EFFECTS OF EARLY NEGATIVE LIFE EVENTS ON COGNITIVE FUNCTIONING AND RISK FOR SUICIDE IN A COLLEGE SAMPLE

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Bin Yang

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APPROVED:

George A. Clum, Ph.D., Chairman

Russell T. Jones, Ph.D.

Lee Cooper, Ph.D.

Thomas H. Ollendick, Ph.D.

Jack W. Finney, Ph.D.

Ellie T. Sturgis, Ph.D.

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George A. Clum, Chairman

Psychology

(ABSTRACT)

The present study was designed to examine the etiology of suicidal behavior from cognitive and developmental perspectives. Given empirical evidence suggesting links between early negative life events and suicidal behavior, between early negative life events and cognitive factors, and between cognitive factors and suicidal behavior, it was hypothesized that early negative life events may impact individuals' suicidal behavior by affecting these individuals' cognitive functioning. That is, cognitive functioning may serve as a mediator in the relationship between early life events and suicidal behavior. The present study examined child maltreatment, family instability, and poor general family environment as early negative life events, and examined self-esteem, locus of control, hopelessness, and problem-solving deficits as cognitive factors. In addition, individuals' perceived social support before age 18 and current social support and life stress were also examined in relation to the above variables. The subject sample was comprised of 181 college students, including 51 suicidal, 60 depressed, and 70 normal-control individuals. Results from the study
indicated that these three groups could be discriminated at highly satisfactory levels by using the above variables. A series of structural equation analyses also indicated that, even though early negative life events have mild direct impact on suicidal behavior, these events seem to have stronger direct impact on cognitive deficits which in turn seem to have stronger direct impact on suicidal behavior.
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Introduction

To understand suicidal behavior and its etiology and to predict such behavior are two of the major purposes of suicide study. Even though some success has been observed in predicting such behavior using statistical predictors, to a large degree the prediction depends on our understanding of the behavior. As Neuringer (1974) pointed out, the chief problem of making suicide predictions is the lack of knowledge about the psychodynamics of suicide.

A comprehensive literature search has indicated that one promising pathway to understand the etiology of suicidal behavior is to demonstrate the connections among early negative life events, cognitive functioning, and suicidal behaviors. That is, individuals' experience of early negative life events may contribute to their suicidal behavior. More specifically, these early negative life events may influence cognitive functioning and it may be these cognitive factors that impact individuals' suicidal behavior.

Early Life Events and Suicidal Behavior

Extant literature suggests that certain early negative life events may be related to the etiology of suicidal behavior. Early negative life events here are defined as life events which occur to individuals prior to age 18 and have negative impact on individuals. These negative events include: 1) child maltreatment; 2) family instability; 3) poor
general family environment; and 4) poor peer relationships. Although a few studies have failed to find relationships between some of these negative events and suicide (Gilliland, 1990; Kosky, Silburn & Zubrick, 1986; Pfeffer, Conte, Plutchik, & Jerrett, 1979; Pfeffer, Solomon, Plutchik, Mizruchi & Weiner, 1982), there is a preponderance of studies which indicate that these early negative life events are related to suicidal behavior. On balance, suicidal individuals tend to have more frequently experienced these early negative life events.

The extant literature suggests that individuals exhibiting suicidal behavior have often experienced childhood maltreatment, including childhood physical abuse, sexual abuse, and neglect. For example, Myers, Burke and McCauley (1985) found that suicidal preadolescent children had more abusive fathers than their non-suicidal counterparts. Also, considering suicidal behavior as one type of self-destructive behavior, Green (1978) found that physically abused children were more likely to have self-destructive behavior than neglected and normal children. Child maltreatment may also have long-term effects on suicidal behavior. For example, Briere and Runtz (1985) found that women who were sexually abused in childhood were more likely to have made at least one suicide attempt in the past than non-abused women. Also, in a review of British and Canadian studies of child sexual abuse, Bagley (1991) found that abused individuals tended to exhibit suicidal behavior later in life. In a recent review of 45 studies on the effects
of sexual abuse (Kendall-Tackett, Williams & Finkelhor, 1993), suicidal behavior was identified as one common symptom, especially in the adolescent age range.

Family instability, defined as parental separation, divorce, absence, and death, has also been found related to individuals' suicidal behavior. For example, parental death (Reich, 1986) and parental absence (Garfinkel, Froese, & Wood, 1982; Kienhorst, De Wilde, Van Den Bout, Diekstra & Wolters, 1990; Kosky, 1983) during childhood have been linked to suicide attempts. Also, higher rates of early experiences of parental separation and divorce have been found among depressed suicidal inpatients as compared with depressed non-suicidal inpatients (Bronisch & Hecht, 1987). In addition, some studies (e.g. Reich, 1986) of suicidal adults indicate that early events such as early experiences with parental death are related to adulthood suicide attempts. The latter finding suggests long-term effects.

Research indicates that poor general family environment may be related to suicidal behavior. For the purpose of the present study, "general family environment" refers to parenting skills, parent-child relationships, and parental discord and violence. For example, Adam (1982) categorized family environment into three types: "stable," "unstable," or "chaotic." Using a structured interview, Adam found that suicidal patients reported significantly more early "chaotic" family experiences than non-suicidal controls. Also, some researchers (Pillay,
1987; Pillay & Schlebusch, 1987) have studied family environment in relation to suicide through specific types of parenting skills and have found that parental restrictiveness, neglectful and overprotective parenting (Silove, George, & Bhavani-Sankaram, 1987), lack of family warmth (Taylor & Stansfeld, 1984), low family control and cohesiveness and high family conflict (Asarnow, Carlson, & Guthrie, 1987; Kosky et al. 1986), and low family organization, expressiveness, and independence (Meneese & Yutrzenka, 1990) are related to suicidal behavior (also see Dubow, Kausch, Blum, Reed, & Bush, 1989; Dukes & Lorch, 1989; Gilliland, 1990). Moreover, using regression analyses, researchers have also demonstrated that general family environment accounts for about 30-40% total variance of suicidal behavior (Friedrich, Reams & Jacobs, 1982; Meneese & Yutrzenka, 1990). Asarnow and Carlson (1988) found that children's perceived family support discriminated suicide attempters from non-attempters with an 88% accuracy, attempters reporting less family support.

Witnessing parental violence and discord has also been studied in terms of its impact on children. Although suicidality has not been studied directly, researchers have explored the impact of witnessing violence on children's general psychological functioning. For example, Hershorn and Rosenbaum (1985) found that witnessing marital violence and discord was related to male children's behavioral and emotional problems based on their mothers' report. Such relationships were found
independent of direct maternal punitive parenting style which was also related to these children's behavioral and emotional functioning.

While results from most studies have suggested immediate effects of poor general family environment on suicidal behavior, other studies have examined suicidal adults' early experiences with parental marital discord (Reich, 1986), and neglectful and overprotective family environments (Silove et al., 1987). It has been found that these early experiences are related to later suicidal behavior. These findings suggest that poor general family environment can also have long-term effects on suicidality.

Even though the number of studies of the effects of poor peer relationships on suicidal behavior is limited, the literature suggests there may be a relationship between poor peer relationships and suicidal behavior. For example, Rubenstein, Heeren, Housman, Rubin and Stecher (1989) found that positive peer relationships may decrease the likelihood of adolescent inpatients' suicidal behavior. However, in a comparison study between depressed children and adolescents and depressed and suicidal children and adolescents, Kosky et al. (1986) failed to find a relationship between level of peer contact and attempted suicide. Similarly, in a comparison study of adolescent suicide attempters and adolescent psychiatric controls, Gilliland (1990) also failed to find a relationship between poor peer relationships and suicidal behavior.
Empirical findings have so far supported the notion that childhood maltreatment, family instability, poor general family environment, and, more equivocally, poor peer relationships are related to individuals' suicidal behavior. The possible effects of these early negative life events on suicidal behavior may be both short-term and long-term. However, these events have been studied separately and it is not known whether they contribute to individuals' suicidal behavior independently. Moreover, the pathways for the effects of these events are not well addressed by researchers. Taking a cognitive perspective, one possibility is that these early negative life events may affect individuals' cognitive functioning which in turn affects suicidal behavior. In the present study, three forms of childhood maltreatment (child neglect, as well as physical and sexual abuse), family instability (parental death and separation, as well as separation from parents), and poor general family environment were examined as early negative life events. In addition, a construct related to peer relationships but more broadly defined--perceived early social support--was also examined regarding its role of mediating the impact of these events to suicidal behavior.

**Early Negative Life Events and Cognitive Functioning**

The research literature indicates that, with a few exceptions (Elliott & Tarnowski, 1990; Hofmann & Zippco, 1986; Jenkins, Hedlund &
Ripple, 1988; Rotheram, 1987), early negative life events are related to impaired cognitive functioning, as reflected by such constructs as self-esteem, locus of control, hopelessness, and problem-solving deficits.

Childhood maltreatment has been related to lowered self-esteem, an external locus of control, and increased hopelessness. Specifically, lower self-esteem has been found among physically abused (Allen & Tarnowski, 1989), sexually abused (Dadds, Smith, Webber, & Robinson, 1991; Jackson, Calhoun, Amick & Maddever, 1990; Lanktree, Briere & Zaidi, 1991; Tong, Oates & McDowell, 1987), and mixed maltreated/neglected children (Kaufman & Cicchetti, 1989), when compared with their non-maltreated counterparts. Several review articles have also reported that low self-esteem is one of the long-term effects resulting from childhood sexual abuse (Bagley, 1991; Culter & Nolen-Hoeksema, 1991). Also, more external locus of control and greater hopelessness about the future have been found related to childhood physical abuse (Allen & Tarnowski, 1989). In addition, long-term effects of childhood maltreatment on cognitive functioning have also been reported. Briere and Runtz (1986) studied women who were sexually abused in childhood and found that these individuals were more likely to have lower self-esteem, higher guilt and self-blame, to perceive more powerlessness, and to experience more severe interpersonal dysfunction, when compared to non-abused controls.
The relative effects of specific types of maltreatment have also been studied. For instance, some researchers have found that child physical abuse has more severe impact on self-esteem than has child neglect (Wodarski, Kurtz, Gaudin & Howing, 1990). Wagner (1991) explored effects of different types of sexual abuse and found that children whose sexual abuse was intrafamilial had lower self-esteem than children whose sexual abuse was extrafamilial. However, Simmons and Weinman (1991) did not find differential effects on self-esteem and locus of control by type of maltreatment.

Inconsistent with the results from the majority studies, Elliott and Tarnowski (1990) found that, when compared with non-abused children, sexually abused children with the same age range (6-13) reported no significant differences on self-esteem and hopelessness. Such inconsistency matches an age pattern proposed by Kendall-Tackett et al. (1993) based on their review of 45 recent empirical studies on child sexual abuse and its impact. Low self-esteem was often found as a result of child sexual abuse. When specific age patterns were studied, it was found that sexually abused adolescents (13 to 18 year olds) were more likely to report lower self-esteem than their younger counterparts.

Research has also suggested that family instability may be related to lower self-esteem and an external locus of control. Children from divorced families were more likely to report lower self-esteem than children from non-divorced families (Beer, 1989; Devall, Stoneman, &
Brody, 1986). Children from divorced families reported a more external locus of control than children from non-divorced families (Guidubaldi, Perry & Nastasi, 1987). However, some researchers (Hofmann & Zippco, 1986) failed to obtain similar results. Moreover, Jenkins et al. (1988) studied parental separation effects on children’s divergent thinking abilities and creativity potential. A comparable level of divergent thinking was found between children from single-parent families and children from two-parent families.

Parenting style and family environment have been related to self-esteem, locus of control, and problem-solving deficits. For example, Johnson, Shulman and Collins (1991) studied cognitive effects of four types of parenting: an authoritative congruent style, a permissive congruent style, and two incongruent styles where one parent was perceived as authoritative and the other was rejecting, not allowing autonomy, and exerting a high level of control. These researchers found that children from incongruent parenting environments were more likely to report low self-esteem. Also, Burt, Cohen and Bjorck (1988) found that children from families described as expressive, organized, and cohesive had high self-esteem; however, children from families described as conflict-ridden and controlling had low self-esteem. In addition, Dukes and Lorch (1989) found that adolescents' emotional and ideological disparity with parents and disparity between the importance of study and satisfaction with achievement were linked to low self-esteem. Moreover,
exposure to parental conflict has been related to children's cognitive functioning. For example, Rosenberg (1987) found that witnessing marital violence between parents had an indirect effect on children's social problem-solving abilities.

Early peer relationships may be related to self-esteem, locus of control and problem-solving skills. Researchers (Walker & Greene, 1986) found that peer relationships made a significant contribution to children's self-esteem. Consistent with this finding, lower self-esteem was often found to characterize least involved children (Downs & Rose, 1991). Low levels of social involvement have also been related to an external locus of control (Downs & Rose, 1991; Nunn, 1987; Rizzo, 1988). Earn and Sobol (1990) found that children with high acceptance and low rejection scores believed that causes of success and failure were more controllable than other children. Peer relationships have also been related to problem-solving skills (Mize & Cox, 1990). In this study, the number of strategies produced by children was found significantly correlated with both children's cooperative play ratings and observations of positive peer behavior. Also, Perlmutter, Behrend, Kuo and Muller (1989) found that 4-11 year olds increased task engagement by working with a peer. This finding suggests that it is possible that peer interaction may affect children's problem-solving skills. In addition, Olson and Lifgren (1988) found that peer negative ratings on a nomination measure linked with aggressive social problem-solving. The
results, however, have not been unequivocal. Rotheram (1987) did not find peer status predicted children's (11-13 year olds) interpersonal problem-solving skills.

**Cognitive Functioning and Suicidal Behavior**

The extant literature supports the view that the identified cognitive variables are related to individuals' suicidal behavior. Low self-esteem has been found related to individuals' suicidal behavior. For example, Wetzel & Reich (1989) found that hospitalized depressed patients' self-esteem contributed to their suicide intent significantly. Also, De Man, Balkou, and Iglesias (1987) found that self-esteem is the best predictor of suicide ideation (also see De Man, 1988), when compared with other variables such as life stress and social support. There are also some indications that self-esteem may have long-term effects on individuals' suicidal behavior. For example, Petrie, Chamberlain, and Clarke (1988) found that self-esteem serves as a long-term predictor of future suicidal behavior in hospitalized suicide attempters. In addition, Goldney, Smith, Winefield, Tiggemann and Winefield (1991) found that secondary school leavers' suicide ideation was significantly related to their self-esteem assessed 8 years ago.

Research in the adult samples has also suggested that external locus of control may be related to suicidal behavior. For example, Froyd and Perry (1985) and Strang and Orlofsky (1990) found that
external locus of control was significantly related to suicidal ideation in college students. Sidrow and Lester (1988) found that suicidal patients (measured via item 9 on the BDI) had lower "internal" locus of control scores. Even after controlling for the total depression score, this group still had lower internal locus of control. In addition, Lester (1989) extended Sidrow and Lester's (1988) study into a college student non-clinical population and found comparable results. One study that did involve adolescent samples is by Goldney et al. (1991). In their 8-year longitudinal study, it was found that secondary school leavers' suicide ideation was significantly related to their high external locus of control assessed 8 years previously. This finding suggests there may be a long-term effect of locus of control on suicidal behavior. However, Spirito, Overholser and Hart (1991) compared adolescent suicide attempters and psychiatrically hospitalized adolescent controls and did not find similar results.

Hopelessness has also been related to individuals' suicidal behavior. For example, higher level of hopelessness has been found among suicidal college students (Strang & Orlofsky, 1990) and suicidal psychiatric inpatients (Ellis & Ratliff, 1986) when compared with their non-suicidal counterparts. Also, Wetzel & Reich (1989) found that hospitalized depressed patients' hopelessness contributed to suicide ideation significantly. Similarly, Petrie et al. (1988) in a study of hospitalized suicide attempters found that hopelessness served as a
short-term predictor of future suicidal behavior. In addition, longitudinal effects of hopelessness on suicidal behavior have also been suggested. For example, early level of hopelessness has been related to later suicidal behavior. In their 8-year longitudinal study, Goldney et al. (1991) found that secondary school leavers' suicide ideation was significantly related to their hopelessness scores obtained 4 years ago. Also, level of hopelessness has been found predictive of eventual suicides. In their 10-year study of suicidal inpatients (Beck, Steer, Kovacs, & Garrison, 1985) and 7-year study of suicidal outpatients (Beck, Brown, Berchick, Stewart, & Steer, 1990), Beck and his colleagues found that about 90% of the subjects who eventually committed suicide (10 of 11 and 16 of 17, respectively) scored 9 or more on the Beck Hopelessness Scale (Beck, Weissman, Lester, and Trexler, 1974).

However, the role of hopelessness in suicide seems to be less consistent in adolescent studies. As reviewed by Brent, Kolko, Allan and Brown (1990), where adolescent suicide ideation is concerned, several studies found correlations between hopelessness and suicide ideation (Brent, Perper, Goldstein, Kolko, Allen, Allman & Zelenak, 1988; Ryan, Puig-Antich, Ambrosini, Rabinovich, Robinson, Nelson, Iyengar, & Twomey, 1987) while several others failed to find such relationship (Brent et al., 1990; Cole, 1989). The inconsistent findings in adolescent samples may be understood in that hopelessness may not be as important in adolescent suicide as it is in adult suicide.
Another possibility is that certain methodological issues, such as measures of hopelessness, need to be resolved. In addition, suicide severity of these two samples may be different, since adults may experience more severe suicidal ideation and behavior.

Extant literature has also suggested that problem-solving deficits and suicidal behavior are related. Researchers have identified problem solving skills as an important variable in relation to adults' suicidal behavior (Bonner & Rich, 1987; Rich & Bonner, 1987; Schotte & Clum, 1982, 1987). For example, levels of suicide ideation were found related to individuals' lower problem-solving appraisal (Bonner & Rich, 1987; Rich & Bonner, 1987). Also, suicidal individuals usually generate fewer alternative solutions and more predicted negative consequences of the solutions than non-suicidal college student controls (Schotte & Clum, 1982) and non-suicidal psychiatric controls (Schotte & Clum, 1987). In addition, Orbach, Bar-Joseph & Dror (1990) found that, when compared with non-suicidal psychiatric controls, suicidal individuals tend to generate problem-solving solutions with less versatility, more avoidance, less relevance, more negative affect, and less reference to the future.

Among the child and adolescent populations, research has also indicated that poor problem-solving skills are related to suicidal behavior. For example, Orbach, Rosenheim and Hary (1987) found that, among suicidal, chronically ill, and normal children, suicidal children
generated significantly fewer problem-solving alternatives. Similar findings have been obtained by other researchers (Asarnow et al., 1987; Levenson & Neuringer, 1971; Rotheram-Borus, Trautman, Dopkins & Shroot, 1990). Moreover, social problem-solving skills have also been related to adolescents' suicidal behavior (Sadowski & Kelley, 1993). It was found that, when compared with non-suicidal psychiatric and normal controls, adolescent suicide attempters exhibited more social problem-solving deficits, especially in problem orientation. Finally, research has also suggested certain long-term effects of problem-solving skills on suicidal behavior. For example, Priester and Clum (1993) found that problem-solving deficits assessed prior to stressful events could predict individual's suicidal reaction to stress.

Empirical findings thus far seem to support the contention that cognitive functioning is related to individuals' suicidal behavior. Both short-term and long-term effects have been indicated in the extant literature. However, seldom has more than one cognitive deficit been studied simultaneously in relation to suicide. Hence, it is unknown whether there is an additive effect of various cognitive deficits. In addition, integration of the relationships among early negative life events, cognitive deficits, and suicidal behavior is needed.

A Proposed Model
In the area of suicide, there had been no study comprehensively examining the relationships among these sets of variables. In fact, only two studies (Asarnow et al., 1987; Dukes & Lorch, 1989) have dealt with some of the aforementioned early negative life events and cognitive functioning in relation to suicidal behavior simultaneously. Yet, no sequential connections or cognitive mediating effects were hypothesized and tested in these two studies.

In order to develop a comprehensive understanding about the etiology of suicidal behavior, a unifying model of early negative life events and cognitive deficits in relation to risk for suicide was proposed and tested in the present study. The model can be described as a three-component sequential equation, combined with early and current social support and current life stress.

First, early negative life events, including child maltreatment, family instability, and poor general family environment were hypothesized to result in cognitive deficits. Such cognitive deficits include low self-esteem, external locus of control, poor problem-solving appraisals/skills, and hopelessness. Second, these cognitive deficits were hypothesized to render individuals cognitively vulnerable which in turn lead to suicidal behavior. Third, early negative life events may indirectly impact suicidal behavior through this cognitive pathway (Figure 1). That is, early negative life events may directly result in cognitive deficits which in turn lead to suicidal behavior. Finally,
cumulative effects of these causal relationships were hypothesized, including the effects of early negative life events on cognitive functioning, the effects of cognitive dysfunction on suicidal behavior, and the effects of early negative life events on suicidal behavior.

In summary, prior research has suggested connections between early negative life events and cognitive functioning, early negative life events and suicidality, and cognitive functioning and suicidality. Unknown at this point are the connections among these three sets of variables and the extent to which they contribute independently to suicidality.

Beyond early negative life events and cognitive functioning, research has suggested that current life stress is related to individuals' suicidal behavior. Early researchers have found that suicide attempters report four times as many negative life events in the six months preceding their attempts as do nonsuicidal individuals (Paykel, Prusoff, & Myers, 1975), a finding that has been reported in other studies as well (Bonner & Rich 1987, 1988a, 1988b; Clum, Patsickas & Luscomb, 1979; Dubow et al., 1989; Rich & Bonner, 1987; Rudd, 1990; Schotte & Clum, 1982, 1987). Also, life stress has been related to certain cognitive functioning in relation to suicidal behavior. For example, interactional effects between life stress and problem-solving skills have been found in predicting suicide ideation (Yang & Clum, 1994).
The relationship between lack of social support and suicidal behavior is also well documented in the literature. A variety of studies have found a link between a lack of social support and suicidal behavior (Bonner & Rich, 1987, 1988a, 1988b; Dubow et al., 1989; Rich & Bonner, 1987; Rudd, 1990; Trout, 1980). A lack of social support may also relate to suicide ideation indirectly. For example, Researchers have found that life stress may interact with a lack of social support in predicting suicide ideation (Braucht, 1979; Yang & Clum, 1994). Because of the important roles life stress and social support play in relation to suicidal behavior, a model which included these variables was also examined (Figure 2).

**General Hypotheses**

Given the major hypothesis of the present study that early events impact suicidal behavior through their influences on cognitive functioning, it was hypothesized that: 1) the relationships between early negative life events and cognitive deficits will be direct; 2) the relationships between cognitive deficits and suicidal behavior will also be direct; and 3) the relationships between early events and suicidal behavior will be indirect.
Method

Subjects:

A total of 194 college students participated in the present study with 181 completing all assessment measures. All data analyses were conducted based on these 181 subjects. These 181 subjects included 51 suicidal, 60 depressed, and 70 normal-control individuals. Suicidal subjects were defined as individuals who scored 9 or greater on the Modified Scale for Suicide Ideation (Miller, Norman, Bishop, & Dow, 1986). Non-suicidal depressed subjects were defined as individuals who scored below 9 on the Modified Scale for Suicide Ideation and who scored 11 or greater on the Beck Depression Inventory (Beck & Beamesderfer, 1974). Normal controls were defined as individuals who scored below 9 on the Modified scale for Suicide Ideation and who scored below 11 on the Beck Depression Inventory.

The mean age of the total sample was 19.17 years (SD 2.17). The average number of years of education was 13.92 (SD 1.10). There were 54 (30%) males and 127 (70%) females. One hundred and fifty subjects (82.9%) were Caucasian, 16 (8.8%) Asian, 12 (6.6%) African American, 1 (0.6%) Hispanic, and 2 (1.1%) from mixed ethnic background. More detailed descriptions about the total sample and each group can be found in Table 1.

Measures
A. Predictor Measures

Child Maltreatment Survey (CMS): This scale was developed for this study and it covers all three areas of child maltreatment: physical maltreatment, sexual maltreatment and child neglect (see Appendix C). Some items were modified from the Family Experiences Interview (FEI; Ogata, 1988); others, especially on sexual abuse, were modified from the Family Experiences Survey (FFS; Finkelhor, 1979). The scale requires subjects to report their maltreatment experiences across three age ranges: 0-6, 7-12, and 13-18 years of age.

Physical maltreatment was defined as "being hit really hard, kicked, punched, stabbed, thrown down, etc., which produced physical marks, bruises, breaks in the skin, or injury that warranted medical treatment regardless of whether treatment was received." Subjects were asked to report incidents in which they were either the direct victims of parental physical abuse or indirect victims (observing parents abusing siblings). Frequency of physical violence was calculated based on the following scale: "Never"=0; "Once"=1; "Twice"=2; "Three to five times"=3; "Six to ten times"=4; "Eleven to twenty times"=5; and "More than 20 times"=6. Three different scores were calculated, indicating the frequency of being the direct victim, indirect victim, or both the direct and indirect victim.

Sexual abuse was considered to have taken place if 1) the perpetrator was at least 5 years older than the victim when the sexual
event occurred before the victim reached age 13; or 2) the perpetrator was at least 6 years older than the victim when the sexual event occurred after the victim reached age 13. The frequency was then calculated based on the following scale: "Never"=0; "Once"=1; "Twice"=2; "Three to five times"=3; "Six to ten times"=4; "Eleven to twenty times"=5; and "More than 20 times"=6. Moreover, the nature of sexual experiences was conceptually ranked based on severity: "Level 1"—kissing and hugging in a sexual way; "Level 2"—fondling in a sexual way; "Level 3"—touching sex organs in a sexual way; "Level 4"—being penetrated in ways other than intercourse; and "Level 5"—having sexual intercourse. The score on this measure was the product of each level (1 to 5) by the frequency with which the event occurred.

Child neglect assessed whether parents failed to provide the subjects the following: a) enough clothing, b) food, c) place to live, d) care about being properly groomed, e) emotional comfort, and f) other. The summation of all events ("Yes"=1 and "No"=0) was calculated as the index of child neglect.

Since the assessments of physical abuse, sexual abuse, and child neglect were based on subjects' numerical responses, no reliability was calculated for this measure.

**Family Instability Survey (FIS):** This scale was generated for this study (see Appendix D). Items were modified from the Family Experiences Interview (FEI; Ogata, 1988). This scale has 9 items including the
following family instability indicators: 1) parental separation (up to 3 times); 2) parental divorce (up to 3 times); 3) death of biological mother; 4) death of step-mother; 5) death of biological father; 6) death of step-father; 7) frequent absence of mother (more than a month each time; up to 3 times); 8) frequent absence of father (more than a month each time; up to 3 times); and 9) being separated from parents (more than a month each time; for reasons like staying in the hospital, detention home, foster home, etc.; up to 3 times). For items assessing parental separation (item 1) and divorce (item 2), and separation from parents (items 7, 8 and 9), "Never" was coded as "0," "Once" coded "1," and "More than once" coded "2." For items assessing parental death (items 3, 4, 5, and 6), "No" was coded as "0," and "Yes" as "1."

Therefore, scores in 4 different aspects were calculated as the index of family instability: parental separation (0, 1, or 2), parental divorce (0, 1, or 2), parental death (total score on items 3, 4, 5, and 6), and separation from parents (total score on items 7, 8, and 9).

Since the assessment of family instability was based on subjects' numerical responses, no reliability was calculated for this measure.

Family Environment Survey-Short Form (FES-Short Form): This is a 45-item measure of general family environment (Moos, 1974; see Appendix E). The full scale has 90 items. Respondents are required to choose either "Yes" or "No" to these 45 descriptions of their families. According to Moos and Moos (1986), the measure has satisfactory test-
retest reliability with 8-week interval ranges from .68 to .86 for its ten subscales; and internal consistency estimates range from .61 to .78 for its ten subscales. A factor analysis was conducted by Fowler (1981) showing that the FES had three factors (dimensions): relationship, personal growth, and system maintenance dimensions. This short form contains items assessing the relationship factor, which contains 3 subscales: cohesion, conflict, and expression, and the system maintenance factor, which contains 2 subscales: organization and control. The higher the scores, the higher the levels of family cohesion, conflict, expression, organization, and control, respectively.

UCLA Loneliness Scale (UCLA): This scale was designed by Russell, Peplau, and Ferguson (1978) assessing social support network and degree of social integration. It is comprised of 20 statements, which the individual rates from "1" (never) to "4" (often) according to how often the individual 'feels the way described in each statement' (see Appendix F). Estimates of the internal consistency range from 0.91 to 0.94. Concurrent validity has been established by showing that lonely people report emotions theoretically tied to loneliness (i.e., depression, emptiness, hopelessness, and isolation), whereas emotions such as embarrassment, surprise, and creativity are not correlated to loneliness. Discriminant validity has shown that the scale is not confounded by social desirability (r = -0.203), but is related to affiliative motivation, social risk taking, and negative affect.
Subjects in the present study were asked to complete this scale twice: based on their experiences "before age 18" (early social support) and their "current" experiences (current social support). Higher scores reflect higher level of loneliness.

**Life Experiences Survey (LES):** This is a 57-item self-report measure of life stress that allows the respondent to indicate the occurrence of any of 57 experiences and three subject-specific experiences in the past 6 months or 1 year (Sarason, Johnson, & Siegel, 1978; see Appendix G). Respondents are also instructed to rate the desirability and impact of each of these events on a 7-point anchored scale ranging from -3 to 3. Summary scores can be computed for negative, positive, and total life change for the previous 6 months or 1 year. This scale has moderate test-retest reliability (.63, .64) over 5- and 6-week test-retest intervals, and negative life change scores have been found to correlate in the expected direction with a large number of variables (e.g., anxiety, academic achievement, social desirability, personal maladjustment, depression, locus of control, and patient status; Sarason et al., 1978). In the present study, subjects' report of negative impact from life change was used as their scores for the LES. The more negative the scores, the higher the level of life stress.

B. Mediating Cognitive Variables
Self-Esteem Inventory-Adult Form (SEI): This is a 25-item scale requesting subjects respond to the questions by indicating items are either "Like me" or "Unlike me" (Coopersmith, 1967; see Appendix H). Coopersmith (1981) reported internal consistency estimates from .78 to .85, depending on gender and sample. Higher scores reflect higher levels of self-esteem.

Rotter's Locus of Control Scale (LOC): This is a 29-item forced-choice scale which includes 6 filler items (Rotter, 1966; see Appendix I). The range of possible scores is from 0 to 23. The lower the score, the more internal control is thought to exist. The internal consistency estimates range from .69 to .79 (Rotter, 1966).

Beck Hopelessness Scale (BHS): This 20-item, true-false scale was designed by Beck, Weissman, Lester, and Trexler (1974) as a measure of the degree to which an individual's cognitive schemata are dominated by negative expectations toward the future (see Appendix J). One half of the items are reverse scored, and total scores can range from 0 to 20; higher scores indicate increasing levels of hopelessness. Beck et al. (1974) demonstrated high internal consistency (KR-20 = .93) and relatively high levels of concurrent and construct validity for this scale.

Problem Solving Inventory (PSI): This is a 35-item measure of problem-solving that assesses individuals' perception of their general problem solving ability (Heppner, 1986; see Appendix K). The items are
rated on a 6-point scale ranging from "strongly agree" (1) to "strongly disagree" (6) by the respondent. The total scale consists of three factor-based subscales: Problem-Solving Confidence, Approach-Avoidance Style, and Personal Control. Internal consistency (KR-20) was found to be .90 for the total scale and the test-retest reliability estimate was found to be .89 (Heppner & Petersen, 1982). High concurrent validity with other problem-solving measures and high divergent validity with measures of intelligence and social desirability have also been found (Heppner & Petersen, 1982). Higher scores on this measure and subscales represent more severe deficits in problem-solving appraisal.

**Modified Means-End Problem-Solving Procedure (MMEPS):** This scale was designed by Schotte and Clum (1987; see Appendix L) based on the Means-End Problem-Solving Procedure (MEPS; Platt, Spivack & Bloom, 1971). The MEPS scale, developed by Platt et al. (1971), provides the respondent with 10 situations for which he or she is presented with a stated need and a desired outcome. The respondent is instructed to provide the middle portion of the story in which the protagonist is to achieve the stated goal. Studies conducted with the MEPS support the construct, discriminant, content, predictive, and concurrent validity of this measure (Platt, Scura & Hannon, 1973; Platt & Siegel, 1975; Platt & Spivack, 1972, 1973). This inventory has also been shown to have satisfactory levels of test-retest reliability for 2 1/2 weeks (.59), 5 weeks (.64), and 8 months (.43), and high levels of internal consistency.
(KR-20 = .80 to .82; odd-even = .82 to .84). The MMEPS scale, developed by Schotte and Clum (1987), is a variant of the MEPS procedure, and allows for closer scrutiny of the problem-solving process. Schotte and Clum (1987) report that scores on their version of the modified MEPS were found to correlate significantly with scores on the original MEPS.

The administration of the MMEPS in the present study required subjects to: 1) identify as many as ten of their life problems; 2) choose as many as two interpersonal problems from this list; 3) define their desired goals for these two problems; 4) identify as many as 6 different alternative solutions for each problem; 5) indicate their confidence on how likely each alternative would solve the problem, on a 0-10-point scale; and 6) identify as many as 4 pros and 4 cons for each alternative. Scoring for this scale involves totaling numbers of 1) alternatives for self-identified life problems, 2) relevant alternatives, 3) irrelevant alternatives, 4) pros, 5) cons, and 6) confidence levels for both situations combined. In a previous study (Yang & Clum, 1994), the inter-rater reliability estimates were obtained on the MMEPS that required a subjective judgment and ranged from .52 to .95 (N=19): for total number of alternatives $r = .91$ ($p < .0001$), relevant alternatives $r = .91$ ($p < .0001$), irrelevant alternatives $r = .52$ ($p < .05$), pros $r = .94$ ($p < .0001$), and cons $r = .95$ ($p < .0001$).

C. Dependent Variables
Beck Depression Inventory (BDI): This 21-item scale measures cognitive, somatic, and behavioral dimensions of depression (Beck & Beamesderfer, 1974; see Appendix M). Each item is scored on a 4-point scale with higher scores indicating higher levels of depression. The range of total scores is 0 to 63. Good internal consistency (alpha = .86) and good construct validity within a university population have been established (Oliver & Burkham, 1979).

Scale for Suicidal Behavior (SSB): This 19-item scale was generated for this study in order to assess individuals' suicidal behaviors during the past month (see Appendix N). It includes four areas: 1) non-direct behavioral preparation of suicide attempts; 2) direct behavioral preparation of suicide attempts; 3) behavioral effort of avoiding communication with others about suicide ideation; and 4) lethality of suicide attempts. Psychometric properties such as internal consistency and factor structure were examined in the present study.

Modified Scale for Suicide Ideation (MSSI): This 18-item instrument (see Appendix O) was modified from the Beck, Kovacs, and Weissman (1979) inventory (SSI), for use as a self-report instrument to assess the extent of suicidal ideation and intent (Miller et al., 1986). It has 13 items from the original SSI, and 5 new items. Based on Miller et al.'s (1986) report, the items on the MSSI showed a high level of internal consistency (KR-20=.94). Item-total correlations ranged from .41 to .83. Regarding validity, Clum and Yang (1995) reported that the
MSS1 total scores correlated significantly with the original SS1 
(r=.74).

Procedure:

Mass mailing was employed to advertise the study, which invited individuals who were experiencing depressive symptoms and/or suicide ideation to participate in an assessment research project (see Appendix Q). The advertisement was sent to more than 10,000 students twice between the months of August and November of 1994. An amount of $10.00 was offered for participation. In addition, in order to obtain a non-depressed and non-suicidal subsample, students in Psychology courses were invited to participate in the study with an offer of extra credit hours for their psychology courses (instead of $10.00), regardless of they experiences in depression and suicidality. In both advertisements, potential subjects were also informed that they would receive partial feedback about the assessment.

The assessment took approximately two hours. Each subject was assigned a number which appeared on the consent form and the assessment packet. The assessment packet did not have any other identifying information. A written consent form (Appendix A) was given to the subjects. After the consent forms were signed, a packet of testing materials including a demographic information sheet (Appendix B) was given to subjects.
Because the present study assessed some very personal experiences, strategies were employed to increase the accuracy of the assessment. Subjects were told that, after the consent form was signed, it would be detached from the assessment packet and kept separately from the assessment packets to further ensure confidentiality. Further, the assessment was conducted in a small-group format (five people or fewer per group) in order for subjects to have sufficient opportunities to ask any questions concerning the assessment. Testing materials were arranged so that subjects would complete the more complex and/or more emotion-provoking questionnaires first. The order of presentation was as follows: 1) Child Maltreatment Survey; 2) Family Instability Survey; 3) Modified Means-End Problem-Solving Procedure; 4) Beck Depression Inventory; 5) Scale for Suicidal Behavior; 6) Modified Scale for Suicide Ideation; 7) Family Environment Survey; 8) UCLA Loneliness Scale; 9) Life Experiences Survey; 10) Self-Esteem Inventory; 11) Rotter’s Locus of Control Scale; 12) Beck Hopelessness Scale; and 13) Problem-Solving Inventory. Finally, all subjects were informed that this experimenter would briefly go over their answers with them and provide feedback. After each subject finished his/her assessment packet, a brief review of the BDI and MSSI was followed in order to make possible clinical referrals for subjects who fell into the depressed or suicidal groups. If subjects were found depressed (scoring 11 or above on the BDI) or suicidal (scoring 9 or above on the MSSI), they were referred to the
University Counseling Center or other local psychological services facilities.

If subjects became emotionally upset or suicidal while completing the test battery, a procedure was followed to deal with such reactions (see Appendix P).

Given the large number of variables involved in the present study, variables were selected for later discriminant function analysis, MANOVA, ANOVAs, and path analyses, primarily based on theoretical conceptualizations, with the exception of two variables (separation from parents and pros minus cons) that were selected based on their correlations with criterion variables. Early social support (UCLAA), current social support (UCLAB), and current life stress (LES) were also included.

Among early negative life events, the following seven variables were selected: from Family Environment Survey: family cohesion (FC), family conflict (FCON), and family expression (FEX); from the Child Maltreatment Survey, indexes of overall physical abuse (CP; both direct and indirect victim), sexual abuse (CS), and child neglect (CN); and from the Family Instability Survey, separation from parents (SEPP). In order to simplify the test of the comprehensive model as proposed in Figure 2, these 7 early event variables were further standardized into a new variable "Early Life Events" (ELE), after reversing the scores of FC and FEX because of their original positive scoring direction.
Specifically, subjects' scores on these measures were first converted into a new scale with a mean of 100 and the standard deviation of 10. Then a new average score of these standardized scores across all events were obtained by totaling all standardized scores and dividing the sum by 7.

Second, among the cognitive variables, the following five variables were selected for data analyses: from the Problem Solving Inventory, PSI Factor 1 (PSIF1; confidence); from the Self-Esteem Inventory, the total score (SEI); from the Beck Hopelessness Scale, the total score (BHS); from the Rotter's Locus of Control, the total score (LOC); and from the Modified Means-End Problem-Solving Procedure, the difference between the numbers of pros and cons (PC). In order to simplify the test of a more comprehensive model in Figure 2, by taking the same standardizing procedure as described above, these cognitive variables were also further standardized into a new variable "Cognitive Deficits" (Mean=100, SD=10), after reversing the scores of SEI and PC because of their original positive scoring direction.

In all, 15 predictor variables were utilized: 7 representing early negative life events, 1 representing early social support, 5 representing current cognitive deficits, 1 representing current social support, and 1 representing current life stress.

Two criterion variables were selected: 1) suicide ideation from the Modified Scale for Suicide Ideation (MSSI); and 2) suicidal behavior
from the Scale for Suicidal Behavior (SSB). In order to simplify the data analyses, the MSSI and SSE were also further standardized into a new variable "Suicidality" (Mean=100, SD=10), following the same standardizing procedure as described above.
Results

Percentages of subjects from the total sample and each criterion group who reported child maltreatment and family instability are presented in Table 2. As can be seen, there were differences among these three groups on some early stressor items (e.g., physical abuse) but not other stressor items (e.g., parental divorce). More detailed group comparisons are reported later in the MANOVA and ANOVAs section.

Internal Consistency Estimates of Measures

Internal consistency estimates (Cronbach alphas) were computed for all measures and are presented in Table 3. As can be seen, alphas for all criterion variables (BDI, SSB, & MSSI) and most cognitive measures (SEI, BHS, & PSI) were .86 or above. However, alpha for one cognitive measure (LOC) was moderate (.62). The alpha for the 45-item early family environment measure (FES) was .53. This may reflect the heterogenous nature of the subscale structure of the measure. However, alphas for the three subscales of the relationship factor (cohesion, conflict, and expression) were .68 or above. Only these three subscales were used as indices of family environments.

Correlation Matrix

The correlations among all predictor and criterion variables are presented in Table 4. As can be seen, the majority of these
correlations are significant at the .05 significance level. Beyond the
correlations between "Numbers of Pros minus Cons (PC)" and other
variables, the only additional non-significant correlations include the
ones 1) between "Child Physical Abuse (CP)" and "Family Expression
(FEX);" 2) between "Child Sexual Abuse (CS)" and "FEX," "Family Cohesion
(PC)," "Separation from Parents (SEPP)," and "Early Social Support
(UCLAA);" and 3) between "Current Life Stress (LES)" and "Locus of
Control (LOC)." In addition, all predictor variables significantly
correlate with the scores of "Suicide Ideation (MSSI)".

**Discriminative Function Analysis**

To determine the validity of classifying all subjects into three
groups (normal, depressed, and suicidal) using the predictor variables,
a discriminative function analysis was conducted. The following
variables were used in the analysis: 3 child maltreatment variables
(physical and sexual abuse, & child neglect in the CMS), 3 family
environment variables (cohesion, conflict, and expression in the FES), 1
family instability variable (separation from parents in the FIS), 5
cognitive variables (self-esteem, locus of control, hopelessness,
problem-solving confidence, and difference in numbers of pros and cons
generated in the MEPS), early and current social support and current
life stress. As can be seen in the classification table (Table 5),
78.6% of the "normal," 60.0% of the "depressed," and 70.6% of the
"suicidal" subjects were correctly classified into the respective
groups.

**MANOVA and ANOVAs**

A MANOVA was conducted and an overall group effect among the above
15 variables was found. The Wilks' Lambda value was found to be 0.38,
with F=6.88 (30/328), p<.0001. Following the significant MANOVA,
individual ANOVAs were conducted among these 3 criterion groups for each
predictor variable. Table 6 shows the ANOVAs of group differences on
each of these 15 variables. As can be seen, there were significant
group differences on 13 of the 15 variables. On 9 of the 15 variables
there was a clear pattern of significant differences among all 3
criterion groups with suicidal individuals having more stress or
cognitive deficits or lower social support than individuals in the
depressed group who in turn scored more negatively on the predictor
variables than individuals in normal control group. On one predictor
variable--separation from parents, individuals in both the suicidal and
depressed groups had more severe levels of stress than individuals in
the normal control group. On the remaining 3 variables individuals in
the suicidal group had more severe levels on the stress and cognitive
variables than individuals in either the depressed or normal control
groups.
Structural Equation Analyses

In order to examine the links among early negative life events, current cognitive functioning, and suicidal behavior, a series of "analyses of moment structures" were conducted using a software program (AMOS; Arbuckle, 1992) that examines structural relations among variables based on inter-correlations and covariance structures among these variables. In several analyses, only early stressors and current cognitive functioning were used as predictor variables. In others, early social support, current social support and life stress were also included. In Figures 3-12, numbers next to straight lines between variables are regression beta weights and numbers above variable boxes are the proportion of variance of the model accounted for by that variable. All subjects were included in these analyses. Moreover, the primary criterion variable was subjects' scores on suicide ideation unless specified otherwise (e.g., suicidal behavior or suicidality).

The predictive relationships between early negative life events, cognitive deficits, and suicidal behavior is outlined in Figure 1. Figure 2 indicates the hypothesized relationships between these variables, with social support and current life stress included. Figure 3 shows the results of an analysis of the links between early negative life events and overall cognitive deficits. As can be seen, different events have different levels of impact on cognitive deficits. For example, family environment (as assessed by cohesion, conflict, and
expression) has a stronger impact on later cognitive deficits, when compared to the impact of child abuse (as assessed by physical abuse, sexual abuse, and child neglect) and separation from parents. These early events together accounted for 35.9% of the variance of later cognitive deficits.

Figure 4 shows the results of an analysis of the links between early negative life events and suicide ideation. As can be seen, different events have different levels of direct impact on suicide ideation, with family cohesion, neglect, and separation having the only clear direct relationships to suicide ideation. These early events together accounted for 21.9% of the variance of later suicide ideation.

Figure 5 shows the result of an analysis of the links between current cognitive deficits and current suicide ideation. As can be seen, different cognitive deficits have different levels of impact on suicide ideation, with hopelessness and self-esteem having the strongest relationships and problem-solving deficits a lesser relationship. These cognitive deficits together accounted for 49.2% of the variance of suicide ideation.

Results of the structural equation containing early events, current cognitive functioning, and suicide ideation can be found in Figure 6. As can be seen, the link between early negative life events and later suicide ideation was much weaker than the links between these events and cognitive deficits, and between cognitive deficits and
suicide ideation. The direct link between early events and suicide ideation and the indirect link (through cognitive deficits) together accounted for 43.5% of the variance of suicide ideation. In order to further verify the cognitive pathway tested in Figure 6, two additional analyses were conducted. First, a sub-model of the one in Figure 6 without the direct link between early events and suicide ideation (Figure 7) was tested. This model alone accounted for 42.5% of the variance of suicide ideation. Second, when another sub-model (without the cognitive pathway; see Figure 9) was tested, the direct link only accounted for 20.1% of the variance of suicide ideation. Bentler-Bonett's "normed fit index" (NFI; Bentler & Bonett, 1980) was computed to represent the "goodness of fit" of this model. Since the chi-square of this model was 0.00 which was identical to the perfect fitting saturated model, the NFI was 100.

To test the more comprehensive model as proposed in Figure 2, early social support, current social support and life stress were added to the model presented in Figure 6 (see Figure 9). The comprehensive model accounted for 47.3% of the variance of suicide ideation. Several findings are: 1) while the early events-cognitive pathway still holds in the comprehensive model, the direct impact of early negative life events on suicide ideation disappears (beta weight .00) after indirect links of these early events through cognitive deficits, current social support and life stress were included. Similarly the direct link between
current life stress and suicide ideation was also very mild (beta weight -.082); 2) although early events have an impact on current cognitive deficits (beta weight .30), current life stress did not have such an impact (beta weight -.07); 3) the links between early social support and variables such as early events, current cognitive deficits, and current social support are strong, while early social support has a mild direct impact on later suicide ideation. The goodness of fit is .95 for this comprehensive model. Bentler-Bonett's NFI (Bentler & Bonett, 1980) was also computed to represent the "goodness of fit" of this model. Since the chisquare of this model was 26.525 and the chisquare for the independence model was 489.785, the NFI was 95.

Since subjects in the present study also reported their lifetime suicidal behavior, another comprehensive model was tested replacing suicide ideation with suicidal behavior (Figure 10). The amount of variance in suicidal behavior accounted for by the model was less than that for suicide ideation, mostly owing to drops in the impact of current cognitive deficits and social support. However, the direct impact of early negative life events was stronger for suicidal behavior than for suicide ideation. Considering that the suicidal behavior measure is a measure of lifetime suicidality, such differences appear reasonable.

A final comprehensive model was tested combining both current suicide ideation and lifetime suicidal behavior (Figure 11). As could
be expected, the strength and direction of the relationships among variables were between those for the models developed for suicide ideation and suicidal behavior respectively.

Given the fact that hopelessness has been found to be consistently related to suicide ideation in previous studies, one additional analysis was conducted to examine the relative contributions of specific cognitive deficits to suicide ideation (Figure 12). This model examined the links among early events, early social support, specific cognitive deficits, and suicidality. As can be seen, although hopelessness seemed to have meaningful links with other variables, it was not the only cognitive deficit that had such a pattern. Self-esteem and problem-solving confidence also had meaningful links with early negative life events, early social support, and suicide ideation.
Discussion

The present study was designed to examine the etiology of suicidal behavior from cognitive and developmental perspectives. It was hypothesized that early negative life events may impact individuals' suicidal behavior by affecting cognitive functioning. The findings from the present study have supported this hypothesis. Specifically, when child maltreatment, family instability, and poor general family environment were examined as early negative life events, and self-esteem, locus of control, hopelessness, and problem-solving deficits were examined as cognitive deficits, a clear cognitive pathway was identified in the relationship between early negative life stress and later suicide ideation. Based on a series of structural equation analyses, the impact of early negative life events on suicidal behavior was much stronger via their impact on cognitive functioning than via their direct impact on suicidal behavior.

Among the early negative life events, family environment variables had a stronger impact on later cognitive deficits and suicide ideation, than did child abuse and separation from parents. It strongly indicates the importance of family environment in individuals' later suicidal behavior.

When individuals' perceived early social support, current social support, and current life stress were included in order to examine their relative impact on suicidality, several interesting findings emerged.
First, the direct impact of early negative life events on suicide ideation disappeared after indirect links were made through cognitive deficits, current social support and life stress. Also, the direct link between current life stress and suicide ideation was low. These findings lead to a conclusion that life stress (early or current) does not lead to suicide ideation directly. Rather, it impacts suicide ideation through its impact on other variables first. In one previous study utilizing path analysis, a similar finding was obtained regarding the link between current life stress and suicide ideation (Yang & Clum, 1994).

Second, when comparing the impact of early events and current life stress on cognitive deficits, it can be seen that, although early events impacted on current cognitive deficits, current life stress did not have such an impact. When using path analysis to examine the direct impact of current life stress on cognitive factors (e.g., problem-solving confidence) in earlier research (Yang & Clum, 1994), similar non-significant links between life stress and cognitive factors were found. Moreover, the fact that early negative life events impacted cognitive deficits in the present study fits the developmental perspective of our hypothesis. That is, the impact of life stress is likely to be a long-term one, at least it is likely to be the case for early life stress. Even though one may not find any concurrent causal relationships between life stress and cognitive functioning, one may trace the current
cognitive deficits back to early life stress.

Third, the links between early social support and variables such as early negative life events, current cognitive deficits, and current social support were strong, even though early social support had only a mild direct impact on later suicide ideation. Such findings strongly indicate the importance of early social support to an overall model of the etiology of suicide ideation (Bonner & Rich, 1987, 1988a, 1988b; Braucht, 1979; Dubow et al., 1989; Rich & Bonner, 1987; Rudd, 1990; Yang & Clum, 1994). Based on the comprehensive etiological model, early social support impacts later suicidal behavior in several ways: 1) since it reflects social support subjects received from intra- and extra-family environments, early social support may decrease the impact of early stressors by providing individuals an alternative supportive environment to their family of origin; 2) similarly, early social support may increase the likelihood individuals will develop effective cognitive skills by providing individuals protection and comfort which may in turn lead to effective cognitive functioning; 3) it may increase the likelihood of later social support by increasing trust in relationships in general and by fostering the early development of skilled interpersonal behavior.

In addition, results from the present study indicate that hopelessness is an important cognitive functioning variable in relation to suicide ideation (Figure 12). In their previous studies, Schotte and
Clum (1982, 1987) have conceptualized hopelessness as a state variable resulting from the interaction of life stress and problem-solving deficits which in turn leads to suicidal behavior. In the present study, however, hopelessness was conceptualized as a cognitive variable whose impact on suicidal behavior paralleled other cognitive factors. Such a conceptual shift might have contributed to the finding that problem-solving deficits, especially number of alternatives, were unrelated to suicide measures. In addition, the strong link between early negative life events and hopelessness further indicates that individuals' hopelessness may well be a result of early childhood experiences. Therefore, hopelessness may be considered a cognitive trait variable instead of a state variable in relation to suicide ideation/behavior. Such a notion has some supportive empirical evidence. For example, In their 8-year longitudinal study, Goldney et al. (1991) found that secondary school leavers' suicide ideation was significantly related to their hopelessness scores obtained 4 years ago. Also, in their 10-year study of suicidal inpatients (Beck et al., 1985) and 7-year study of suicidal outpatients (Beck et al., 1990), Beck and his colleagues found that about 90% of the subjects who eventually committed suicide (10 of 11 and 16 of 17, respectively) scored 9 or more on the Beck Hopelessness Scale (Beck et al., 1974). Moreover, based on their mathematical analysis, Clark, Gibbons, Fawcett, and Schefitner (1989) also found that repeated suicide attempts could be better
explained by a trait mechanism as opposed to a state mechanism.

Finally, results from the present study also indicate that the variables selected to represent early negative life events, cognitive deficits, early and current social support, and current life stress differentiated suicidal, depressed, and normal control group subjects. These findings indicate that many of the 15 classifying variables exist at quantitatively more severe levels in suicidal individuals in comparison to both depressed and "normally" functioning individuals.

The significance of the present study is threefold. First, it is clear that adult suicidal behavior has its roots in childhood events. However, if one simply examines the direct links between early negative life events and later suicidal behavior, one may or may not identify such roots because, as the present study suggests, these direct links are likely to be mild. The lack of strong direct links between childhood stressors and adult suicidal behavior may explain some research findings indicating no (direct) relationships between early negative life events and suicidal behavior (Gilliland, 1990; Kosky, Silburn & Zubrick, 1986; Pfeffer, Conte, Plutchik, & Jerrett, 1979; Pfeffer, Solomon, Plutchik, Mizruchi & Weiner, 1982). Therefore, the role of early negative life events in later suicidal behavior should also be examined in relation to how these events impact other variables (such as cognitive functioning) which in turn impact suicidal behavior. Second, the results of the present study have provided an etiological
understanding of suicide ideation. As was seen, the amount of variance in suicide ideation accounted for by the comprehensive model (47.3\%; Figure 9) is actually slightly less than that provided by cognitive deficit variables considered alone (49.2\%; Figure 5). One may conclude that the comprehensive model does not improve prediction of suicidal behavior beyond that provided by cognitive predictors alone. However, the comprehensive model does provide certain explanations for the origin of these cognitive deficits. Therefore, beyond knowing the strong link between cognitive functioning and suicide ideation, we now have a developmental understanding of how these deficits are formed. Third, the results of the present study have shown the important roles of early and current social support in relation to other variables in the etiological models. Such findings not only add to our knowledge of the etiology of suicidal behavior, but also provide implications for treatment. For example, when trying to reduce children and adolescents' risk for suicide, in addition to dealing with the occurrence of negative life events, mental health professionals may also need to explore the positive social support network for these children and adolescents.

Several caveats should be considered in the interpretations of the findings. Given the fact that the present study was not a longitudinal design in nature, causal conclusions must be drawn with caution. Moreover, all data were obtained based on subjects' self-report without cross-informant validity checks. In addition, the variables examined in
the etiological model were first selected based on existing research findings. Without question, there may be other early negative life events and cognitive factors that are also related to the etiology of suicidality. Future research should attempt to explore such events and factors and also further examine the mechanisms of certain key components in the model (such as family environment, self-esteem, and social support).
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Rubenstein, J.L., Heeren, T., Housman, D., Rubin, C., & Stecher, G.
(1989). Suicidal behavior in "normal" adolescents: Risk and


Table 1. Demographic information and levels of depression and suicide ideation (standard deviation in parentheses) for total sample and each group.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Normal</th>
<th>Depressed</th>
<th>Suicidal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>70</td>
<td>60</td>
<td>51</td>
<td>181</td>
</tr>
<tr>
<td>BDI</td>
<td>6.1(2.8)</td>
<td>16.8(5.6)</td>
<td>26.5(8.8)</td>
<td>15.4(10.2)</td>
</tr>
<tr>
<td>MSSI</td>
<td>1.0(1.7)</td>
<td>2.4(2.1)</td>
<td>16.4(8.7)</td>
<td>5.8(8.2)</td>
</tr>
<tr>
<td>Age</td>
<td>19.3(1.3)</td>
<td>18.6(1.1)</td>
<td>19.7(3.6)</td>
<td>19.1(2.2)</td>
</tr>
<tr>
<td>Education (years)</td>
<td>14.1(1.1)</td>
<td>13.6(1.0)</td>
<td>14.1(1.2)</td>
<td>13.9(1.1)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>21(30.0%)</td>
<td>12(20.0%)</td>
<td>21(41.2%)</td>
<td>54(29.8%)</td>
</tr>
<tr>
<td>Female</td>
<td>49(70.0%)</td>
<td>48(80.0%)</td>
<td>30(58.8%)</td>
<td>127(70.2%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>65(92.9%)</td>
<td>49(81.7%)</td>
<td>36(70.6%)</td>
<td>150(82.9%)</td>
</tr>
<tr>
<td>Asian</td>
<td>2(2.7%)</td>
<td>6(10.0%)</td>
<td>8(15.7%)</td>
<td>16(8.8%)</td>
</tr>
<tr>
<td>Black</td>
<td>2(2.7%)</td>
<td>5(8.3%)</td>
<td>5(9.8%)</td>
<td>12(6.6%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1(1.4%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>1(0.6%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>2(3.9%)</td>
<td>2(1.1%)</td>
</tr>
</tbody>
</table>

66
Table 2. Percentage of subjects from the total sample and each group who reported child maltreatment and family instability.

<table>
<thead>
<tr>
<th>Event</th>
<th>Total</th>
<th>Normal</th>
<th>Depressed</th>
<th>Suicidal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Abuse</td>
<td>37.6</td>
<td>20.0</td>
<td>41.7</td>
<td>56.9</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>20.4</td>
<td>14.3</td>
<td>25.0</td>
<td>23.5</td>
</tr>
<tr>
<td>Child Neglect</td>
<td>33.7</td>
<td>11.4</td>
<td>38.3</td>
<td>58.8</td>
</tr>
<tr>
<td>Parental Separation</td>
<td>28.2</td>
<td>18.6</td>
<td>33.3</td>
<td>35.3</td>
</tr>
<tr>
<td>Parental Divorce</td>
<td>21.0</td>
<td>18.6</td>
<td>23.3</td>
<td>21.6</td>
</tr>
<tr>
<td>Parental Death</td>
<td>3.9</td>
<td>1.4</td>
<td>3.3</td>
<td>7.8</td>
</tr>
<tr>
<td>Separation from Parents</td>
<td>54.1</td>
<td>32.9</td>
<td>60.0</td>
<td>64.7</td>
</tr>
</tbody>
</table>
Table 3. Internal consistency estimates (Cronbach alphas).

<table>
<thead>
<tr>
<th>Measures</th>
<th>Alphas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment Survey</td>
<td>0.53</td>
</tr>
<tr>
<td>Family Cohesion Factor</td>
<td>0.87</td>
</tr>
<tr>
<td>Family Expression Factor</td>
<td>0.68</td>
</tr>
<tr>
<td>Family Conflict Factor</td>
<td>0.80</td>
</tr>
<tr>
<td>UCLA Loneliness Scale (before age 18)</td>
<td>0.95</td>
</tr>
<tr>
<td>UCLA Loneliness Scale (current)</td>
<td>0.95</td>
</tr>
<tr>
<td>Self-Esteem Inventory</td>
<td>0.89</td>
</tr>
<tr>
<td>Rotter's Locus of Control Scale</td>
<td>0.62</td>
</tr>
<tr>
<td>Beck Hopelessness Scale</td>
<td>0.92</td>
</tr>
<tr>
<td>Problem-Solving Inventory</td>
<td>0.91</td>
</tr>
<tr>
<td>PSI Factor 1 (Confidence)</td>
<td>0.91</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>0.91</td>
</tr>
<tr>
<td>Scale for Suicidal Behavior</td>
<td>0.86</td>
</tr>
<tr>
<td>Modified Scale for Suicide Ideation</td>
<td>0.95</td>
</tr>
</tbody>
</table>
Table 5. Discriminative Function Analysis using variables of early negative life events and social support, current cognitive functioning, and current social support and life stress to classify subjects into three groups.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th># of Observations &amp; Percent Classified into Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
</tr>
<tr>
<td>Normal</td>
<td>55 (78.5%)</td>
</tr>
<tr>
<td>Depressed</td>
<td>15 (25.0%)</td>
</tr>
<tr>
<td>Suicidal</td>
<td>1 (2.0%)</td>
</tr>
</tbody>
</table>
Table 6. Analyses of variances (ANOVA) across three groups.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal</th>
<th>Depressed</th>
<th>Suicidal</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Abuse</td>
<td>1.4(4.3)</td>
<td>3.0(7.9)</td>
<td>7.1(12)a</td>
<td>7.2</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>0.8(3.7)</td>
<td>2.2(5.9)</td>
<td>3.3(8.0)</td>
<td>2.6</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Child Neglect</td>
<td>0.2(0.7)</td>
<td>1.0(1.7)</td>
<td>1.6(1.9)c</td>
<td>14.3</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Separation from Parents</td>
<td>0.5(0.9)</td>
<td>1.1(0.9)</td>
<td>1.3(1.2)b</td>
<td>9.6</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Family Cohesion</td>
<td>7.0(2.4)</td>
<td>5.3(3.0)</td>
<td>3.5(2.8)c</td>
<td>24.8</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Family Expression</td>
<td>4.9(2.4)</td>
<td>4.2(2.3)</td>
<td>3.2(1.9)a</td>
<td>9.1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Family Conflict</td>
<td>3.1(2.3)</td>
<td>4.4(2.7)</td>
<td>5.7(2.2)c</td>
<td>16.8</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Early Social Support</td>
<td>35.5(10)</td>
<td>42.1(11)</td>
<td>53.6(12)c</td>
<td>38.2</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>18.5(4.1)</td>
<td>13.1(4.7)</td>
<td>7.5(4.8)c</td>
<td>88.3</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>11.8(4.1)</td>
<td>12.9(3.6)</td>
<td>15.6(3.7)a</td>
<td>10.7</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Problem-Solving Confidence</td>
<td>24.7(6.7)</td>
<td>30.4(8.3)</td>
<td>39.7(10)c</td>
<td>48.5</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>(# of Pros) - (# of Cons)</td>
<td>0.2(0.8)</td>
<td>0.3(0.7)</td>
<td>0.0(0.9)</td>
<td>2.0</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>2.7(2.5)</td>
<td>4.8(4.0)</td>
<td>11.5(5.7)c</td>
<td>71.6</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Current Social Support</td>
<td>35.6(10)</td>
<td>43.1(11)</td>
<td>57.5(11)c</td>
<td>61.8</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Current Life Stress</td>
<td>-7.7(6.9)</td>
<td>-11.3(6.9)</td>
<td>-14.6(11)c</td>
<td>10.6</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Note: a="suicidal" significant different from "normal" and "depressed;"
b="suicidal" and "depressed" significant different from "normal;"
c=significant differences between all 3 groups.
Figure 1: A proposed etiological model of suicidal behavior.

Early Negative Life Events
- Poor Family Environment
- Family Instability
- Child maltreatment

Cognitive Deficits
- Hopelessness
- Poor problem-solving
- External locus of control
- Low self-esteem
Figure 2: A comprehensive model with early social support and current social support and life stress added.
Figure 3. A test of the links between early negative life events and later cognitive deficits.
Figure 6. A test of the links between cognitive deficits and suicide ideation.
Figure 6. A test of the model proposed in Figure 1.
Figure 7. A test of the model proposed in Figure 1 without direct link between early negative life events and later suicide ideation.
Figure 8: A text of the model proposed in Figure 1 without the cognitive pathway.
Figure 9. A test of the model proposed in Figure 2 using suicide ideation as criterion variable.
Figure 10. A test of the model proposed in Figure 2 using suicidal behavior as criterion variable.
Figure 11. A comprehensive model with suicidal ideation as criterion variable.
Figure 12. A test of the comprehensive model with specific cognitive deficits.
Appendix A: Consent Form

The purpose of this study is to investigate individuals' psychological functioning and related early life experiences. It is conducted by Bin Yang, a Clinical Psychology Ph.D. student under the direction of Dr. George A. Clum, Licensed Clinical Psychologist, Department of Psychology, Virginia Polytechnic Institute and State University.

The study I am agreeing to participate in will involve the assessment of my life experiences, the way I see myself and my future, and how I go about solving some interpersonal problems. Also, I understand that I will complete several questionnaires relating to such things as depression, suicide ideation and suicidal behavior. I understand further that I will be asked personal questions about my family life and sexual experiences.

The personal data collected in the study will remain extremely confidential and will not be used for any other purposes other than those described herein. My name will not be attached to the questionnaires and I will be assigned a subject number. If the data is reported for scientific purposes, neither my name nor other identifying data will be included in such a report.

The assessment will take approximately two hours. I can receive the overall findings of this study if I am interested in. In addition, I will be compensated with $10.00 for the completion of the study, or I will receive up to 3 extra credit hours for my psychology course.

During the assessment, if I become upset or suicidal, it is my responsibility to inform the experimenter so that appropriate procedures can be taken. Even if I become upset, I can still continue completing the questionnaires as long as I want to and as long as the experimenter agrees to do so.

I have read the above conditions and I realize I am free to withdraw my consent and discontinue participation in the study at any time without prejudice or penalty. I realize that I do not have to answer any question or any questionnaire that I do not want to.

I hereby agree to voluntarily participate in the research project described above and under the conditions described above.

____________________________   __________   _______________________
Signature                      date                      Phone Number
Name and Mailing Address

Witness date

___Yes, I would like to receive the overall findings of this study.

___No, I don't want the findings.

This project has been approved by the Human Subjects Research Committee and the Institute Review Board. Any questions that the individual might have about the project should be directed to:

Principle Investigators:
Bin Yang, M.S. 4098 Derring Hall 231-3235
George A. Clum, Ph.D. 4092C Derring Hall 231-5701

Departmental Human Subject Research Committee Chair:
Robert J. Harvey, Ph.D. 5076E Derring Hall 231-7030

University Institute Review Board:
Ernest R. Stout 306 Burruss Hall 231-9359
Appendix B: General Information

Date of birth: __________________________

Age: __________________________

Sex: male      female

Years in College __________________________

Race: 1) Caucasian; 2) Black; 3) Hispanic;
      4) Asian & Pacific Islanders; 5) other (____)

Mother's marital status:
      single      married      divorced
      separated    widowed

Father's marital status:
      single      married      divorced
      separated    widowed
Appendix C: Child Maltreatment Survey

Part One: Physical Maltreatment

Directions: Using the scale below, circle the number that corresponds to the frequency with which you experienced physical maltreatment before age 18. Please check all that apply.

Note: "Physical maltreatment" here means being hit really hard, kicked, punched, stabbed, thrown down, etc., which produced physical marks, bruises, breaks in the skin, or injury that warranted medical treatment regardless of whether treatment was received.

0 = Never
1 = Once
2 = Twice
3 = 3-5 times
4 = 6-10 times
5 = 11-20 times
6 = more than 20 times

1. From 0 to 6 years old:
   a. One of my brothers or sisters did this to me 0 1 2 3 4 5 6
   b. My father did this to me 0 1 2 3 4 5 6
   c. My mother did this to me 0 1 2 3 4 5 6
   d. My father did this to my mother or my siblings 0 1 2 3 4 5 6
   e. My mother did this to my father or my siblings 0 1 2 3 4 5 6

2. After 6 and before 13 years old:
   a. One of my brothers or sisters did this to me 0 1 2 3 4 5 6
   b. My father did this to me 0 1 2 3 4 5 6
   c. My mother did this to me 0 1 2 3 4 5 6
   d. My father did this to my mother or my siblings 0 1 2 3 4 5 6
   e. My mother did this to my father or my siblings 0 1 2 3 4 5 6

3. After 13 and before 18 years old:
   a. One of my brothers or sisters did this to me 0 1 2 3 4 5 6
   b. My father did this to me 0 1 2 3 4 5 6
   c. My mother did this to me 0 1 2 3 4 5 6
   d. My father did this to my mother or my siblings 0 1 2 3 4 5 6
   e. My mother did this to my father or my siblings 0 1 2 3 4 5 6
Part Two: Sexual Maltreatment

From 0 to 6 years old, did you have any sexual experiences with other people? If yes, please use the scales (codes) below and put the codes that correspond to the frequency and what happened in the blanks.

Codes for frequency:
0 = Never
1 = Once
2 = Twice
3 = 3-5 times
4 = 6-10 times
5 = 11-20 times
6 = more than 20 times

Codes for what happened?
1 = kissing and hugging in a sexual way
2 = fondling in a sexual way
3 = touching sex organs in a sexual way
4 = being penetrated in ways other than intercourse
5 = having sexual intercourse

Note: If more than one thing happened, please choose the higher/highest greater codes corresponding to what happened. For example, if both kissing and fondling in a sexual way happened, choose code “2.”

Please answer the following questions: 1) who was the person? 2) what happened? 3) how old was the person when it first happened? 4) how old were you when it first happened? 5) how frequent? Please check all that apply.

<table>
<thead>
<tr>
<th>WHO WAS THE PERSON?</th>
<th>WHAT HAPPENED</th>
<th>PERSON'S AGE</th>
<th>YOUR AGE</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>stranger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(but not a friend)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>niece or nephew</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cousin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sister</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandfather</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandmother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uncle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aunt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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After 6 and before 13 years old, did you have any sexual experiences with other people? If yes, please use the scales (codes) below and put the codes that correspond to the **frequency** and **what happened** in the blanks.

**Codes for frequency:**
- 0 = Never
- 1 = Once
- 2 = Twice
- 3 = 3-5 times
- 4 = 6-10 times
- 5 = 11-20 times
- 6 = more than 20 times

**Codes for what happened:**
- 1 = kissing and hugging in a sexual way
- 2 = fondling in a sexual way
- 3 = touching sex organs in a sexual way
- 4 = being penetrated in ways other than intercourse
- 5 = having sexual intercourse

Note: If more than one thing happened, please choose the higher/highest greater codes corresponding to what happened. For example, if both kissing and fondling in a sexual way happened, choose code “2.”

Please answer the following questions: 1) who was the person? 2) what happened? 3) how old was the person when it first happened? 4) how old were you when it first happened? and 5) how frequent? Please check all that apply.

<table>
<thead>
<tr>
<th>WHO WAS THE PERSON?</th>
<th>WHAT HAPPENED</th>
<th>PERSON'S AGE</th>
<th>YOUR AGE</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>stranger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>person I knew</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(but not a friend)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>niece or nephew</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cousin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sister</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandfather</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandmother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uncle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aunt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
After 13 and before 18 years old, did you have any sexual experiences with other people? If yes, please use the scales (codes) below and put the codes that correspond to the **FREQUENCY** and **WHAT HAPPENED** in the blanks.

**Codes for frequency:**
0 = Never
1 = Once
2 = Twice
3 = 3-5 times
4 = 6-10 times
5 = 11-20 times
6 = more than 20 times

**Codes for what happened?**
1 = kissing and hugging in a sexual way
2 = fondling in a sexual way
3 = touching sex organs in a sexual way
4 = being penetrated in ways other than intercourse
5 = having sexual intercourse

Note: If more than one thing happened, please choose the higher/highest greater codes corresponding to what happened. For example, if both kissing and fondling in a sexual way happened, choose code "2."

Please answer the following questions: 1) who was the person? 2) what happened? 3) how old was the person when it first happened? 4) how old were you when it first happened? and 5) how frequent? Please check all that apply.

<table>
<thead>
<tr>
<th>WHO WAS THE PERSON?</th>
<th>WHAT HAPPENED</th>
<th>PERSON'S AGE</th>
<th>YOUR AGE</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>stranger</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>person I knew (but not a friend)</td>
<td>___</td>
<td>___</td>
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<td>friend</td>
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<td>___</td>
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<tr>
<td>niece or nephew</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>cousin</td>
<td>___</td>
<td>___</td>
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<tr>
<td>brother</td>
<td>___</td>
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<td>___</td>
<td>___</td>
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<tr>
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<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
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<tr>
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<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
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<tr>
<td>mother</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
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<tr>
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<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>grandmother</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>uncle</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>aunt</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
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<tr>
<td>other</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>
Part Three: Neglect

Please check all that apply:

1. From 0 to 6 years old, my parents did not provide me:
   ____ a. enough clothing
   ____ b. enough food
   ____ c. place to live
   ____ d. care about whether I was properly groomed
   ____ e. emotional comfort
   ____ f. other (__________________________)

2. After 6 and before 13 years old, my parents did not provide me:
   ____ a. enough clothing
   ____ b. enough food
   ____ c. place to live
   ____ d. care about whether I was properly groomed
   ____ e. emotional comfort
   ____ f. other (__________________________)

3. After 13 and before 18 years old, my parents did not provide me:
   ____ a. enough clothing
   ____ b. enough food
   ____ c. place to live
   ____ d. care about whether I was properly groomed
   ____ e. emotional comfort
   ____ f. other (__________________________)
Appendix D: Family Instability Survey

Directions: Please circle the numbers that correspond to your life experiences and indicate your age when these events happened to you. Please check all that apply.

1. Did your parents ever separate, or live separately before a divorce, due to a marital problem?

   If parents separated, how old were you when it happened?
   _______ (1st time)
   _______ (2nd time)
   _______ (3rd time)

2. Are your parents married or divorced?
   1. Not divorced 2. Divorced once 3. Divorced more than once

   If parents divorced, how old were you when it happened?
   _______ (1st time)
   _______ (2nd time)
   _______ (3rd time)

3. Is your biological mother still alive?
   1. Mother still alive 2. Mother died

   If mother died, how old were you when it happened?
   _______

4. Did you experience the death of a step, adoptive, or foster mother?
   1. Non-biological mother still alive 2. Non-biological mother died

   If non-biological mother died, how old were you when it happened?
   _______

5. Is your biological father still alive?
   1. Father still alive 2. Father died

   If father died, how old were you when it happened?
   _______

6. Did you experience the death of a step, adoptive, or foster father?
   1. Non-biological father still alive 2. Non-biological father died

   If non-biological father died, how old were you when it happened?
   _______
7. Were there ever periods when your mother was away from home for more than a month at a time for reasons other than separation or divorce (for example, business trips, hospitalizations, vacations, and so on)?
   1. Never    2. A few times    3. Consistently for one year or more

If you have such experiences, how old were you when it happened?
   ______(1st time)
   ______(2nd time)
   ______(3rd time)

8. Were there ever periods when your father was away from home for more than a month at a time for reasons other than separation or divorce (for example, business trips, hospitalizations, vacations, and so on)?
   1. Never    2. A few times    3. Consistently for one year or more

If you have such experiences, how old were you when it happened?
   ______(1st time)
   ______(2nd time)
   ______(3rd time)

9. Were there ever times when you were separated from both parents for one month or more (for example, you were in hospital, detention home, foster home, etc.)?
   1. Never    2. Once or twice    3. Three times or more

If you have such experiences, how old were you when it happened?
   ______(1st time)
   ______(2nd time)
   ______(3rd time)
Appendix E: Family Environment Survey (Short Form)

DIRECTIONS: There are 45 statements in this questionnaire. They are statements about families. You are to decide which of these statements are true of your family and which are false. If you think the statement is true or mostly true of your family, then choose "True;" if you think the statement is false or mostly false of your family, then choose "False."

You may feel that some of the statements are true for some family members and false for others. Select true if the statement is true for most members. Select false if the statement is false for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

Remember, we would like to know what your family seems like to you. So, do not try to figure out how other members see your family, but do give us your general impression of your family for each statement.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>____</td>
<td>1. Family members really help and support one another.</td>
</tr>
<tr>
<td>____</td>
<td>2. Family members often keep their feelings to themselves.</td>
</tr>
<tr>
<td>____</td>
<td>3. We fight a lot in our family.</td>
</tr>
<tr>
<td>____</td>
<td>4. Activities in our family are pretty carefully planned.</td>
</tr>
<tr>
<td>____</td>
<td>5. Family members are rarely ordered around.</td>
</tr>
<tr>
<td>____</td>
<td>6. We often seem to be killing time at home.</td>
</tr>
<tr>
<td>____</td>
<td>7. We say anything we want to around home.</td>
</tr>
<tr>
<td>____</td>
<td>8. Family members rarely become openly angry.</td>
</tr>
<tr>
<td>____</td>
<td>9. We are generally very neat and orderly.</td>
</tr>
<tr>
<td>____</td>
<td>10. There are very few rules to follow in our family.</td>
</tr>
<tr>
<td>____</td>
<td>11. We put a lot of energy into what we do at home.</td>
</tr>
<tr>
<td>____</td>
<td>12. It's hard to &quot;blow off steam&quot; at home without upsetting somebody.</td>
</tr>
<tr>
<td>____</td>
<td>13. Family members sometimes get so angry they throw things.</td>
</tr>
<tr>
<td>____</td>
<td>14. It's often hard to find things when you need them in our household.</td>
</tr>
<tr>
<td>____</td>
<td>15. There is one family member who makes most of the decisions.</td>
</tr>
<tr>
<td>____</td>
<td>16. There is a feeling of togetherness in our family.</td>
</tr>
<tr>
<td>____</td>
<td>17. We tell each other about our personal problems.</td>
</tr>
<tr>
<td>____</td>
<td>18. Family members hardly ever lose their tempers.</td>
</tr>
<tr>
<td>____</td>
<td>19. Being on time is very important in our family.</td>
</tr>
<tr>
<td>____</td>
<td>20. There are set ways of doing things at home.</td>
</tr>
<tr>
<td>____</td>
<td>21. We rarely volunteer when something has to be done at home.</td>
</tr>
<tr>
<td>____</td>
<td>22. If we feel like doing something on the spur of the moment we often just pick up and go.</td>
</tr>
<tr>
<td>____</td>
<td>23. Family members often criticize each other.</td>
</tr>
</tbody>
</table>
24. People change their minds often in our family.

True  False

25. There is a strong emphasis on following rules in our family.

26. Family members really back each other up.

27. Someone usually gets upset if you complain in our family.

28. Family members sometimes hit each other.

29. Family members make sure their rooms are neat.

30. Everyone has an equal say in family decisions.

31. There is very little group spirit in our family.

32. Money and paying bills is openly talked about in our family.

33. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.

34. Each person's duties are clearly defined in our family.

35. We can do whatever we want to in our family.

36. We really get along well with each other.

37. We are usually careful about what we say to each other.

38. Family members often try to one-up or out-do each other.

39. Money is not handled very carefully in our family.

40. Rules are pretty flexible in our household.

41. There is plenty of time and attention for everyone in our family.

42. There are a lot of spontaneous discussions in our family.

43. In our family, we believe you don't ever get anywhere by raising your voice.

44. Dishes are usually done immediately after eating.

45. You can't get away with much in our family.
Appendix F: The UCLA L Scale

Part One: Please recall your life experiences before age 18 and indicate your overall impression regarding your interpersonal relationships during that period of time.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel in tune with the people around me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I lack companionship</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. There is no one I can turn to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I do not feel alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I feel part of a group of friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I have a lot in common with people around me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I am no longer close to anyone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. My interests and ideas are not shared by those around me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I am an outgoing person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. There are people I feel close to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I feel left out</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. My social relationships are superficial</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. No one really knows me well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>14. I feel isolated from others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I can find companionship when I want it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. There are people who really understand me</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>17. I am unhappy being so withdrawn</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. People are around me but not with me</td>
<td>1</td>
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<tr>
<td>19. There are people I can talk to</td>
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<tr>
<td>20. There are people I can turn to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>
Part Two: Please indicate how you feel about the current relationships between you and other people.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel in tune with the people around me</td>
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<tr>
<td>3. There is no one I can turn to</td>
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<td>4. I do not feel alone</td>
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<td>10. There are people I feel close to</td>
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<td>19. There are people I can talk to</td>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. There are people I can turn to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix G. Life Experiences Survey

Listed below are a number of events which sometimes bring about change in the lives of those who experience them and which necessitate social readjustment. Please check those events which you have experienced in the past year. Be sure that all checkmarks are directly across from the items to which they correspond.

Also, for each of the items listed below, please indicate the extent to which you viewed the event as having either a positive or a negative impact on your life at the time the event occurred. That is, indicate the type and extent of impact the event had. A rating of -3 would indicate that the event had an extremely negative impact, a rating of 0 a neutral impact, and a +3 would indicate an extremely positive impact.

<table>
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<th>Section 1</th>
<th>Rating</th>
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<tr>
<td>1. Marriage</td>
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<tr>
<td>2. Detention in jail or comparable instruction.</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>3. Death of spouse</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>4. Major change in sleeping habits.</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>5. Death of a close family member:</td>
<td></td>
</tr>
<tr>
<td>a. mother</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>b. father</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>c. brother</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>d. sister</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>e. grandmother</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>f. grandfather</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>g. other</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>6. Major change in eating habits</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>7. Foreclosure on mortgage or loan</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>8. Death of close friend</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>9. Outstanding personal achievement</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>10. Minor law violation</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>11. Male: wife/girlfriend's pregnancy</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>12. Female: pregnancy</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>13. Changed work situation</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>14. New job</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>15. Serious illness or injury of close family member:</td>
<td></td>
</tr>
<tr>
<td>a. mother</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>b. father</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>c. brother</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>d. sister</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>e. grandmother</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>f. grandfather</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>g. spouse</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>h. other</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
</tbody>
</table>
16. Sexual difficulties -3 -2 -1 0 1 2 3
17. Trouble with employer -3 -2 -1 0 1 2 3
18. Trouble with inlaws -3 -2 -1 0 1 2 3
19. Major change in financial status -3 -2 -1 0 1 2 3
20. Major change in closeness of family member -3 -2 -1 0 1 2 3
21. Gaining a new family member -3 -2 -1 0 1 2 3
22. Change of residence -3 -2 -1 0 1 2 3
23. Marital separation -3 -2 -1 0 1 2 3
24. Major change in church activities -3 -2 -1 0 1 2 3
25. Marital reconciliation -3 -2 -1 0 1 2 3
26. Major change in number of arguments with spouse -3 -2 -1 0 1 2 3
27. Married male: change in wife's work outside home -3 -2 -1 0 1 2 3
28. Married female: change in husband's work -3 -2 -1 0 1 2 3
29. Major change in recreation -3 -2 -1 0 1 2 3
30. Borrowing more than $10,000 -3 -2 -1 0 1 2 3
31. Borrowing less than $10,000 -3 -2 -1 0 1 2 3
32. Being fired from a job -3 -2 -1 0 1 2 3
33. Male: wife/girlfriend having an abortion -3 -2 -1 0 1 2 3
34. Female: having an abortion -3 -2 -1 0 1 2 3
35. Major personal illness or injury -3 -2 -1 0 1 2 3
36. Major change in social activities -3 -2 -1 0 1 2 3
37. Major change in living conditions of family -3 -2 -1 0 1 2 3
38. Divorce -3 -2 -1 0 1 2 3
39. Serious injury or illness of a close friend -3 -2 -1 0 1 2 3
40. Retirement -3 -2 -1 0 1 2 3
41. Son or daughter leaving home -3 -2 -1 0 1 2 3
42. Ending of formal spouse -3 -2 -1 0 1 2 3
43. Separation from spouse -3 -2 -1 0 1 2 3
44. Engagement -3 -2 -1 0 1 2 3
45. Breaking up with boyfriend/girlfriend -3 -2 -1 0 1 2 3
46. Leaving home for the first time -3 -2 -1 0 1 2 3
47. Reconciliation with boyfriend/girlfriend -3 -2 -1 0 1 2 3

List other recent experiences which have had an impact on your life:

48. ________________________________ -3 -2 -1 0 1 2 3
49. ________________________________ -3 -2 -1 0 1 2 3
50. ________________________________ -3 -2 -1 0 1 2 3
Appendix H: SEI-A

Please mark each statement in the following way:
If the statement describes how you usually feel, put an "X" in the column "Like me."
If the statement does not describe how you usually feel, put an "X" in the column "Unlike me."
There are no right or wrong answers.

<table>
<thead>
<tr>
<th></th>
<th>Like Me</th>
<th>Unlike Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Things usually don't bother me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I find it very hard to talk in front of a group.</td>
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<tr>
<td>3. There are lots of things about myself I'd change if I could.</td>
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<tr>
<td>4. I can make up my mind without too much trouble.</td>
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<tr>
<td>5. I'm a lot of fun to be with.</td>
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<tr>
<td>6. I get upset easily at home.</td>
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<tr>
<td>7. It takes me a long time to get used to anything new.</td>
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<tr>
<td>8. I'm popular with persons my own age.</td>
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<tr>
<td>9. My family usually considers my feelings.</td>
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<tr>
<td>10. I give in very easily.</td>
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<tr>
<td>11. My family expects too much of me.</td>
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<tr>
<td>12. It's pretty tough to be me.</td>
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<tr>
<td>13. Things are all mixed up in my life.</td>
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<td></td>
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<tr>
<td>14. People usually follow my ideas.</td>
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<tr>
<td>15. I have a low opinion of myself.</td>
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<td></td>
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<tr>
<td>16. There are many times when I'd like to leave home.</td>
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<tr>
<td>17. I often feel upset with my work.</td>
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<td></td>
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<tr>
<td>18. I'm not as nice looking as most people.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. If I have something to say, I usually say it.</td>
<td></td>
<td></td>
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<tr>
<td>20. My family understands me.</td>
<td></td>
<td></td>
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<tr>
<td>21. Most people are better liked than I am.</td>
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<td></td>
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<tr>
<td>22. I usually feel as if my family is pushing me.</td>
<td></td>
<td></td>
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<tr>
<td>23. I often get discouraged with what I am doing.</td>
<td></td>
<td></td>
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<tr>
<td>24. I often wish I were someone else.</td>
<td></td>
<td></td>
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<tr>
<td>25. I can't be depended on.</td>
<td></td>
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</table>
Appendix I: The Rotter’s LOC Scale

DIRECTIONS: This scale has 29 paired statements. In each paired statements, please read each one carefully and indicate the statement you agree more by circling the letter "a" or "b." Pick up one of the two even if both seem to be equally true to you. Please do not take too much time answering any one question, but do answer them all.

1. a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people’s lives are partly due to bad luck.
b. People’s misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don’t take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual’s worth often passes unrecognized no matter how hard he/she tries.

5. a. The idea that teachers are unfair to students is non-sense.
b. Most students don’t realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don’t like you.
b. People who can’t get others to like them don’t understand how to get along with others.

8. a. Heredity plays the major role in determining one’s personality.
b. It is one’s experiences in life which determine what they’re like.

9. a. I have often found that what is going to happen will happen.
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.  a. In the case of the well prepared student there is rarely if 
ever such a thing as an unfair test.
b. Many times exam questions tend to be so unrelated to course 
work that studying is really useless.

11.  a. Becoming a success is a matter of hard work, luck has little or 
nothing to do with it.
b. Getting a good job depends mainly on being in the right place 
at the right time.

12.  a. The average citizen can have an influence in government 
decisions.
b. This world is run by the few people in power, and there is not 
much the little guy can do about it.

13.  a. When I make plans, I am almost certain that I can make them 
work.
b. It is not always wise to plan too far ahead because many things 
turn out to be a matter of good or bad fortune anyhow.

14.  a. There are certain people who are just no good.
b. There is some good in everybody.

15.  a. In my case getting what I want has little or nothing to do with 
luck.
b. Many times we might just as well decide what to do by flipping 
a coin.

16.  a. Who gets to be the boss often depends on who was lucky enough 
to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck 
has little or nothing to do with it.

17.  a. As far as world affairs are concerned, most of us are the 
victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the 
people can control world events.

18.  a. Most people don't realize the extent to which their lives are 
controlled by accidental happenings.
b. There really is no such thing as "luck."

19.  a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.  
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.  
b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.  
b. There is a direct connection between how hard I study and the grade I get.

24. a. A good leader expects people to decide for themselves what they should do.  
b. A good leader makes it clear to everyone what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.  
b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.  
b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.  
b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.  
b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time, I can't understand why politicians behave the way they do.  
b. In the long run the people are responsible for bad government on a national as well as a local level.
Appendix J: The BHS

DIRECTIONS: On this questionnaire are a number of statements. Please read each statement carefully. If the statement is true, or mostly true, circle the T in front of the statement. If the statement is false, i.e., you do not believe it, circle the F. We are interested in how you feel today, that's right now.

T   F  1. I look forward to the future with hope and enthusiasm.
T   F  2. I might as well give up because I can't make things go better for myself.
T   F  3. When things are going badly, I am helped by knowing they can't stay that way forever.
T   F  4. I can't imagine what my life would be like in 10 years.
T   F  5. I have enough time to accomplish the things I most want to do.
T   F  6. In the future, I expect to succeed in what concerns me most.
T   F  7. My future seems dark to me.
T   F  8. I expect to get more of the good things in life than the average person.
T   F  9. I just don't get the breaks, and there's no reason to believe I will in the future.
T   F 10. My past experiences have prepared me well for my future.
T   F 11. All I can see ahead of me is unpleasantness rather than pleasantness.
T   F 12. I don't expect to get what I really want.
T   F 13. When I look ahead to the future, I expect I will be happier than I am now.
T   F 14. Things just won't work out the way I want them to.
T   F 15. I have great faith in the future.
T   F 16. I never get what I want so it's foolish to want anything.
T   F 17. It is very unlikely that I will get real satisfaction in the future.
T   F 18. The future seems vague and uncertain to me.
T   F 19. I can look forward to more good times than bad times.
T   F 20. There's no use in really trying to get something I want because I probably won't get it.
Appendix K: Problem-Solving Inventory

DIRECTIONS: Below is a list of 35 statements about how people may solve their problems. Be aware that this is a measure of how we deal with our daily problems. These are not math or science problems, but personal or social problems, such as feeling depressed, getting along with friends, choosing a career, or deciding whether to break up with a girlfriend or boyfriend. There are no right or wrong answers. When you read a statement, you may want to ask yourself: "Do I ever do this behavior?"

Read each statement, and then indicate the extent to which you agree or disagree with that statements by putting the appropriate number in the parenthesis in front of each statement, using the following alternatives:

1 = Strongly Agree
2 = Moderately Agree
3 = Slightly Agree
4 = Slightly Disagree
5 = Moderately Disagree
6 = Strongly Disagree

( ) 1. When a solution to a problem is unsuccessful, I do not examine why it didn't work.
( ) 2. When I am confronted with a complex problem, I do not bother to develop a strategy to collect information so I can define exactly what the problem is.
( ) 3. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation.
( ) 4. After I have solved a problem, I do not analyze what went right or what went wrong.
( ) 5. I am usually able to think up creative and effective alternatives to solve a problem.
( ) 6. After I have tried to solve a problem with a certain course of action, I take time and compare the actual outcome to what I thought should have happened.
( ) 7. When I have a problem, I think up as many possible ways to handle it as I can until I can't come up with any more ideas.
( ) 8. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation.
( ) 9. When I am confused with a problem, I do not try to define vague ideas or feelings into concrete or specific terms.
( ) 10. I have the ability to solve most problems even though no solution is immediately apparent.
( ) 11. Many problems I face are too complex for me to solve.
( ) 12. I make decisions and am happy with them later.
Read each statement, and then indicate the extent to which you agree or disagree with that statements by putting the appropriate number in the parenthesis in front of each statement, using the following alternatives:

1 = Strongly Agree  
2 = Moderately Agree  
3 = Slightly Agree  
4 = Slightly Disagree  
5 = Moderately Disagree  
6 = Strongly Disagree

( ) 13. When confronted with a problem, I tend to do the first that that I can think to solve it.
( ) 14. Sometimes I do not stop and take time to deal with my problems, but just kind of muddle ahead.
( ) 15. When deciding on an idea or possible solution to a problem, I do not take time to consider the chances of each alternative being successful.
( ) 16. When confronted with a problem, I stop and think about it before deciding on a next step.
( ) 17. I generally go with the first good idea that comes to my mind.
( ) 18. When making a decision, I weigh the consequences of each alternative and compare them against each other.
( ) 19. When I make plans to solve a problem, I am almost certain that I can make them work.
( ) 20. I try to predict the overall result of carrying out a particular course of action.
( ) 21. When I try to think up possible solutions to a problem, I do not come up with many alternatives.
( ) 22. In trying to solve a problem, one strategy I often use is to think of past problems that have been similar.
( ) 23. Given enough time and effort, I believe I can solve most problems that confront me.
( ) 24. When faced with a novel situation, I have confidence that I can handle problems that may arise.
( ) 25. Even though I work on a problem, sometimes I feel like I am grouping or wandering and am not getting down to the real issue.
( ) 26. I make snap judgments and later regret them.
( ) 27. I trust my ability to solve new and difficult problems.
( ) 28. I have a systematic method for comparing alternatives and making decisions.
( ) 29. When I try to think of ways of handling a problem, I do not try to combine different ideas together.
( ) 30. When confronted with a problem, I do not usually examine what sort of external things in my environment may be contributing to my problem.
Read each statement, and then indicate the extent to which you agree or disagree with that statement by putting the appropriate number in the parenthesis in front of each statement, using the following alternatives:

1 = Strongly Agree
2 = Moderately Agree
3 = Slightly Agree
4 = Slightly Disagree
5 = Moderately Disagree
6 = Strongly Disagree

( ) 31. When I am confronted with a problem, one of the first things I do is survey the situation and consider all the relevant pieces of information.

( ) 32. Sometimes I get so charged up emotionally that I am unable to consider many ways of dealing with my problems.

( ) 33. After making a decision, the outcome I expected usually matches the actual outcome.

( ) 34. When confronted with a problem, I am unsure of whether I can handle the situation.

( ) 35. When I become aware of a problem, one of the first thing I do is to try to find out exactly what the problem is.
Appendix L: Modified Means-End Problem-Solving Procedure

DIRECTIONS: Please follow the sub-directions carefully and work on this task step-by-step.

Step One: Please list as many as ten different problems from your own life that are currently bothering you most.

1. ____________________________________________;
2. ____________________________________________;
3. ____________________________________________;
4. ____________________________________________;
5. ____________________________________________;
6. ____________________________________________;
7. ____________________________________________;
8. ____________________________________________;
9. ____________________________________________;
10. ____________________________________________.
Step Two: Please go through the problems you have identified and find a problem that has something to do with interacting with other people. That is to find an interpersonal problem. Then please copy that problem down below and indicate what kind of results (they are labeled as "desired outcome" below) you would like to get if the problem is to be solved.

After you have done that, please go on and following the sub-directions for Step Three which is on the second page from this one. Do not worry about things beyond "desired outcome" at this step.

Your first interpersonal problem: _______________________________________.

Your desired outcome: _____________________________________________.

(for step 3) Solution 1. _____________________________________________.

(for step 4) 0 1 2 3 4 5 6 7 8 9 10

(for step 5) Pros: 1. _______________________________________________;
2. _______________________________________________;
3. _______________________________________________
4. _______________________________________________.
Cons: 1. _______________________________________________;
2. _______________________________________________;
3. _______________________________________________
4. _______________________________________________.

(for step 3) Solution 2. _____________________________________________.

(for step 4) 0 1 2 3 4 5 6 7 8 9 10

(for step 5) Pros: 1. _______________________________________________;
2. _______________________________________________;
3. _______________________________________________
4. _______________________________________________.
Cons: 1. _______________________________________________;
2. _______________________________________________;
3. _______________________________________________
4. _______________________________________________.

(for step 3) Solution 3. _____________________________________________.

(for step 4) 0 1 2 3 4 5 6 7 8 9 10

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Cons: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________.

Step Three: For the first interpersonal problem you have identified at step two, please list as many different solutions as you can that you could use in that problem solution which you believe will help you reach your desired outcome. It is important that you identify as many different alternative solutions as you can. Please do not start step 4 before you finish step 3.

Step Four: Please go over each solution you have identified at step 3 and indicate how confident you are that each of those solutions would solve that problem by selecting a number from "0" to "10." If you think that a particular solution would definitely not be successful, you would give it a rating of "0." If you think that a particular solution would be moderately successful, you would give it a rating of "5." If you think that a particular solution would definitely be successful, you would give it a rating of "10." In other words, the more successful you believe a particular solution would be, the higher the rating you would give to that solution. Please do not start step 5 before you finish step 4.

Step Five: Please go over each of the solutions you have identified at step 3 and indicate as many as four "Pros" and "Cons" for each solution. "Pros" here mean the good things and benefits that might happen as a result of trying that solution. "Cons" here mean the bad things and costs that might happen as a result of trying that solution. For example, you might think that one of your solutions might make someone mad; this would be a "con" (bad thing). Or you might think that your solution might make someone happy; this would be a "pro" (good thing).
Step Six: Please go through the problems you have identified at step one and find another problem that has something to do with interacting with other people. That is to find another interpersonal problem. Then please copy that problem down below and indicate what kind of results (they are labeled as "desired outcome" below) you would like to get if the problem is to be solved.

After you have done that, please go on and following the sub-directions for Step Seven which is on the second page from this one. Do not worry about things beyond "desired outcome" at this step.

Your second interpersonal problem: _____________________________________________.

Your desired outcome: _____________________________________________________________.

(for step 7) Solution 1. ___________________________________________________________________

(for step 8) 0 1 2 3 4 5 6 7 8 9 10

(for step 9) Pros: 1. ___________________________________________________________________
2. ___________________________________________________________________
3. ___________________________________________________________________
4. ___________________________________________________________________
Cons: 1. ___________________________________________________________________
2. ___________________________________________________________________
3. ___________________________________________________________________
4. ___________________________________________________________________

(for step 7) Solution 2. ___________________________________________________________________

(for step 8) 0 1 2 3 4 5 6 7 8 9 10

(for step 9) Pros: 1. ___________________________________________________________________
2. ___________________________________________________________________
3. ___________________________________________________________________
4. ___________________________________________________________________
Cons: 1. ___________________________________________________________________
2. ___________________________________________________________________
3. ___________________________________________________________________
4. ___________________________________________________________________

(for step 7) Solution 3. ___________________________________________________________________

(for step 8) 0 1 2 3 4 5 6 7 8 9 10
(for step 9) Pros: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________;
Cons: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________.

(for step 7) Solution 4. ________________________________
 ________________________________

(for step 8) 0 1 2 3 4 5 6 7 8 9 10

(for step 9) Pros: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________;
Cons: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________.

(for step 7) Solution 5. ________________________________
 ________________________________

(for step 8) 0 1 2 3 4 5 6 7 8 9 10

(for step 9) Pros: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________;
Cons: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________.

(for step 7) Solution 6. ________________________________
 ________________________________

(for step 8) 0 1 2 3 4 5 6 7 8 9 10

(for step 9) Pros: 1. ________________________________;
2. ________________________________;
3. ________________________________;
4. ________________________________.
Step Seven: For the second interpersonal problem you have identified at step six, please list as many different solutions as you can that you could use in that problem solution which you believe will help you reach your desired outcome. It is important that you identify as many different alternative solutions as you can. Please do not start step 8 before you finish step 7.

Step Eight: Please go over each solution you have identified at step 7 and indicate how confident you are that each of those solutions would solve that problem by selecting a number from "0" to "10." If you think that a particular solution would definitely not be successful, you would give it a rating of "0." If you think that a particular solution would be moderately successful, you would give it a rating of "5." If you think that a particular solution would definitely be successful, you would give it a rating of "10." In other words, the more successful you believe a particular solution would be, the higher the rating you would give to that solution. Please do not start step 9 before you finish step 8.

Step Nine: Please go over each of the solutions you have identified at step 7 and indicate as many as four "Pros" and "Cons" for each solution. "Pros" here mean the good things and benefits that might happen as a result of trying that solution. "Cons" here mean the bad things and costs that might happen as a result of trying that solution. For example, you might think that one of your solutions might make someone mad; this would be a "con" (bad thing). Or you might think that your solution might make someone happy; this would be a "pro" (good thing).
Appendix M: BDI

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick the one statement in each group which best describes the way you have been feeling TODAY, that is now. Circle the number beside the statement you picked. If several statements in the group appear to apply equally well, circle each one. Be sure to read all of the statements in each group before making your choice.

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am sad all of the time and I can't snap out of it.
   3 I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.
   3 I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
   1 I don't enjoy things the way I used to.
   2 I don't get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
   1 I feel guilty a good part of the time.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.
   1 I am disappointed in myself.
   2 I am disgusted with myself.
   3 I hate myself.
8. 0 I don't feel I am any worse than anyone else.
   1 I am critical of myself for my weakness or mistakes.
   2 I blame myself all the time for my faults.
   3 I blame myself for everything bad that happens.

9. 0 I don't have any thoughts of killing myself.
   1 I have thoughts of killing myself, but I would not carry them out.
   2 I would like to kill myself.
   3 I would kill myself if I had the chance.

10. 0 I don't cry any more than usual.
    1 I cry more now than I used to.
    2 I cry all of the time now.
    3 I used to be able to cry, but now I can't cry even though I want to.

11. 0 I am no more irritated now than I even am.
    1 I get annoyed or irritated now more easily than I used to.
    2 I feel irritated all of the time now.
    3 I don't get irritated at all by the things that used to irritate me.

12. 0 I have not lost interest in other people.
    1 I am less interested in other people than I used to be.
    2 I have lost most of my interest in other people.
    3 I have lost all of my interest in other people.

13. 0 I make decisions about as well as I ever could.
    1 I put off making decisions more than I used to.
    2 I have greater difficulty in making decisions than before.
    3 I can't make decisions at all anymore.

14. 0 I don't feel I look any worse than I used to.
    1 I am worried that I am looking old or unattractive.
    2 I feel that there are permanent changes in my appearance that make me look unattractive.
    3 I believe I look ugly.

15. 0 I can work about as well as before.
    1 It takes an extra effort to get started at doing anything.
    2 I have to push myself very hard to do anything.
    3 I can't do any work at all.
16.  0 I can sleep as well as usual.
     1 I don't sleep as well as I used to.
     2 I wake up 1-2 hours earlier than usual and find it hard to get
         back to sleep.
     3 I wake up several hours earlier than I used to and cannot get
         back to sleep.

17.  0 I don't get more tired than usual.
     1 I get tired more easily than I used to.
     2 I get tired from doing almost anything.
     3 I am too tired to do anything.

18.  0 My appetite is no worse than usual.
     1 My appetite is not as good as it used to be.
     2 My appetite is much worse now.
     3 I have no appetite at all anymore.

19.  0 I haven't lost much weight, if any, lately.
     1 I have lost more than 5 pounds.
     2 I have lost more than 10 pounds.
     3 I have lost more than 15 pounds.
     (I am purposely trying to lose weight by eating less ___Yes ___No)

20.  0 I am no more worried about my health than usual.
     1 I am worried about physical problems such as aches and pains;
         or upset stomach; or constipation.
     2 I am very worried about my physical problems and it's hard to
         think of much else.
     3 I am so worried about my physical problems that I cannot think
         about anything else.

21.  0 I have not noticed any recent change in my interest in sex.
     1 I am less interested in sex than I used to be.
     2 I am much less interested in sex now.
     3 I have lost interest in sex completely.
Appendix N: Scale for Suicidal Behavior

Directions: Please recall your past life experiences and answer the following questions. Choose the numbers "0," "1," or "2" that correspond to your life time experiences and put one number in front of each question.

I. Non-Direct Behavioral Preparation
   1. Have you written a suicide note?
      (0) no
      (1) yes, but I haven't completed it
      (2) yes, I have completed a suicide note
   
   2. Have you written about suicide in your diary?
      (0) no
      (1) yes, but I've only written about death
      (2) yes, I've written about killing myself in my diary
   
   3. Have you tried to learn how to kill yourself (by reading books, watching TV, etc.)?
      (0) no
      (1) yes, but I've only occasionally paid some attention to it
      (2) yes, I've tried hard to find out how others kill themselves
   
   4. Have you given your belongings (toys, books, etc.) away when you wanted to kill yourself?
      (0) no
      (1) yes, but they weren't my most important things
      (2) yes, I gave away my most important things

II. Direct Behavioral Preparation
   5. Have you looked for things (tools) that you can use to kill yourself?
      (0) no
      (1) yes, but I've only looked for things around me
      (2) yes, I've tried hard to look for things everywhere
   
   6. Have you got some things handy so that you can use them to kill yourself whenever you want to?
      (0) no, I haven't found anything yet
      (1) I've found some things but haven't got them handy
      (2) yes, I have them handy

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7. Have you taken risks in order to obtain things you needed to kill yourself (for example, by lying to your parents or other people)?
   (0) no
   (1) occasionally
   (2) frequently

8. Have you checked whether things you had prepared were still there?
   (0) no
   (1) occasionally
   (2) frequently

9. Have you tried to use your method just in order to see it was going to work (to kill yourself)?
   (0) no
   (1) once
   (2) more than once

10. Have you decided exactly when to kill yourself?
     (0) no, haven't thought about it
     (1) I have started to work out a time, but haven't made a decision
     (2) yes, I have decided when to kill myself

11. Have you decided where to kill yourself?
     (0) no, I haven't thought about it
     (1) I've thought about it, but did not decide where
     (2) yes, I knew where I wanted to kill myself

12. Have you changed your original plan into a new one because you may be more likely to succeed (kill yourself) with the new plan?
     (0) no, I had only one plan
     (1) I had more than one plan, but did not compare which would be most effective
     (2) yes, I've found the most effective plan to kill myself

III. Communication:

13. Have you talked to anyone about your suicide plan?
     (0) I've told some people
     (1) I haven't told anyone
     (2) I've tried hard to make sure no one knew about my plan

14. Have you shown anyone what you would use to kill yourself?
     (0) I've shown more than one person what I would use
     (1) I've shown only one person what I would use
     (2) I haven't shown anyone what I would use to kill myself
15. Have you threatened to any one that you may have to kill yourself?
   (0) no
   (1) occasionally
   (2) frequently

IV. Attempts and Lethality:
16. Have you attempted suicide?
   (0) no
   (1) once
   (2) more than once

17. When was last time you attempted suicide
   (0) one year ago
   (1) one month ago but within one year
   (2) within one month

18. When you attempted suicide, how bad did you get hurt? (rate your most severe attempt)
   (0) no medical attention was required
   (1) medical doctor was required
   (2) medical hospitalization was required

19. Was someone around when you tried to kill yourself?
   (0) I did it when someone was around
   (1) I wasn't sure whether anyone was around or not
   (2) I made sure no one was around
Appendix C: Modified Scale for Suicide Ideation

DIRECTIONS: The purpose of this scale is to assess the presence or absence of suicidal thought and the degree of severity of this thought. The time frame of this scale is how you have been feeling over the past two weeks. Please read each group of statements carefully and circle the number beside the statement you picked. If several statements in the group appear to apply equally well, circle each one. Be sure to read all of the statements in each group before making your choice.

1. Over the past two weeks, have you had the desire to die? If so, how strong has the desire been?
   0 None - I had no wish to die.
   1 Weak - I was unsure about whether I wanted to die.
   2 Moderate - I was preoccupied with ideas about death.
   3 Strong - I had a strong desire to die.

2. Over the past two weeks, have you had the desire to live. If so, how strong has the desire been?
   0 Strong - I had a strong desire to live
   1 Moderate - I thought about wanting to live quite often, and if I thought about wanting to die, I could easily turn my thoughts away from it.
   2 Weak - I was unsure about wanting to live.
   3 None - I had no wish to live.

3. Over the past two weeks, when you had thought about suicide, how strong was the desire to act on that thought?
   0 None - If I was thinking of suicide, I definitely did not want to act on these thoughts.
   1 Weak - When I thought of suicide, I was unsure of whether or not I wished to make an attempt.
   2 Moderate - When I thought of suicide, I had the desire to act on my thoughts at least once.
   3 Strong - I wanted to act on my thought of suicide several times - I was almost certain I wished to kill myself.
4. Over the past two weeks, have you had the desire to die by not
taking care of your health, eating or drinking too much (or eating too
little), or leaving your life or death to chance (i.e., carelessly
crossing a busy street)?

0 None - I had taken precautions to maintain my life.
1 Weak - I was not sure whether I would leave my life or death to
chance.
2 Moderate - I would definitely leave my life or death to chance,
if given the opportunity to do so.
3 Strong - I had avoided steps necessary to maintain or save my
life.

5. Over the past two weeks, when you have had thoughts about suicide,
how long did these thoughts last?

0 Brief periods or nonexistent.
1 Short duration, several minutes.
2 Longer, an hour or more.
3 Almost continuous, I couldn't get them off my mind.

6. Over the past two weeks, how often have these thoughts of suicide
come?

0 Rarely - only once in the past two weeks (or nonexistent).
1 Twice or more in the past two weeks.
2 About once everyday.
3 Several times per day.

7. Over the past two weeks, how intense or vivid have these thoughts
been?

0 Not vivid or intense (or nonexistent) at all.
1 Slightly vivid or intense.
2 Moderately vivid or intense.
3 Very vivid or intense.

8. Over the past two weeks, could you think of anything that would keep
you from killing yourself?

0 I could think of at least one definite deterrent.
1 I could think of at least one deterrent, but it would not keep
me from killing myself under all circumstances.
2 I was unsure if there were any deterrents that would prevent my
suicide.
3 I could not think of anything at all that would keep me from
killing myself.
9. Over the past two weeks, when you thought about your reasons for living versus dying, which of the two were stronger?

0 I could not think of any reasons for dying.
1 My reasons for living were stronger than my reasons for dying.
2 I was unsure which were stronger/they were equal in strength.
3 My reasons for dying were much stronger than my reasons for living (or I had no reason to live).

10. Over the past two weeks, have you been thinking of a way in which you might kill yourself? That is, have you thought about the method you might choose?

0 I have not considered a method of suicide.
1 I have given it some consideration, but I was unsure of the method.
2 I knew the method I wished to use, but the details of exactly how I wished to kill myself are unclear.
3 I knew the method I wished to kill myself precisely.

11. Over the past two weeks, have you thought about how much effort or time is involved in the method chosen to kill yourself? Did you foresee this opportunity being present in the near future?

0 I did not have a method, or it is not currently available to me now or in the near future.
1 I had a method, but it is not readily available, it would take time and opportunity.
2 I had a method, and it would not take a great deal of effort to make it available.
3 I had a method that is readily available at almost anytime.

12. Over the past two weeks, have you felt like you had the courage to commit suicide?

0 I did not have the courage to kill myself.
1 I was unsure that I had the courage to kill myself.
2 I was quite sure I had the courage to kill myself.
3 I was very sure or certain I had the courage to kill myself.

13. Over the past two weeks, did you have the ability to carry out a suicide plan? Would you be effective in ending your life?

0 I did not feel competent to kill myself.
1 I was unsure if I would be competent to kill myself.
2 I was somewhat sure that I would be competent to kill myself.
3 I was convinced that I would be competent in killing myself.
14. Over the past two weeks, how sure were you that suicide is something you might actually do sometime, if left to your own devices?

0 I was certain I would not make an attempt.
1 I was unsure I would make an attempt one day, or the chances were equal.
2 I was almost certain I would make an attempt one day.
3 I was certain I would make an attempt one day.

15. Over the past two weeks, have you noticed yourself talking about death more than usual, even jokingly?

0 I have not referred to death in the past two weeks.
1 I have talked about death, no specific mention was made about wanting to die.
2 I have specifically said I wanted to die.
3 I have confided with someone that I wanted to commit suicide.

16. Over the past two weeks, have you written about suicide or death (i.e., in poetry or in a dairy)?

0 I have not written about suicide or death in the past two weeks.
1 I have written general comments regarding death in the past two weeks.
2 I have written specific comments about wanting to die.
3 I have written a specific reference about planning my suicide.

17. Over the past two weeks, have you thought about leaving a note or writing a letter to somebody about your suicide?

0 None - I haven't thought about a suicide note.
1 "Mental Note" - I have thought about a suicide note, or have worked out general themes which would be put in the note.
2 Started - Suicide note has been partially written, or have misplaced it.
3 Completed note - Suicide note has been written out, including definite plans about contents, addressee.

18. Over the past two weeks, have you actually done anything to prepare for your suicide, e.g., collected material, pills, guns, etc.?

0 None - no preparation.
1 Probable preparation - I have started to collect materials.
2 partial preparation - I have definitely started to organize method of suicide.
3 Complete - I have collected pills, guns, or other devices.
Appendix P: Procedures for Dealing with Emotionally Upset Subjects and/or Subjects at Risk for Suicide

First of all, at the beginning of the assessment session, subjects will be asked to inform the investigator in case of becoming emotionally upset (e.g. feeling sad, bad etc.) and/or suicidal. If any sign of emotional upset is observed, this investigator will inquire the individual’s emotional status.

Specifically, if the individual indicates not being able to complete the whole testing battery, he/she will be suggested to stop and the investigator will talk to the individual outside the testing room about the upset in order to see whether the individual can feel better.

- If he/she feels better after the brief talk and is willing continue, assessment will be continued.
- If the individual does not feel better, the investigator will have a formal interview with the person after the test session to discuss specific reasons that s/he feels upset and how this investigator can help.
- If this interview does help the person calm down, this investigator will explore the possibility of rescheduling.
- If the person still reports emotional upset, suggestion of refer him/her to the University Counseling Services will be made.

In the case of subjects reporting suicidal thoughts while completing the test battery, an interview will also be taken with him/her either at that time or right after s/he completes the battery based on whether s/he can complete the battery at that time. During the interview, the severity of the suicidal thoughts will be assessed:

1) If the subject reports having current suicidal thoughts but still having control of him/herself, referral to the University Counseling Services or the Psychological Services Center at Virginia Tech will be made for him/her.

2) If the subject also reports experiencing a loss of control but still desires treatment, this investigator will accompany him/her to the University Health Services where 24-hour appropriate care will be provided.

3) If the person reports current strong suicidal intent and does not desire treatment, emergency intervention with the Rescue Squad will be instituted. Also, the supervisor of this project, Dr. Clum, licensed clinical psychologist, can be contacted if necessary. Dr. Clum will be available 24 hours everyday.
Based on this investigator's previous and similar thesis research (Ref. IRB 91-099) and working experiences from Dr. Clum's suicide treatment studies, it is believed that emergency situations are likely to arise only rarely as are situations where treatment is refused.
Appendix Q: Advertisement of the Study

DO YOU FEEL DEPRESSED/SUICIDAL?

The Department of Psychology is currently conducting a research study on individuals who are feeling depressed and/or suicidal. If you are over 18 and are qualified, you will:

1) receive a comprehensive assessment;

2) receive the overall findings of this study if you are interested in; and

3) receive $10.00 to compensate for your time (if you are enrolled in the "Introduction to Psychology" or other psychology courses, you can get up to 3 extra credit hours instead of the money).

If you are interested in this study, please contact Bin Yang at 552-3914 (preferred) or 231-6914, or leave a message in the envelope at 4098 Derring Hall.

YOUR CONFIDENTIALITY IS GUARANTEED!

Project Principle Investigator: Bin Yang, M.S.
Project Director: Dr. George A. Clum, Licensed Clinical Psychologist.