldston et al., 1996; Rudd, Joiner and Rajad, 1996 had shown that adolescents who had attempted suicide on more than one occasion displayed more severe levels of depression than adolescents who had attempted suicide only once. They also suggested that hopelessness plays an important role in discriminating repeat suicide attempters from single attempters. Thus, hopelessness may represent a lasting cognitive vulnerability in certain adolescents that elicits suicidal tendencies during a depressive episode. Treatment of depressed adolescents should involve identifying and gently challenging pessimistic expectations for the future. By cultivating realistic but positive expectations, clients may be better prepared for coping with the struggles of adolescence.

Dori and Overholser (1999) also found that both severity of depression and level of hopelessness were helpful in differentiating between adolescents who had recently or repeatedly attempted suicide versus adolescents who had never attempted suicide. Although inter correlations between the measures of depression, hopelessness, and self-esteem indicated that all may be assessing overlapping constructs, hopelessness did facilitate the discrimination between repeat attempters, single attempters, and never attempters. An appreciation for the importance of hopelessness is particularly important because past studies (Shain, King, Naylor, & Alessi, 1991; Overholser, Miller, & Norman, 1987) had found that higher hopelessness was associated with suicide attempts, and the presence of elevated hopelessness in depressed individuals led to slower rate of
recovery. Thus, clinicians must address hopelessness along with depressive symptoms when treating depression, especially when working with adolescents who have exhibited prior suicidal behavior.

Beck et al. (1985) studied the role of present hopelessness in predicting future suicidal behavior among ideators over a relatively long time span. They intensively studied 207 patients hospitalized because of suicide ideation, but not for recent suicide attempts, at the time of admission. The subjects were between 17-65 years of age. Of the sample of 207 patients, 96 were men and 111 were women. During the follow-up period of 5-10 years, 14 patients committed suicide. Of all the data collected at the time of hospitalization, only the hopelessness scale and the pessimism item of the Beck Depression Inventory predicted the eventual suicides. Taken in conjunction with previous studies showing the relationship between hopelessness and suicidal intent these findings indicated the importance of degree of hopelessness as an indicator of long-term suicidal risk in hospitalized depressed patients. The finding that the severity of depression did not significantly differentiate between the ideators who ultimately committed suicide and the rest of the cohort was consistent with previous studies which showed that depression was not significantly related to suicidal intent when hopelessness was controlled. Finally, when patients who had been hospitalized for depression or suicidal risk rather than for a recent suicidal attempt were studied, it was again found that hopelessness, rather than depression per se, was a determinant of suicidal intent (Wetzel et al., 1980).

Kisch, Leino and Silverman (2005) study ascertained the frequency of college students who within the past school year seriously considered attempting suicide or attempted suicide. Self-report data for suicidal behavior was analyzed in relation to the following items: hopelessness, feeling so depressed it was difficult to function, the diagnosis of depression, and treatment for depression. The self-report of feeling "hopeless" is more widespread than the state of being "so depressed it was difficult to function." More than half the respondents reported feeling hopeless at least once during the last school year. The percentage who reported experiencing hopelessness three or more times during the previous school year is still a robust 33.4%. Students frequently reported (44.5%) that they had experienced being so depressed that it was
difficult to function. Students (22.1%) reported that on three or more occasions they felt so depressed that it was difficult to function.

C. AGE AND SUICIDE IDEATION

Reflecting on the epidemiology of suicidal behaviors during adolescence in the United States, King (1997) noted that the most striking feature was the high prevalence of suicide ideation and nonlethal suicidal behavior. "At no other time in the lifespan is the ratio of suicide attempts to completions is as high as it is during adolescence." "When viewed in terms of the total population of adolescents," continued King, suicide "is a low frequency event during adolescence," because actually "few adolescents take their own lives". Knowledge about adolescents suicide had increased during the past decade. Adolescence is characterized by rapid biological, psychological and social changes.

Youth suicide is a tragedy, not only ending the life of a young person but also violently upsetting the lives of the victims' family members, friends, and neighbors (Brent et al., 1995; Brent et al., 1993b; Catone & Schatz, 1991; van Dongen, 1991). In the United States, the incidence of suicide among adolescents and young adults had nearly tripled between 1950 and 1995 (National Center for Health Statistics, 1997). Rates among adults, however, had generally declined during this time period. Suicide among 15-24-year-olds had moved from the fifth leading cause of death in 1950 to the third leading cause in 1995 (Kachur, Potter, James, & Powell, 1995). In the United States, 4,784 adolescents and young adults took their own lives in 1995 alone. Data from emergency department surveillance indicated that for every fatal youth suicide, there are at least 5 parasuicides or suicide attempts (Burt, 1995). Study by Johnson, Krugg and Potte (2000) described rates of suicide among adolescents and young adults. Suicide rates among 15-24-year-olds vary widely among the surveyed nations.

Teenagers attempt suicide roughly 10 times more frequently than adults, although their fatality rate of 11.1 per 100,000 people is about the same as adults'. This is the third leading cause of death among 15-19 year-olds. For this age group, there were 5,174 motor-vehicle deaths in 1994, compared to 1,948 suicides.
According to U.S. national data released in September 1991, about one million teens (out of about 25 million) attempt suicide each year, of which an estimated 276,000 sustained injuries serious enough to require medical treatment. Some other estimates (these are total, not per-year) are considerably higher: 3% of elementary-school, 11% of high-school, and 17% of college students. However, "Most were low-lethality attempts for which medical or other attention was not sought. Accordingly, the vast majority of [these] suicide attempts will not be uncovered by investigations dealing solely with clinical or medically identified populations." Thus, estimates or calculations of teenage suicide-attempt rates are particularly unreliable.

Marecek (1998) reported that in Sri Lanka the age cohort at highest risk of suicide death is young adulthood (those ages 15-29). This had been true since at least the late 1960s, and much of the overall increase in suicide deaths over the past 50 years can be attributed to increases in this age group (Kearney & Miller, 1987).

Suicide emerges as a significant public health problem beginning in the high school years, increases among young adults aged 20-24, and then increases marginally during the next two decades of life. The CDC (2003) reported for 2001, a suicide rate of 7.95/100,000 for the 15-19 year age group, and 11.97/100,000 for the 20-24 year age group. In 2001, the death rate by suicide was 9.88/100,000 for the 15-24 year age group, increasing to 13.80/100,000 for the 25-44 age group.

The incidence of suicide among adolescents and young adults tripled between the mid-1950s and the mid-1980s (Brener, Hassan, & Barrios, 1999). Suicide was the third leading cause of death among the U.S. college-aged population (18-24 years of age) (Barrios et al., 2000).

The results of a systematic review of the international literature on the prevalence of suicidal phenomena in adolescents, including the influence of survey method, gender, and ethnicity are reported by Evans, Hawton, Rodham and Deeks (2005). They searched the literature using six electronic databases to identify all population-based studies of self-reported suicidal phenomena; 128
studies were included, comprising 513,188 adolescents. The mean proportion of adolescents reported that they had attempted suicide at some point in their lives. The mean proportion was 9.7% (95% CI, 8.5-10.9). Evans et al. (2005) reviewed that 29.9% (95% CI, 26.1-33.8) of adolescents said they had thought about suicide at some point.

According to Hacker, Suglia, Fried, Rappaport and Cabral (2006) adolescent suicide and suicidal behaviors have caused great concern within the medical and public health community. Although the incidence of youth suicide has declined over the last decade, suicide remains one of the leading causes of adolescent mortality in the United States (Gould et al., 2003). While current annual rates for suicide were low (1.5 per 100,000 for 10-14 year olds and 8.2 per 100,000 for 15-19 year olds), rates of suicidal behaviors in community samples were much higher (Reynolds, 1999; Lewinsohn, Rohde, & Seeley, 1996). The 2001 Youth Risk Behavior Surveillance Survey conducted by the Centers for Disease Control and Prevention (CDC) found that 8.8% of youth attempted suicide in the last 12 months (CDC, 2003). Other epidemiological studies suggested that the lifetime rate of suicide attempts ranges from 3% to 15% (Lewinsohn, Rohde, Seeley, & Baldwin, 2001). Given the high prevalence of suicide attempts in adolescence and young adulthood (Stein et al., 2002), it is particularly important to examine the rates of suicide attempts among this age group for each age individually, as opposed to considering it as one uniform age group so that social stressors can be determined and prevention efforts can be better targeted.

Children younger than 15 years old who committed suicide were compared with late adolescents (15-19). Shaffer et al. (1996) found that the prevalence of psychiatric disorders tended to increase with age, this was especially striking for substance abuse in boys. The author concluded that one group of child suicide completers was intelligent and seemingly isolated and their mothers often had psychiatric problems. Another group was aggressive, had school problems and often was suspicious and vulnerable to criticism. Both groups had displayed antisocial behavior. They were older than 11 years, they
were tall, and they may have been physically and mentally precocious. The suicide most often precipitated by disciplinary crisis.

Why do so few youths between 10–14 years commit suicide, compared with adolescents 15–20 years olds?

Three general explanations for the lowers rate of suicide in early compared with late adolescents can be suggested:

i. **Less stress**- compared with adolescent children are exposed to fewer precipitants and risk factors that influence suicidal behavior.

ii. **More resilience**- children are equally exposed to these risk factors but they have higher threshold before these factors lead to suicide. It is possible that risk factors may be qualitatively different in the two age groups. Normal development and maturation have there own impact on both exposure to stress and on resilience.

iii. **Immaturity**- the planning and acting out of suicidal act may require a level of maturity not yet reached by children and young adolescents.

Groholt, Ekeberg, Wichstrom and Haldorsen (1998) on comparison of suicide completers younger than 15 years and 15-20 years old found that:

i. **More completers younger than 15 years of age lived with two biological parents.**

ii. **All but one of the completers younger than 15 years old completed suicide by hanging whereas the older adolescents used fire arms and hanging equally often.** Development with maturation and familiarity with use of firearms made the older group more vulnerable towards lethal suicidal tendencies. The authors also reported that lower suicide rate in younger adolescents could be explained due to less of an ability to plan and execute a lethal suicide attempt. Several other studies had examined the possible link between firearm availability and adolescent suicide (Brent et al., 1993b). They had found that the existence of firearms in the home was associated with increased risk of adolescent suicide. Moreover, the presence of a firearm in the home seemed to be most closely associated with adolescent suicide in the absence of a psychiatric condition. A report
from Australia had also supported the Brent study (Dudley, Cantor, & de Moore, 1996). Johnson, Krug and Potte (2000) collected the first time international firearm-related suicide data for adolescents and young adults. Finland reported the highest total and firearm-related suicide rate in the 15-24-year-old age group among participating nations. A sharp increase in suicide rates among Finnish 15-24 year old males occurred between 1965 and 1975 (Ohberg, Lonnqvist, Sarna, & Vuori, 1996). In Eastern Finland, most firearm-related suicides among 15-24-year-old males are committed with licensed hunting guns (Hintikka, Lehtonen, & H vanamaki, 1997). In the United States, the country that reported the second highest firearm-related suicide rate, handguns were more often involved in youth suicides than hunting guns (National Center for Health Statistics, 1997). They suggested that increasing awareness of risk factors for suicide among adolescents is needed and safe firearm storage practices (i.e., storing the firearm locked and unloaded, with ammunition stored separately) may also contribute to reducing the risk.

iii. Older adolescents were much more likely to have expressed suicidal intent than the children and young adolescents.

iv. Older adolescents were most often had disappointed relationship such as girlfriend–boyfriend conflict and disruption of a romantic relationships (43.0% vs. 22.6%) in comparison between the younger ones whereas conflict with parents seen more often in comparison to those younger than 15 years (50.5% vs. 29.7%). This probably reflects the importance of these relationships in the two age groups in question. The investigation also concluded that parent child relationship conflict may be a more significant risk factor for the younger adolescent suicide victims as well. Other researchers had also examined and found associations between familial dysfunction and youth suicidal behavior (Brent, 1995; Adams, Overholser, & Lehnert, 1994; Brent et al., 1994; de Man et al., 1993). One study implicated chaotic family disciplinary style and deficient emotional bonding as risk factors for suicide (Bush & Pargament, 1995).

v. The older adolescents had long-standing conflicts with the law or somatic illnesses or were mourning dead parents and previously broken
relationships with friends, biological changes and emerging sexual desires, which require new coping skills, whereas these stressors did not effect the younger group

vi. None of the under 15 years olds were intoxicated at the time of death in contrast to the older adolescents who were frequently drunk. The researchers reported this percentage difference to be 37.8% vs. 3.1%. They were less likely to use substance at the time of the suicide. Thus exposure to alcohol highly influenced them for suicidal behaviors. In one study a substantial increase was found in the 12-month suicide ideation prevalence rates and reported previous suicide attempts among adolescent and young adult problematic drinkers as compared with rates in older adults (Madianos, Gefou-Madianou, & Stefanis, 1994).

vii. Those younger than 15 years of age less often suffered from psychiatric disorders. Older suicide victims, compared with younger ones, were more likely to meet criteria for a definite psychiatric disorders (89.5% vs 60.0%). Two possible factors are the relationship between psychopathology and suicide may be moderated by cognitive development, with increasing cognitive maturity making the completion of suicide more likely. Secondly, the older suiciders show greater prevalence of substance abuse, making them more prone to psychopathology than their younger counterparts.

viii. Studies show a strong association between both physical and sexual abuse and attempted suicide (Kaplan, Pelcowitz, Salzinger, Mandel, & Weiner, 1997).

They found that children and young adolescents committing suicide experienced fewer of the risk factors than older adolescent’s completers. The findings suggested that children and young adolescents were just as liable as older adolescents to commit suicide when exposed to the risk factors. Thus, lower exposure to the risk factors protected the younger group for suicidal behavior.

The increased rate of suicide in older versus younger adolescents is due in part to greater prevalence of psychopathology in this age group and because of the greater risk for suicide conveyed by psychopathology (Groholt et al., 1998;
Shaffer et al., 1996) namely substance abuse and greater suicide intent in the older population. They concluded that younger suicide victims were similar in most ways to older victims but had lower rates of risk factors. Shaffer et al. (1996) felt that younger suicide victims were qualitatively different. Insofar as fewer of the younger victims truly intended to commit suicide. The cooccurrence of mood, substance abuse and disruptive disorders is uniquely high in older male adolescents for whom the highest adolescent suicide rates are observed.

Among older adolescents, mood disorder, substance abuse, conduct disorder, gun in the home, family history of psychopathology and past attempt were risk for completed suicide, with more emphasis on gun in the home and family history. Among younger adolescents, mood disorder, gun in the home and past attempt were significant risk factors with gun in the home showing the largest percentage of risk. Silverman, Meyer, Sloane, Raffel and Pratt (1997) reported direct correlation with age and suicide among college and university students.

Hacker et al. (2006) pointed out that while much is known about the precursors of suicide attempts in adolescents, developmental differences are not well understood. It is known that older adolescents have a higher risk of suicide and that risk factors for suicide differ by age (Brent et al., 1999; Lewinsohn, Rhode, & Seeley, 1996). Suicidal behaviors had been associated with other problem behaviors that increase with age, including gun carrying, tobacco use, lack of seatbelt use, and condom nonuse (Brooks, Harris, Thrall, & Woods, 2002; Brent et al., 1999; Woods et al., 1997; Orpinas, Basen-Engquist, Grunbaum, & Parcel, 1995). The relative contribution of risk factors throughout the adolescent period, however, has yet to be examined thoroughly.

While there were multiple common risk factors for suicide attempts for both groups, there was far less overlap in final model. Only gender and "worry about depression" were predictors of suicide attempts for both groups. There was no difference in the risk imparted by female gender, but the risk of suicide attempts for ninth graders who worried about depression was almost double (1.7 adjusted) that for eleventh graders. The relationship between depression and suicide attempts had been well-established (King et al., 2001; Lewinsohn et al.,
2001; Woods et al., 1997); however, the relationship between "worry about depression" and suicide attempts had not. In this study, it was found that "worry about depression" was significantly related to all expected risk factors for depression and suicide attempts.

The diminishing risk contribution of "worry about depression" to suicidal behavior from ninth and eleventh grade, is of interest. Lewinsohn et al. (2001) found that suicide attempts decreased with age more significantly than major depression did. While developmental maturation and decreasing impulsivity may be partly responsible for this change, it is also likely that other psychopathology plays a more important role with age. This may be particularly true of substance abuse, which peaks in later adolescence. Brent's autopsy studies found that older adolescent suicide victims were more likely to be substance abusers and have conduct and mood disorders than younger victims (Brent et al., 1999).

Consistent with other studies, the results indicated that substance use increased the risk for suicide attempts for students in both grades (Wu et al., 2004; Kelly, Cornelius, & Clark, 2003; Deykin & Buka, 1994). For ninth graders only, alcohol and cigarette use made it into the final model while for eleventh graders, other drugs played a more significant role. The typical sequence of drug use in adolescence began with cigarettes and alcohol and progresses to illicit substances (Kandel, Yamaguchi, & Chen, 1992). Prevalence estimates demonstrated that while ninth grade use of alcohol and marijuana was relatively uncommon, it was far more common in eleventh and twelfth grades (CDC, 2003). By eleventh grade, use of alcohol and marijuana might almost be considered a normative behavior. The use of other drugs, however, was less acceptable even in the eleventh grade, and therefore was likely to indicate other associated high risk behaviors including suicidal behaviors (Newcomb, Maddahian, & Bentler, 1986).

Childhood abuse had been shown to be a strong predictor of depression and other psychopathology (McHolm, MacMillan, & Jamieson, 2003; Taussig, 2002) as well as an independent risk factor for suicidal behavior (Ystgaard, Hestertun, Loeb, & Mehlum, 2004). In this study, sexual abuse was a strong predictor of suicide attempts in unadjusted analyses for both grade populations; however, it was expressed somewhat differently in the final model. Whereas rape
was a strong predictor for ninth graders, sexual abuse was a predictor for eleventh graders. It is difficult to determine the difference between sexual abuse and rape in the mind of young adolescents. The meaning of these terms may be age dependent. There is no doubt, however, that these traumatic experiences impart high risk for suicide attempts in both groups.

Experiencing familial physical or verbal abuse increased the risk for suicide attempts in both grades. Yet in the final model, only verbal abuse by a family member emerged as a strong predictor of suicide attempts for ninth graders. This could be considered consistent with adolescent developmental stages as younger adolescents show greater vulnerability to family discord whereas older adolescents are more influenced by peer interactions. According to Brent and colleagues (1999), interpersonal loss or conflict was the most common precipitant of suicide for both age groups but generally involved a family member for younger individuals and a romantic relationship for older ones. These relationships have been born out in other postmortem studies of adolescent suicide victims (Groholt et al., 1998). One somewhat surprising finding in this study was that verbal abuse was a stronger predictor of suicide attempts compared with other forms of abuse.

For the eleventh graders, being victimized at school was the strongest predictor of suicide attempts. Given the significance of peer acceptance to older adolescents, it is not surprising that being threatened in school would convey great risk. In addition, recent studies had found that those involved in bullying as both victims and perpetrators had a high prevalence of depression (Saluja et al., 2004; Seals & Young, 2003). Experiencing victimization in school can lead to fear, isolation from peers, and depression. Consistent with the developmental tasks of adolescents, one would expect that older adolescents would be more vulnerable emotionally to negative peer interactions when compared to their younger counterparts. The authors also examined a number of resiliency factors in the study including involvement in intramural and extramural sports, physical activity, and having friends; however, having friends was the only factor that made it into the final model for the eleventh graders. The protective nature of having friends further emphasizes the importance of peer relationships for the older adolescent (Bearman & Moody, 2004; Lerner & Galambos, 1998).
Perhaps most importantly, this study indicated that while individual risk factors were significant predictors of suicide attempts, having multiple risk factors increased the risk for suicide attempts exponentially in both grades. The cumulative risk of exposure to violence, substance use, and depression is particularly concerning. Although true for both grades, this cumulative effect was particularly strong for ninth graders, suggesting that the impact of cumulative risk on younger adolescents may be of particular concern. Risk behaviors were less frequent in ninth grade and thus their presence was even more indicative of major problems. Identifying these students early and connecting them to services was an important step in prevention. These differences reflect relational shifts consistent with adolescent developmental processes. While particularly worrisome for ninth graders, the combination of abuse, substance abuse, and worry about depression represented an extremely high risk for suicide attempts in both grade cohorts.

Theories of the effects of age on suicide have changed over time. Initially, it was believed that across all demographic populations, suicides increased with age. However, new research indicated that while this is true for men, suicide rates in women rate peak around the age of 35, plateau and only decline past the age of 85. For instance, African American individuals who commit suicide do so at a younger age than Whites (Garlow, Purselle, & Heninger, 2005), a risk factor unique to White patients in a study by Vanderwerker et al. (2007) was younger age. This was somewhat surprising, as suicide had been associated with increasing age among Whites in the general population (Nisbet, 2000). The results indicated that, among this vulnerable population, younger Whites were at the highest risk for suicide, which is consistent with other reports of suicide risk in alcohol-dependent (Preuss et al., 2003) and drug-dependent (Roy, 2003) individuals. Young people who had substance abuse disorders, regardless of race/ethnicity, may not only alienate themselves from social networks, but also may lack the coping resources and psychological resilience that comes with maturity (Szanto, Prigerson, Houck, Ehrenpreis, & Reynolds, 1997). Older
Whites in this study were not found to be a high-risk group, perhaps because they were more resilient than their younger counterparts, having survived more years of heightened suicide risk.

D. GENDER AND SUICIDE IDEATION

Gender is one of the most reliable predictors of suicide ideation and behavior among adolescents in the United States. Adolescent females are more likely than adolescent males to report suicidal thoughts and to engage in suicidal behavior. Adolescent females, however, are less likely to die as a result of a suicidal act than adolescent males (King, 1997). This gender difference in rates of suicidal behavior is not apparent in childhood, when all forms of suicidal behavior are relatively uncommon (King, 1997; Shaffer et al., 1996; Lewinsohn, Rohde, & Seeley, 1996). The research on gender meanings of suicidal behavior had primarily surveyed mid- to late-adolescents, those between the ages of 14 and 22.

Unfortunately, suicidologists have historically ignored questions of gender. Many researchers have limited themselves to a description of the female/male composition of a study's sample and have ignored the fact that they may be dealing with primarily female samples (if they are studying nonfatal suicidal behavior; e.g., Spirito, Brown, Overholser, & Fritz, 1989) or primarily male samples (if they are researching suicide mortality; e.g., Brent, Bridge, Johnson, & Connolly, 1996). Others had paid attention to the female/male segregation in the distribution of suicidal behaviors, but relied on obsolete theories, such as Freud's or Durkheim's theories, to interpret the data (Chew & McCleary, 1994). One can still find theories of suicidal behavior that do not address the divergent female and male patterns but are presented as generic and universal (Chew & McCleary, 1994). Publications presumably dealing with adolescent suicidal behavior in general (Berman & Jobes, 1991) actually focused on mostly male suicide mortality issues and only "briefly address the topic of nonfatal suicidal behaviors.

The published studies of adolescent suicide using psychological autopsy generally include few females: 9 (Marttunen et al., 1991), 10 (Brent et al., 1993a), and 25 (Shaffer et al., 1996), respectively. Only Shaffer's study has so
far comprised enough suicides for an analysis of specific factors associated with female adolescent suicide. Marttunen et al. (1995) included females up to 22 years, and analyzed 19 female suicides. Studies based on coroner reports presented from 1 (Rich, Sherman, & Fowler, 1990) to 45 (Hoberman & Garfinkel, 1988) female suicides, but few comments were made regarding sex differences. Gender clearly influenced suicidal behavior, but knowledge about the differences between female and male adolescent suicide completers was scanty.

In the past three decades, the scholarship on gender has flourished. Gender is whatever a culture defines and prescribes as feminine and masculine. The categories of femininity and masculinity are culturally specific and transient. They can only be understood contextually, "meaning that there is no singular 'gender' per se" (Zinn, Hondagneu-Sotelo, & Messner, 1997). One of its main contributions had been an increased understanding of the processes and consequences of gender socialization. Gender ideologies and socialization practices vary greatly by culture and historical periods (Zinn, Hondagneu-Sotelo & Messner, 1997; Unger & Crawford, 1996), and that these culture and cohort-specific gender experiences influenced the rates and forms of psychological disorders that women and men experience (Unger & Crawford, 1996).

**Incidence:** World Health Organization (2000) reported that there was a well known difference between men and women suicide rates, male suicide rates, with extremely few exceptions, being larger than female suicide rates. It was the 8th leading cause of death for females. Male suicide rates are higher than females in all age groups (the ratio varies from 3:1 to 10:1). In the United States, and other western countries, males were four times more likely to die by suicide than females. The suicide rate ratio of males to females was 5.2 for the 10-15 year olds, 3.0 for the 15-20 year olds (Groholt et al., 1998).

In the study by Khan and Hyder (2006), police data from the Sindh province was examined to provide a unique picture of trends of suicide over 15 years (1985-1999). During this period there were 2,568 reported suicides (71% men, 39% women; ratio 1.8). A study on suicides from the Department of Forensic Medicine, Faisalabad (a city in the Punjab province, population 2.1 million) gave a rate of 1.12/100,000 (n = 95) for the years 1998-2001, with a male to female ratio of 2.4:1 (Saeed et al., 2002).
Kisch, Leino and Silverman (2005) reported that there appears to be gender differences in relation to persistence. The difference between men reporting attempting suicide three or more times is 0.8% compared to 0.3% for women. In contrast, 1.1% of women do report one or two attempts compared to 0.8% of men. In India, Poland, and Finland, it is males, not females, who typically engage in nonfatal suicidal behavior. Conversely, in several Asian, Caribbean, and South American countries—including Hong Kong, Cuba, and Brazil—females' suicide mortality rates exceeded those of males for persons ages 15-24 (Canetto & Lester, 1995a, 1995b).

Parkar, Dawani and Weiss (2006) however, had noted that the preponderance of women with suicidal behavior presenting for treatment was not universal, and in many centers “the ratio of females to males appears to be declining in suicide attempts” (Kerkhof, 2002). It had also been noted that for suicidal behavior in Asia the ratio of females to males was lower (WHO, 2001). Even in Europe, in the sample in the WHO/EURO study of parasuicide, cases in Gent, Belgium, consisted of 54% men (Hjelmland et al., 2002). The higher than expected ratio of males to females in study by Parkar, Dawani and Weiss (2006) indicated the need for more careful gender analysis and need to consider vulnerability to the impact of stigma, which might increase the threshold for help seeking among women to avoid disclosure.

In a report from the WHO/EURO Multicentre Study of patients hospitalized for nonfatal suicidal behavior, the average female to male ratio was 1.66:1 (Bille-Brahe et al., 1997). Exceptions do exist. For instance, one report from the Helsinki area found slightly more male than female suicide attempters (Ostamo & Lonnqvist, 1994) and equal gender ratios were found among Puerto Rican patients admitted to a New York City hospital for nonfatal suicidal behavior (Fernandez-Pol, 1986). Despite such deviant reports, a recent comparison between different sites within the WHO/EURO Multicentre Study did not find the female preponderance to vary significantly between sites (Bille-Brahe et al., 1997). With respect to self-reported suicide attempts, the female preponderance is evident in most studies from the Western world with typical gender ratios around 1.5:1 to 2:1 (King, 1997). This is also the case for suicide ideation (Lewinsohn, Rohde, & Seeley, 1996; Garrison et al., 1991).
Adolescent females in the United States are 1.5-2 times more likely than adolescent males to report suicide ideation (King, 1997). For example, according to a study by Lewinsohn, Rohde, and Seeley (1996), 23.7% of females and 14.8% of males aged 14 to 18 years old had experienced suicidal thoughts over their lifetime.

The results of a systematic review of the international literature on the prevalence of suicidal phenomena in adolescents, including the influence of survey method, gender, and ethnicity are reported by Evans et al. (2005). They searched the literature using six electronic databases to identify all population-based studies of self-reported suicidal phenomena; 128 studies were included, comprising 513,188 adolescents. Females were significantly more likely than males to report most suicidal phenomena. The prevalence of suicidal phenomena was reported separately for males and females in 88 out of the 128 studies. In the vast majority of studies the prevalence was significantly higher for females than males. Meta-analyses comparing the prevalence in females with the prevalence in males were conducted for 14 categories of suicidal phenomena. The prevalence of suicidal thoughts and behaviors was significantly higher for females compared to males in 11 categories of suicidal phenomenon. The rates of suicidal thoughts and behaviors in females were at least 1.25 times higher than those in males, and, for suicide attempts in the previous year, the rate in females was more than twice that in males.

Both suicidal thoughts and behaviors are clearly more common in females than males—the results from almost every study included in this review showed this gender difference. This was in keeping with the findings from studies of hospital admissions (Hawton et al., 2003; Placentini et al., 1995). Much research on prevalence of adolescent nonfatal suicidal behavior has been based on hospital presentations. It is clear that such studies are likely to substantially underestimate the true rate of deliberate self-harm. The findings from general population studies in which information has been obtained on whether or not self-reported acts of deliberate self-harm or attempted suicide result in hospital presentation suggest that at least three or four times as many adolescents engage in deliberate self-harm compared to the numbers who receive medical attention as a result of the acts (Kann et al., 2000; Pearce & Martin, 1993).
underestimation of overall prevalence of deliberate self-harm in hospital-based studies might be greater for females than males because males selected more dangerous methods for self-harm and were therefore more likely to receive medical attention (Kann et al., 2000).

Westefeld et al. (2005) reported that men and women were not significantly different in terms of thinking about suicide, making a suicidal threat, or attempting suicide. For both males and females ($p < .001$), however, individuals were more likely to have attempted suicide if they had thought about it, and this was a very strong trend in this sample. This is clearly an important finding. Gender differences were not found to be significant in terms of thinking about suicide, suicidal threats, and suicide attempts.

The finding that after adolescence there might be no difference between the genders also appeared in community samples in Germany (Wunderlich, Bronisch, & Wittchen, 2001) and in the United States (Lewinsohn et al., 2001). In both countries the difference in reported suicide attempts or in the annual hazard rate for suicide attempt between girls and boys disappeared after the age of 17-18. The studies in Germany and the U.S. were restricted to young adults aged 24 and younger. The results pertaining to the 13-24 age group from both ED and community studies were consistent, supporting the assumption that the pattern for later years would appear also in community surveys and that the "gender paradox" may refer only to adolescents and young adults.

The Gender Paradox- The "gender paradox" (Kessler, Borges, & Walters, 1999; Canetto & Sakinofsky, 1998) that completed suicide is more common among males and suicide attempts are more common among females, was not supported by Westefeld et al. (2005). While men in Israel commit suicide more often than women in all age groups (Lubin, Classer, Boyko, & Bareli, 2001), women do not attempt suicide more than men, except for ages 13-26 years.

Gender And Depression: In some Western studies, females tend to report higher levels of depression and suicide ideation than males (Algood-Merten, Lewinsohn, & Hops, 1990). Depression among females increases suicide ideation by elevating females' self-derogation and negative self-evaluation, and lowering their sense of self worth. In contrast, males may turn to distractions
such as drug use instead of suicidal thoughts in response to depression (Harlow, Newcomb, & Bentler, 1986). Females are also more likely than males to express suicide ideation at a lower level of depression (Canetto, 1997). The rise of depression during adolescence is thus more modest in males than in females (Algood-Merten, Lewinsohn, & Hops, 1990).

Gender differences in depression and suicide activities had been found in children and adolescents in Hong Kong. While primary school males tend to report higher levels of depression than females, adolescent females report greater depression than males (Lau, Chan, & Lau, 1999). Moreover, far more females than males between ages 10 and 19 had committed suicide in Hong Kong, with reasons unknown (Lau, 1994). This study focused exclusively on a homogeneous group of female adolescents because, as compared to male adolescents from Hong Kong, Hong Kong adolescent females tend to report greater depression and more suicide ideation (Stewart, Lam, Betson, & Chung, 1999). Stewart et al. (1999); Lee, Wong, Chow, & Mcbride-Chang (2006) found suicide ideation in Hong Kong female adolescents relatively high. One-hundred-ninety-five (52.6%) participants were identified as suicide ideators. Among them, 87 (46.0%) were males while 108 (59.3%) were females. Thus, significantly more females than males were identified as suicide ideators (p < .01) and depression (t = 3.47, p < .001), partially replicating findings from Canetto (1997) that females may express suicide ideation at a lower threshold than males.

Gender differences in the level of depression and suicide ideation followed a pattern found in previous studies of adolescents. Although male suicide ideators reported higher levels of depression and suicide ideation than females in the present study, significantly more females than males were classified as suicide ideators. Past research pointed out that females tend to think of committing suicide at a lower level of depression, while males consider suicide only when they are more extremely depressed (Allison, Roeger, Martin, & Keeves, 2001; Stewart et al., 1999). More females tend to report experiencing suicidal thoughts; but those who did report suicidal thoughts reported both suicide ideation and depression at a lower level than did males

Groholt, Ekeberg, Wichstrom, and Haldorsen (1999) studied gender differences in Norway. The present study comprised of all residents in Norway 19
years of age and younger, who died between January 1, 1990 and December 31, 1992 and whose death was classified as suicide: in all, 99 boys and 30 girls. There were no statistically significant differences in age, occupation, or place of residence (living arrangement) between males and females. Sources of information were the same for both sexes and included (1) police reports (male, 97; female, 30), often including farewell notes (male, 28; female, 16) and interviews by police officials with family and friends (male, 86; female, 29); (2) medical autopsy reports (male, 81; female, 23); (3) reports from physicians and hospitals (male, 79; female, 25); and (4) reports from different agencies providing mental help (male, 28; female, 8). Altogether there were 416 informants, an average of 3.2 informants (range 1-6) per case for both sexes. Those involved all remembered the suicide clearly, and many informants knew the adolescents well and were able to provide valuable information. All registered suicides in the age group were included.

Groholt et al. (1999) found no statistically significant differences between female and male suicide completers for the prevalence of mental disorders. The prevalence of affective disorders was approximately the same as in previous studies (Shaffer et al., 1996; Brent, 1995; Marttunen et al., 1991), whereas the prevalence of disruptive disorders, substance abuse, and alcohol consumption was relatively low in males. This was also the case in the general Norwegian adolescent population (Groholt et al., 1997; King, Wold, Tudor-Smith, & Harrel, 1996).

The relative effect of depression on suicide did not differ between the sexes. The prevalence of depression was the same among male and female suicides. However, the suicide rate among depressed adolescents shows sex differences beyond the suicide rate ratio of 3.0 in the total population of 15-19-year-olds. The female prevalence of depression was approximately twice that of males in the general population (comparable to results from other Western countries), yet 3 times as many males as females committed suicide. By simple calculation this suggested that the suicide rate among depressed males was higher than among depressed females; in Norway in 1990-1992 it was approximately 6 times as high. However, these estimates may be influenced by
biases, probably in different ways for males and females, as adolescents' self-reports differed from parents' report (Verhulst & van der Ende, 1992).

In this study, depression increased the suicide risk non significantly more for males (adjusted OR = 24.0, CI = 10.3--56.1) than it did in the New York study (adjusted OR = 7.8, CI = 2.6-23.2), whereas disruptive disorders represented a non significant higher suicide risk in females in Norway (adjusted OR = 14.7, CI = 0.4--510.0) compared to New York (adjusted OR = 1.6, CI = 0.2-12.36). When controlling for the other risk factors in multivariate analyses, the suicide risk related to frequent use of alcohol and substances disappeared. This may be related to the co-morbidity of depression and substance abuse in adolescent suicide, as found in previous studies (Shaffer et al., 1996; Brent et al., 1993a).

Studies that had compared gender differences in nonfatal suicidal behavior had given useful insight into ways men and women react to stress in different cultures (Daradkeh & Al-Zayer, 1988; Merrill & Owens, 1986). The systematic social, economic, and legal discrimination women suffer in Pakistan predisposes them to psychological distress and subsequently to suicidal behavior. The family appears to be the context in which many of these inequities are played out. This would explain the greater number of married women in this and other studies from Pakistan. Low self-esteem, early marriage, hostile in-laws, and lack of a confiding relationship with the husband have been found as important factors associated with depression in Pakistani women. Adolescent girls are more often depressed than boys (Nolen-Hoeksema & Gurgus, 1994), and depression is a major risk factor for suicidal behavior (Beautrais, Joyce, Mulder, Fergusson, & Deavoll, 1996). Moreover, there is an increase in depression rates as well as in gender difference in depression during adolescence (Wichstrom, 1999) that parallels the increase in suicidal behavior during this period as well as the gender difference in such behavior (Canetto & Sakinofsky, 1998). Depression may therefore be a likely candidate for mediating the gender effect on nonfatal suicidal behavior. However, Lewinsohn, Rohde, and Seeley (1993) and Wichstrom (2000a) found that the gender difference in self-reported nonfatal suicidal behavior among adolescents was not eliminated even when depression was controlled for, indicating that girls' elevated depression score might not be the only explanation.
As is commonly found, females compared to males reported significantly higher mean levels of emotional distress (anxiety, depression, hopelessness) and suicidal behaviors (Mazza & Reynolds, 1998; Rich, Kirkpatrick-Smith, Bonner, & Jans, 1992; Cole, 1989). In comparing the structural models for males versus females, however, the effects of anxiety on depression and hopelessness and, thereby, on suicidal behaviors were highly similar. Depression, though, had a stronger direct effect on suicidal behaviors for males than for females. Thus, despite the differences in mean levels of emotional distress and suicidal behaviors, the findings demonstrate that the influences of family support, drug involvement, anxiety, depression, and hopelessness on suicidal behaviors are essentially the same for both the young men and women.

Although biological reasons for the gender difference of the most important risk factor, depression, cannot be ruled out, research supports the notion that the gender difference in depression rates between adolescent males and females may be due to different socialization of the two genders (Wichstrom, 1999; Nolen-Hoeksema & Girgus, 1994). Socialization experiences that might explain this gender difference in depression often relate to girls’ and boys’ different cognitive styles. These styles include girls learning to use more emotion-focused and social coping and less problem-focused coping in the face of negative life events (Frydenberg & Lewis, 1991); more ruminative coping with feelings of depression, more internal, stable, and global attributions for failure (Nolen-Hoeksema, Girgus & Seligman, 1991); and less self-assertiveness (Allgood-Merton, Lewisohn, & Hops, 1990). Adolescent girls also report more negative life events and stress than boys do, especially in the interpersonal domain (Rudolph & Hammen, 1999). In particular, some writers had suggested that childhood sexual victimization may account for a significant part of the gender difference in depression (Whiffen & Clark, 1997; Cutler & Nolen-Hoeksema, 1991).

**Empirical basis for differential socialization/differential risk:** Gender specific socialization may have not only an impact on whether adolescents in distress will attempt or commit suicide, or on how this behavior is scripted, but also on the type and level of distress the adolescents are experiencing. A review of the empirical basis for some of the most likely candidates for gender-related risk
factors of nonfatal suicidal behavior follows. Such an explanation we would term a mediator model of gender difference in suicide attempts. In statistical mediation of the gender effect we should look for: (a) risk factors that are truly correlated with suicide attempts; (b) risk factors that have higher prevalence rates among girls; and (c) controlling for these risk factors would significantly reduce or even eliminate the gender difference in nonfatal suicidal behavior.

The problem-type with greatest gender difference is probably eating disorders, where between 90% and 95% of cases are females. The gender difference is also substantial, albeit of lesser magnitude, when symptoms are not severe enough to meet diagnostic criteria (Wichstrom, 1995). As for suicidal behavior, these problems are almost nonexistent before puberty. Subjects with eating disorders (Beautrais et al., 1996) as well as subclinical eating problems (Wichstrom, 2000b) are more prone to nonfatal suicidal behavior than controls. Thus, disordered eating fulfill the criteria for a potential mediator of the effect of gender on suicidal behavior.

Several reviews have concluded that adolescent girls have lower self-concept than adolescent boys (Eccles, Barber, Jozefowicz, Malenchuk, & Vida, 1999; Wichstrom, 1998). Self-concept is also associated with previous nonfatal suicidal behavior among adolescents (Lewinsohn, Rohde, & Seeley, 1993), as well as with future attempts (Wichstrom, 2000a; Lewinsohn, Rohde, & Seeley, 1994); thus, poor self-concept also seems to be a likely candidate. However, a person's self-concept is often conceptualized as an idiosyncratic sum of many sub self-concepts, pertaining to different arenas or aspects of the person's life; for example, physical self-concept, academic self-concept, and social self-concept (Marsh & Shavelson, 1985; Harter, 1982). Adolescent girls' physical self-concept seems in particular to be inferior to boys' physical self-concept (Wichstrom, 1998; Marsh, 1989), and physical appearance is the single most important contributor to the variance in global self esteem among adolescents (Wichstrom, 1998; Cairns, McWhirter, Duffy, & Barry, 1990). Moreover, girls' poorer physical self-concept and body satisfaction explain substantial parts of the gender difference in depressed mood that emerges during adolescence (Wichstrom, 1999; Allgood-Merton, Lewinsohn, & Hops, 1990; Rierdan, Koff, & Stubbs, 1988). Low physical self-concept and body dissatisfaction have not been
tested as correlates of suicidal behavior, but from the constellations of previous findings, it is possible that they could mediate some of the gender effect.

Precipitating events may also differ between genders. One of the most common precipitating events in adolescent nonfatal suicidal behavior is the break-up of romantic relations (Beautrais, Joyce, & Mulder, 1997). Some have argued that girls' suicidal behavior is particularly related to interpersonal problems (Jack, 1992), possibly because girls' self-esteem is hypothesized to be more dependent on others than is boys' self-esteem (Chodoff, 1972). The empirical basis for such a claim may be weak (Nolen-Hoeksema & Girgus, 1994); however, if girls' suicidal behavior is more relational in nature, this may put adolescent girls at particular risk for nonfatal suicidal behavior. Moreover, the general tendency for females to prefer to date older males and males to prefer younger females (Davis, 1998) also apply to adolescence. In this particular age group the result is that more adolescent girls than boys will be in a romantic relationship, and hence face the possibility of a break-up. Precocious girls may also be put at additional risk due to potential date rape as well as other forms of sexual harassment or victimization, and parasuicidal behavior may be one way to try to cope with such trauma. One should therefore suspect that adolescent girls' more frequent involvement in romantic relationships would put them at higher risk for nonfatal suicidal behavior than adolescent boys.

The higher number of adolescent girls compared to boys reporting suicide attempts could be attributed to girls' higher exposure to certain risk factors. The gender difference in both previous attempts and future attempts was eliminated once these risk factors were controlled. With respect to previous attempts, girls' higher rates of depressed mood reduced the gender difference significantly. Although the remaining set of predictors for previous and future attempts differed somewhat, both sets involved girls' more internalizing problems (depressed mood, disordered eating, and poor self-concept) and girls' more frequent involvement in romantic relations during adolescence.

This study had many strengths, including a large and representative sample, a longitudinal design, and a large body of gender-related predictors. Still, several limitations should be noted. It must be acknowledged that these results pertain to self-reported suicidal behavior only. The acts performed by these
adolescents most likely cover a broad spectrum of severity from serious attempts that required hospitalization to acts with little injury. The majority of these acts should be expected to have caused moderate to minor injury, as only 5% of these adolescents reported that they had contacted a hospital or a physician after the incident (Rossow & Wichstrom, 1997). On the other hand, the present data is not without interest for patient populations, as studies examining differences in predictors between community samples using self-reports and patient samples have not identified gross differences in characteristics between samples. Although the present study is comprehensive with respect to risks and vulnerabilities for suicide attempt, some relevant predictors for the gender difference were not included. More direct information about precipitating events, in particular break-up of romantic relations and quarrels with parents, would have strengthened the study, as would data about previous and more recent sexual harassment and assault. Because some have suggested that girls' and boys' alleged different coping strategies concerning daily hassles and major life events may have an impact on gender differences in suicidal behavior (Jack, 1992), the inclusion of such information also may have added to the explanation of the gender difference in parasuicide rates. However, one would expect this gender difference to affect suicidal behavior through boys' and girls' differential depression rates. So, much of this variance between genders should already be tapped by our measure of depressed mood.

The differential risk factor model has been discarded in the past because it cannot simultaneously explain why females attempt suicide more often than males and why they less seldom die from suicide (Canetto & Sakinofsky, 1998). This rejection is based on the supposition that risk factors for nonfatal and fatal suicidal behavior are generally similar. There have been few direct tests of strengths of risk factors for different degrees of the suicidal continuum, but the two studies that have examined this have generally not found significant differences in risk factors (Groholt et al., 2000; Garrison, McKeown, va Lois, & Vincent, 1993). However, a recent prospective study of alcohol abuse and suicidal behavior in Swedish males showed that alcohol abuse was a much stronger risk factor for attempted suicide than for completed suicide (Rossow, Romelsjo, & Leifman, 1999).
This analysis had addressed just one aspect of the differential risk factor/differential socialization hypothesis, namely a mediator model. However, different risk factors may be unequally important or have different meanings to females and males. If girls' risk factors are more prevalent or stronger than boys' risk factors, this could add to the explanation of the gender difference. This would be a moderator model of gender differences in risk factors. Several important examples of this exist in the literature. Times series analyses on differenced data from 1911 to 1990 showed that divorce rate was independently and statistically significantly associated with adult male suicide rate, but not with female suicide rate (Rossow, 1993). Although depression is more common among females, the suicide rate in depressed adolescent boys has been found to be approximately six times higher than in depressed adolescent girls (Groholt et al., 1999); this study also showed that impulsivity might be more important in adolescent males' suicides than in girls' suicides. Moreover, conduct disorder has been shown to be a more important factor in adolescent males' suicides than in females' suicide (Brent et al., 1999). However, in a study of adolescent nonfatal suicidal behavior, disruptive disorder was found to be equally important for girls and boys (Groholt et al., 1999). Thus, in addition to boys' higher levels of numerous risk factors, including risk taking, impulsivity, aggressiveness, conduct problems, and alcohol problems, as well as comorbidity between these, the different strength of these associations in males and females may add to explaining the gender paradox in suicide research. Certainly, males' use of more lethal methods, as well as possibly more serious intentions may fill in the final bits in this seeming puzzle.

Causes:

1. Family Stress: One explanation for greater depression in female adolescents in some studies might be related to their relationships with parents. Females tend to receive closer monitoring of their activities than males during adolescence. This lower level of independence in female adolescents may make the family a particularly salient context for them and increase their sensitivity to the quality of family relationships (Sheeber, Hops, Alpert, Davis, & Andrews., 1997). Perception of low parental care and high conflict with parents therefore has exacerbating effects on females' depression (Stewart et al., 1999). Traditional gender roles, which are more traditional and rigid in Hong Kong than in the West
(Stewart et al., 1999), may place a higher demand on females in creating and maintaining harmony in relationships. This could be one reason why female adolescents in Hong Kong reported higher levels of depression and suicide ideation than males.

2. **Cognitive Structure**: Girls who had suicide ideations or attempts tend to have a lower need or cognitive structure than did their peers who did not have suicide ideations. Individual with lower cognitive structure are more willing to make decisions based on guesses or probabilities rather than actual data (Jackson, 1984). These decisions are made without much thought. If a girl is impulsive and has low need for cognitive structure these characteristics may put her at higher risk for suicidality. In contrast, perhaps girls who are high in cognitive structure may not attempt suicide because they process information more rationally in a way that encourages them to consider alternatives and information before making decisions particularly a decision as serious as suicide (Hull-Blanks, Kerr, & Kurpius, 2003).

3. **Childhood Sexual Abuse**: Roy and Janal (2006) compared two competing explanations for higher rates of attempted suicide in women than men. Because childhood sexual abuse is more prevalent in girls than boys, one explanation of higher rates of suicide attempts in women is that it is a direct result of the higher incidence of sexual abuse in girls. Alternatively, higher rates of suicide attempts might result from gender differences in the impact of childhood sexual abuse on suicidal behavior. To compare these theories, data from 1,889 abstinent, substance-dependent patients who completed the Childhood Trauma Questionnaire (CTQ) and who were interviewed about suicide attempts was examined. Scores on each scale of the CTQ were examined as a function of gender and attempter status. Results showed higher rates of suicide attempts in women than in men, 50% increase in suicidal attempts in women higher CTQ scores in women than men, and a higher CTQ score in attempters than non attempters. Childhood sexual abuse was responsible for an 11.5% increase in suicide attempt rate; and the effect of childhood sexual abuse on suicide attempts was similar for females and males. However, logistic regression indicated that gender and abuse did not interact to determine attempter status. Thus, the data support the first hypothesis that the greater frequency of suicide
attempts in women may be partly attributed to the higher prevalence of childhood sexual abuse in girls. Though generalizability of these results to the general population and to other diagnostic groups requires further study.

Moscicki (1994) suggested the possibility that a female excess in experiencing childhood sexual abuse might also be one determinant of why women attempt suicide more. Davidson, Hughes, George, and Blazer (1996) examined in the study and found a strikingly increased risk for suicide attempt in women sexually abused before 16 years of age. Ullman and Brecklin (2002) reported that 13.9% of women sexually assaulted as children attempted suicide. Similarly, an Australian study of community-derived twins found that a history of childhood sexual abuse significantly increased the risk for a suicide attempt (Nelson et al., 2002).

The possibility that gender may affect the expression of the negative effects of childhood trauma was also examined by Paolucci, Genius and Violato (2001), who carried out a meta-analysis of 37 studies of childhood sexual abuse. They found that there were no significant differences on effect sizes for subsequent negative long-term effects when the potentially mediating variables of gender, socioeconomic status, type of abuse, and age when abused were assessed. They concluded that men and women sexually abused as children do not differ significantly in terms of suicide attempts and that, regardless of gender or socioeconomic status, individuals sexually victimized as children are at increased risk for suicide attempts.

4. Internalizing-Externalizing Model (Canetto, 1991): It has been pointed out that in the United States, women are overrepresented in the so-called internalizing disorders, namely disorders that are primarily self-destructive, and in which the pain and hostility are turned inward. Men, on the other hand, are overrepresented in the so called externalizing disorders, namely disorders that involve some degree of external destructiveness, and in which pain and hostility are turned outward. It has also been noted that even when women and men exhibit similar forms of psychological distress (e.g., suicidal behavior), women's problems are conceived of as personal ones and are dealt with via the mental health system, whereas men's problems are seen as social ones, as an indication
of cultural, economic, or social malaise, and are dealt with via social programs and the legal system (Canetto, 1991, 1992-1993, 1995b, 1997).

Canetto (1991) examined the U.S. epidemiology of various kinds of suicidal behaviors (ideation, nonfatal, and fatal suicidal behavior) and found a gender-segregation. Females are overrepresented among those who reported suicide ideation and behavior, while males were overrepresented among those who died of suicide. In some ways, all suicidal behavior is a kind of an "internalizing" behavior, a behavior in which pain and hostility are turned into a form of self-punishment. By this definition Canetto (1991) expected adolescent and young adult females to be overrepresented in all forms of suicidal behavior, especially since adolescent and young adult females are more likely than males of the same age to suffer from depression, an internalizing disorder that is associated with suicidal behavior. The life span course of depression, suicide ideation, and nonfatal suicidal behavior follow a similar pattern in females. They increase during adolescence and are high during young adulthood (Lewinsohn, Rohde, & Seeley, 1996). In other ways, suicidal behavior looks like an "externalizing" disorder because it involves a degree of aggression and the defiance of social, religious, and sometimes legal prohibitions. By this definition Canetto (1991) expected adolescent and young adult males to be overrepresented in all forms of suicidal behavior, especially since adolescent and young adult males are more likely than females of the same age to engage in violent and illegal deviant acts, such as conduct disorders or paraphilias. Males are also more likely than females to present with illegal substance abuse syndromes, conditions that are associated with suicidal behavior (Canetto, 1991).

5. Puberty: Levinson, Hakalai, Stein and Gordon (2006) pointed out that this difference parallels the fact that girls enter physical puberty almost 2 years ahead of boys. Puberty has been related to the timing of adolescents' internalizing behaviors. One consequence of this is assumed to be suicidal behavior. Thus, it is possible that one of the underlying explanations of our results is the gender difference in timing of puberty (Wichstrom & Rossow, 2002). In Israel, we found that girls reach their peak in suicide attempts when they are in the early high school years. Boys reach it when most of them are in their compulsory army
service. It is possible that the 3-year delay among boys reflects both the fear to express "unmanly" behavior during high school (Farbstein et al., 2002) and the need to use escape methods during a stressful period like army service.

Groholt et al. (1999) study was one of the first published case control studies focusing on gender differences in suicides in childhood and adolescence. All suicides in persons under 20 years in Norway in the time period 1990-1992 (99 males, 30 females) were included in a postmortem case-control study with seven controls for each suicide. When the effects of well-known suicide risk factors were examined for both sexes, the female suicide completers did not differ significantly in most respects from the male completers. The similarities between the sexes were striking, in spite of the fact that the suicide rate among adolescent males 15-19 years old was 3 times that of the females.

Groholt et al. (1999) compared adolescent female and male suicides in a nationwide sample with regard to suicide methods, communication prior to and directly related to the suicide, family situation, precipitating events, main stressors, and psychopathology. They also examined whether risk factors for suicide differ between adolescent male and female suicide completers compared with a control group of average adolescents. The findings are related to different explanations for the lower suicide rates among female adolescents. Females more often attempted suicide (p = .05), more often wrote farewell notes (p=0.03), and used less violent suicide methods (NS). The adjusted risk for suicide related to affective disorders (Female OR = 22.1; Male OR = 24.0, both p=.000) and disruptive disorders (female OR = 14.7, NS; male OR = 5.0, p=.002) differed little, as did the effect of frequent use of alcohol or substances (female OR = 0.4, NS; male OR = 0.4, NS).

Possible reasons for the female excess in attempting suicide were reviewed by Moscicki (1994). She examined gender differences in lethality of suicide attempt method; gender differences in recall bias (women may be more willing to report suicidal behavior); gender differences in socialization involving culturally acceptable, self-destructive behavior; and gender differences in the differential rates of depression and alcohol abuse.
Attitudes toward gender and suicide are a reflection of the complex views toward men and women in the wider society (Kushner, 1985). These attitudes are dynamic and are constantly transformed by historical changes and socioeconomic upheavals, as well as varying with the social position of the informants.

India is not included in the group of 39 countries reporting mortality statistics to the World Health Organization. The yearly statistics on suicide in this country are published by the National Crime Records of the Government of India. The latest national rate quoted was for the year 1990, when it reached a peak of 8.9 per 100,000, a rise of more than 40% since 1978 (Desjarlais, Eisenberg, Good, & Kleinman, 1995). The male: female ratio was 1.3 for the year 1988. There are large variations in the rates between states. For example, the rate was 24.7 in Kerala, 0.9 in Bihar, and 50 in the Union Territories of Pondicherry (Aleem, 1994). The areas with the best education systems tended to report much higher rates. These large variations between states are dependent on the ability of local institutions to complete valid investigations (Desjarlais et al., 1995). In developing countries such as India, field research provides more reliable data. Desjarlais et al. (1995) quoted two such studies, one in a village cluster 50 kilometers west of Calcutta and another in Jhansi, Uttar Pradesh (Shukla, Verma, & Mishra, 1990), which computed rates of 43.4 and 29.0 per 100,000 respectively, or 3-5 times the Indian national rate. The gender ratio in these two locations was also different from the national ratio. In the study near Calcutta, there were three female per one male suicide, and in Jhansi there were 103 female suicides and 84 male suicides, for a male: female ratio of 0.8.

The relatively high rate of female suicide mortality in India is not a recent phenomenon: Half a century ago, a local minister of what was then the state of Saurashtra became interested in women's fatal, as well as nonfatal, suicidal behavior. According to a news item of the period (The Amrit Bazar Patrika, Calcutta, January 23, 1955, quoted in Thakur, 1963), the local Congress President, Shri Dhebar, stated that "for every case of suicide there were 180 cases of near-suicides by women who had, however, not the guts to face death or they desisted from committing suicide due to religious sentiments" (p. 33). But Thakur (1963), in the absence of national statistics for that period, was under the
impression that suicide was much more common among men than among women.

There is few data on nonfatal suicidal behavior. A study from Madras found 48 men and 38 women hospitalized for this reason (Ponnudurai, Jeyakar, & Saraswathy, 1986). The Jhansi study reported, however, more female than male suicidal acts (Shukla, Verma & Mishra, 1990). Because it is very difficult to identify the population basis upon which to calculate a rate and because local social factors leading to entry into treatment have to be taken into account, we have to interpret treatment statistics for nonfatal suicidal behavior in India very cautiously. One study analyzed gender differences in intention to die in nonfatal suicidal behavior from two hospital samples in Delhi (Havan, 1985). In the first study, women had a slightly higher intention to die score; in the second study, men had the higher score.

There is a debate in the Indian literature regarding the importance of dowry suicide, with some authors claiming that the media wrongly reinforce the perception of a high prevalence. In Pondicherry, dowry was considered the second main motive for suicide by a random sample, ahead of economic insecurity and mental state (Aleem, 1994). Examining the police records of 441 cases of suicide, Aleem could not find any instance of dowry suicide. In other research, husbands, in-laws and parents of 179 cases of nonnatural deaths of married women below 30 years of age were interviewed (Kahn & Ramji, 1984). The authors found that 16% of these deaths were indeed suicides, somewhat more than the rate of 12% given in the police records. They concluded that the public wrongly thought the rate of dowry suicide to be high due to coverage of the issue by daily newspapers. This opinion about the relative low frequency of dowry death was more recently contradicted by statistics published by the Indian Parliament (Desjarlais et al., 1995). Of the 11,259 dowry-related deaths in 1988, 1989, and 1990, 4,038 were attributed to suicide. The number of dowry related deaths more than doubled from 1988 to 1990, probably reflecting an increase in the awareness of the problem. We can also extrapolate on the basis of Kahn and Ramji's (1984) data that there were about 40 dowry suicides in 1 year in Delhi alone. The situation therefore deserves serious public debate and action, as recommended by some feminist groups.
Suicide pacts involving a mutual arrangement are rare in India, accounting for less than 1% of the total suicides. A study from the state of Tamil Nadu found slightly more women (56%) than men (44%) in this category, instead of the 40:60 ratio of female to male for single suicides (Vijayakumar & Thilothammal, 1993). The crime reporters from Bangalore in the survey described earlier mentioned that there have been cases of collective suicide of sisters periodically reported in newspapers from both Northern and Southern India. One of the most recent national cases included four sisters from the ages of 12-24 in Agra. In all these incidents, the issue of anticipated dowry problems was the source of the decision. The families had only daughters and were poor. At least one case of nonfamily-related collective suicide was reported in the Southern state of Kerala. Adolescent girls decided to die in a pact following intolerable slander and gossip because they had decided to assert their freedom by drinking in a local bar. Two field studies reported 38% and 46% of female suicide directly related to domestic strife (Desjarlais et al., 1995). Harassment, beating, and even torture from in-laws and husband were frequent reasons quoted.

There have been occasional instances of male collective suicide as a form of social protest. In one case, dozens of high-caste students killed themselves because of concerns about "reverse discrimination" from laws apportioning government jobs to lower castes (Desjarlais et al., 1995). In this last example, as in the case of domestic persecution of women, the cause of suicide is an important impediment toward fulfilling one's mission in life, either as a spouse or as a civil servant, a position with an important status in India. Although the context for men and women is quite different, both these motives are culturally acceptable for similar reasons.

OVERVIEW

1. In the past many years the number of patients hospitalized for suicide attempts have increased sharply in most Western countries. The number of suicide attempts in third world countries had also increased (WHO, 1990). Even though a number of studies (Shukla, Verma, & Mishra, 1990) in India had focused on various aspects of suicide, it is still an intriguing problem about which the amount of scientific knowledge is quite incomplete.
2. Some of the difficulties in conducting suicide research are due to the fact that researchers have been unable to obtain a definition of suicidal phenomenon which simultaneously fits into mutually exclusive categories and defines them in operational terms. It is possible, however, to propose a more exclusive definition of overt suicidal behaviors. The underlying assumption of the definition is that there are four basically different types of suicidal behavior, namely, ideators, threats, attempts and commits. It is further assumed that “ideation” is a prerequisite to any form of overt suicidal behavior. Obviously, before some action, such as threat, attempt or commit can take place, thought must have preceded such action. If one applies rules of deductive logic to these assumptions, suicidal behavior can then be separated into several categories.

3. The current high level of admissions for attempted suicide makes considerable demand on medical and psychiatric services. By studying suicide ideation, scientists can hope to achieve a better understanding of the causes of the suicidal behavior and ultimately, suggest appropriate remedies. Research on suicide ideation and its related factors can help us not only to understand this complex behavior, but also to effectively institute the preventive and other management strategies.

4. A number of attempts have been made to identify the social and psychological aspects of suicidal behavior. Most of the research on suicide behavior has utilized adult clinical populations. Most of the work, however, had been concerned with people who had actually attempted or completed suicide. Because of the difficulty in obtaining data on completed suicides, studies actually focussed on surviving suicide attempters. But it is well known fact that attempted suicides which come to the notice of clinical workers form a very small proportion of the suicidal population, as a result most investigators utilize small clinical samples of surviving attempters. To circumvent the methodological constraints associated with small clinical samples, some researchers had begun to study suicide ideation in general population (Vandivort and Locke, 1979). Studies of suicide ideation assume that suicide behavior forms a continuum ranging from suicidal ideas to suicidal acts (Bedrosian and Beck, 1979). This continuum does not imply that all or even most individuals who contemplate suicide make an attempt. Ideation is viewed as a preliminary stage to the most
life-threatening stages on the continuum, although the majority of persons who manifest suicidal ideas do not seem to progress to the later stages. This contention is supported by the findings of Carlson and Cantwell (1982). In their study of adolescence, they found that 42% of the respondents with severe ideation and 34% of those with slight ideation had made suicide attempt while virtually none of the respondents who reported no suicide ideation had made an attempt.

Thus, suicidal thought appears to be a precursor to more extreme suicidal behaviors, and this suggests that one can learn something about the factors that set the stage for suicidal acts by identifying the causes of suicide ideation.

Kandel, Ravies & Davies (1991) found that 41% of the females and 16% of the males who scored high on the suicide ideation scale reported having made an attempt to kill themselves. Understanding the dynamics of suicide ideation in non-clinical samples has important public health implications, since suicide ideation is a strong predictor of suicidal attempts, especially among females (Bonner & Rich, 1987). Thus, identifying the correlates of suicide ideation which is a prerequisite to threatened suicide is obviously more important because the earlier the identification the more feasible is intervention and prevention.

5. A review of literature reveals that suicidologists had focused almost exclusively on either clinical patients or those who have attempted or completed suicide, while there is obvious merit in such studies, many have lacked adequate control groups. Further, those who study clinical patients miss those who do not seek help, while investigators who focus on those who have attempted suicide may be looking at persons who have changed simply because they survived the attempt. Social scientists may be able to obtain valuable information about the precursors of suicidal behavior by studying suicide ideation in non-clinical populations in greater depth. As Stengel (1964) had put it, "There are few if any individuals to whom the idea of suicide has never occurred". Thus, identifying the correlates of suicide ideation which is a prerequisite to threatened suicide, attempted suicide or committed suicide is obviously more important because the earlier the identification, the more feasible is intervention and prevention. It is of prime importance since the main aim of the suicidologist is the eventual prediction of those who are most likely to consider self-destruction.
6. Despite the associations of depression and hopelessness with suicidal behavior, it seems likely that maladaptatives in the context of psychoticism is much greater and more life-threatening than even the most debilitating depression and hopelessness. Indeed the extent of maladaptiveness suggests that suicidal behaviors may involve comorbidity of depression with psychoticism in which a circumscribed transient thought disorder suspends the individual’s capacity to comprehend the consequences of their actions. Many suicidal individuals are not fully cognizant of the potentially irreversible impact; both on themselves and others of their actions at the time of suicidal episode. The apparent suspension of rational decision making at the time of the suicidal attempt appears somewhat comparable to the diminished capacity often observed in homicidal behavior; this parallel presumably led Menninger (1938) to refer to suicide as “murder of the self”, because the self becomes the target of lethal aggression.

7. The heterogeneous nature of suicidal intent is an important but sufficiently explored issue. Studies investigating suicide ideation have often used the global score on the Beck Scale for Suicide Ideation (SSI) to assess suicide ideation. Some studies have used single global rating scales scores. Both overall ratings of ideation and single global score on the Scale for Suicide Ideation treat ideation as a homogeneous construct and neither of them distinguished between types of ideation, e.g. between ‘general inclination’ and ‘focused inclination’ involving plans for self harm. In this context Mendonca & Holden (1996) isolated two dimensions, ‘Suicidal desire’ and ‘Suicide preparation’. Because these two dimensions of suicide ideation represented two different levels of seriousness of ideation, the use of global measure of suicide ideation seems to be an important methodological flaw. It would be important to clarify their relationships to risk factors.

Keeping in view the above mentioned conclusion the aim of the present study is to examine the relation of suicide ideation with age, depression and hopelessness.

OBJECTIVES OF THE STUDY

The present study has the following objectives:
1. To study the influence of depression on suicide ideation.
2. To study the influence of hopelessness on suicide ideation.
3. To study the influence of age on suicide ideation.
4. To study the influence of sex on suicide ideation.
5. To study the influence of the interaction of age, depression, and hopelessness, separately on males and females on suicide ideation.

**HYPOTHESES**

The earlier research showing relevance of depression, hopelessness, being a female and age dependence in attempted or completed suicide provided the guidelines for formulating the following hypotheses which are concerned with suicide ideation. This has been done on the basis of the assumption that suicide ideation is a pre requisite to attempted suicide or completed suicide.

a. It is hypothesized that depression regardless of the measures used has a significant bearing on suicide ideation.

b. It is hypothesized that hopelessness regardless of the measures used has a significant bearing on suicide ideation.

c. It is hypothesized that suicide ideation would be more in mid-adolescence in comparison to late adolescence.

d. It is expected that mid adolescents, high on depression and hopelessness will show marked suicide ideation than late adolescents, low on depression and hopelessness.