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## The relationship between suicidal phenomena and depression, dysfunctional attitudes, irrational beliefs, and hopelessness

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**The relationship between suicidal phenomena and depression,  
dysfunctional attitudes, irrational beliefs, and hopelessness**

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University of Nevada, Las Vegas, 1988

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THE RELATIONSHIP BETWEEN SUICIDAL PHENOMENA AND DEPRESSION,  
DYSFUNCTIONAL ATTITUDES, IRRATIONAL  
BELIEFS, AND HOPELESSNESS


By Shonna L. Erickson


A thesis submitted in partial fulfillment  
of the requirements for the degree of

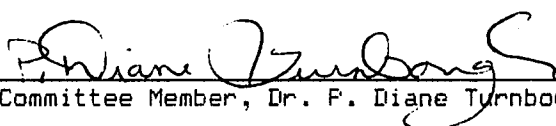
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## ABSTRACT

The study of depression and suicidal phenomena among adolescents has lagged behind that of adults. Very few studies have examined attitudes and beliefs of relevance to cognitive therapy among suicidal adolescents. In this study 40 incarcerated juvenile females were administered the Beck Depression Inventory (BDI), the Dysfunctional Attitude Scale (DAS), the Irrational Beliefs Test (IBT), and the Hopelessness Scale (HS). A stepwise discriminant analysis identified seven variables which significantly differentiated the suicidal from the nonsuicidal group. These variables were number of previous attempts, the HS, DAS, subscales 4, 5, and 8 of the IBT (Frustration reactive, emotional irresponsibility, and dependency, respectively), and the subject's living situation prior to incarceration i.e., with both natural parents, in an institution and so on. A further analysis of IBT subscale scores revealed that subscales 8 (Dependency) and 5 (Emotional irresponsibility) of the IBT contributed most to the discriminant function. Implications for future research are discussed.

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S.L.E.

## Introduction

The suicide rate among adolescents in the United States has increased at alarming rates over the past two to three decades. Suicide is currently the third leading cause of death among adolescents preceded by accidents and homicide (Haywood, 1983; Holinger, 1978). While the suicide rate among adolescents has increased 132 percent since 1961, the rate for the general population has increased only 22 percent (Holinger, 1978). From 1950 to 1975, there was a 300 percent increase in the suicide rate for white males aged 15 to 19, and a 200 percent increase among same-aged, white females (Sudak et al., 1984). Despite the fact that between five and six thousand individuals in the U.S. under the age of 25 kill themselves each year (Haywood, 1983), research on depression and the treatment of suicide attempters among children and adolescents has lagged behind that of adults.

Research of suicidal behavior in adolescents has been impeded by various factors. Some of the difficulties include retrospective analysis of completed suicides, underreporting due to cultural taboos, and the inability of researchers to adequately and consistently define and classify suicidal phenomena. The term "suicidal" has been used

inclusively to describe suicide thoughts, suicide threats, suicide attempts, and severe depression (Rosen et al., 1954). However, significant differences between patients who attempt suicide and those who have threatened suicide have been demonstrated with those exhibiting thoughts of suicide being more severely disturbed than suicide attempters (Rosen et al., 1954; Farberow, 1950). A sociological classification identified four types of suicide: anomic, egoistic, altruistic, and fatalistic (Durkheim, 1951); however, this perspective has provided little use for the clinician. The most widely accepted and utilized classification of suicidal behavior appears to include three categories: threatened, attempted, and completed suicide. Some researchers assume that differences exist between these categories (Flinn & Leonard, 1972), while others hypothesize a cycle of interdependence in which ideation precedes the attempt (Devries, 1968). The diversity evidenced in defining and classifying suicidal phenomena continues to hamper suicide research and the reliability of interpretations.

Another issue which has severely restricted suicide research in adolescents centers on the questionable existence of depression in children and adolescents. Do suicidal adolescents experience depression? Can children and adolescents be diagnosed

as suffering from a depressive disorder? If so, how do they manifest their depression? Psychoanalytically trained researchers believe that children cannot experience depression because they have not developmentally progressed through the oedipal conflict (Mendelson, 1972); however, object losses in childhood may predispose to later depression (Hodgman, 1985). Rie (1966) hypothesized that only after resolution of the oedipal complex can the superego form, thus allowing the child to experience guilt and remorse. Studies in the early 1970's provided evidence that children and adolescents do experience depression exhibiting signs and symptoms similar to adults. Thus, the classification procedures for depression among children has been modified such that most professionals currently employ the same procedures for diagnosing depression among children and adults (Garfinkel, 1986).

In the literature, there also appears to be some uncertainty as to whether suicidal adolescents evidence symptoms of depression or even depressive equivalents. Child psychiatrists and other researchers believe that adolescents may experience "depressive equivalents" such as boredom, restlessness, fatigue, difficulties in concentrating, truancy, and delinquency which "mask" an underlying depressive disorder (Cytryn & McKnew, 1972; Glaser, 1967). Identification of depression in

adolescents is further complicated by the natural mood swings experienced during adolescence.

The difficulties encountered in suicide research, particularly among children and adolescents, are numerous and complex; however, this fact should not discourage or hamper future research of suicidal phenomena. As the suicide rate among adolescents in the U.S. continues to soar, clinicians, researchers, educators, and parents have an obligation not only to educate themselves about suicidal behavior i.e., incidence of occurrence, warning signs, prophylactic measures, and so on, but also to develop and be cognizant of efficacious treatment programs for suicide ideators and attempters. Few treatment programs described in the literature have been designed to address the cognitive dimensions of the suicidal adolescent. The identification of cognitive variables which differentiate the suicidal client from other depressed patients might facilitate the development of a cognitive therapy that is tailored specifically for the suicidal individual. Past research has mainly focused on "cognitive" variables that appear to relate only tangentially to cognitive theory as postulated by Beck (1967). Only recently have researchers begun to investigate the presence of "core" cognitive variables such as dysfunctional attitudes, hopelessness, and



irrational beliefs among suicidal adults; however, no studies, to the author's knowledge, have explored the existence of these variables among suicidal children or adolescents. The present study will investigate whether these "core" cognitive variables differentiate between a sample of potentially suicidal and nonsuicidal adolescent females.

## LITERATURE REVIEW

The literature review will give a preview of Beck's cognitive model of depression and its relationship to suicide. The relationship between suicidal phenomena and specific noncore and core variables will also be examined. Noncore variables are of little relevance to Beck's cognitive theory of depression; however, they represent the traits identified by early researchers as "cognitive" variables thought to be characteristic of suicidal individuals. Recent findings of depression and suicidal phenomena among adolescents will be discussed. The review will conclude with an examination of the relationship between the core variables of hopelessness, dysfunctional attitudes, and irrational beliefs and suicidal phenomena.

### Beck's Cognitive Theory of Depression

Beck's original hypotheses were based on interviews from 50 depressed and 31 nondepressed patients seen in psychotherapy or formal psychoanalysis (Beck, 1963; 1964). Beck's thesis is that "the affective response is determined by the way an individual structures his experience" (Beck, 1964; p.567). In his cognitive model of depression, Beck postulated three specific concepts to explain the

psychological composition of depression: 1) the cognitive triad, 2) schemata, and 3) cognitive errors (Beck et al., 1979).

The Cognitive Triad. The cognitive triad consists of three major cognitive patterns that compel one to view oneself, the world and the future in an idiosyncratic way. Beck stated that the depressed patient views him or herself as defective, inadequate, deprived or unworthy and tends to blame some presumed defect for unpleasant experiences. The depressed individual also interprets his or her interactions with the environment as representing defeat, deprivation, or disparagement and views life as a series of burdens, obstacles, or traumatic situations (Beck, 1967). The depressed person anticipates a life of implacable suffering, frustration and deprivation, and sees current difficulties as insurmountable obstacles.

Schemata. Schemata are relatively stable, cognitive structures which screen out, differentiate and code internal and external stimuli that confront the individual (Beck, 1967; Beck et al., 1979). The schemata channel the stimuli into thoughts or cognitions. Normally, the activated schemata is congruent with or related to the stimuli. The content of a schema corresponds to an individual's attitudes, goals, values, and conceptions (Beck, 1964); thus, the

affective response is determined by the contents of the schemata activated. Beck explains that in depression, hyperactive, idiosyncratic schemata interfere with the normal "matching process" and replace the appropriate schemata so that an individual's interpretations deviate from reality. This deviation from reality will be proportional to the degree of incongruity of schema from the stimulus situation. During a depressive state, these idiosyncratic schemata become progressively dominant and increase to an intensity greater than that normally possessed by schemata (Beck, 1964).

Cognitive Errors. Cognitions of the depressed patient contain systematic errors which enable the individual to maintain his or her belief in the validity of the negative schemata despite evidence to the contrary (Beck, 1967). The six cognitive errors identified by Beck include 1) arbitrary inference, 2) selective abstraction, 3) over-generalization, 4) magnification and minimization, 5) personalization, and 6) absolutistic thinking (Beck et al., 1979).

Beck's cognitive theory of depression postulates that the existence of negative schemata predisposes one to depression and that these idiosyncratic schemata "may be largely inactive during the asymptomatic periods but become activated with the onset of

depression" (Beck, 1964; p. 571). The depressed patient experiences these negative cognitions as automatic, involuntary, and plausible (Beck, 1963); thus making them difficult to extinguish.

### Dichotomous Thinking

Dichotomous thinking appears to be an "either or," bipolar, type of thinking rather than an "and" type of thinking (Neuringer, 1961). Dichotomous thinkers foresee only two options in any situation and are unable to perceive any alternatives, thus forcing the individual to embrace one of the extremes. The individual perceives of the situation as unresolvable and begins to entertain ideas of escape through death.

Initial research of dichotomous evaluative thinking attempted to determine whether suicidal individuals could be differentiated from other emotionally disturbed groups and from a normal control group on that variable. If dichotomous evaluative thinking could be shown to be a distinguishing characteristic of suicidal thinking, then it would lend support to the premise of a "suicidal personality" (Shneidman, 1957). Shneidman postulated that a core of psychological characteristics could be designated as "suicidal" which discriminated from other psychological states, thus supporting the theory that suicidal ideation/behavior is a trait of the individual rather

than a state briefly expressed in response to a crisis. In other words, a person is suicidal because their cognitive organization makes them that way. One of these proposed common cores is the tendency to think in polarities.

Neuringer (1961) failed to find support for the contention that dichotomous evaluative thinking is a characteristic exclusive of suicidal individuals. The Semantic Differential, as developed by Charles Osgood (1957), was administered to three groups of subjects during hospitalization. The first group consisted of individuals who made a serious suicide attempt. The second group was comprised of individuals suffering from psychosomatic difficulties, and the last group was composed of normal hospitalized patients. The suicidal and psychsomatic groups scored significantly higher on value extremeness and difference scores than the normal group. No significant statistical difference between the two emotionally disturbed groups was identified. Neuringer (1961 & 1967) concluded that dichotomous evaluative thinking is not directly related to suicidal ideation and behavior since psychosomatic individuals engage in dichotomous thinking to the same extent as suicidal subjects.

Rigid thinking has been identified as a characteristic which also prevents the suicidal

individual from developing new or alternative solutions to incapacitating emotional difficulties. Suicide attempters have been identified as more field dependent and rigid in divergent thinking than psychiatric controls (Patsiokas et al., 1979). Suicide attempters earned significantly higher California F-scale scores and shifted significantly fewer times on the Rokeach Map Test, thus indicating the presence of dichotomous thinking and deficiency in problem solving abilities among these particular suicidal individuals (Neuringer, 1964). Suicidal subjects have also exhibited lower WAIS arithmetic subtest scores and more failures on the Rokeach Map Test problems than psychiatric and normal subjects (Levenson & Neuringer, 1971). This finding supports the assumption that suicidal individuals possess certain cognitive deficiencies which prevent or restrict them from generating new or alternative solutions to immobilizing emotional problems. Levenson and Neuringer (1971) warn that curtailed problem solving capabilities represent a more critical situation for suicidal adolescents than adults. The adolescent has fewer life experiences and thus has fewer resources available for problem solving.

It has also been suggested that the divergence between attitudes toward life and death by suicidal subjects is a characteristic of the dichotomous

thinking factor. Suicidal subjects have exhibited a greater divergence between their attitudes towards life and death than psychosomatic and normal individuals (Neuringer, 1968). The suicidal subjects rated life as being more positive and death as more negative than the other two groups. In another study examining attitudes towards life and death, Neuringer and Lettieri (1971) again demonstrated that suicidal subjects perceived a greater divergency between life and death than psychosomatic or normal subjects. However, the suicidal subjects also reversed the life-death hierarchical order.

Contrary to the premise that dichotomous thinking is an exclusive characteristic of suicidal individuals which differentiates them from other psychiatric patients (Neuringer & Lettieri, 1971), Wetzel (1976) argued that suicidal subjects do not differ in cognitive style from other groups. Suicidal subjects utilized extreme ratings significantly more than did the control subjects. The suicidal subjects did rate attitudes concerning "life" and "myself" less favorable and attitudes toward "suicide" as more favorable. By use of these concepts, highly suicidal subjects could be differentiated from less suicidal subjects.



### Locus of control and personality traits

Locus of control and certain personality traits have also been examined among suicidal individuals. Suicide prone individuals tend to be externally oriented, dependent, timid, anxious, depressive and unachieving (Williams & Nickels, 1969). Suicide attempters have also evidenced a poorer vocabulary than other psychiatric or normal patients and tended to be more introjective and obsessoid (Vinoda, 1966). These individuals, in Vinoda's study, were more aggressive and more rigid in changing level of aspiration than a nonsuicidal control group.

The Minnesota Multi-Phasic Personality Inventory (MMPI) has been utilized to assess differences between suicidal and nonsuicidal individuals. Farberow (1950) found marked differences between those who attempt and those who threaten suicide. The threats group evidenced hostility, aggression, agitation, irritability, outbursts of aggression and an agitated type of depression. The attempters displayed a hopeless sort of depression and appeared less guilty, less hostile and less agitated than those who threatened suicide. They were more withdrawn and exhibited a less active fantasy life than the subjects in the threaten group. The individuals in the threaten group were concluded to be more seriously disturbed

than either the attempter or control groups. The MMPI appears to be of little value in detecting changes in degree of suicidal potential (Devries & Shneidman, 1967). The changes which occur seem to be more intrapersonal than interpersonal, thus rendering the MMPI ineffective as a means of identifying suicidal intent.

Individuals who possess a high desire for control but perceive their lives as generally controlled by chance are more likely to experience suicidal thoughts (Burger, 1984). This at risk group is more likely to seek help from a nonprofessional for their depression.

The results of early research collaborate that the variables examined were not exclusive of suicidal individuals but rather were representative of a general pathological state. To summarize, the foundation of suicidology research presented the suicidal individual as a controlling, dependent, rigid, anxious person who engaged in a dichotomous type of thinking and perceived of chance and/or powerful others as dictating one's life. Furthermore, though the variables examined in the early stages of suicide research failed to provide evidence for the existence of a set of related cognitions exclusive of suicidal individuals, such research motivated the investigation of other indicators which may be exclusive of suicidal persons.

Identification of characteristics relating to suicidal individuals has important implications in the treatment of suicidal patients.

Cognitive Bias. Much evidence exists to support the presence of a negative cognitive bias in depression. Several questionnaires have been developed to measure these negative cognitions. These include the Dysfunctional Attitude Scale (Weissman, 1980), the Automatic Thoughts Questionnaire (Hollon & Kendall, 1980), and the Irrational Beliefs Test (Jones, 1968). These questionnaires have been shown to correlate significantly with depression as well as other measures of negative cognitions (Dobson & Breiter, 1983; Dobson & Shaw, 1986; Eaves & Rush, 1984; Olinger, Shaw & Kuiper 1987; Vezina & Bourque, 1984). Krantz and Hammen (1979) administered a questionnaire, which they developed to assess Beck's hypothesized construct of depressive distortion, to male and female college students. Each subject was given a story which contained potentially problematic situations common to college students. Following each question was one depressed-distorted option, one depressed-nondistorted option, one nondepressed-distorted option, and one nondepressed-nondistorted option. The subjects were asked to choose the answer that would best represent their response as if it happened to them. The measure

reliably differentiated between the suicidal and nonsuicidal groups and appeared sensitive to changes in mood level within individuals. Thus, the results lend support to Beck's hypothesis that cognitive bias exists in depressed individuals.

### Depression in Adolescents

As previously noted, early researchers hypothesized that adolescents were too developmentally immature to experience depression (Mendelson, 1972; Rie, 1966), but that certain life experiences may predispose to later depression (Hodgman, 1985). Generally, researchers now concur that adolescents do experience depression; however, controversy continues over how the depression manifests itself. It has been theorized that adolescents experience "depressive equivalents" such as boredom, restlessness, truancy and delinquency which "mask" an underlying depressive disorder (Cytryn & McKnew, 1972; Glaser, 1967).

An adolescent experiencing depression, irregardless of its manifestation, warrants close monitoring as depressed adolescents are 500 times more likely to attempt suicide than nondepressed adolescents (Baucom, 1986). However, the mere expression of deprssive feelings should not be utilized as the sole criterion for assessing lethality. Occassional depressive feelings are common and normal especially

during adolescence when one experiences great physical and hormonal changes, mood swings and uncertainty of future plans. When depressive feelings are coupled with family or peer difficulties, it should be considered relevant. Those individuals reporting slight suicidal ideation are almost as likely to commit suicide as those experiencing extreme suicidal thoughts (Carlson & Cantwell, 1982).

The motives for adolescents attempting and committing suicide are many and varied i.e., coercion, attention-seeking, punishment of others, or self-anxiety reduction, and usually occurs within the context of long-standing problems. However, the majority of adolescents attempting suicide appear to be motivated by a desire to change or escape from an interpersonal system (Berman & Carroll, 1984). The suicidal adolescent has been identified as experiencing minor stressors (to which he or she usually overreacts), vulnerable to loss or threatened loss, struggling to escape inactivity or boredom and poorly controlled rage attacks (Petzel & Riddle, 1981).

The level of stress experienced by an individual has been emphasized as an important factor in evaluating intent (Farberow, 1950). Garfinkel (1986) has identified 10 stressors or risk factors reported most often by adolescents who attempted suicide. They

are 1) breakup with boyfriend or girlfriend; 2) trouble with brother or sister; 3) change in parents' financial status; 4) parental divorce; 5) losing a close friend; 6) trouble with a teacher; 7) changing schools; 8) personal injury or other physical illness; 9) failing grades; and 10) increased arguments with parents.

Behavioral patterns that characterize suicide attempters are as follows: angry and explosive outbursts, withdrawal into drinking, smoking and/or drug use, delinquency, and deteriorating school work. Cohen and colleagues (1966) identified delinquency, drug addiction, and alcoholism to be valid factors in predicting subsequent suicidal behavior. Prior to a suicidal attempt, adolescents have been noted to demonstrate greater withdrawal, less involvement in school milieu, and school problems, but Garfinkel and colleagues (1982) found suicidal adolescents, especially the more lethal attempters, to be functioning at or above grade level in school. It is evident that individuals contemplating suicide suffer from acute or chronic stress and that the behavioral manifestations of this depressed, hopeless state of wanting to die are many.

The following sections will investigate the role of delinquency and family dysfunction among suicide attempters. Research regarding the role of "core"

cognitive variables among suicide attempters and completers will also be reviewed; however, the assessment devices utilized in the present study have not been administered to adolescents before.

Family dysfunction among suicide attempters and completers

Families of adolescents who attempt or complete suicide are viewed as experiencing conflict which leaves the family unit mentally, physically, and emotionally exhausted. As a result, dysfunctional families tend to be unaware of or poorly responsive to the needs of the suicidal adolescent. The family environment of suicidal adolescents is less likely (than that of nonsuicidal adolescents) to provide the ego development, healthy identity formation and intimacy necessary to resolve the adjustment problems experienced during this transitional phase of life (McKenry et al., 1982).

The study of suicidal adolescents has focused primarily on parental pathology and family communication styles. Parents of suicidal adolescents have been shown to experience more overt conflict, more threats of separation and divorce, and an increased frequency of medical and psychiatric problems (Berman & Carroll, 1984). A history of suicidal behavior within the family or by family acquaintances has been

identified significantly more often in families of a suicidal adolescent. Suicidal adolescents tend to receive less affection and less discipline by reasoning and explanation (Berman & Carroll, 1984).

Researchers examining communication patterns between the family members of a suicidal adolescent have noted several obstacles to effective communication. First, these families appear to experience more difficulty in developing solutions to problems and to exhibit restricted awareness and responsiveness to others' needs (Berman & Carroll, 1984). Adolescent suicide attempters receive less reinforcing statements, greater punishment for patterns of speech utilized and tend to avoid self-revealing information (Williams & Lyons, 1976).

Adolescent suicide attempters have been shown to view time spent with their parents as less enjoyable and rated their parents' marriage as less well adjusted than nonattempters (McKenry et al., 1982). Furthermore, attempters were found to receive significantly less interest from their mothers than nonattempters and to report significantly greater pressure to do well in school. It has been demonstrated that for females, delinquent behavior and emotional problems predicted suicidal ideation and that the degree of parental support predicted both delinquent behavior and



emotional problems (Simons & Murphy, 1985). Adolescent females who attempt suicide have also been shown to be more depressed, to exhibit lower self-esteem, and to abuse alcohol/drugs more often than nonattempters (Berman & Carroll, 1984).

Mothers of suicidal adolescents have been found to be more anxious and to abuse alcohol more frequently. Fathers of suicidal youngsters have been shown to be more depressed, have lower self-esteem, and abuse alcohol/drugs more often than fathers of nonsuicidal adolescents. These findings lend support to the hypothesis that dysfunctional families are a consequence of parental pathology in which frustrated, confused, depressed, angry adolescents sometimes resort to suicide as a means of escaping what they perceive to be a hopeless situation.

#### Delinquency among suicide attempters

The literature reviewed thus far suggests that adolescents attempt suicide in the context of a long period of depression with suicidal ideation both commonly resulting from a dysfunctional family system. However, data suggests that suicide attempts among incarcerated adolescents may be an impulsive act rather than the culmination of chronic depression and suicidal ideation (Miller et al., 1982). Miller and colleagues compared 13, 14, and 15 year old delinquents who had

attempted suicide with delinquent controls. They found an increase in attempted suicides related to higher frequency of acting out behaviors among males and some females. Among the adolescents who did not engage in acting out behaviors, females were more likely to attempt suicide than males. The researchers conclude that conflict between attempter and the family may serve as a predisposing factor to a suicide attempt. Although a relationship between depression and number of attempts was identified, the average attempter experienced only a moderate degree of depression. One fact emerges from suicide research among delinquents: depressed delinquents attempt suicide more often and with greater severity than nondelinquents (Chiles et al., 1980).

The destructive pattern evidenced among juvenile delinquents was also identified among 71 juvenile offenders diagnosed by DSM-III criteria and assessed for suicidal ideation (Alessi et al., 1984). The subjects who were diagnosed as having major affective or borderline personality disorders displayed the highest degree of suicidal tendency and evidenced the most serious attempts.

The data presented on depression and suicidal behaviors among juvenile delinquents appears to lend support to the "depressive equivalent" hypothesis in

which the acting out behaviors are only a symptom of an underlying depression. Some researchers have suggested that depression in children need not be inferred from behaviors associated with other syndromes, although depression may occur along with such behaviors. Chiles and colleagues (1980) have postulated that depression may be associated and coexist with, but not defined by, delinquent behaviors and that depressive criteria used for adults can be applied to adolescents. Their results failed to find support for the depressive equivalent hypothesis in that the depressed and nondepressed groups could not be differentiated by any pattern of acting out symptoms. The depressed adolescents did, however, exhibit more serious drug and alcohol problems than other delinquents.

To summarize, a relationship between depression, suicide attempts and acting out behaviors has been identified. Whether the attempts occur within the context of acute or chronic conflicts remains unclear. It also appears that incarcerated juveniles have experienced family conflicts, usually chronic, which placed them at a higher risk for attempting or completing suicide than nondelinquent adolescents.

#### Irrational Beliefs and Depression

As previously stated, Beck (1967) postulated that the activation of idiosyncratic schema may cause a

depressed state in which the individual views the self, the world and the future in a negative manner. Furthermore, one's thoughts were hypothesized as preceeding and determining one's affective response. Therefore, examination and modification of one's irrational beliefs and attitudes may be important in the treatment of depressed individuals, may enable the clinician to assess suicidal risk more accurately, and contribute to the development of interventions designed specifically for suicidal individuals.

In order to examine the relationship between irrational beliefs and severity of depression, Nelson (1977) administered the Beck Depression Inventory (BDI) and the Irrational Beliefs Test (IBT) to 156 undergraduates. She found that depressed subjects (signified by a score of 10 or more on the BDI) endorsed beliefs regarding high self-expectations, frustration reactivity, over concern about possible misfortunes in the future, helplessness, and total IBT score significantly more than nondepressed individuals. However, her study failed to assess whether irrational beliefs are characteristic of suicidal individuals exclusively or psychologically distressed patients in general.

The IBT has been shown to differentiate depressed subjects from psychologically distressed patients only

on particular subscales. In a study conducted by LaPointe and Crandell (1980), depressed individuals scored as significantly more irrational than distressed and normals on frustration reactivity, high self-expectations, emotional irresponsibility, and avoidance. However, all beliefs represented on the IBT except emotional irresponsibility, dependency, and perfectionism significantly differentiated the depressed and the nondepressed psychologically distressed from the normals. Thus, the IBT appears to represent beliefs which serve as indicators of general psychopathology rather than of suicide exclusively.

#### Hopelessness and Depression

Hopelessness has been identified as a core characteristic of depression and suicide (Beck, 1963, 1967) and objectively defined as negative evaluations or expectations of oneself and the future. Research has indicated that hopelessness as measured by the Hopelessness Scale (HS) more accurately predicts suicidal intent than does the Beck Depression Inventory (Rush et al., 1986; Minkoff et al., 1973; Beck et al.; 1975). Rush and colleagues (1986) found that only the Hopelessness Scale and the pessimism item of the BDI predicted eventual suicides among their sample of college students. Ninety-one percent of the eventual suicides were identified by a score of 10 or more on

the Hopelessness Scale; however the severity of the subject's depression failed to significantly differentiate between those who did and did not commit suicide. Similarly, hopelessness was significantly better than depression in predicting an individual's lack of desire to live, reports of past suicidal behavior, frequency of current suicidal ideation, and subjects' predictions of future suicidal potential (Beck et al., 1975; Linchan & Nielsen, 1981). However, a significant negative correlation has been identified between hopelessness and social desirability scores (Linchan & Nielsen, 1981). When analysis were conducted to control for the covariant relationship between hopelessness and social desirability, hopelessness no longer differentiated past levels of suicidality while social desirability continued to differentiate between groups.

An increase in Hopelessness scores have been noted as one ages and/or descends the socioeconomic scale (Greene, 1981). This may reflect the limited resources available to the aging and economically deprived populations.

An attempter's attitude toward his/her act appear to be related to the severity of the Hopelessness score. Those who scored high on hopelessness and depression attempted suicide as a means of escape from

life goals; while, the attempters scoring lower on the Hopelessness Scale and the BDI admitted to manipulative reasons as motivating their suicidal actions (Beck et al., 1975).

#### Dysfunctional attitudes and depression

The Dysfunctional Attitude Scale (DAS) was designed to be an objective method for identifying the "silent assumptions" assumed to underlie a series of cognitions (Weissman, 1980). Like the IBT, the DAS was intended to be an objective method of quantifying the cognitive distortions inherent in a depressed individual's thought processes. The dysfunctional attitudes being measured are assumed to predispose one to depression which suggests that it is possible to identify certain individuals as being cognitively vulnerable to depression (Olinger et al., 1987). However, research with the DAS has focused on college aged and above populations; thus, the ability of DAS to assess an adolescent's or a child's vulnerability to depression has not been examined.

The DAS has been shown to distinguish between depressed and nondepressed groups and seems to be sensitive to levels of depression (Krantz & Hammen, 1979). Individuals scoring high on the DAS have been identified as experiencing increased levels of perceived stress and as displaying more frequent

thoughts about past, present, or expected future life difficulties than individuals scoring low on the DAS. Resolution of interpersonal conflicts, such as adolescents experience with parents, appears to be more difficult for individuals scoring high on the DAS than those scoring low (Olinger et al., 1987). In addition, individuals scoring high on the DAS reported significantly greater subjective discomfort when behaving assertively which may explain some of the communication difficulties between adolescent suicide attempters and their parents.

Beck and colleagues (1979) postulated that one's depressogenic assumptions would persist beyond remission (but would be less hypervalent) of the current depressive episode unless identified and modified with cognitive therapy. Yet, a vulnerability model suggests that a vulnerable individual, not currently depressed, would not display negative attitudes in his self-schema.

It remains uncertain whether dysfunctional attitudes are a symptom or an enduring cognitive characteristic of the depressed individual. Hamilton and Abramson (1983) have provided data which suggests that dysfunctional attitudes are a feature of the depressive episode rather than an enduring cognitive characteristic. However, Eaves and Rush (1984) found



that while depressed patients in remission displayed significant reductions in dysfunctional attitudes, they continued to endorse more dysfunctional attitudes than control subjects.

Another issue raised by the DAS is whether these attitudes are unique to depression or characteristic of emotional discord in general. Hamilton and Abramson (1983) have provided evidence for the possibility that dysfunctional attitudes are characteristic of psychiatric patients in general, although dysfunctional attitudes appear to be even more prominent among depressive individuals. Because suicidal patients are more likely to possess dysfunctional attitudes than other patients (Ellis, 1986), suicide ideators are at greater risk for developing depression and hopelessness and ultimately attempting suicide.

The DAS, like the IBT and Hopelessness Scale, have been utilized to assess cognitions assumed to predispose or underlie depression. The premise is that depressed, suicidal individuals differ significantly from other patients in that they possess unique cognitive styles. If this is so, therapists would be warranted in developing a cognitively oriented therapy specifically for suicidal individuals.

Based upon the premise that depressed, suicidal individuals differ from other patients, Ellis and

Ratliff (1986) conducted a study to determine whether suicidal patients differed from other psychiatric patients on measures of attitudes and beliefs of importance to cognitive therapy. They administered the BDI, DAS, IBT, and Hopelessness Scale to 40 patients, 20 suicidal and 20 nonsuicidal. The mean age and education of the suicidal patients was 30.2 and 13.5, respectively. Twelve members of the suicidal group reported a history of prior suicide attempts. The mean age and education of the nonsuicidal group was 36.6 and 11.0, respectively. The nonsuicidal group was thus significantly older and less well educated than the suicidal group.

A multivariate analysis of variance revealed a significant group effect, and a univariate analysis significantly discriminated between groups on the DAS, IBT, and Hopelessness Scale, with the BDI approaching significance. The researchers recalculated all analyses and controlled for the effects of age and education, and a significant group effect remained as did significant differences on the HS, DAS, and IBT. A multivariate analysis of variance on the 10 IBT subscales was also conducted. A significant group effect was found once again and univariate analysis identified a significant difference only on subscale 5, Emotional Irresponsibility. The overall findings of

this study indicate that suicidal patients were more hopeless and exhibited more dysfunctional attitudes and irrational beliefs but probably were not more depressed than nonsuicidal subjects. Ellis and Ratliff suggest that their findings indicate that the suicidal individual might be viewed as one who attributes emotional disturbance to events rather than to his or her way of perceiving events.

#### Summary and Purpose of Present Investigation

This review of the literature has examined several cognitive variables believed to differentiate suicidal from nonsuicidal individuals. Several conclusions can be drawn from this review. First, very little research has been conducted on cognitive differences between suicidal and nonsuicidal subjects, especially among adolescents. Few studies have utilized assessment devices designed to measure "core" cognitive variables such as the DAS, IBT, and Hopelessness Scale. Second, depression in adolescents is a significant factor in assessing suicidal intent. Third, cognitive differences between depressed and nondepressed groups exist; however, the exclusiveness of these cognitive differences to depressed/suicidal individuals is unclear. Fourth, adolescents who attempt suicide are usually experiencing acute, or more frequently, chronic stress. The stress is commonly created by a

dysfunctional family unit which is incapable of meeting the adolescent's needs. Fifth, depressed delinquents are at a higher risk for suicide attempts than nondepressed delinquents. And sixth, hopelessness as measured by the Hopelessness Scale predicts suicidal intent better than depression as measured by the BDI.

The present study assessed the relationship between suicidal phenomena and depression, dysfunctional attitudes, irrational beliefs, and hopelessness. The purpose of this study is to determine whether suicidal female delinquents differ from nonsuicidal female delinquents on certain demographic variables and on measures of attitudes and beliefs of importance to cognitive therapy.

## Method

### Subjects

The sample consisted of 40 adolescent, female volunteers who were incarcerated at a juvenile detention center at the time of testing. Twenty of these were judged by Juvenile Court Personnel to be suicidal. The criteria for a suicidal judgement included several measures. The staff classified an adolescent as suicidal because the adolescent was a repeat offender who was previously suicidal (within a one year period), or because she was assessed by personnel from the Psychology Division of the detention center to be suicidal or because the adolescent currently exhibited suicidal gestures or verbalizations. (Occasionally, parents or guardians telephoned staff with information that resulted in the adolescent being coded as suicidal.) This "judged to be suicidal group" will hereafter be referred to as the suicidal group. The second sample consisted of 20 nonsuicidal females. Subjects were included in the nonsuicidal group if they did not meet any of the above criteria. As represented in Table 1, the majority of the suicidal group were Caucasian (90%), had no religious preference (50%) and admitted to drug and/or alcohol use prior to incarceration (60%). The mean age

of the suicidal subjects was 15.15. In the nonsuicidal sample, the majority of the adolescents were Caucasian (65%), with 30% reporting Catholicism as their religious preference; however, the majority denied any drug/alcohol use prior to confinement (70%). The mean age of the nonsuicidal subjects was 15.10.

No significant differences were identified between the two groups for age or number of previous commitments to a juvenile detention center. However, the suicidal adolescents differed significantly from the nonsuicidal sample with regard to the number of previous attempts. As one might expect, the number of suicide attempts for the suicidal group was considerably higher than that of the nonsuicidal sample.

A mental status examination, as presented by Tishler and colleagues (1981), was administered to all subjects to assess for vegetative signs of depression. The findings in Table 2 signify the presence of vegetative signs of depression among subjects in the suicidal group. A majority of these adolescent subjects indicated sleep disturbances, difficulty concentrating, somatic complaints, and inappropriate affect.

Table 1  
Subject Characteristics

Characteristics	Suicidal	Nonsuicidal
Age		
Mean	15.15	15.10
No. of suicide attempts		
Mean	2.00	.020 *
Previous Confinements		
Mean	2.35	3.15
Race		
Caucasian	18	13
Black	1	6
Other	1	1
Religion		
Catholic	7	6
Baptist	1	4
Christian	2	4
Other/None	10	6
Drug/Alcohol Use		
Yes	12	6
No	8	14

\*  $p < .05$

Table 2

Percentage of Potentially Suicidal and Nonsuicidal  
Females exhibiting Vegetative Signs of Depression

	Suicidal	Nonsuicidal
Sleep disturbance	75%	20%
Weight change	50%	25%
Orientation	100%	100%
Memory & concentration disturbance	55%	35%
Hallucinations present	25%	5%
Inappropriate affect	85%	40%
Somatic Complaints present	55%	40%



### Instruments

The Beck Depression Inventory (BDI). The BDI (Beck, 1967; Beck et al., 1961) is a 21-item self-administered, multiple choice questionnaire designed to assess various cognitive, affective, behavioral, and vegetative manifestations of depression. Each item contains a graded series of 4 to 5 self-evaluative statements representing a specific behavioral manifestation of depression. The hierarchical structure reflects the range of symptom severity from neutral to maximal severity. Numerical values from 0 to 3 are assigned each statement. Total scores on the BDI range from 0 to 63. Beck recommends that a score from 0-9 be categorized as normal, 10-15 as mild depression, 16-19 as mild-moderate depression, 20-29 as moderate-severe depression, and 30-63 as severe depression.

Reliability of the BDI using a split-half reliability yielded a Pearson  $r$  coefficient of .86 (.93 after a Spearman-Brown correction) (Beck et al., 1961). Internal consistency was demonstrated with item correlations ranging from .31 to .68 (Beck, 1967; Schwab, Bialow & Holzer, 1967) and coefficient alphas in the 80's (Dobson & Breiter, 1983; Gotlib, 1984).

Persistently satisfactory correlations between the BDI and clinical ratings of depression have demonstrated criterion validity of BDI. In medical patients, Schwab, Bialow and Holzer (1967) reported a correlation of .75 between the Hamilton Rating Scale of Depression and the BDI. Using college students, Bumbery, Oliver and McClure (1978) found a correlation of .77 between BDI scores and psychiatrists' ratings of depression. In two studies with psychiatric patients, Beck (1967) reported correlations of .65 and .67 between BDI scores and psychiatrists' ratings of depth of depression and that in 85% of the patients in the study a change in depth of depression was predicted by a change in BDI score. In addition, the inventory has demonstrated sensitivity to changes in symptomatology (Johnson & Heather, 1974).

The Hopelessness Scale (HS). The HS (Beck, et al., 1974) is a 20-item, true-false, self-report inventory designed to assess pessimism and negative expectations. Each response to the 20 items is assigned a numerical value of 0 to 1 and the total hopelessness score is the sum of scores of items. Total hopelessness scores range from 0 to 20. Mean scores of HS were not reported in the original study by Beck and colleagues (1974); however, tentative cutoff scores have been established. Beck and his colleagues

(1974) recommend that a score from 0-3 be categorized as minimal hopelessness, 4-8 as mild hopelessness, 9-14 as moderate hopelessness, and 15 or greater as severe hopelessness. A mean HS score of 9.0 has been reported for suicide attempters (Beck et al., 1975) and 4.45 for "normal" adults (Greene, 1981).

Reliability of HS has been demonstrated through the use of correlational analyses. Beck and colleagues (1974) reported a coefficient alpha of .93 for internal consistency on HS and item-total correlation coefficients ranging from .39 to .76.

Validity of HS has included correlations with clinical ratings and other assessment devices. Total HS scores were compared to clinical ratings of outpatients in general medical practice and hospitalized patients who recently attempted suicide with resulting coefficients of .74 and .62 respectively (Beck et al., 1974). Correlations of HS with the Stuart Future Test (a semantic differential test; cited in Beck et al., 1974) and with the pessimism items of the Depression Inventory (Beck, 1967) were .60 and .63 respectively. In a longitudinal study involving 207 hospitalized suicide ideators, a score of 10 or more on HS accurately identified 91% of those who eventually committed suicide (Beck et al., 1985).

The Dysfunctional Attitude Scale (DAS). The DAS (Weissman, 1980) was originally a 100-item self-report, attitude scale designed to measure beliefs or attitudes that are relatively stable and reflect negative "schemas" hypothesized to predispose one to depression. A revision of the scale resulted in two paralled forms (DAS-A & DAS-B) each consisting of 40 items (the present study utilized DAS-A). The 100 items were constructed to represent 7 major value systems: approval, love, achievement, perfectionism, entitlement, omnipotence, and autonomy (Weissman, 1980). However, factor analysis of form A has revealed 3 main factors characterized as need for approval, perfectionism, and avoidance of risks (Oliver & Baumgart, 1985). Similar factors labelled performance evaluation and approval by others were reported to account for 61% of the variance in DAS-A scores (Cane et al., 1986). Responses for each item are made on a modified 7-point Likert Scale ranging from totally agree to totally disagree. Total score is obtained by summing item scores for each individual. Total scores range from 40 to 280 with higher scores representing a greater endorsement of dysfunctional beliefs. The DAS yielded a mean score of 119.36 on the standardized sample of college and graduate students (Weissman, 1980). A mean of 149.00 was reported for a sample of

mildly and moderately depressed individuals (Keller, 1983), 147.45 for depressed individuals, and 113.31 for asymptomatic subjects (Silverman, Silverman, & Eardley, 1984).

Reliability coefficients between the DAS-A and DAS-B were reported at .79 (Weissman, 1980) and .83 (Oliver & Baumgart, 1985). Stability over time has been demonstrated by test-retest reliability coefficients of .80 (when form A was the pretest measure) and .81 (when form B was the pretest measure) over an 8 week period, and .73 on the original form over a 6 week period (Oliver & Baumgart, 1985). Dobson and Breiter (1983) reported a test-retest reliability of .84 over a two to three month period. Coefficient alphas have been reported ranging from .79 to .93 in university populations (Dobson & Breiter, 1983; Weissman, 1980; and Cane et al., 1986), and .85 for an unselected adult population (Oliver & Baumgart, 1985).

Validity of DAS has been demonstrated by consistent correlations with inventories believed to measure a similar construct. Weissman (1980) reported correlations between the DAS and the Story Completion Test, D-Scale of the Profile of Mood States, and BDI of .52, .44, and .47 respectively. Among hospital employees and their spouses, a correlation between DAST (original version of DAS) and BDI was reported at .41

(Oliver & Baumgart, 1985). Similar correlations between DAS and BDI have been reported among undergraduate students (Dobson & Breiter, 1983; Olinger, Kuiper & Shaw, 1987) and elderly persons living independently (Vezina & Bourque, 1984). Correlations between the DAS and the Automatic Thoughts Questionnaire (ATQ; Hollon & Kendal, 1980) have been reported at .43 (Dobson & Breiter, 1983) and .53 (Vezina & Bourque, 1984).

The Irrational Beliefs Test (IBT). The IBT (Jones, 1968) was designed to assess the relationship between irrational beliefs and emotional disorders based upon Ellis' theory (Ellis, 1955) that some individuals experience discomfort or unhappiness as a result of their tendency to experience desirable states as necessities (i.e., the idea that "it is a dire necessity for an adult human to be loved or approved by virtually every significant other person in his life" (Ellis, 1973). The IBT is a 100-item, self-administered, multiple choice questionnaire consisting of 10 subscales: demand for approval, high self-expectations, blame-proneness, frustration reactive, emotional irresponsibility, anxious overconcern, problem avoidance, dependency, helplessness, and perfectionism. The 10 subscales represent the beliefs or ideas that Ellis has

identified to be highly prevalent in the thought processes of emotionally disturbed individuals (Ellis, 1962, 1973). Responses are made on a 5 point Likert Scale such that maximum endorsement of a belief would yield an item score of 5. Total score is obtained by summing all 100 item scores with the resulting total score ranging from 100 to 500. The IBT also provides a subscale score which ranges from 10 to 50. Though a criterion score has not been identified for clinical purposes, mean total scores in a "normal" population have been reported at 290.45 for females and 292.65 for males (Jones, 1968) and 282.00 in an adult population (Ray & Bak, 1980). Jones (1968) also found IBT scores of 281.44 and 299.86 among those who had completed two or more years of college and those who had failed to complete high school, respectively.

Reliability coefficients for the 10 subscales of the IBT ranged from .662 to .801 (with a mean of .737) using Guilford's method (Guilford, 1954), and .921 for the entire test (Jones, 1968). A correlation coefficient between BDI and IBT was reported at .53 and further analyses demonstrated that depression was correlated most strongly with high self-expectations, frustration reactivity, overconcern about possible misfortunes in the future, helplessness, and total IBT score (Nelson, 1977). LaPointe and Crandell (1980)

found that depressed persons scored significantly higher on the IBT than either psychologically distressed or normal persons, and that psychologically distressed individuals scored significantly higher than normals. Lohr and Bonge (1982) identified coefficient alphas ranging from .52 to .73 (except subscale 2 whose coefficient was .35) utilizing a principal component analysis of the subscales. No evidence was found for the Frustration Reactive scale; however, the data indicate that the IBT is acceptable for purposes of group research. Eight week test-retest reliability coefficients of the subscales ranged from .804 to .576 (John & Bonge, 1980).

Factor analyses of the IBT yielded 15 factors accounting for 86.6% of total variance (Jones, 1968). Ten of these 15 factors were identifiable by items of a specific scale and accounted for 73.2% of total variance. Correlations between IBT subscales and anxiety scales on 16PF Test ranged from .293 to .527 (Jones, 1968). Total IBT score has been demonstrated to differentiate between mental patients and "normal" adults (Jones, 1968). A significant negative correlation of .72 was exhibited between the IBT and the Rational Behavior Inventory (Shorkey & Whiteman, 1977) among college students (Ray & Bak, 1980).



### Procedure

The investigator regularly contacted staff by telephone and visited the detention center an average of 2 days per week and tested any individuals who had been admitted 2 to 3 days prior. Thus, all subjects were tested within 72 hours of admission. The subjects were classified into suicidal and nonsuicidal groups as previously described. The study was described to potential subjects as an investigation between several cognitive variables and a particular pattern of behavior. After signing consent forms, demographic and background information was collected and a clinical interview was conducted as suggested by Tishler and colleagues (1981). Adolescents then completed a battery that included the Beck Depression Inventory (Beck, 1967), the Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974), the Dysfunctional Attitude Scale (Weissman, 1980), and the Irrational Beliefs Test (Jones, 1968). Upon completion of the battery, subjects were given a debriefing sheet explaining the purpose of the study and the variables assessed by each questionnaire.

## RESULTS

The means and standard deviations for the demographic and the assessment scores which were both utilized in the analyses are presented in Table 3.

A direct discriminant function analysis was performed using the demographic variables and the four assessment devices as predictors of membership in two groups. The predictor variables were as follows: age, number of previous attempts, number of times previously in detention, race, religion, BDI, the Hopelessness Scale, DAS, IBT (including all 10 subscales), presence of drug/alcohol abuse, suicide attempt(s) by a family member (family), current level of stress (rated subjectively on a scale from 0 to 10, with 10 being the highest), and subject's current living situation i.e., with both natural parents, in a group home, and so on (parent). The groups were suicidal and nonsuicidal.

Table 3  
Means and Standard Deviations for the Dependent  
Measures

Variable	Suicidal		Nonsuicidal		F
	M	SD	M	SD	
Age	15.15	1.18	15.10	1.48	.14
Previous attempts	2.00	1.84	.20	.41	18.32*
Previous incarcerations	2.35	2.78	3.10	6.74	.21
Race	.15	.49	.40	.60	2.09
Religion	2.00	1.49	1.60	1.27	.84
BDI	26.30	10.50	18.70	11.10	4.89*
HS	9.15	5.79	4.25	3.26	10.88*
DAS	140.25	48.47	124.20	32.77	1.51
IBT Composite	285.50	44.68	299.05	28.43	1.31
IBT Subscales:					
1. Demand for approval	27.45	8.02	29.30	7.41	.57
2. High self-expectations	28.90	6.13	30.40	5.26	.69
3. Blame-proneness	28.95	5.49	29.55	6.38	.10
4. Frustration reactive	32.10	5.47	32.25	4.30	.93
5. Emotional irresponsibility	29.20	5.90	25.20	5.40	4.92*
6. Anxious overconcern	32.45	5.90	33.60	6.44	.35
7. Problem avoidance	29.40	4.76	27.70	5.01	1.21
8. Dependency	26.45	5.14	30.75	3.92	8.86*
9. Helplessness	31.85	7.24	31.75	6.21	.22
10. Perfectionism	25.95	4.55	28.50	4.86	2.94
Drug use	.60	.50	.30	.47	3.80
Family	.35	.49	.30	.47	.11
Stress	8.70	1.90	6.10	2.40	14.25*
Parent	2.35	1.04	1.65	1.04	4.53*

\*  $p < .05$

A stepwise discriminant analysis was conducted. The stepwise analysis identified 7 variables which significantly differentiated between the suicidal and nonsuicidal groups, ( $\chi^2$  (7) = 36.449,  $p < .01$ ). The 7 variables are number of previous attempts, IBT8, IBT5, IBT4, the Hopelessness Scale, living situation of subject prior to admit (coded as parent), and DAS. The results of the stepwise analysis are shown in Table 4.

In order to compare the results of the present study with those of Ellis and Ratliff (1986), who did not include demographic data in their statistical analyses, a second discriminant analysis was conducted including only the DAS, BDI, Hopelessness Scale, and IBT subscales were included as predictor variables. The results are shown in Table 5. These results revealed a significant group effect with  $\chi^2$  (13) = 27.702,  $p < .01$ . The Hopelessness Scale, IBT subscale 8 (Dependence), and IBT subscale 5 (Emotional Irresponsibility) were the variables which best differentiated between the suicidal and nonsuicidal groups, and correlated with the discriminant function at .45, .41, and .30, respectively.

A third discriminant analysis was conducted using only the 10 IBT subscale scores as predictor variables.

Table 4  
Results of Stepwise Discriminant Analysis

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Canonical correlation:	.81	Chi-squared:	36.45
Wilk's lambda:	.35	Significance:	p < .01

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Standardized canonical discriminant function  
coefficients:

Attempt	.35
Hope	.57
DAS	.29
IBT4	-.72
IBT5	.66
IBT8	-.71
Parent	.50

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Table 5  
Comparison of Discriminant Function Analysis Between  
the Present Study and the Ellis and Ratliff (1986)  
Study

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Canonical correlation: .75                      Chi-squared: 27.70  
Wilk's lambda: .42                              Significance:  $p < .01$

---

Correlations between discriminating variables and  
discriminant function:

	Present Study	Ellis & Ratliff
Hopelessness Scale	-.45	.57
Dependency (IBT8)	.41	-.06
Emotional Irresponsibility (IBT5)	-.30	.42
Beck Depression Inventory	-.30	.27
Perfectionism (IBT10)	.23	-.13
Dysfunctional Attitude Scale	-.17	.47
Problem Avoidance (IBT7)	-.15	.23
High self-expectations (IBT2)	.11	.31
Demand for Approval (IBT1)	.10	.25
Anxious Overconcern (IBT6)	.08	.29
Blame-proneness (IBT3)	.04	.08
Frustration Reactive (IBT4)	.01	.29
Helplessness (IBT9)	-.01	.18

Classification results of the present study

Actual group	Predicted group	
	Suicidal	Nonsuicidal
Suicidal	19 (95%)	1 (5%)
Nonsuicidal	2 (10%)	18 (90%)

Overall accuracy: 92.50%

Classification results of the Ellis and Ratliff study

Actual group	Predicted group	
	Suicidal	Nonsuicidal
Suicidal	17 (85%)	3 (15%)
Nonsuicidal	2 (10%)	18 (90%)

Overall accuracy: 87.5%

---

This showed a significant group effect as well ( $\chi^2$  (10) = 19.834,  $p < .031$ ). Subscales 8 and 5 were the measures contributing most to the discriminant function with correlations at .53 and .40, respectively. Classification accuracy was high when the IBT, DAS, BDI, and Hopelessness Scale were included in the analysis; 95% of suicidal subjects and 92.5% of the cases overall were correctly classified.

## DISCUSSION

The hypothesis tested in this study was to determine whether suicidal female delinquents differ from nonsuicidal female delinquents on measures of attitudes and beliefs relevant to cognitive therapy. Overall, the results suggest that those judged suicidal in the present study did differ from the nonsuicidal female delinquents on measures of attitudes and belief systems. The suicidal group scored higher on measures of depression, hopelessness, and dysfunctional attitudes while the nonsuicidal group scored higher on the IBT composite score (though the difference was not significant). A stepwise analysis identified seven variables which significantly differentiated between the suicidal and nonsuicidal groups. These seven variables, in order of significance, were the number of previous attempts, IBT8, IBT5, IBT4, the Hopelessness Scale, and the subject's living situation prior to admit i.e., with both natural parents, in an institution, and so on.

The results of the present study are similar to the findings of Ellis and Ratliff (1986) with the exception of the IBT composite score which was unexpectedly higher among the nonsuicidal group in the present study and of the IBT subscales which contributed most to the discriminant function.



Subscales 8 and 5 of the IBT contributed most to the discriminant function in the present study while subscales 5 and 2 contributed the most in the Ellis and Ratliff study (1986).

These differences in IBT composite and subscale scores may be a result of the age differences between the subjects utilized in the two studies. The structure and terminology of the IBT may be too complex for the adolescents utilized in the present study to comprehend. Differences in the hierarchy of subscales identified between the two studies suggests that cognitive characteristics of suicidal, adolescent, female delinquents may differ from the cognitive style of adults. Subscale 8, dependency, may be an issue of relevance only to female adolescents reflecting the role which society has prepared for them. Further research is indicated to explore the applicability of the IBT to adolescents and the possibility of cognitive traits unique to the suicidal adolescent, male and female.

The present study also verified earlier findings that family dysfunction is prominent among adolescent suicide attempters (Berman & Carroll, 1984). The suicidal subjects resided with foster parents, relatives, in institutions or correctional facilities prior to admit more often than the nonsuicidal

subjects. Future studies should include information from parents as well the adolescent to more accurately assess family relationships.

The identification and stability of cognitive distortions in depression and suicidality among adolescents is further complicated by the frequent presence of natural mood swings. Hodgman (1985) has suggested that much self-reported depressive symptomatology in adolescents is only transient. Whether suicidal phenomena is a trait of the individual or a state induced crisis remains unclear. It has been examined previously in the literature (Neuringer & Lettieri, 1971; Wetzel, 1976) without resolution. Future research should address the stability of such symptomatology male and female among adolescents.

In conclusion, the results of the present study must be interpreted with caution due to the criteria utilized in making a suicidal judgement. The findings may be a reflection of the measures employed by Juvenile Court personnel to assess lethality than a true suicidal state. Further research among both male and female adolescents using more objective measures of lethality are needed to verify the findings of the present study. The identification of cognitive differences between suicidal and nonsuicidal adolescents will facilitate the development of a

cognitively oriented therapy specifically designed for suicidal individuals.

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