

THE UNIVERSITY OF CALGARY

LIFE STRESS, SOCIAL SUPPORT, AND
ADOLESCENT SUICIDALITY

by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "Life Stress, Social Support, and Adolescent Suicidality" submitted by Arlene Dickson in partial fulfillment of the requirements for the degree of Master of Science.



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ABSTRACT

Suicidal thoughts and behaviors have not been investigated in a sample of adolescents who are currently experiencing a transition from high school despite the fact that this age group is experiencing the largest increase in completed suicides in Canada.

In the current study, the incidence of suicidal thoughts and behaviors and the relationships between suicidality and stress from recent life events, perceived social support from family, and perceived social support from friends were explored in a sample of 195 adolescents. Participants were recruited from two Calgary high schools and asked to complete a set of self-report questionnaires which included demographic data, the Life Events Checklist, the Perceived Social Support from Family Scale, the Perceived Social Support from Friends Scale, and statements regarding their suicidal behavior.

When subjects were divided into discrete categories according to their suicidal thoughts and behaviors during the past 12 months, 87.7% reported no thoughts of suicide, 11.3% reported suicidal thoughts (ideation) but no plan, 0.5% reported developing a suicide plan, and 0.5% reported having made at least one suicide attempt. When the no thoughts and ideation groups were compared on measures of recent life events and perceived social support from family

and friends, only life events significantly differentiated the two groups ($F(1,159) = 4.39, p < .05$). No relationship was found between subjects' scores on negative life events and perceived social support from family or from friends. A discriminant function analysis revealed that group membership could not be predicted better than chance. The results suggested that the possibility of suicidal thoughts should be investigated in adolescents experiencing recent negative life events.

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Chapter I

INTRODUCTION

In 1986, the deaths of almost 3,700 Canadians were reported as suicides, nearly double the rate that prevailed during the period 1920 to 1960 (Beneteau, 1988). The largest increase in completed suicides occurred among 15 to 19 year old males. The rate in Canada for this age group was 20.2 per 100,000 of population in 1986, compared to 5.3 per 100,000 in 1960 (Beneteau, 1988). These Canadian rates are comparable to suicide statistics in the United States.

As alarming as these completion statistics may be, it is estimated that deaths by suicide are grossly underreported. A death is certified as suicide only if the intention of suicide is clearly proven. Therefore, numerous suicides may be disguised as accidents (Toolan, 1988). For this reason, it has been estimated that suicide rates may be two or three times higher than statistics indicate (Blumenthal, 1988).

The majority of studies involving suicide research have investigated subjects who have made suicide attempts. Although there are generally no Canadian statistics compiled on individuals who attempt suicide, it has been estimated from comparing a number of research studies that

approximately one percent of attempters will go on to kill themselves each year (Blumenthal, 1988) and that attempts may outnumber completed suicides by as much as a ratio of 200 to 300:1 (Curran, 1987). Solomon and Hellon (1980), in a cohort analysis of suicide deaths in Alberta between the years 1951 and 1977, concluded that "as the cohorts have aged, their suicide rates have increased" and that "rates for each successive cohort are higher than for any previous cohort" (p. 512).

Given that suicide statistics have increased so dramatically, it becomes particularly important to study the factors associated with suicidal behaviors.

Investigations of Suicidal Behavior

Until the nineteenth century, suicide was thought to be an act of 'impulse' or 'free will' (Taylor, 1982). By the mid-1800's, however, suicide was viewed as a 'moral' problem and suicide statistics began to be compiled along with murder and prostitution statistics. With the accumulation of statistics, it became apparent that the incidence of suicide was fairly consistent over time. For the first time, it was conceived that societal, rather than just individual, factors were implicated in suicidal behavior.

Emile Durkheim (1858 - 1917) was the forefather of

suicide research. He began a search for factors that would explain why individuals would take their own lives. Durkheim's premise was that suicide was a social phenomenon resulting from an imbalance between the integration and regulation of individuals within a society. His eminent work, "Suicide" (1897), detailed four types of suicide: egoistic suicide (those individuals not integrated into the social group), altruistic suicide (those individuals overly-integrated into society), anomic suicide (those individuals poorly regulated by society), and fatalistic suicide (those individuals who were excessively regulated and oppressed by society).

Since the era of Durkheim's work, research has been concerned with the discovery of the 'factors' that predispose some individuals to suicide and not others. At one time, those who committed suicide were thought to be mentally ill. Today, this assumption is no longer held; however, the psychiatric community is involved in research to determine what categories of mental illness are associated with suicidal behavior.

Social scientists, as well, have been involved in examining whether suicidal individuals differ from non-suicidal individuals on a number of factors. These factors included physiological and genetic predispositions, early childhood experiences, I.Q., stress tolerance,

affective factors (e.g., depression, loneliness, hopelessness, hostility, anger), behavioral factors (e.g., aggression, impulsiveness, modeling), sex differences, social relationships, and alcohol and drug abuse.

Adolescent Studies of Suicide Behavior

Although factors relating to adult suicide have been studied for a number of decades, it was not until the early 1960's that researchers viewed youth suicide as distinctly different from suicide in the adult population and worthy of separate study.

Most early studies of youth suicide involved samples of emotionally disturbed or delinquent adolescents who resided in psychiatric institutions, correctional centres, or group homes. Not surprisingly, these studies found that adolescents who made suicide attempts were likely to engage in acting-out behavior and come from homes characterized by alcoholism, parental separation and divorce, and family conflict (Miller, Chiles, & Barnes, 1982).

Next, adolescent suicide researchers began investigating 'normal' samples of adolescents who were engaged in suicidal behaviors. These studies consisted of surveys or retrospective chart reviews of adolescents admitted to hospital emergency rooms for suicide attempts (e.g., Spirito, Overholser, & Stark, 1989; Topol &

Reznikoff, 1982). Suicidal adolescents were compared on a number of factors with non-suicidal hospital admissions or general population controls. Like other institutional research investigating suicide, the results of these studies could not be generalized to the adolescent suicidal population at large.

Recently, a number of suicide studies have been conducted using samples drawn from high school and university populations of adolescents (Bolger, Downer, Walker, & Steininger, 1989; Bonner & Rich, 1987; Friedman, Asnis, Boeck, & DiFiore, 1987; Smith & Crawford, 1986; Wright, 1985). While school populations are also not representative of the total adolescent population, these surveys have revealed that the prevalence of adolescent suicidal thoughts and behaviors is much higher than originally estimated from hospital admission studies. In part, this is due to the finding that up to 90% of adolescents who have made a suicide attempt have not sought treatment for the attempt (Smith & Crawford, 1986). These studies have also revealed that an alarming number of youth in the general population have thought about killing themselves, have made a plan for killing themselves, or have made one or more suicide attempts.

Precursors of Suicide Thoughts and Attempts

It has been suggested by suicide researchers that thoughts of suicide are common among adolescents and that there is a close relationship between suicidal thoughts and attempts (Beck & Greenberg, 1971; Leonhardi, 1987; Miller, Chiles, & Barnes, 1982). Obviously, not all adolescents who consider suicide will make a suicide attempt. However, it is important to understand what factors differentiate the adolescent who only thinks of suicide and the adolescent who proceeds to a suicide attempt.

No clear, simple profile exists of the youth at risk of suicide (Palmo & Palmo, 1988). Rather, suicide is thought to result from a complex interaction of a number of factors. Suicidologists (or those who study suicide) have investigated numerous psychosocial and environmental factors which appear to increase the risk of suicidal thoughts and behaviors in adolescents. These include such characterological factors as depression, self-concept, mood disturbances, drug and alcohol use, and coping skills; social factors such as loneliness, peer relationships, and loss of a boyfriend or girlfriend and family factors such as conflict, parent loss, parental expectations, and family communication.

One variable which has been employed to account for perceptions of a broad range of family and social factors is stress from recent life events. Recent life events

encompasses such areas as stress from family problems, early loss, broken homes, and the dissolution of peer relationships. Despite adolescence being described as a period in which there are many transitions and changes, the effects of stressful life events have received little attention in research literature. Compas, Slavin, Wagner, and Vannatta wrote in 1986 that "only ten studies to date have examined the association of cumulative life events with psychological and/or physical dysfunction among adolescents" (p. 206). Paykel (1989), in a review of studies of stressful life events and suicidal behavior in youth, suggested that few studies exist which employ careful methodology. Those studies which do exist have yielded mixed results. Obviously, life stress as a factor in adolescent suicidal behavior warrants further investigation.

A second variable which has been employed to assess relationships with family and friends are measures of social support. Social support refers to the "extent to which an individual believes that his/her needs for support, information, and feedback are fulfilled" (Procidano & Heller, 1983). Relationships with parents and peers which are perceived as cohesive and rewarding would be more likely to be perceived as supportive. Characteristics which may influence perceptions of family

support are arguments with parents, marital conflict, communication, and parental approval. Social isolation from peers and dissolution of peer relationships may influence perceptions of peer support. Although relationships with family and peers have been studied in relation to suicidal behavior, perceptions of social support have only been assessed indirectly. An examination of social support and suicide would be particularly important since perceived social support may act as a buffer to stressful life events (Goodman, Sewell, & Jampol, 1984) and thus mitigate suicidal thoughts and behaviors.

Purpose of the Study

The purpose of this study was to explore a continuum of suicidal thoughts and behaviors in a normal sample of adolescents who were, perhaps, experiencing many changes in their lives. At the completion of high school, many adolescents are faced with decisions regarding employment, further education, (or some combination of the two), and where to live. This transition period can be very stressful. As well, the peer support and relationships built in high school often dissolve as individuals make choices that are different from their friends. Since the largest increase in completed suicides in Canada are in the 15 to 19-year old age group, it is possible that

adolescents experiencing this transition would be particularly vulnerable to thoughts of suicide and suicide attempts. Specifically, this study sought to explore the relationship between stress from recent life events, perceived social support from family and friends and reported suicidal thoughts and behaviors.

CHAPTER II

LITERATURE REVIEW

In this chapter, the relevant suicide literature pertaining to the incidence of adolescent suicide, stressful recent life events, and perceived social support from family and friends is examined. As well, methodological limitations inherent in suicide research are detailed. The chapter concludes with the focus of the present study.

Prevalence of Adolescent Suicidal Behaviors

A number of studies of populations of high school and college-age students indicate that thoughts of suicide (ideation) are common in this age group. Surveys of the incidence of suicidal thoughts among normal populations of adolescents and young adults indicate that anywhere from 37% to 75% of youth have had thoughts of suicide at some point in their lives (Bolger, Downey, Walker & Steininger, 1989; Bonner & Rich, 1988; Evans, Williams & McKinnon, 1985; Farberow, Litman, & Nelson, 1987; Friedman, Asnis, Boeck & Difiore, 1987; Smith & Crawford, 1986). Suicide ideation is thought to be a precursor to a suicide attempt (Bonner & Rich, 1988; Fritz, 1987; Miller, Chiles, & Barnes, 1982; Shafi, Carrigan, Whittinghill & Derrick, 1985). Research suggests that approximately 10% of those

attending school have made at least one suicide attempt (Friedman, Asnis, Boeck & Difiore, 1987; Smith & Crawford, 1986). Although few youth who think about suicide will actually make a suicide attempt, the implications of these statistics are staggering.

Researchers, using samples of high school and university students, have discovered a high prevalence of suicidal behavior among today's youth (See Table 1). Friedman (1987) and her colleagues anonymously surveyed New York high school students on their experience with suicidal behavior. Of the 380 subjects surveyed, 38.4% had never thought of suicide, 52.9% had thought of suicide, and 8.7% had made a suicide attempt.

In a study of 313 high school students in Kansas, Smith and Crawford (1986) found that 37.4% of students surveyed had not considered suicide, 37.4% of students had had thoughts of suicide, 14.7% had formulated a suicide plan, and 10.5% had made at least one suicide attempt.

In self-administered questionnaires to 901 Texas university under-graduate students and 207 senior high school students, 10.6% of the high school students and 6.4% of the university students responded that they had "seriously considered a suicide attempt during the last six months" (Wright, 1985, p: 576). This rate of ideation is much lower than that reported in other suicide studies (see

TABLE 1

Surveys of Adolescent Suicidal Behavior

Author (year)	N	<u>No Thoughts</u>	<u>Thoughts</u>	<u>Plan</u>	<u>Attempt</u>
		(% of Respondents)			
Bolger (1989) et al	364	25.0	75.0	-	-
Bonner & Rich (1987)	158	34.0	63.0	-----	3.0
Evans, Williams & McKinnon (1985)	188	11.0	47.0	11.0	31.0
Farberow, Litman, & Nelson (1987)	226	58.6	41.4	-----	
Friedman et al (1987)	380	38.4	52.9	-	8.7
Smith & Crawford (1986)	313	37.4	37.4	14.7	10.5
Wright (1985)	207	89.4	10.6	-----	-

Note: Not all categories are reported and some reported percentages refer to more than one category.

- category not reported

---reported percentage includes more than one category

Table 1) because subjects recall over a six-month time period was solicited rather than the usual life-time prevalence in other studies.

With a representative sample of 226 California youth aged 16 to 19, Farberow, Litman, and Nelson (1987) reported that 58.6% of respondents had not engaged in suicidal thoughts or behavior and 41.4% had had suicidal thoughts or attempts. Unfortunately, suicidal thoughts, behaviors, and attempts were not treated as distinct categories in this study, making comparison of results difficult.

Bolger, Downey, Walker, and Steininger (1989) administered a questionnaire on thoughts about death and suicide to 364 university undergraduates. They reported that 75% of the sample in their study had considered suicide.

Of 158 college-age students who were surveyed with the Suicidal Behaviors Questionnaire (SBQ), Bonner and Rich (1987) discovered that 34% of subjects reported no thoughts of suicide, 63% of students reported considering suicide (including some with a plan), and 3% of subjects reported having made a suicide attempt.

Evans, Williams, and McKinnon (1985) reported that 47% of 188 undergraduate students in an Ontario university admitted to suicide ideation, 11% of subjects had made a plan to commit suicide, and 31% of students had made a

suicide attempt. The authors did not provide a definition of these suicide categories and did not offer an explanation for why 31% of their sample had attempted suicide.

In summary, research examining the incidence of suicidal thoughts and behaviors among populations of normal adolescents indicates a wide variation in reported suicide ideation and attempts. Some of the reasons for this variation among studies will be discussed under methodological limitations towards the end of this chapter. The majority of these studies have used samples of adolescents attending school or university. What is needed is a study which examines a more heterogeneous sample containing not only adolescents who attend school but also adolescents who are working or unemployed.

A Continuum Model of Suicidality

It is important that adolescents at risk of suicide be identified before a suicide attempt takes place. The concept of a continuum model of suicidality has suggested that suicidal behavior is a progression from thoughts of suicide to suicide attempts (Beck & Greenberg, 1971; Fritz, 1987; Leonhardi, 1987). Leonhardi (1987), in a paper titled "The Continuum of Suicide Thought", proposed that an accumulation of distressing events and experiences

throughout childhood may lead to an ambivalence about life and death, represented by a continuum. At one end, with the first suicidal thoughts, individuals may be 90% interested in death and 10% interested in life. A completed suicide is at the extreme end of the continuum. Intervention would be appropriately targeted at adolescents at the 'ideation' stage of the continuum.

The complexity and multidimensionality of social, intrapersonal, and environmental factors have also been conceptualized in a progression along a suicide continuum. Bonner and Rich (1988) proposed that "suicidal behavior is best defined as a sequence of events that (arbitrarily) begins with suicide ideation, which, given the appropriate influence variables, precedes and leads to suicide contemplation. In turn, certain influence variables cause suicide contemplation to lead to suicide planning. Finally, certain variables determine when suicide plans lead to suicide attempts" (p. 246). Although Bonner and Rich (1988) considered factors such as social/emotional alienation, cognitive distortions, deficient adaptive resources, hopelessness, and life stress, they did so only in relation to three suicide categories which they described as 'low suicidal ideation', 'moderate suicidal ideation' and 'high suicidal ideation with plan and attempts' rather than the distinct categories that they

proposed in the model.

Beck and Greenberg (1971), in a critique of the existing classification system of suicidal behaviors, suggested that suicidal behaviors should be considered in stages: "the point in sequence from ideation, passive wish to die, active wish, formulated plan, execution of plan" (p. 16).

Research has indicated that there is a close relationship between suicide attempts and suicide ideation. In a study of delinquent adolescent attempters and controls, Miller, Chiles, and Barnes (1982) reported that suicidal ideation and depression explained the variance in attempters: the more serious the ideation, the more likely the delinquent was to have attempted suicide. Shafi, Carrigan, Whittinghill, and Derrick (1985), in a psychological autopsy of 20 adolescent suicides and a match-pair control group, found that 85% of the victims had expressed suicidal ideation, whereas only 18% of the controls had done so. The authors concluded that a close relationship exists between suicidal thoughts, attempts and completions.

Several studies have adopted categories of suicidal behaviors in order to compare contributory factors across a continuum with 'no thoughts of suicide' at one end and 'suicide attempt' at the other. Smith and Crawford (1986)

defined four discrete suicide categories: Non-suicidals (subjects who reported no thoughts of suicide), Ideators (those who had considered suicide, but not developed a plan), Planners (those who had made a suicide plan but had not made an attempt), and Attempters (those who had made at least one suicide attempt). The authors reported significant differences between subjects in these four categories.

In a stratified random sample of New York high school students, Friedman (1987) and her colleagues anonymously surveyed students on their family history and experience with suicidal behavior. When subjects were classified into groups of 'no thoughts of suicide', 'suicide ideators', and 'suicide attempters', significant group differences were discovered on the variables of sex differences and experience with counselling. However, they found that the ideators and attempters were similar on their report of a family history of suicidal behavior.

From recent studies utilizing a continuum model of suicidal behaviors, it appears that it is likely that certain risk factors such as stress from negative life events may separate one category of suicidal youths from another and that differences between subjects in these categories can be investigated. Although the study by Smith and Crawford (1986) explored four discrete categories

along a suicide continuum, standardized instruments were not used to assess risk factors. Friedman, Asnis, Boeck and Difiore (1987) utilized three categories of suicidal behavior but focused on the prevalence of adolescent suicidal behavior rather than factors which differentiated the groups. The research literature suggests that what is needed is a study which compares adolescents in discrete categories of suicidal behaviors on factors which may influence suicidality.

Factors Associated With Suicidal Behaviors

There are a number of variables associated with suicide which have been explored in the research literature. These factors include stress (Cohen-Sandler, Berman & King, 1982; Ferguson, 1981; Isherwood, Adam, & Hornblow, 1982; Papa, 1980; Parker, 1988; Paykel, Prusoff, & Myers, 1975; Pettifor & Perry, 1983), social support (Harter, Kitchener, & Marold, 1986; Molin, 1986; Pettifor & Perry, 1983; Spirito, Overholser, & Stark, 1989), separation and loss (Pettifor, Perry, Plowman & Pitcher, 1983), dysfunctional family relationships (Dukes & Lorch, 1989; Garfinkel, Froese, & Hood, 1982; Miller, Chiles, & Barnes, 1982; Rivas-Vazquez & Rivas-Vazquez, 1986; Siegel, 1986; Wright, 1985), individual psychopathology such as depression (Miller, Chiles, & Barnes, 1982; Peck, 1984), and alcohol

and drug abuse (Wright, 1985) among others. Although the risk factors of suicide have been studied extensively in adult populations, suicidal adolescents have received less attention. The three most common factors investigated in adolescent suicide have been depression, early loss, and contact with suicidal others. A brief review of this literature follows.

First, depression is thought to be related to suicidal thoughts and attempts. A number of studies have identified that the distorted self-perceptions and dysfunctional attitudes typical of depressed individuals may lead to the hopelessness inherent in suicidal ideation and attempts (Bedrosian & Epstein, 1984; Harter, Kitchener, & Marold, 1986; Papa, 1980; Velez & Cohen, 1988). The Beck Depression Inventory (BDI) has been the instrument of choice in most studies to measure adolescent depression. However, there have been mixed findings regarding the association of depression and suicide. Harter, Kitchener, and Marold (1986) found "the greater the thoughts of suicide, the more the individual is likely to be depressed" (p. 59). Smith and Crawford (1986) found that depression as measured on the BDI significantly differentiated those adolescents who had never thought of suicide from those adolescents who reported suicide ideation and attempts. However, Friedrich, Reams, and

Jacobs (1982) found a strong relationship between depression and recent life stress, and between recent life stress and suicide ideation, but depression and suicidal ideation were unrelated.

Second, theorists such as John Bowlby have linked the separation from a parent in childhood to increased risk of suicide (Bolger, Downey, Walker, & Steininger, 1989; Fritz, 1987). In a study by Berman and Cohen-Sandler (1980), it was found that suicidal children could be differentiated from those children who were not suicidal by the loss of a parent. Bolger, Downey, Walker, and Steininger (1989) also found that "those who attempt or complete suicide have a history of disrupted family life" (p. 187). Early loss has also been implicated in increasing the lifetime prevalence of suicidal ideation (Ramsay & Bagley, 1985).

Third, an attempted or completed suicide by a friend or family member has been associated with increased risk of adolescent ideation and attempts (Fritz, 1987; Garfinkel, Froese, & Hood, 1982). This factor, too, has indicated mixed findings. For example, Smith and Crawford (1986) found that approximately 9% of their adolescent sample who reported suicide ideation or attempts had had a family member attempt or commit suicide. However, Bolger, Downey, Walker and Steininger (1989) found no evidence that previous contact with someone who was suicidal increased

the risk of suicidal thoughts, despite the fact that 60% of the sample reported this contact.

In conclusion, results from the examination of the most commonly explored factors (depression, loss, and contact with suicidal others) associated with adolescent suicidal ideation and attempts have yielded mixed results. What is required are further studies which can account for these factors in a broader context. For example, stress from life events may encompass depression, loss, and contact with suicidal others in relation to current suicidal ideation and behaviors. It is also important to examine factors which may mediate suicidal intent such as perceptions of social support. A literature review of stressful life events and the factors which affect perceptions of social support from family and friends follows.

Stress as a Factor in Adolescent Suicide

There is a sizable body of literature detailing the effect of stressful life events on health and psychological adjustment. The assumption is that the more stressful events that occur in a short period of time, the more coping resources are taxed, and the more likely an individual is at risk for developing physical or mental health problems. Lazarus and Folkman (1984) defined stress

as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources" (p. 19). Individual appraisal of the environment as stressful is believed to be mediated by personality factors, coping skills, health, belief systems, problem-solving skills, and social support (Braucht, 1979; Lazarus & Folkman, 1984; Mechanic, 1983).

A common method of measuring stress is by an examination of recent life events. Life events research assumes that certain environmental conditions impact the person which in turn produce stress. Events are typically weighted according to the amount of adjustment they require or how positive or negative the events are judged to be. One of the most common life events measurements was developed by Holmes and Rahe (1967) known as the "Social Readjustment Rating Scale" and a parallel test known as the "Schedule of Recent Experience" (Holmes & Rahe, 1967). These tests set a precedent for new and modified versions of tests to assess the stress created by recent life events.

Recent stressful life events are thought to precede suicidal behaviors (Bagley, 1989; Berman & Cohen-Sandler, 1980; Isherwood, Adam & Hornblow, 1982; Lazarus & Folkman, 1984; Parker, 1988; Paykel, Meyers, Lindenthal, & Tanner, 1974; Paykel, Prusoff & Myers, 1975; Paykel, 1989). Berman

and Cohen-Sandler (1980) observed that suicidal behavior was an "active, dynamic process of coping with stress" (p. 30). Bonner and Rich (1987) described how repeated exposure to stress may precipitate suicidal actions. "The individual may likely become increasingly depressed and engage in suicidal ideation initially as a perceptual solution to his or her life crisis. Moreover, cognitive distortions may magnify the perception of stress as well as the symptoms of social/emotional alienation. Consequently, the individual may experience an increase in severity of stress, depression, isolation, and hopelessness, and may thus perhaps engage in suicidal behavior as a "reasonable" solution to his or her desperate situation" (p. 59).

The majority of studies which have examined life stress as a factor in suicide have utilized adult samples. However, stressors in adolescence are much different than in adulthood, and therefore adult studies should not be generalized to adolescent populations. Research has indicated that adolescent suicide attempters experienced high rates of life stress, particularly stress involving family problems, the break-up of relationships with peers, early loss, broken homes, and school problems (Paykel, 1989).

Parker (1988) investigated whether hospitalized adolescent suicide attempters reported a greater frequency

of stressful events than adolescents hospitalized for accidents, non-accidents, and the general school population. All subjects were administered the Adolescent Life Change Event Questionnaire. Parker (1988) found that "adolescent suicide attempters experience significantly more life change events than do other adolescents" (p. 18). However, hospitalized suicidal adolescents are not representative of suicidal adolescents in general, as a large number of adolescents do not seek treatment after a suicide attempt (Smith & Crawford, 1986).

A number of questions thought to be related to suicidal thoughts and behaviors were included in a survey administered to 313 high school students (Smith & Crawford, 1986). In identifying the statements that pertained to them, the statement "have had major unpleasant events affect me during last year" significantly differentiated nonsuicidal from ideator, planner and attempt groups of students. In the nonsuicidal group, 30.8% of students answered this statement affirmatively; in the suicide attempt group, 75.8% acknowledged this statement to be true for them. Although these differences were significant, a standardized measure of life stress may have yielded more information on the types of events that resulted in increased suicidal behaviors.

Several studies have found that life stress could

differentiate adolescent suicide attempters from other control groups based on the frequency of their stressful life experiences. Cohen-Sandler, Berman and King (1982) completed a Life Stress Inventory, Social Readjustment Scale for Children, and an Achenbach Symptom Checklist from retrospective information obtained from medical charts for three groups of children aged five to fourteen years: suicidal, depressed, and psychiatric. For membership in the suicidal group, subjects had to have met three criteria: (a) engaged in overt, potentially harmful behavior, (b) verbalized an intent to harm herself/himself, and (c) the behavior must have been specified as the reason for hospital admission. Stressful life events were recorded for each child over the lifespan and separately for the 12 months preceding hospital admission. Results of an analysis of variance indicated that suicidal children experienced more frequent stressful life events and higher amounts of life stress over their lifespan and in the twelve months prior to admission than the depressed or psychiatric control groups. One of the limitations of this study was that the data were retrospectively gathered from medical charts which may not have been completed accurately or fully.

Not all research has found a correlation between life stress and suicidal behaviors. Friedrich, Reams and Jacobs

(1982) administered the Life Stress Index (LSI) and other standardized tests to 132 junior high school students. They found that suicidal ideation was related to the family social climate, but not to recent life stress. In another study, an analysis of data gathered from 158 university psychology students suggested that life stress, as measured by the Life Experiences Survey, was not a significant predictor of suicidal behavior scores (Bonner & Rich, 1987). Spirito, Overholser and Stark (1989) studied adolescent life stressors and coping strategies in a group of adolescent suicide attempters and groups of distressed and non-distressed controls. They asked each subject to select the problems that they had encountered during the last month and rate their coping strategies for each. They concluded that similar stressful events had occurred to subjects in all three groups.

There have been a number of criticisms of the use of life-event questionnaires to assess stress. First, Paykel (1983) has criticized the use of self-administered questionnaires as a method of gathering information on life events. He cited the difficulty in defining a life event and difficulty in recalling time of occurrence as the major reasons for advocating use of a structured life event interview rather than self-reported information. The major disadvantage to this type of data collection is that

it is time-consuming. Second, researchers have questioned the simple counting of life events rather than utilizing the individual's perception of the stressfulness of each event (Johnson, 1986; Paykel, 1983). Johnson (1986) has pointed to the need to investigate individual perceptions of the desirability or undesirability of life events, as what is stressful for one person may not be stressful for another. Third, most life event inventories regard both positive and negative events as stressful, and therefore a total stress score is correlated with the variables under consideration. However, Johnson (1986), in a review of the stress literature, submitted that only negative life change scores have been found to correlate with psychological problems, whereas positive life change scores have not. In addition, only negative change scores have been found to differentiate between clinical and nonclinical groups on a number of measures such as depression and anxiety.

The research literature on suicide and stress from life events indicates several shortcomings which must be addressed. Frequently, samples were drawn from adolescents who had been hospitalized for a suicide attempt (e.g., Cohen-Sandler, Berman & King, 1982; Parker, 1988; Spirito, Overholser & Stark, 1989). However, since research indicates that few adolescents seek medical treatment for an attempt, the results of these studies cannot be

generalized to adolescent attempters in the general population. Those studies which do utilize adolescents from a normal population such as a high school have not always administered standardized and validated measures to assess stressful life events (e.g., Smith & Crawford, 1986). Those studies which have sampled normal adolescents and utilized standardized measurements have not employed life event measurements which assess individual perceptions of stress (e.g., Bonner & Rich, 1987; Friedrich, Reams & Jacobs, 1982). What is needed is a study which investigates a normal population of adolescents using standardized and validated test instruments which allow for individual perceptions of stress from negative life events.

Family Characteristics of Suicidal Adolescents

There is ample evidence to suggest that suicidal adolescents come from dysfunctional family systems (Bedrosian & Epstein, 1984; Berman & Carroll, 1984; Dukes & Lorch, 1989; Molin, 1986; Orbach, 1988; Petzel & Riddle, 1981; Pfeffer, 1989). Common family problems which contribute to adolescent suicidal behaviors are poor communication, alienation from the family and inadequate love and support from family members. The presence of these problems contributes to the adolescent's perceptions that they lack support from their families and that they

are 'on their own' during periods of stress or crisis.

Petzel and Riddle (1981) conducted an extensive review of the literature which dealt with the social, psychological and cognitive factors implicated in adolescent suicide. In their examination of family adjustment, they concluded that "suicidal youths experience greater family disorganization than nonsuicidal youths and that continued youthful suicidal behavior may be associated with an inability to achieve adequate family relationships" (p. 343). A number of family factors were suggested as being related to increased risk of suicide. Loss of a parent through marital separation or divorce, particularly at the onset of adolescence, appeared to increase the risk of suicidal behaviors. They also concluded that "family conflict, characterized by anger, ambivalence, rejection, and/or communication difficulties, is frequently present in families in which adolescent suicidal behavior occurs" (p. 345).

In a subsequent literature review, Berman and Carroll (1984), examining only those studies which used a control group, statistical analyses, and operational definitions, concluded that the weight of the research evidence suggests that families of suicide attempters were "highly conflicted and poorly responsive to the needs of the suicidal adolescent" (p. 58). The review indicated that families of

suicidal adolescents were frequently characterized by parental conflict, threats of separation or divorce, little affection, unreasonable discipline, and poor communication skills. Although these family characteristics alone are not indicative of suicide risk, they may interact with other factors to precipitate adolescent suicidal behaviors.

The following section will discuss the pertinent literature which has dealt with four family characteristics which have been associated with suicidal adolescents: parent/child conflict, isolation and parental approval, marital conflict, and poor family communication. These factors are believed to influence adolescent's perceptions of emotional support from family members.

Parent/Child Conflict

A pattern of escalating parent/child conflict has been implicated as preceding an adolescent suicide attempt. Wright (1985) placed university and high school students into two groups based on the presence or absence of suicidal thoughts in the past six months. Significant differences were found between the two groups on family conflict, with those who had suicidal thoughts reporting more conflict with their families. In a study by Trautman (1989), 70% of adolescent girls reported suicide attempts precipitated by arguments with their parents. Parents were

perceived as exhibiting extremes of expectation and control, alternating between over-protectiveness and indifference, withdrawal, and an inability to respond to adolescent crisis. In a study of 30 delinquent adolescents who had attempted suicide and 120 delinquent controls, Miller, Chiles, and Barnes (1982) suggested that "conflict between the attempter and family members may be a critical predisposing factor in a suicide attempt" (p. 497).

Jacobs (1971) described three stages in the escalation of family conflict leading to a suicide attempt:

1. A long-standing history of problems from childhood to early adolescence;

2. A period of escalation during which many new problems associated with achieving adolescence are introduced;

3. A final stage characterized by a chain-reaction dissolution of the adolescent's few remaining primary associations.

Jacobs (1971) claimed that it is not a particular incident which precipitates a suicide attempt, but the nature, number, and ordering of the events and the context in which they occur.

Husain and Vandiver (1984) offered a more detailed explanation of the escalation of parent/child conflict in adolescence. Children who have participated in conflictual

relationships with their parents in childhood demonstrate more behavior problems in adolescence. Parent's attempts to exercise more control of the adolescent result in provocative behavior, changeable moods, and periods of withdrawal and secretiveness. The adolescent, in turn, experiences feelings of helplessness, frustration, and alienation. These dynamics result in parent and adolescent becoming estranged from one another. The adolescent comes to consider himself/herself expendable as the parents directly or indirectly communicate that the adolescent is no longer welcome in the family. The adolescent may subsequently entertain thoughts of suicide as an escape from this dilemma. Often, the adolescent attempt is part of an escalating sequence of symptoms causing an increasing pressure for response from the psychological environment (Hollis, 1986).

Escalation of conflict with parents may also occur due to developmental transitions in the family life-cycle such as a child preparing to leave home (Aldridge, 1984). This would imply that an adolescent's period of transition after high school may be particularly conflictual.

Isolation and Parental Approval

It is generally believed that during adolescence, children increasingly eschew their parent's support as they

strive for independence and assume new responsibilities and relationships (Christ, 1974). However, there is evidence to suggest that both younger and older adolescents value their relationships with parents and that the quality of relationships with parents and perceived support from them are highly related to well-being (Greenberg, Siegel, & Leitch, 1983). Research also indicates that the effects of negative life stress may be moderated by a perceived positive relationship with parents (Greenberg, Siegel, & Leitch, 1983). If parents are unavailable for support, loneliness and alienation may follow. Suicidal adolescents come to believe that this alienation is chronic, which contributes to feelings of hopelessness and helplessness (Curran, 1987).

A developmental striving for individuation can be hampered by the adolescent's family, leading to frustration, helplessness, and alienation. Suicidal adolescent's family systems have been characterized as closed; that is, even though adolescents are unable or unwilling to establish close relationships within the family, they are prohibited from forming supportive relationships outside the family (Levy & Weinman, 1982).

Harter, Kitchener, and Marold (1986), sampled 350 young adolescents between the ages of 10 and 15 years. Based on a battery of self-report measures including the Social

Support Scale for Children, they found that those who expressed a high measure of suicidal ideation were more likely to perceive that they had less support from their parents than adolescents in three lower ideation groups.

Parental approval and expectations may also be a factor in teen suicide. Friedrich, Reams and Jacobs (1982), in an analysis of life stress, depression, and suicidal ideation, suggested that suicidal ideation was related to the family social climate including less cohesiveness and a greater achievement orientation. Harter, Kitchener and Marold (1986) reported that in their comparison of groups of low to high ideation adolescents, "there was a very large discrepancy between perceived academic competence and perceived parental importance placed on academics" (p. 59). Marold and Harter (1989), in a follow-up study, found that suicide attempters were more likely to have parents who extended conditional support according to the adolescent's ability to meet their high expectations. The authors surmised that those adolescents who do not think that they are competent in domains important to their parents may feel that they are letting their parents down. In a further analysis of adolescents who were depressed and suicidal with those who were depressed but not suicidal, the most significant difference was that suicidals reported less approval from their mothers than the depressed group

(Marold & Harter, 1989).

Marital Conflict

A feature of the suicidal adolescent's family system may be severe conflict between the parents (Pfeffer, 1989). Smith and Crawford (1986) reported that adolescents who had made a suicide attempt described their homes as "chaotic environments" and their parents as "unhappy, arguing individuals" (p. 317). Their results indicated that, whereas 42.4% of suicide attempters acknowledged that their parents argued a lot, only 39.1% of those with a suicide plan, 22.2% of those who had only thought of suicide, and 17.1% of those who had never thought of suicide answered this question in the affirmative. Wright (1985) administered questionnaires to 901 students enrolled in freshman courses at a Texas university and 207 high school seniors. Items regarding family stress were included in the questionnaire. Students who reported suicidal thoughts were significantly more likely to report that their parents had many conflicts with one another and that at least one parent was angry much of the time. These results applied not only to those adolescents still living at home, but also to those who were no longer living at home.

There is ample evidence to suggest that the parents of suicidal adolescents have experienced more separations and

divorces than those of non-suicidal adolescents (Curran, 1987; Pfeffer, 1989). Pfeffer (1989) reported that family stresses involving changes in the composition of the families due to loss, death, or parental separation/divorce were one of the most consistently reported factors associated with suicidal behavior. The adolescent in a reconstituting or recombining family may represent some aspect of the older family structure that a recombining family finds threatening thus excluding the adolescent from its' interactions (Molin, 1986).

Poor Communication Skills

The communication skills of families of suicidal adolescents are often poor. Denial, secretiveness, and little expression of empathy or support are characteristic of these families (Pfeffer, 1988). Suicidal adolescents often mirror the communication difficulties of their parents in their parent's relationships with friends, associates, and one another (Palmo & Palmo, 1988).

Communication patterns may also be difficult to comprehend. Parents may give "double messages" and adolescent attempts to understand these messages may produce a tightening of the system, inflexibility, and isolation (Kerfoot, 1984). The young person may present equally confusing statements to the parents and may be

uneasily managing the gulf between parental and peer group demands. Curran (1987) suggested that "these adolescents seem to have lost or perhaps never developed a capacity for clearly expressing in words, their most troubling feelings. Instead, they tend to resort to behavioral manifestations that are all too often regarded as baffling and annoying to their recipients" (p. 60).

Parent/child conflict, isolation, parental approval, marital conflict and communication are factors which could affect perceived satisfaction with social support from family members. The research literature suggests that these factors are also associated with increased suicidality in adolescents. A study which investigated the relation between life stress, perceived emotional support from family members and suicidality would be useful.

Peer Relationships

Peer relationships become increasingly important during adolescence. Developmentally, adolescents withdraw from the safety of an affectionate relationship with their parents and seek relationships outside of the family (Christ, 1974). It is important for adolescents to perceive that they have support from at least one close peer relationship.

Although the family relationships of suicidal teens

have been studied extensively, there is a dearth of studies dealing with peer relationships. A review of the research literature pertaining to the psychosocial aspects of adolescent suicide indicated that "information regarding social relationships of suicidal adolescents is extremely limited" (Petzel & Riddle, 1981; p. 357). Their review indicated that suicidal adolescents were more socially isolated or withdrawn, had fewer friends and may have recently lost a boyfriend or girlfriend.

Suicidal adolescents have more frequent and serious problems with peers and are less likely to have a close confidant (Topol & Reznikoff, 1982). In a study of 326 California youth aged 15 to 19, Farberow, Litman, and Nelson (1987) found that those who reported suicidal thoughts and behaviors significantly differed from those who did not in their report of being a 'loner'. Smith and Crawford (1986) posed a number of statements concerning suicide and social relationships to a sample of 313 high school students. Of those who were considered non-suicidal, 5.9% responded "yes" to the statement "perceive myself as a loner and/or as someone with few friends". Of those students in other suicide categories, 9.4% of ideators, 23.9% of planners and 18.2% of suicide attempters responded affirmatively to this question. In a study of 76 suicide attempters and adolescent controls, Spirito,

Overholser, and Stark (1989) found that social withdrawal differentiated the suicidal group from the controls when coping strategies were examined. They suggested that social withdrawal during periods of stress may increase the risk of a suicide attempt.

The disappointment of a failed significant love relationship with the opposite sex constitutes a major crisis in the life of an adolescent (Christ, 1974). Teicher (1970) observed that a dissolution of peer relationships, particularly a romantic involvement, often precedes adolescent suicide attempts. Subsequent research has confirmed this view (Bagley, 1989; Farberow, Litman, & Nelson, 1987; Spirito, Overholser & Stark, 1989; Topol & Reznikoff, 1982).

It has been noted that the increase in suicidal behaviors in late adolescence coincides with the typical age when young people finish high school. It has been suggested that adolescents lose their daily contact with high school peers and become more anonymous and isolated in post-secondary institutions or the work force (Berkovitz, 1985). "It may very well be that feelings of failure have not yet reached a dangerous level in the high-school group but become aggravated once the young person has moved on to college or into a job. The contained structure of most high schools may confer a sense

of belonging for even extreme loners. One is confronted with a peer group every day" (Berkovitz, 1985; p. 183). Individuals who are completing their high school year may feel particularly vulnerable to loss of support from peers who make different career or educational choices than themselves.

The research literature suggests that adolescents who are suicidal are more likely to perceive that they are isolated from or rejected by their peers. Therefore, it is likely that suicidal adolescents do not perceive their peer relationships as particularly supportive. According to the literature, adolescents who are in a transition from high school are especially vulnerable to loss of peer support and suicidal ideation and behaviors. The changes associated with this transition may also be perceived as stressful. An investigation of perceived stress, peer support and suicidality with a sample of high school transition youth would be appropriate.

Methodological Limitations of Suicide Research

In order to identify and treat potentially suicidal youth, relevant data must be gathered on the prevalence and antecedents of adolescent suicidal behaviors. Unfortunately, there are methodological shortcomings in much of the research literature which makes a comparison of

youth suicide studies difficult. These shortcomings have been defined by suicide researchers as limited empiricism, lack of control groups, use of clinical rather than 'normal' populations, and unclear operational definitions (Berman & Carroll, 1984; Harter, Kitchener, & Marold, 1986; Pettifor & Perry, 1983; Petzel & Riddle, 1981; Pfeffer, 1989).

First, operational definitions are not consistent across research studies (Beck & Greenberg, 1971; Berman & Carroll, 1984). Hawton (1986) observed that "considerable confusion abounds in the literature because some workers do not distinguish clearly between young people who have suicidal thoughts or make suicidal threats and those who make actual suicide attempts" (p.55). This problem is further exacerbated by researchers who distinguish different categories of attempts according to intent or lethality of means: 'parasuicide' (non-fatal suicide behaviors), the suicidal 'gesture', the 'ambivalent' attempt, or 'serious' suicide attempt. For example, in a study of university students, Fritz (1987) reported that 30% of students surveyed had made suicidal gestures and 7% had made suicide attempts. Differences in behaviors between a gesture and a serious suicidal attempt in this study were not defined. Beck and Greenberg (1971) proposed that a nomenclature of suicidal behaviors should include

such dimensions as the seriousness of the intent, contra-suicidal motivations, relation to psychopathology, external deterrents, number of suicide attempts, degree of risk, method employed or contemplated, communication of intent, and purpose. This suggestion underscores the complexity of labeling suicidal thoughts and behaviors.

A second factor in the diversity of research results reflects variation due to data collection techniques. For example, the increased rate of attempts recently reported in the literature may be due in part to the use of survey methods using anonymous questionnaires rather than sensitive face to face interviews (Bolger, Downey, Walker & Steininger, 1989; Friedman, Asnis, Boeck & DiFiore, 1987). Pfeffer (1989) indicated that the methods of collecting suicide data have largely used chart reviews or clinical interviews. She criticized chart reviews as being limited by informant, interviewer, and recording variability. Interview strategies, she claimed, were unsystematic. Petzel and Riddle (1981) in a review of the adolescent suicide literature, noted that few studies used objective measurements or standardized tests. They suggested that formal measurement techniques would improve ease of comparison and replication of studies. Another methodological problem is lack of the use of control groups in suicide research. Berman and Carroll (1984) in a

critical review of the suicide literature stated that "one of every two empirical studies of youth suicide published in the English language literature between 1980 and 1983 did not employ a comparison or control group" (p. 56). In an earlier published critique, Berman and Cohen-Sandler (1982) concluded that "significant methodological inadequacies in most of the modern research on youth suicide has led to unfounded conclusions about the nature of the problem" (p. 12).

A third problem is the population from which studies have been drawn. The majority of adolescent suicide studies have selected subjects from hospital or psychiatric settings, rather than from 'normal' populations (Harter, Kitchener, & Marold, 1986; Petzel & Riddle, 1981; Pfeffer, 1989). However, this problem is being addressed with more studies of youth drawn from community settings in recent years. Curran (1987) pointed to the need to include "non-college populations of post-high school age young persons as well as more study of high school age students" (p. 20) in order to more accurately depict adolescent attempt rates.

Another problem is that there have been no common age-groupings of youth subjects against which to compare results across studies. Some older adolescents have been included in adult studies of suicide and some younger

adolescents have been included in childhood studies of suicide. Statistics indicate that the incidence of suicide increases in an age trajectory between the ages of 15 and 24, yet few studies have examined a cross-section of youth in relation to suicide ideation and attempts, and predisposing risk factors. The American Association of Suicidology suggested use of the term "youth" to refer to those individuals between the ages of 15 and 24 who are at highest risk of suicide, rather than the term "adolescent" which would include those individuals below the age of 15 who are at low risk of suicide (Valente, 1989).

Methodological problems identified in the suicide research literature could be minimized by a study which (1) sampled from a 'normal' group of adolescents, rather than from a clinical population, (2) utilized a sample of adolescents who were not necessarily attending school, (3) compared subjects in four discrete suicidal behavior categories according to an operational definition of each category, and (4) gathered data with standardized, objective measurements.

Focus of the Study

The present study sought to address some of the points raised in the review of the adolescent suicide research literature. First, the sample consisted of normal

adolescents who were in transition from high school and not necessarily attending school at the present time. This provided a more heterogeneous sample of adolescents than samples drawn only from school populations. Second, adolescents were grouped and compared within four discrete suicide categories which were operationally defined. This provided a basis on which to compare risk factors across a continuum of suicidal thoughts and behaviors. Third, previous studies have indicated that stress from recent life events and perceived social support from family and friends are related to suicidal behaviors and that these factors would be particularly appropriate to explore in a sample of adolescents who may be experiencing a great deal of stress in their transition from high school.

The current study sought to explore the following questions:

1. What is the prevalence of suicidal thoughts and behaviors in a sample of adolescents who are experiencing a transition from high school?
2. Are there significant differences on demographic variables between subjects in different suicide categories?
3. What is the relationship between suicidal behavior, stress from recent life events, and perceived support from family and friends? Specifically, do adolescents who report suicidal thoughts and actions report more stress

from negative life events and less social support from their families and friends than adolescents who report no thoughts of suicide?

4. Can perceived stress from life events, social support from family, and social support from friends predict membership in a suicide category?

Chapter III

METHODOLOGY

Subjects

The participants in this study were young people ranging in age from 17 to 20 who volunteered to take part in a three-year longitudinal study (Transitions from High School) during their senior year of high school. Students were enrolled in either English 30 or English 33 classes in one of two non-semestered high schools in Calgary which agreed to allow students to participate. Students were approached during one class period by their English teachers in November, 1989, and provided information about the purpose of the study. Subjects under the age of 18 were required to obtain written consent from their parents before participating. Participants were asked to complete a set of questionnaires in November, 1989, May, 1990, February, 1991 and October, 1991 in regard to such areas as demographic information, work and school information, plans and expectations, and various social-emotional functioning measures such as depression and self-esteem. The set of questionnaires were expected to take approximately 45 minutes to one hour to complete. There were 379 students who volunteered to participate. The first two sets of questionnaires were completed in the classroom in November,

1989 and May, 1990 and subjects were informed that subsequent questionnaires would be mailed to participants for completion.

The current study is only concerned with the survey which occurred in February, 1991 when subjects could be expected to be repeating grade 12, attending post-secondary school, working at a full or part-time job, or unemployed. One hundred and ninety-five adolescents returned their questionnaire materials for this test period, a return rate of 51.5%.

Subjects were divided into one of four categories based on their self-report of suicidal thoughts and actions: (1) no thoughts, (2) ideation, (3) plan or, (4) attempt. One hundred and seventy-one adolescents reported no thoughts of suicide in the past 12 months; 22 adolescents reported that they had considered suicide in the past 12 months but had not developed a plan; one adolescent had considered suicide in the past 12 months and had developed a plan for killing herself; one subject had made one or more attempts to kill himself in the past 12 months.

Instruments

A number of demographic questions were included in the questionnaire booklet. These included age, sex, living arrangements, family configuration, opposite-sex

relationships, and employment and academic pursuits.

The Life Events Checklist (Johnson & McCutcheon, 1980) was retyped and revised for the questionnaire booklet from the original published article by the authors of the test when it was first developed. The Perceived Social Support from Family and Perceived Social Support from Friends instruments were included in the questionnaire booklet as retyped versions of their published form. Each of these instruments is separately described in this section.

Life Events Checklist (LEC)

The Life Events Checklist (Johnson & McCutcheon, 1980) is a self-report scale specifically designed to assess adolescent life stress. Subjects are asked to mark which of 46 events have occurred to them in the past 12 months. Several blank spaces are left at the end of the instrument for subjects to add any other items that they may wish to rate. Subjects are also asked to rate the event as 'good' or 'bad' and to indicate the impact or effect the event has had on their lives on a four-point continuum from 'no effect' to 'great effect'. The negative score is derived by summing the impact ratings (from '0' indicating 'no effect' to '3' indicating 'great effect') of events rated as 'bad'. Thus, subjects may obtain a total possible score of between 0 and 150. The LEC may also be scored by a

simple total count of experienced life events which research has suggested is as valid and reliable as weighted scores (Brand, Johnson, & Johnson, 1986). However, this claim is contentious, as other research has indicated that both the quantity and impact scores are necessary (Goodman, Sewell & Jampol, 1984).

In order to make the items more relevant to graduating high school students, three revisions were made to the original scale: two events were added ("finishing high school" and "being unemployed") and one event was revised (from "getting a job of your own" to "getting a full-time job"). The LEC was included in the set of questionnaire materials mailed to subjects for this test period only and was not included in the two previous test periods. The LEC contains statements relating to the family and peer relationships identified in research literature as characteristic of suicidal youths ("increased number of arguments between parents", "increase in number of arguments with parents", "losing a close friend", "breaking up with boyfriend/girlfriend").

Preliminary validity and reliability data have indicated that scores on the Life Events Checklist are uncorrelated with social desirability, and that negative stress scores are correlated with increased scores on measures of depression, anxiety, and emotional

maladjustment (Johnson & McCutcheon, 1980). A two-week test-retest reliability of 0.71 for positive and 0.66 for negative events was reported by Brand and Johnson (1982). Goodman, Sewell and Jampol (1984) found that the LEC differentiated those university students who sought counselling from those who did not. Counselling seekers reported a greater impact of negative life events and fewer positive events than those who did not seek counseling.

The Life Events Checklist is believed to remedy several shortcomings in previous life events instruments. The majority of life event scales assess stress according to summed life change values derived from a weighting of events judged to be stressful to youth. For example, with the Life Events Record (Coddington, 1972) young people are asked to indicate which of the events listed have been experienced during the recent past and the number of times the events have been experienced. Indicated events are then assigned a life change unit value which is summed for a total score. The major criticism of these scales is that rather than assessing individual perceptions of how stressful events have been, these instruments calculate stress scores on the basis of how stressful these events were judged to be by adult teachers, pediatricians, and mental health workers. The Life Events Checklist calculates stress scores from each individual subject's

perceived ratings of the stressfulness of life events. Obviously, an event which is perceived as 'good' by one individual may be perceived as 'bad' by another.

The basic assumption of many of the life events instruments is that both negative and positive life events require change. Therefore, since all change is believed to be stressful, desirable and undesirable events are not assessed separately in most life events instruments. The result, in past research, is that stress from recent life events has not been highly correlated with other variables. However, recent research has indicated that only life events exerting a negative impact on the individual are perceived as stressful. Johnson (1986), in a review of the life events literature, concluded that negative life change scores were associated with numerous health and psychological problems such as doctor visits, personal problems, depression, anxiety, and drug use, whereas positive life change scores were either unrelated to psychological problems or were related to lower levels of maladjustment. He advised that "it may be more appropriate to think of life stress in terms of events that have a negative impact on the individual than in terms of change per se" (p.38). For the purposes of this study, only negative stressful life event scores were calculated. Individual scores could range between zero and 150.

Perceived Social Support from Family Scale (PSS-Fa)

This 20-item self-report scale was devised by Procidano and Heller (1983) to assess the extent to which an individual perceives that his/her needs for support, information, and feedback are fulfilled by his/her family. Each of 20 declarative statements presents a choice of three possible answers - "yes", "no", or "don't know". Only the "yes" statements are scored (+1), with a maximum total score of 20 indicating the greatest amount of perceived social support. The items in the scale yielded an alpha coefficient of .90. Factor analysis resulted in a single-factor solution, further indicating the internal consistency of the items.

In a series of validation studies with university undergraduate students, the authors found that perceived social support from family was related to a measure of family cohesion and intimacy ratings of family members and inversely related to several measures of psychopathology. Perceived social support from families was not related to either negative or positive life event scores.

This instrument was chosen as an assessment of adolescent's relationships with their families because the items indicate that it assesses perceptions of receipt of emotional support (Tardy, 1985).

Perceived Social Support from Friends Scale (PSS-Fr)

The PSS-Fr was developed by Procidano and Heller (1983) in conjunction with the Perceived Social Support from Family Scale in order to assess the extent to which individuals perceive their friends to fulfill their need for support, information, and feedback. The PSS-Fr also contains 20 statements and is scored identically to the PSS-Fa. Some statements are worded almost identically to the family scale. For example, the statement "I rely on my family for emotional support" on the family scale was reworded to "I rely on my friends for emotional support" on the friend scale. The items for friends yielded an alpha coefficient of .88 indicating a high degree of internal consistency.

Operational Definitions

No Thoughts - Subjects who had had no thoughts of suicide in the past 12 months.

Ideation - Subjects who had considered suicide in the past 12 months but who had not developed a plan or made a suicide attempt.

Plan - Subjects who had considered suicide in the past 12 months and had also developed a plan for killing themselves but had not made a suicide attempt.

Attempt - Subjects who had made one or more attempts to

kill themselves in the past 12 months.

Stress From Recent Life Events - Life changes which are perceived as negative by the individual and which are perceived as having had an impact or effect on their lives.

Social Support from Family - The extent to which individuals perceive their families to fulfill their need for support, information, and feedback (Procidano & Heller, 1983).

Social Support from Friends - The extent to which individuals perceive their friends to fulfill their need for support, information, and feedback (Procidano & Heller, 1983).

Procedure

A set of questionnaire materials was mailed to the 379 participants who had volunteered to participate in the longitudinal study "Transitions from High School" in mid-February. Subjects were instructed in a cover letter (see Appendix A) to complete the questionnaires as soon as possible and return the package in a stamped return envelope which had been provided. Individuals were assured that their responses would be kept confidential and used for research purposes only. A reminder of the date of the next collection phase and a commitment from the researchers to forward a summary report to each participant

at the conclusion of the study were also contained in the letter. One hundred and sixty-one completed questionnaires were returned to the researchers at this time.

As a follow-up to those who had not yet returned their questionnaires six weeks later, a second mailing of questionnaires was undertaken with a cover letter reminding subjects of their agreement to participate (see Appendix B). This follow-up yielded a further return of 34 completed questionnaires, for a grand total of 195.

Statistical Analyses

Since there was only one subject each in the 'plan' and 'attempt' categories, the responses of these subjects were discarded from the statistical analyses, but described separately in the results section of this paper. An alpha level of .05 was set as the level of significance for all statistical tests.

Demographic Data

Descriptive analyses of demographic data were conducted using means, standard deviations, and frequencies (where appropriate) on 193 subjects (171 subjects in the no thoughts group and 22 subjects in the ideation group). The following analyses were undertaken:

1. A Chi-square analyses was used to test for significance between the suicide groups for the categorical

variables of sex, living arrangements, family configuration, opposite-sex relationships and employment and academic pursuits.

2. An ANOVA was used to analyze data for the continuous variable of age.

Test Data

Since 32 subjects had missing data on the three dependent measures, they were discarded and further analyses were undertaken with data from a total of 161 subjects (139 subjects in the no thoughts category and 22 in the ideation category).

The dependent variables (life events, social support from family, and social support from friends) were analyzed in a number of ways:

1. Scores from the three test instruments were correlated using a Pearson Product Moment Correlation to explore the strength of the relationship between them.

2. Univariate F-tests were employed to determine whether differences between the means of the no thoughts and ideation groups were significant on the variables of life events, support from family, and support from friends.

3. A separate Chi-square analysis was undertaken of each of four questions from the Life Events Checklist which were indicated by the literature review as being likely to

differentiate the two groups: (1) increased number of arguments between parents, (2) increase in number of arguments with parents, (3) losing a close friend and, (4) breaking up with boyfriend/girlfriend.

4. A Fisher's Linear Discriminant Function analysis was conducted to determine whether the three variables (life events, support of family, and support of friends) would predict suicide group membership.

Results of this statistical analyses appear in Chapter IV of this thesis.

Chapter IV

RESULTS

The results are presented in two major sections. In the first section, the relationships between demographic variables and the 'no thoughts' and 'ideation' groups are examined. In the second section, the relationships between the no thoughts and ideation groups on the dependent variables of stress from recent life events and perceptions of support from family and friends are examined.

As previously mentioned, of the 195 respondents who returned their questionnaires, one subject reported having attempted suicide in the past 12 months; one subject reported having considered suicide in the past 12 months and had also developed a suicide plan; 22 subjects (11.3%) reported considering suicide in the past 12 months but had not developed a plan; 171 subjects (87.7%) reported having no thoughts of suicide in the past 12 months.

Demographic Information

To determine whether there were differences between the suicide categories, subjects were compared on the variables of age, sex, living arrangements, family configuration, opposite sex relationships, and employment and academic pursuits.

The intent of this study was to compare subjects on a

continuum of four discrete suicide categories. Since the plan and attempt categories contained only one subject each, the demographic information of these subjects was not included in the statistical analyses or interpreted, but is briefly described herein.

The subject who indicated that she had considered suicide in the past 12 months and had also formulated a plan (plan category) was a 19-year old female who was currently living at home with her parents. When asked to describe her family configuration, she indicated the "other" category. In regards to her relationships with members of the opposite sex, she indicated that she was "single and unattached". She was currently a full-time student who was repeating Grade 12 at a local high school and was unemployed.

The subject who indicated that he had made one or more attempts to kill himself in the past 12 months (attempters category) was an 18-year old male who lived at home in a two-parent family. He reported that he was single and unattached and also that he was unemployed and not attending school.

Demographic information was analyzed for the remaining 193 subjects (171 subjects who reported no thoughts of suicide and 22 subjects who reported suicidal ideation). Demographic information appears in Tables 2 through 7.

Age

A one-way ANOVA revealed no significant differences between adolescents who reported suicide ideation and those who did not in terms of age ($F(1,191) = 1.77, p > .05$).

The age of adolescents for the total sample ranged from 17 to 20 years, with a mean age of 18.3 years and a standard deviation of 0.55. When subjects were categorized into one of the two suicide groups for comparison, the mean age of the no thoughts group was 18.29 with a standard deviation of 0.52 and the mean age of the ideation group was 18.45 with a standard deviation of 0.74.

Sex

A chi-square analysis indicated no significant difference between the proportion of males and females for the no thoughts and ideation groups ($\chi^2(1) = 1.70, p > .05$)(see Table 2).

Of the total sample, 77 (40.1%) respondents were males and 115 (59.9%) respondents were females. The no thoughts and ideator groups are compared by sex in Table 3.

Living Arrangements

A chi-square analysis indicated no significant difference between the proportion of those who lived at home and those who lived away from home for the two groups ($\chi^2(1) = 0.25, p > .05$)(see Table 2).

TABLE 2

Chi Square Analysis of Demographic Variables
for No Thoughts and Ideation Groups

Variable	Chi-Square	df	p-value
Sex	1.70	1	0.19
Living Arrangements	1.30	1	0.25
Family Configuration	3.69	4	0.45
Opposite Sex Relationships	0.19	2	0.91
Employment/Academic Pursuits	3.07	6	0.85

TABLE 3

No Thoughts and Ideation Groups by Sex

Sex	No Thoughts	Ideation	Total Sample
Males	41.8% (n=71)	27.3% (n=6)	40.1% (n=77)
Females	58.2% (n=99)	72.7% (n=16)	59.9% (n=115)
Total	100.0% (n=170)	100.0% (n=22)	100.0% (n=192)*

*Number of missing cases: 1

Subjects were asked whether they currently lived at home with parents or guardians or whether they lived on their own or with a roommate. One hundred and sixty-nine (88%) adolescents reported that they lived at home and 23 (12%) reported that they lived on their own or with a roommate. When subjects were divided by suicide group, 87.1% of the no thoughts subjects lived at home and 95.5% of the ideation group lived at home (see Table 4).

Family Configuration

The chi-square analysis conducted on family configuration according to the proportion of adolescents in each of the suicide groups yielded no significant difference ($\chi^2(4) = 3.69, p > .05$) (see Table 2).

The majority of adolescents in this sample indicated that they came from a two-parent nuclear family (73.8%), while 14.7% came from a blended family, 7.3% came from a family where the parents were divorced or separated, 2.6% came from a single-parent family and 1.6% reported an "other" category. Subjects were divided into no thoughts and ideation groups and compared by family configuration in Table 5.

A further analysis of the data was undertaken by combining subjects who indicated they came from blended, divorced, separated, single-parent and other families into

TABLE 4

Living Arrangements of No Thoughts and IdeationGroups

Living Arrangement	No Thoughts	Ideation	Total Sample
Live at Home	87.1% (n=148)	95.5% (n=21)	88.0% (n=169)
Live on Own	12.9% (n=22)	4.5% (n=1)	12.0% (n=23)
Total	100.0% (n=170)	100.0% (n=22)	100.0% (n=192)*

*Number of missing cases: 1

TABLE 5

Family Configuration Of No Thoughts and Ideation Groups

Family Configuration	No Thoughts	Ideation	Total Sample
Parents Divorced	7.1% (n=12)	9.1% (n=2)	7.3% (n=14)
1-Parent Family	2.4% (n=4)	4.6% (n=1)	2.6% (n=5)
Blended Family	13.6% (n=23)	22.7% (n=5)	14.7% (n=28)
2-Parent Family	75.7% (n=128)	59.1% (n=13)	73.8% (n=141)
Other	1.2% (n=2)	4.5% (n=1)	1.6% (n=3)
Total	100.0% (n=169)	100.0% (n=22)	100.0% (n=191)*

*Number of missing cases: 2

a single category and comparing them to those who came from two-parent families. The difference between the two groups proved to be non-significant ($\chi^2(1) = 0.09, p > .05$).

Opposite-Sex Relationships

The chi-square analysis comparing the differences in opposite-sex relationships for the two groups indicated no significant differences ($\chi^2(2) = 0.19, p > .05$)(see Table 2).

Subjects were asked to indicate which of several statements regarding relationships with the opposite sex best described them. Of the total sample, 45% described themselves as "single and unattached" 32.3% described themselves as "single, but going with someone", 21.7% were "involved in a steady relationship or engaged", and 1.1% reported that they were "involved in a live-in relationship". Due to the small number of subjects in the live together category, these data were collapsed and combined with the going steady/engaged category for statistical comparison (see Table 6).

Employment and Academic Pursuits

The chi square analysis showed no significant difference among the proportions of subjects in the no thoughts and ideation groups according to employment and academic pursuit at the .05 alpha level ($\chi^2(6) = 3.07, p >$

TABLE 6

Opposite-Sex Relationships of No Thoughts and Ideation
Groups

Relationship	No Thoughts	Ideation	Total
			Sample
Single Unattached	44.3% (n=74)	50.0% (n=11)	45.0% (n=85)
Single Going With Someone	32.9% (n=55)	27.3% (n=6)	32.3% (n=61)
Going Steady/ Engaged/Live Together	22.8% (n=38)	22.7% (n=5)	22.7% (n=43)
Total	100.0% (n=167)	100.0% (n=22)	100.0% (n=189)*

*Number of missing cases: 4

.05)(see Table 2).

Different combinations of work, schooling, and unemployment were arranged into nine discrete categories. From several questions respondents answered in the questionnaire, subjects were placed in one of these categories for comparison. Working full-time was defined as "receiving pay for at least 30 hours per week"; working part-time was defined as "receiving pay for less than 30 hours per week"; unemployment was defined as "not working for pay at all this week". Results for the total sample indicated that adolescents were engaged in a varied cross-section of employment and academic pursuits. The majority of adolescents (29%) were full-time students who worked part-time. Of the others, 27.5% were full-time students who did not work; 15% worked full-time and were not receiving any schooling; 10.9% worked part-time with no schooling; 7.3% were unemployed with no schooling; 6.2% were part-time students with part-time jobs; 3.1% were part-time students with no employment; 0.5% were part-time students with full-time jobs; there were no subjects who reported that they were full-time students with full-time jobs. Subjects were divided accordingly into either the no thoughts or ideation groups and compared across the employment and academic pursuit categories. For statistical analyses, the "full-time school/full-time work"

and "part-time school/full-time work" categories were discarded due to the inadequate number of subjects in each cell. Results appear in Table 7.

Summary

Overall, there were no significant differences between the no thoughts and suicide ideation groups on the demographic variables of age, sex, living arrangements, family configuration, opposite sex relationships, and employment or academic pursuits.

Recent Life Events and Perceived Social Support

Three test instruments were employed to assess factors which may contribute to suicidal thoughts and behaviors: The Life Events Checklist, Perceived Social Support from Family Scale, and Perceived Social Support from Friends Scale. Due to the elimination of 32 questionnaires with missing data, only 161 cases were retained in the final analyses - 139 subjects in the no thoughts group and 22 subjects in the ideation group. Analyses of the results of these tests by suicide category are reported in Tables 8 through 15.

Intercorrelation of Test Instruments

Since there were a number of questions on the Life Events Checklist which may be related to perceived support

TABLE 7

Employment and Academic Pursuits of No Thoughts
and Ideation Groups

Work/School	No Thoughts	Ideation	Total Sample
Full-Time Work/ No School	14.8% (n=25)	19.0% (n=4)	15.2% (n=29)
Part-Time Work/ No School	10.7% (n=18)	14.3% (n=3)	10.9% (n=21)
Unemployed/ No School	8.3% (n=14)	-	7.3% (n=14)
Full-Time School/ Part-Time Work	29.6% (n=50)	23.8% (n=5)	29.5% (n=56)
Full-Time School/ No Work	27.1% (n=46)	33.3% (n=7)	27.8% (n=53)
Part-Time School/ Part-Time Work	6.5% (n=11)	4.8% (n=1)	6.2% (n=12)
Part-Time School/ No Work	3.0% (n=5)	4.8% (n=1)	3.1% (n=6)
Total	100.0% (n=169)	100.0% (n=21)	100.0% (n=190)*

*Number of missing cases: 3

from family and friends (e.g. "increase in number of arguments with parents", "breaking up with boyfriend/girlfriend"), and because social support may act as a buffer to stressful life events, it was anticipated that there would be a correlation between the Life Events Checklist and the two social support scales. Therefore, a Pearson Product Moment Correlation analysis was conducted to explore the strength of the relationship between these variables (see Table 8).

The analysis revealed that the results of the Life Events Checklist were not correlated with those of either the Perceived Social Support From Family Scale ($r = -0.09$, $p > .05$) or the Perceived Social Support From Friends Scale ($r = 0.09$, $p > .05$). These results suggest that the perceived impact of negative life events is independent of perceived social support from family and friends. The Perceived Social Support From Family and Perceived Social Support From Friends scales were significantly positively correlated ($r = 0.44$, $p < .01$). This suggests that subjects who perceive that they receive social support from their family also perceive that they receive social support from their friends.

Impact of Life Events

The two most frequent life events which subjects

TABLE 8

Pearson Product Moment Correlation Analysis of
the LEC, PSS-Fa, and PSS-Fr

	LEC	PSS-Fa	PSS-Fr
LEC	1.00	-0.09	0.09
PSS-Fa		1.00	0.44*
PSS-Fr			1.00

*p < .01, two-tailed

included in the 'other' column of the Life Events Checklist ("making new friends" and "separation from friends and family") were scored and included in the analysis of the data.

A Univariate F-test revealed a significant difference between the two suicide groups on the variable of life events ($F(1,159) = 4.39, p < .05$) (see Table 9). This finding indicated that, on average, the suicide ideation group perceived that events that they rated as "bad" had had a greater effect on their lives than those in the no thoughts group. The mean score of the no thoughts group was 6.79, with a standard deviation of 5.33, and the mean score of the ideation group was 9.32 with a standard deviation of 4.72. The individual in the plan category scored 2.00 on this variable and the individual in the attempt category scored 8.00.

A Chi-square analysis was undertaken of four items on the Life Events Checklist which were indicated by the literature review as being likely to differentiate the no thoughts and suicide ideation groups. The item "breaking up with boyfriend/girlfriend" did not significantly differentiate the two groups ($\chi^2(2) = 0.57, p > .05$). Forty-four subjects responded to this question. The responses by suicide group are indicated in Table 10. Due to an inadequate number of subjects in each cell, the other

TABLE 9

Summary of Analyses of Variance Comparing No Thoughts
and Ideation Groups on the LEC

Dependent Measure	No Thoughts (N=139)		Ideation (N=22)		F Ratio (1,159)	F Prob.
	\bar{X}	SD	\bar{X}	SD		
	LEC	6.79	5.33	9.32		

TABLE 10

Frequency of Responses to Life Events Item:"Breaking Up With Boyfriend/Girlfriend"

Effect of Event	No Thoughts	Ideation	Total Sample
Some Effect	9.4% (n=3)	8.3% (n=1)	9.1% (n=4)
Moderate Effect	53.1% (n=17)	41.7% (n=5)	50.0% (n=22)
Great Effect	37.5% (n=12)	50.0% (n=6)	40.9% (n=18)
Total	100.0% (n=32)	100.0% (n=12)	100.0% (n=44)*

*Number of missing cases: 149

three items "increased number of arguments between parents", "increase in number of arguments with parents" and "losing a close friend" could not be statistically evaluated for significance. However, Table 11 displays the frequency of endorsement of each item by suicide group.

Perceived Social Support from Family

A Univariate F-test indicated that there were no significant differences at the .05 alpha level between the no thoughts and ideation groups on perceived social support from family ($F(1,159) = 2.05, p > .05$) (see Table 12).

The mean score on this variable for the no thoughts group was 10.59 with a standard deviation of 3.88, and the mean score for the ideation group was 9.32 with a standard deviation of 3.85. The individual in the plan category scored 7.00 on this variable, and the individual in the attempt category scored 4.00.

Perceived Social Support from Friends

In an analysis of variance the difference between the no thoughts and ideation groups failed to achieve significance at the .05 alpha level ($F(1,159) = 1.73, p > .05$) (see Table 13).

The mean score for the no thoughts group was 11.50 with a standard deviation of 2.70, and the mean score for the ideation group was 10.68 with a standard deviation of 2.68. The individual in the plan category scored 9.00, and the

TABLE 11

Frequency of Endorsement of Items From the
Life Events Checklist by Suicide Group

Item	No Thoughts	Ideation	Total Sample
Breaking up With Boyfriend/Girlfriend	18.7% (n=32)	54.5% (n=12)	22.8% (n=44)
Increased Number of Arguments Between Parents	14.6% (n=25)	13.6% (n=3)	14.5% (n=28)
Increase in Number of Arguments With Parents	14.0% (n=22)	31.8% (n=7)	15.0% (n=29)
Losing a Close Friend	11.7% (n=20)	18.2% (n=4)	12.4% (n=24)

TABLE 12

Summary of Analyses of Variance Comparing No Thoughts
and Ideation Groups on the PSS-Fa Scale

Dependent Measure	No Thoughts (N=139)		Ideation (N=22)		F Ratio (1,159)	F Prob.
	\bar{X}	SD	\bar{X}	SD		
	PSS-Fa	10.59	3.88	9.32		

TABLE 13

Summary of Analyses of Variance Comparing No Thoughts
and Ideation Groups on the PSS(Fr) Scale

Dependent Measure	No Thoughts (N=139)		Ideation (N=22)		F Ratio (1,159)	F Prob.
	\bar{X}	SD	\bar{X}	SD		
	PSS-Fr	11.50	2.70	10.68		

individual in the attempt category scored 11.00.

Summary

Only the impact of negative life events significantly differentiated the no thoughts and ideation groups. Overall, subjects in the suicide ideator group perceived that negative events in the past year had had a greater impact on their lives than did those adolescents who reported no thoughts of suicide.

The mean scores and standard deviations for each of the dependent variables by suicide category appear in Table 14.

The Dependent Measures as Predictors of Suicidality

A Discriminant Function Analysis of the no thoughts and ideation groups was utilized to determine whether the dependent variables of recent life events and social support from family and friends could predict group membership. The analysis with one degree of freedom resulted in a Wilks Lamda = 0.96, Chi-Square = 7.15, with a significance of $p = 0.07$. The variables entered into the function were Perceived Social Support From Friends, Perceived Social Support From Family, and Recent Life Events. The canonical discriminant function score was equal to 0.80 for Life Events, -0.30 for Support from Family, and -0.46 for Support from Friends. The cutoff

TABLE 14

Mean Scores and Standard Deviations on the LEC,
PSS-Fa, and PSS-Fr Scales by Suicide Group

Scales	No Thoughts (n=139)	Ideation (n=22)	Plan (n=1)	Attempt (n=1)
LEC	6.79 SD=5.33	9.32 SD=4.72	2.00 SD=0	8.00 SD=0
PSS-Fa	10.59 SD=3.88	9.32 SD=3.85	7.00 SD=0	4.00 SD=0
PSS-Fr	11.50 SD=2.70	10.68 SD=2.68	9.00 SD=0	11.00 SD=0

points using the discriminant function above leads to predicting the No Thoughts group if the discriminant function score is less than -0.09 and the Ideation group if the discriminant function score is greater than 0.54 .

Using the discriminant function, the proportion of correct group classifications was 68.32% (which was not statistically better than 50% by chance). The No Thoughts group correct classification was 68.3% and the Ideation group correct classification was 68.2% (see Table 15). Therefore, the discriminant function equation, based on the three dependent variables combined, could not predict group membership better than chance for those adolescents who have thoughts of suicide and for those adolescents who have had no thoughts of suicide.

TABLE 15

Assigned Probability of Sample Membership According to
Classification Matrix on the LEC, PSS-Fa, and PSS-Fr
Combined

Observed Membership	<u>Discriminant Analysis Classification</u>		Percent Correct
	No Thoughts	Ideation	
No Thoughts n=139	95 68.3%	44 31.7%	68.3%
Ideation n=22	7 31.8%	15 68.2%	68.2%
Total Predicted	102	59	68.32%

Chapter V

DISCUSSION AND IMPLICATIONS

The purpose of this study was to explore a continuum of suicidal thoughts and behaviors in a sample of adolescents who were, perhaps, experiencing many changes in their lives. At the completion of high school, many adolescents are faced with decisions regarding employment, further education, (or some combination of the two), and where to live. The peer support and relationships built in high school often dissolve as individuals make choices that are different from their friends. Since the largest increase in completed suicides in Canada are in the 15 to 19-year old age group, it is possible that adolescents experiencing this transition would be particularly vulnerable to thoughts of suicide and suicide attempts. Specifically, this study sought to explore whether stress from negative life events and social support from families and friends could differentiate adolescents who were at different points along a suicide continuum.

In this chapter, the results of analyses of demographic data, negative life events, social support from family, and social support from friends are discussed in terms of suicidal thoughts and behaviors. Limitations of the present study and implications for further research and for counselling are also considered.

Prevalence of Suicidal Thoughts and Behavior

No research studies which explored the prevalence of suicidal thoughts among a sample of adolescents who were close in age and experiencing a transition from high school were found for comparison. However, it was possible to compare the prevalence rates of this sample with samples of other suicidal youth.

Of the 379 subjects who originally volunteered to take part in the longitudinal study, 195 completed and returned the questionnaires that were mailed to them during the February, 1991 test period. This response rate of 51.5% was anticipated, as the average response rate to postal questionnaires is approximately 30 to 50%. A similar study (Farberow, Litman & Nelson, 1987) mailed questionnaires concerning the prevalence of suicidal behavior to a representative sample of 16 - 19 year olds in the state of California. Their return rate for this survey was 33%.

When the 195 subjects who responded to the survey were divided into discrete suicidal categories, 171 subjects (87.7%) reported having no thoughts of suicide in the past 12 months, 22 subjects (11.3%) reported having some thoughts of suicide in the past 12 months, one subject reported having considered suicide in the past 12 months and had also developed a plan, and one subject reported having attempted suicide in the past 12 months.

A higher rate of youth indicated no thoughts of suicide in this study (87.7%) than what other research literature has reported. Friedman et al. (1987) found that 38.4% of their sample of high school students had never thought of suicide; Smith and Crawford (1986) found that 37.4% of 313 high school students surveyed had not considered suicide; Bonner and Rich (1987), in a survey of college students found that 34% of their sample reported no thoughts of suicide. As suggested by these studies, the incidence of youth who have had no thoughts of suicide is fairly consistent. When comparing these findings with the results of the present study, it is important to consider that in this study, subjects were asked about their suicidal thoughts and actions within a relatively short period of time (12 months). The studies referenced above solicited a life-time prevalence rate of suicidal thoughts from their samples. Given that recall of events diminishes over time, perhaps it is more appropriate to survey youth on their thoughts of suicide over a shorter time span. The results of this study suggest that in a given year, not as many youth are contemplating suicide as life-time prevalence studies would indicate.

The incidence of subjects who reported having had thoughts of suicide in the past 12 months (11.3%) was decidedly lower than what other suicide research would

suggest. Those studies which surveyed the incidence of suicidal ideation among populations of high school and university youth indicated that anywhere from 37% to 75% of youth had had thoughts of suicide at some point in their lives (Bolger, Downey, Walker & Steininger, 1989; Bonner & Rich, 1988; Evans, Williams & McKinnon, 1985; Farberow, Litman, & Nelson, 1987; Friedman, Asnis, Boeck & DiFiore 1987; Smith & Crawford, 1986). It has been suggested by one author that rates of suicidal ideation are much higher when "the time frame asked about reflected a lifetime prevalence rate rather than a point prevalence rate" (Friedman, Asnis, Boeck & DiFiore, 1987; p. 1203). The present study yielded a similar ideation rate as that of a study of Texas high school and university students conducted by Wright (1985). Students were administered anonymous questionnaires containing items relating to stress and delinquency. The suicidal ideation group consisted of those students who responded affirmatively to the question "have you seriously considered a suicide attempt during the last six months?" (p. 576). Of the high school students surveyed, 10.6% reported suicidal thoughts and 6.4% of the college students reported ideation. These results support the argument that the rate of suicidal ideation is much lower if the time frame is shorter and more specific. Inquiring about suicidal ideation over a

shorter period of time may more accurately pinpoint those adolescents who are at risk for making a suicide plan or attempt.

The results indicate that only one of 195, or 0.5% of the sample, who participated in this study reported that they had had thoughts of suicide to the point of making a plan to kill themselves within the previous 12 months. Two comparison studies were found in the suicide literature which reported the incidence of suicide planners separately from ideator and attempter groups. Smith and Crawford (1986) found that 14.7% of 313 high school students had made a suicide plan and Evans, Williams and McKinnon (1985) found that 11.0% of their students surveyed had made a suicide plan. Again, these studies reported the life-time incidence of those who had made a suicide plan and therefore the incidence of suicide planners reported in these studies would be expected to be greater than those who had made a suicide plan within the past 12 months.

Research literature suggests that of high school and university students surveyed regarding suicidal thoughts and behaviors, between 3% and 31% of students have made at least one suicide attempt. The lifetime prevalence rate of attempts in these studies ranges from 8.7% to 10.6% among high school students surveyed (Friedman et al, 1987; Smith & Crawford, 1986). Among university and college

students, reported attempt rates vary considerably, from 3% reported by Bonner and Rich (1987) to 31% reported by Evans, Williams and McKinnon (1985). In a representative sample of 326 California adolescents, Farberow, Litman, and Nelson (1987) found that 11% of subjects had made a suicide attempt. The results of the current study indicate that only 0.5% of students surveyed had attempted suicide. This low attempt rate may also be due to the shorter time-frame in which subjects were asked about their suicide attempts compared to the lifetime prevalence rates investigated in other studies.

The 12-month time-frame restricting the reporting of suicidal thoughts and actions may account for most of the differences in the incidence of suicidal ideators, planners and attempters in this study when compared to the incidence found in other research. However, it is important to be aware of other factors which may have influenced the prevalence rates in this study.

One factor in the diverse response rates may be the sample of subjects from which studies were drawn. The referenced suicide literature reporting prevalence rates of suicidal thoughts and behaviors utilized samples of high school or university students. Although the youth in the present study were of similar age, this sample was not as homogeneous as other samples, in that subjects were engaged

in a transition to a variety of pursuits ranging from attending high school or university to working full-time. As a whole, it would be expected that the adolescents in this sample would be more likely to report suicidal thoughts and actions than other adolescent groups due to the stressfulness and vulnerability they may be experiencing from this transition. However, heterogeneity of the sample may not be a sufficient explanation for the differences in reported rates, as the subjects were recruited from high school classes and not the general population of adolescents. It is also possible that the sample of adolescents in this study may be particularly well-adjusted.

Another factor in the inconsistency in suicide prevalence rates across studies may also reflect how suicidal thoughts and actions are defined. The present study defined four discrete categories of suicide behavior very similar to those of Smith and Crawford (1986). However, suicide is defined in different ways by different researchers. For example, Wright (1985) asked subjects whether they had "seriously considered a suicide attempt", but the definition of what constituted a 'serious consideration' was not defined. Farberow, Litman and Nelson (1987) reported adolescents who had "engaged in suicidal thinking or behavior, including suicide attempt."

Some standardization of definitions of suicidal thoughts and behaviors would result in more comparable rates of suicide across studies.

The most likely factor to explain why the reported prevalence rates in this study vary from other research studies is that this study did not survey subjects anonymously. At the time of testing, subjects were completing a third set of questionnaires as part of a longitudinal research project. They were asked to include their names and current mailing addresses on the completed questionnaires. Since suicide is a fairly sensitive topic, subjects may have been reluctant to reveal the true nature or extent of their thoughts and actions regarding suicide. Research suggests that studies which question adolescents anonymously regarding their suicidality report higher rates of suicidal thoughts and actions than studies which do not conduct anonymous surveys (Bolger, Downey, Walker & Steininger, 1989; Friedman, Asnis, Boeck, & DiFiore, 1987).

Demographic Data

Results of the analyses of demographic data indicated that there were no significant differences between the no thoughts and ideation groups. There may be several explanations for these results: 1) the sample was a fairly homogeneous group; 2) the sample was not randomly selected;

and 3) the no thoughts and ideation groups are close together on the suicide continuum.

There were no significant differences between the two groups on the variable of age. The subjects were of similar age for both groups with a very small standard deviation.

By sex, there were no significant between-group differences. However, within the ideation group, there were almost three times more females than males. Bolger, Downey, Walker and Steininger (1989) reported similar results. They found that females were 27% more likely to report suicidal ideation than males. A larger ratio of female ideators to male ideators makes sense in light of research which suggests that three to five females make a suicide attempt for every male suicide attempt (Farberow, Litman & Nelson, 1987; Garfinkel, Froese, & Hood, 1982; Miller, Chiles, & Barnes, 1982; Parker, 1988; Smith & Crawford, 1986). However, not all research has revealed sex differences in suicidal ideation. Friedman, Asnis, Boeck, and DiFiore (1987) found in an anonymous survey of 380 high school students that suicidal ideators were roughly equivalent by sex, with 51% males and 49% females reporting thoughts of suicide.

When subjects were asked to indicate their current living arrangements, 88% of the total sample responded that

they currently "lived at home with parent(s) or guardian(s)". Only 12% of the sample lived on their own or with a room-mate. Given the financial burden of establishing a residence today, it is not unusual that this would be the case. There were no significant differences between the two groups on this variable.

The majority of adolescents who reported no thoughts of suicide lived in two-parent families (75.7%); however, only 59.1% of the ideators did so. Although there were no significant differences between the two groups, the results may have approached significance if the sample had been larger. As indicated in the literature review, loss of a parent through marital separation or divorce appears to increase the risk of suicidal behaviors. Although there were few studies reporting demographic data on suicide ideators and controls, Smith and Crawford (1986) found that the two groups reported similar rates of intact family situations. A number of suicide attempt studies have investigated family configuration. The attempt literature is divided on whether adolescents have experienced more 'broken homes' than those who have not attempted suicide, with some literature reporting notable differences between youth who have attempted suicide and those who have not (Velez & Cohen, 1988) and other literature reporting little difference between the two groups (Parker, 1988). Parental

separation or divorce may not be a factor in suicidal behavior or it may only become a factor when adolescents have progressed further along the suicide continuum to a suicide attempt.

During adolescence, dating becomes particularly important as a means of sharing intimate thoughts and feelings. Fewer than one-third of the adolescents in this survey indicated that they were "going with someone" or "going steady". This may be explained in part by adolescents becoming part of a different peer milieu after graduation from high school due to varied work and academic choices. Almost half of the ideators and those in the no thoughts group reported that they were currently single and unattached. There was very little variation between the two groups in all categories of opposite-sex relationships.

One of the goals of this study was to explore the prevalence of suicidal thoughts and behaviors in a group of youth who were experiencing a major life transition. The results indicated that the subjects were engaged in a broad spectrum of activities from being unemployed and not attending school to working full-time, to attending school full-time. The majority of those who were ideators (33.3%) attended school full-time and were unemployed. The majority of those who reported no thoughts of suicide (29.4%) attended school full-time in addition to working

part-time. Whereas 8.2% of the no thoughts group reported that they were unemployed and not attending school, none of the ideators were in this category. Slightly more ideators than those with no thoughts worked full-time without attending school. Although there were no significant differences between the two groups on employment and academic pursuits, research suggests that those who are unemployed are more at risk for suicidal ideation. For example, Simons and Murphy (1985), with a sample of 407 high school students, investigated a number of factors related to suicide ideation. They found that the best predictor of suicide ideation for males was unemployment problems. The subject in the present study who indicated that he had made one or more suicide attempts in the past 12 months was unemployed and not attending school. Suicidality may be the cause of unemployment rather than the result.

In conclusion, although there were some trends evident from the statistical analyses, the demographic variables in this study did not distinguish adolescents who had reported suicidal ideation from those who reported no thoughts of suicide.

Negative Life Events, Family Support, and Friend Support

The analyses of results from three test instruments

(Life Events Checklist, Perceived Social Support From Family, and Perceived Social Support From Friends) revealed that the suicide ideation group of adolescents had experienced a significantly greater impact from negative life events than the no thoughts group, but that perceptions of social support from family and friends were similar for both groups. Each of these findings will be discussed separately below.

Social Support as a Buffer

As outlined in the literature review, research has suggested that social support from family and friends may mitigate the impact of stressful life events. Particularly since the life events instrument in this study contained items related to social support (e.g., "breaking up with boyfriend/girlfriend"), it was anticipated that there would be a negative correlation between life events and social support. That is, as perceptions of family and friend social support decreased, perceptions of stress from negative life events would increase. The results of the present study, however, do not support this premise. Test scores on the Life Events Checklist were not correlated with scores on the Perceived Social Support from Family or Friends scales. These findings support those reported by Burt, Cohen and Bjorck (1988). In a study assessing the

stress-moderating effects of perceived family environment with young adolescents, they found that a positive family climate did not act as a buffer in perceived life stress. In addition, Compas, Slavin, Wagner, and Vannatta (1986) found that although negative life events and low levels of satisfaction with social support were significantly related to psychological problems, there was no interaction between the two variables. In a review of life events research literature, Johnson (1986) suggested that social support may only moderate stress when combined with other variables such as perceived personal competence, personality type, parental attachment, and locus of control.

Recent Negative Life Events

The results indicate that, overall, suicide ideators reported a significantly greater impact from negative life events than those who reported no thoughts of suicide. This finding is supported by other suicide literature which has examined suicidal ideation and stress from recent life events (Garrison et al, 1988; Smith & Crawford, 1986; Wright, 1985). Smith and Crawford (1986), in a study of 313 high school students found significant differences between the nonsuicidal and ideator groups in affirmative responses to the statement "have had major unpleasant events affect me during the last year". Whereas only 30%

of the nonsuicidal group answered affirmatively to this statement, 54% of ideators responded 'yes' to this question. Unlike Smith and Crawford's (1986) study, the current study rated individual's perceptions of the stressfulness of a number of life events, which yielded more detailed information on the situations which these adolescents found to be stressful.

From a review of the suicide literature, it was anticipated that four questions on the Life Events Checklist may distinguish suicide ideators from the individuals in the no thoughts group - two questions regarding peer relationships and two questions exploring family conflict.

The two questions regarding peer relationships were "breaking up with boyfriend/girlfriend" and "losing a close friend". The literature review indicated that feelings of loss and social alienation are common among suicidal adolescents. The results of a number of studies suggested that suicidal thoughts and actions were precipitated by the dissolution of a relationship with a boyfriend or girlfriend (Bagley, 1989; Farberow, Litman, & Nelson, 1987; Spirito, Overholser & Stark, 1989; Topol & Reznikoff, 1982). In the current study, however, this item did not significantly differentiate non-suicidals from ideators. However, in comparing the frequency with which subjects in

these groups endorsed breaking up with a boyfriend or girlfriend, 54.5% of ideators had experienced this event, whereas, only 18.7% of subjects in the no thoughts group endorsed this item.

Questions regarding family conflict and relationships with family were "increased number of arguments between parents", and "increase in number of arguments with parents". As the literature review indicated, suicidal adolescents are more likely to come from homes where marital conflict and parent/child conflict were prevalent. Unfortunately, the small size of the ideation group resulted in an inadequate number of subjects for statistical comparison on these items. However, a comparison of the frequency of the endorsement of these items was undertaken. The no thoughts and ideation groups indicated similar rates of increased number of arguments between parents. However, while only 14.0% of the no thoughts group indicated that they had experienced an increase in number of arguments with parents in the past 12 months, 31.8% of the ideators indicated that this was so. Overall, more ideator subjects than no thoughts subjects reported losses of peer relationships and arguments with parents.

One of the questions which may arise about the sample of adolescents under consideration in this study is

whether, as a group, they are experiencing more stress from negative life events than other segments of adolescents. A comparison of the mean scores on the Life Events Checklist indicated that this was the case. Normative data for this scale was obtained on 213 adolescents in the general population between the ages of 13 and 18. The mean negative life event score for the sample in this study was 5.46. The mean score for the no thoughts group in the present study was 6.79, and the mean score for the ideation group was 9.32. However, stress from life events may be related to the aging process, and not to particular life transitions. A study by Compas, Davis and Forsythe (1985) suggested that, as adolescents age, they experience a greater frequency of life events which may potentially be perceived as stressful. Given this data, it is difficult to assess whether the life stress experienced by the current sample derived from their recent transition from high school, or whether it is an age-related phenomenon.

Perceived Social Support From Family

The results indicated that adolescents who reported suicide ideation did not differ significantly on the variable of perceived family support from those who reported no thoughts of suicide.

There is ample research literature to suggest that

suicidal adolescents perceive that they come from conflicted families who provide little emotional support (e.g., Friedrich, Reams & Jacobs, 1982; Wright, 1985; Harter, Kitchener, & Marold, 1986). It has also been well-documented that suicidal adolescents perceive their parents as indifferent or as lending conditional support (e.g., Marold & Harter, 1989; Trautman, 1989). However, most of this literature was concerned with adolescents who had made a suicide attempt. It may be that lack of familial social support may be a factor in suicide attempts but not in suicide ideation. Alternatively, the measure of social support employed in this study may not be measuring those family characteristics such as conflict and indifference implicated in suicidality.

The correlational analysis of test scores indicated that scores on the PSS-FA were significantly correlated with scores on the Perceived Social Support From Friends scale ($r = 0.44$, $p < .01$). This correlation between the two tests is similar to that reported by Lyons, Perrotta, and Hancher-Kvam (1988) ($r = .42$, $p < .01$) in a sample of college undergraduates. In their sample, the mean score on the support from family measure was 11.9, whereas, in this sample, the no thoughts group average score was 10.59 and the ideators scored an average of 9.32. Although conclusions can not be drawn from a sample of one, it is

interesting to note that the individual in the plan category of this study scored 7.00 on PSS-FA, and the individual in the suicide attempt category scored 4.00. This trend should be interpreted cautiously, as directionality and causality are not indicated by correlations alone. Those adolescents who are suicidal may perceive less family support or, on the other hand, perceptions of less family support may increase suicidal thoughts and actions.

Perceived Social Support From Friends

Although the research literature suggested that perceptions of social isolation are related to suicidality, the results of this study indicated that the suicide ideation group did not perceive significantly less support from friends than adolescents in the no thoughts group.

There is some research to support this finding. Smith and Crawford (1986), in an item analysis of the question "perceive myself as a loner and/or as someone with few friends" found little difference between non-suicidal and ideator adolescents in their responses to this question. Of the non-suicidal adolescents, 5.9% responded "yes" and of the ideator group, 9.4% responded "yes". It was interesting to note that 18.2% of suicide attempters in their study perceived themselves as loners. Perceptions of

social support may increase in importance as a factor in suicidality as individuals progress further along the suicide continuum.

Prediction of Group Membership

This study explored whether the no thoughts and ideation groups of adolescents could be predicted by the Life Events Checklist, the Perceived Social Support From Family, and the Perceived Social Support From Friends measurements combined. A Discriminant Analysis indicated that membership in the two groups could not be predicted significantly better than chance by these variables. It would be useful to assess whether these variables could predict membership in a suicide group if the groups being compared were further apart on the suicide continuum (ie., comparison of the no thoughts group with the plan or attempt groups). It would also be interesting in a future study to investigate the predictive power of other combinations of variables related to suicidal behaviors. These might include depression, locus of control, coping skills, contact with suicidal others, and anxiety, among others.

Limitations

There are a number of methodological problems which restrict the extent to which these findings can be

generalized to a normal adolescent population.

First, this sample of adolescents was a self-selected convenient sample. Subjects were approached while attending high school and asked to participate in a 2-year longitudinal study. The sample cannot be assumed to represent the general population of older adolescents making the transition from high school. The attrition rate of subjects from the first to the third data collections was fairly high (48.5%). Since the data for this study were gathered only from the third test period, there was no means to compare those who originally agreed to participate in the study with those who dropped out. Suicide is a sensitive topic and therefore it is difficult to assess suicidal thoughts and actions. Those who were further along the suicide continuum (for example, planners or attempters) may not have responded to the mail-out questionnaire due to their preoccupation with suicide. One recommendation would be to gather a large enough sample that subjects could be randomly selected and administered the self-report questionnaires in a single sitting.

Second, adolescents in this study did not complete their questionnaires anonymously. Since this study was part of a longitudinal project, subjects were asked to put their names and current addresses on their questionnaires for future follow-up. Adolescents may have been reluctant

to indicate their suicidal thoughts and actions under these requirements, even though they were assured that the information would be kept confidential.

Third, due to the unequal sample size of the no thoughts and ideation groups, the results should be interpreted with great caution. The small size of the ideation group was not ideal for statistically examining the data further due to too few subjects in each frequency cell. Future studies with a larger sample could assess such variables as sex differences between suicide categories for negative life events and social support. Failure to obtain enough subjects in the planner and attempt groups for comparison purposes resulted in the impracticality of testing a continuum model of suicide. Again, a single-session survey of suicidal behavior may have been more successful in obtaining enough subjects in each of the four suicide categories for comparison purposes.

Fourth, an important consideration in evaluating the results of this research is that although subjects were asked whether they had engaged in thoughts of suicide during the previous 12 months, the extent of their suicidal ideation was not considered. For example, if the sample of ideators was large enough, the group could have been sub-grouped by frequency and seriousness of suicidal

thoughts for comparison. Those adolescents who have only thought briefly about harming themselves may be quite different than those who have constantly ruminated about suicide. Suicide research has indicated that a suicide attempt occurs in conjunction with a recent accumulation of stressful life events (e.g., Jacobs, 1971). As it is known that memory recall declines over time, asking about suicidal thoughts and behaviors within a six-month time-frame rather than the 12 month time-frame in this study may produce more accurate reporting of thoughts and events.

Attempted suicide is also not a unitary behavior. Berman and Carroll (1984) suggested that a suicide attempt can range from a suicide gesture of low lethality to a severe, but not fatal attempt. The authors suggested that the reason more studies do not analyze subjects by lethality is that due to the large numbers of subjects needed, "few studies can afford the luxury of subgrouping or separately analyzing subjects" (p. 55). The current study was much too small to obtain adequate subjects in each of the four suicide categories. Further dividing the attempt category into lethality sub-categories for analyses would further increase the number of subjects required in a future study. For similar reasons, intentionality of the attempt was not evaluated. Motives for attempting suicide

may include actual death, coercion, attention-seeking, or punishment of self or others (Berman & Carroll, 1984).

Finally, interpretation of the results of the test instruments used in this study should be tentative. Although initially validated on adolescent samples, the three measures have not been widely used. As well, reciprocal influences may exist between suicide and negative life events as well as social support. Directionality and causality can not be presumed.

Implications for Future Research

Suicidal thoughts and behaviors should continue to be explored within a continuum framework in order to identify those factors which differentiate adolescents who only think of suicide from those who are actively trying to end their lives. If specific factors, like stress from negative recent life events, can be identified, professionals can more readily assess those who are at risk. Further exploration of a continuum of behaviors may yield information on whether each category of suicidal behaviors (ie. ideator, planner) has its' own unique predisposing factors or whether suicide occurs along a continuum of common factors.

The results of this study suggest that perceptions of negative recent life events differentiate those who have

had thoughts of suicide from those who have not. This factor warrants further investigation. Although this study examined only the impact of stressful negative life events, it is also important to examine the role that positive life events may play in suicidal thoughts and behaviors.

The majority of suicide studies examine only one or two variables. What is warranted is a study which investigates a large number of factors such as life events, depression, social support, and anxiety, and mediating variables such as positive life events, locus of control and coping skills, which have been associated with suicidal behavior. This study should also utilize a large anonymous random sample of normal adolescents, standardized and validated test instruments, and appropriate statistical analyses to adequately examine the variables in relation to different categories of suicidal behavior. If the sample were large enough, sub-groups of behaviors in each category (ie. seriousness of suicidal ideation) could also be compared.

In summary, the investigation of suicidal behaviors and the factors associated with these behaviors should be explored from a perspective that emphasizes their reciprocal interaction. As perceptions of stress increase, suicidal thoughts may increase; as suicidal thoughts increase, life events may be perceived more negatively. The challenge to helping professionals is to identify and

intercede in this spiral.

Implications for Counselling

Due to the limitations of this study, the results should not be generalized to clinical practice. However, the findings support the need for counsellors to investigate the possibility of suicidal thoughts in adolescent clients who are experiencing a number of negative life events. The results also emphasize the need to teach adolescents adequate problem-solving skills and coping strategies to deal with life stressors.

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APPENDIX A

Explanation and Instructions to All Participants,

February, 1991

TRANSITION FROM HIGH SCHOOL PROJECT

EXPLANATION AND INSTRUCTIONS TO ALL PARTICIPANTS
(FEBRUARY, 1991)

Thank you very much for your participation last May in the National Post High School Transition Study research project conducted through the Department of Educational Psychology at the University of Calgary. The purpose of this project is to explore what happens to high school students across the country after they graduate. In particular, we are interested in seeing what you have been doing since graduation and comparing your earlier responses with those you give now. The results of our study should be of help to you and others like yourself who are going through this important transition period.

We have now sent you a package of questionnaires very similar to the one you filled out for us in your high school last May/June, 1990. We would like you to complete these questionnaires as soon as possible and return the package to us by mail in the stamped return envelope which has been provided herein. The set of questionnaires should take no longer than one hour to complete. Please note that the INFORMATION YOU PROVIDE WILL BE KEPT CONFIDENTIAL and it will be used for RESEARCH PURPOSES ONLY.

INSTRUCTIONS:

1. It is very important that you complete the package

during the month of February, preferably within the third or fourth week of the month. In other words, the sooner you do it, the better.

2. Set aside about one hour of your time to complete the questionnaire so that you will be sure to FINISH THE PACKAGE IN ONE SITTING.

3. Begin on the top page and follow the package through page by page.

4. Please read all instructions very carefully. If, after several readings, you are still unclear or are having difficulties filling out the questionnaire, you can call the project research assistant, Arlene Dickson, at 220-6494.

5. When you have completed the package, simply insert it into the stamped return envelope and drop it in the nearest mailbox.

All participants will receive a summary report of the project which will be of general interest and of personal relevance. In order for us to reach you in October, 1991 with the last booklet, please put a permanent mailing address, if possible where you are asked for your address on page one.

We would like to thank you once again for your continued participation in this important research project and take this opportunity to wish you the very best with your own post high school transition.

S.E. Robertson, Ph.D.
220-6272

APPENDIX B

Follow-up Letter to All Participants, April, 1991



2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

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FACULTY OF EDUCATION
Department of Educational Psychology

Telephone (403) 220-5651

1991-04-06

Dear Participant :

Approximately the second week of February, we mailed you a package of questionnaires in the Transition From High School Project similar to the ones you filled out for us in your high school last May/June, 1990. To date, we have not received these completed materials from you. To make good use of the information you provided us in 1989/90, we need you to complete these materials. Therefore, we are enclosing an additional set of questionnaires and would ask that you complete these and return them in the stamped return envelope as soon as possible.

We believe that exploring what happens to students after they leave high school is a vitally important topic in these days when it is difficult for youth to gain employment or higher education.

Your participation in this study is greatly appreciated.

Sincerely,

S. E. Robertson, Ph.D.
Associate Professor
Department of Educational Psychology

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Enc.

