The role of hostility against self in suicide attempt.

Paul F. Szabo

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THE ROLE OF HOSTILITY AGAINST SELF IN SUICIDE ATTEMPT

by

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A Dissertation
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfilment of the
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of Doctor of Philosophy at the
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Abstract

The purpose of this study was to examine the role of hostility and direction of hostility, with particular emphasis on inwardly directed hostility in suicide attempt. The study proceeded by addressing the following issues: (a) relationship between inwardly directed hostility and suicide intent, (b) relationship between inwardly directed hostility, depression, and suicide intent, and (c) relationship between diagnosis, level of hostility and direction of hostility. The sample consisted of 100 participants who belonged to one of four groups: (a) inpatient suicide-attempters, (b) outpatient suicide-attempters, (c) inpatient depressives, and (d) non-clinical controls. All participants were assessed on the Gottschalk-Gleser Content Analysis Scales, Hostility and Direction of Hostility Questionnaire, and the Beck Depression Inventory. All suicide attempters were rated on a Suicide Intent Scale. Results indicated a strong positive relationship between inwardly directed hostility and suicide intent. This positive relationship remained even after controlling for the effects of depression. Similarly, inwardly directed hostility significantly predicted suicide intent scores beyond the combined effects of age, sex, social status, substance abuse, and depression. Measures of outwardly
directed hostility such as, Criticism of Others and Extra-punitiveness scales, also correlated with Suicide Intent scores but in a negative direction. In comparison to non-attempter unipolar depressives, a subgroup of attempters diagnosed with personality disorder (borderline, antisocial, histrionic) were significantly more hostile, showed more extra-punitiveness and urge to act out hostility, and exhibited more overtly hostile verbal content, in spite of even higher depression scores. Younger age was associated with outwardly directed hostility: when controlled for age, differences in direction of hostility between the personality disordered attempters and non-attempter depressed groups disappeared.

In the suicide-attempt group, the Beck Depression scores correlated positively with Suicide Intent scores, as well as with measures of outwardly and inwardly directed hostility. Similarly, in the comparison between suicide attempters and non-clinical controls Beck Depression scores showed a significant interaction with overall level of hostility and direction of hostility. The suicide-attempters were significantly more hostile and showed more inwardly directed hostility than the non-clinical group, however, when controlled for depression scores, differences on these hostility measures disappeared. The implications of these findings for future research and clinical practice are discussed.
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CHAPTER I

Introduction

The purpose of this study was to assess the etiological importance of hostility directed against the self in suicide-attempt. Recent empirical and clinical findings indicate that suicide attempters have difficulties in regulating and expressing their hostile and aggressive feelings. In several studies suicide attempters rated themselves consistently high on measures of hostility and demonstrated high levels of outwardly directed hostility in clinical interviews and interpersonal relationships (Farmer & Creed 1986; Paykel & Dienelt 1971; Weissman, Fox, & Klerman, 1973).

According to Freud's (1917/1950) psychodynamic formulation, melancholia and suicide are the result of aggression turned inward (against internalized love objects). Clinical observations indicate that aggression also plays a role in the dynamics of suicide attempt (Kernberg, 1984; Pattison & Kahan, 1983; Sarver & Foner, 1969). Recent studies indicate, however, that suicide attempters differ in many respects from suicide completers (Maris, 1981). Furthermore, suicide-attempt patients manifest high levels of hostility towards others rather than towards the self as formulated by the classical psychoanalytic theory (Weissman et al., 1973).
Bibring (1953) has questioned the universality of the 'depression as aggression turned inward' hypothesis. He proposed instead that the mechanisms of depression are relatively independent from the expression of aggressive impulses.

The evidence for the presence of hostility directed against the self in suicide-attempt patients, however, is not clear. The conceptualization of suicide attempt and hostility, the heterogeneity of the suicide-attempt population, and the theoretical relationship between hostility and depression in suicide attempt are some of the confounding factors.

Research has largely disregarded the heterogeneity of the suicide-attempt population. Most studies tend to lump together patients with suicidal ideation, self-harm gestures, and severe attempts. If the seriousness of the suicidal act varies among suicide-attempt patients, they are also likely to differ on dimensions associated with the degree of seriousness. Treating suicide-attempt patients as a homogeneous group would likely neglect the differences among various subgroups. Few studies have controlled for variables which are important determinants of suicide attempt, like age, sex, social status, and seriousness of intent. Thus, generalizations about the suicide-attempt population as a single homogeneous group yield little understanding about the specific personality characteristics
influencing suicide attempts.

The aim of the introduction is to review and to clarify some of the confounding factors in the suicide-attempt research. First, a comparison between suicide and attempted suicide will help to clarify the nature and incidence of suicide attempt. Then a review of several definitions of "suicide attempt" will further illustrate the controversy around the conceptualization of suicide attempt. The suicide-attempters' psychological characteristics will be discussed with emphasis on the role of hostility and depression. Last, the evidence for the role of hostility and direction of hostility in suicide attempt will be evaluated.

Suicide and Attempted Suicide

Until the 1950's, several authors viewed suicide attempts as failed or bungled suicides (Stengel, 1973). A study by Stengel and Cook (1958) of five groups of patients hospitalized with suicide attempts was the first to propose that the suicide attempt presents problems of its own in addition to those common to suicide. Stengel and Cook emphasized the attempters' ambivalence toward dying and noted that most suicide attempts "are made in such a way that an intervention by others is possible or even probable" (p. 114). By focusing on the "appeal for help" function of suicide attempts, the authors emphasized an obvious but very
important distinction in outcomes: suicide attempters survive their act (as opposed to suicide) and go on to face the consequences of their actions.

This difference in outcomes prompted many questions about the relationship between attempted and completed suicide, such as: are they basically similar acts or are they qualitatively different? In an attempt to answer this question, Davis (1967) reviewed the literature comparing suicide completers and suicide attempters. He found a consistent pattern of differences between the two groups: (a) suicide attempters had a history of more frequent attempts; (b) two-thirds of attempters were females and one-third were males, while in the completed suicide group this ratio was the reverse; (c) suicide-attempt patients were younger; (d) among suicide attempters character disorder was the most frequent diagnosis while in completed suicides neurotic or psychotic diagnoses predominated; and (e) suicide attempters used less violent means than those who completed suicide. Thus, he found consistent differences in the frequency of attempts, sex, age, psychiatric diagnosis, and choice of method.

Stengel (1973) noted that, during the late 1960's, the number of suicide attempts reported was six to ten times as frequent as suicides. Hawton and Catalan (1987) reviewed a number of studies exploring the relationship between attempted suicide and suicide. They cite a study by
Owenstone (1973) which indicated that, in Edinburgh during 1970, the rate of attempted suicide to the rate of suicide was 10.8:1. Age and sex differences, however, played a significant role in this ratio. Among men, the ratio of attempted suicide to completed suicide was 7.7:1. For women, this ratio was 14.2:1. Among those under 34 years of age, attempted suicide was more than 30 times more common than suicide. Above 55 years of age, however, attempted suicide was only three times as common as suicide. Based on these comparisons, suicide tends to be more frequent among men, particularly older men, while attempted suicide is more frequent among women, particularly younger women.

Recent reports on suicide trends in Canada during the 1980’s indicate significant increases in suicide among young men. In 1986, for men in their twenties, there were around 33 suicides per 100,000 (Canadian Social Trends, 1988, p. 22). This was just below 34.9/100,000 for the men aged 70 and older. These figures are in sharp contrast to the 1960’s when the suicide rates for men above 45 years of age were considerably higher than for men below 45.

During the seventies there was a dramatic increase in teenage (15-20 years old) suicide attempts (Kreitman, 1981). During 1975-1976, in Mannheim and Edinburgh, there were about 500/100,000 suicide attempts in males and 1100/100,000 in females of this age group (p.7). With increasing age, suicide attempt rates decreased
dramatically: the rate for those aged 55 years and beyond is below 100/100,000. Kreitman found no sex differences in the number of attempts for the population beyond 55 years of age.

In Canada, because of the inherent problems with reporting suicide attempts, there are only a few statistics on suicide attempt rates. In a number of studies cited (Ferrence & Johnson, 1974; Whitehead, Ferrence, & Johnson, 1973; Whitehead, Johnson, & Ferrence 1973) the incidence of suicide attempt ranged from 730 to 1433/100,000. It is notable that for males aged 14-19 years the suicide attempt rate was 353.5/100,000, while for females this was 822.9/100,000 (Health and Welfare Canada, 1974, p. 21).

A study by Maris (1981) also supports previous findings on the differences between suicide and attempted suicide. In his sample of suicide completers, 75 percent made a single fatal attempt, regardless of sex and age. In the suicide attempt group, about 49 percent of attempters repeated two to four times (pp. 267-268). Male suicides used more violent means such as guns (39%) and hanging (6%) on their first attempt. Among female suicides, overdosing and the use of knives were more prevalent. The choice of method was similar in attempted suicides. Stengel (1973) found that 41 percent of male suicides used shooting as a method (p. 93). Shooting, however, was largely absent in female suicides and in attempted suicides for both sexes.
The following differences emerge from comparisons of suicide and attempted suicide: (a) the suicide attempter is most commonly a woman, frequently in her twenties, with several prior attempts, using less violent means such as overdose or wrist cutting, and character disorder as the most frequent psychiatric diagnosis; (b) the suicide completer is more likely to be a man, in his forties or above, with one fatal attempt by violent means such as shooting or hanging, and diagnosed as suffering from psychosis or neurosis.

Based on these differences, some authors tend to emphasize the differences between the two populations (Hawton & Catalan, 1987; Kreitman, 1977). Others argue that suicidal behaviours (including attempted and completed suicides), can be ordered on a continuum of lethality (Dorpat & Ripley, 1967; Lester, 1970). Lester (1970) reviewed the literature on the relationship of suicide and attempted suicide and concluded that: "the characteristics of groups having different self-destructive lethality change monotonically as the lethality of the groups increase" (p. 721). He proposed a stage model for the appearance of suicidal behaviour (Lester, 1987, p. 8). According to his stage model, attempted suicide appears as a "choice point" along the path from thoughts of suicide to more serious suicidal actions, and completed suicide.

A frequently expressed view in the suicide literature
is that attempted and completed suicides are two different, though overlapping populations. Among the proponents of this view, Dorpat and Ripley (1967), reviewed studies of patients with attempted suicide who later committed suicide, and patients who committed suicide but had several prior attempts. A comparison of completed suicides and attempted suicides on variables associated with high suicide risk revealed that the more closely a patient resembled the description of a suicide completer, the greater was the risk of suicide (p. 77). A study of completed suicides with a history of previous attempts also showed that these patients are quite similar in their characteristics to the population of completed suicides (Owenstone & Kreitman, 1974). This overlap in characteristics associated with high suicide risk lends support to the existence of a behavioral continuum between attempters and suicide completers.

Stengel (1973) argues that the observed differences between the two populations are largely the result of methodology. He prefers to look at the groups as a single population of people who commit suicidal acts irrespective of outcome (p. 121). Indeed, terms like "suicide proneness," "suicidal careers," or "suicide as a way of life," that are used in the literature to describe the psychosocial characteristics of suicidal persons, suggest that there are many overlapping factors between the two populations. Furthermore, the psychodynamics of the attempt
often have very similar configurations to suicide (Dorpat & Ripley, 1967; Stengel, 1973). In reviewing the epidemiology of suicide and parasuicide, Farmer (1988) concluded that the outcome of a suicidal act, i.e., fatality, is not a sufficient condition to view these two populations as dichotomous (p. 20). He argued that there are a large number of causes which have to occur in the right combination to result in fatality, and that it may be difficult to assess which cause at what point in time will determine the outcome of a suicidal act.

A potential hazard in separating attempted and committed suicides as two different phenomena is disregarding the seriousness of suicide attempts. Often, self-harm attempts of low lethality are dismissed as "attention-seeking" gestures. While only a small minority (1%) of attempters go on to complete suicide during the year following an attempt, this percentage is nonetheless about one-hundred times the annual risk for the general population. Therefore, separating suicide from attempted suicide as two different phenomena may be tragically misleading. The conceptualization of the relationship between suicide and attempted suicide appears to vary according to the researcher's orientation and purpose of inquiry. How "suicide attempt" is conceptualized also determines the nature of the sample studied. The definition of suicide attempt also determines the type of "attempts"
included in a study as well as the generalizations made from the study. To illustrate the controversy around the definition of "suicide attempt", I will review some of the definitions used in the literature.

**Definitions of Suicide Attempt**

Until the seventies, most research studies grouped all attempts of self-harm under the heading of suicide attempt. Increasing research on the circumstances, lethality, and motivation of the attempt has revealed that "suicide attempt" is a multidetermined concept. Researchers, however, have emphasized different aspects of the suicide attempt: interpersonal communication, manipulative act, self-destruction, cry for help, and a wish to die.

Stengel and Cook (1958) defined suicide attempt as "every act of self-injury consciously aiming at self-destruction" (p. 33). This definition excluded from their study patients whose suicidal gestures result only in a slight injury and no danger to life. In their discussion of the motives of suicidal acts, they emphasized the life-enhancing or "appeal for help" function of suicide attempt.

Kreitman (1977) criticized Stengel's terminology because the term "consciously aiming at self-destruction" implies a conscious intent to kill oneself. The intent to die, however, is difficult to establish from self-reports, because patients are often unable to give a clear
description of their intent. Consequently, too much is left to the clinician's inference. Furthermore, Kreitman argues that Stengel's definition is too restrictive because it eliminates patients who wish to harm themselves but do not wish to die. According to Kreitman, the intent which initiates the act of self damage should define behaviour.

Kreitman (1977) proposed the term "parasuicide" to replace the term "suicide attempt". He defined "parasuicide" as a "non-fatal act in which an individual deliberately causes self-injury or ingests a substance in excess of any prescribed or generally recognized therapeutic dosage" (p. 3). Thus, Kreitman dropped from his definition the issue of the "final causes" that the patient may have set for himself at the time of the attempt. He included in his study "suicidal gestures" which were excluded from Stengel's study. By including suicidal gestures in his sample, Kreitman broadened his sample with low lethality suicidal acts, thus blurring the distinction between serious suicide attempts and low lethality suicide gestures.

Morgan (1979) also noted that in suicide attempts there is often no "conscious aim of self-destruction" observable. He proposed that in these cases the term "non-fatal deliberate self-harm" is a more accurate description. His definition of non-fatal deliberate self-harm is any "... deliberate non-fatal act, whether physical, drug overdosage or poisoning, done in the knowledge that it was
potentially harmful, and in the case of drug overdosage, that the amount taken was excessive" (p. 88). This definition includes all cases of self-harm from failed suicides to acts which lacked self-destructive intent.

Given this confusion in defining suicide attempt the term appears to be a "...wastebasket classification because it includes virtually any attempt short of completed suicide" (Wekstein, 1979). At the 1970 conference on suicidology in Phoenix, Arizona the issue of terminology and classification of suicidal behaviour was the most important topic. Conference participants argued that suicidal behaviours should be classified into three broad categories: completed suicide, suicide attempt, and suicidal ideas. To further refine the meaning and characteristics of behaviour in each of these three classes five more dimensions were added: (1) certainty (the rater’s degree of certainty that a particular behaviour is suicidal); (2) lethality (medical danger to life or deadliness of the act); (3) intent (the intensity of determination to die); (4) mitigating circumstances (factors precipitating the act); and (5) method of injury (the method the individual selects to carry out the act). In spite of these guidelines, there are no agreements among researchers about the definition of "suicide attempt" or about the cases it should include. Most studies fail to differentiate among suicide-attempt patients along the five possible dimensions. The
alternative terms proposed, such as parasuicide, self poisoning, and deliberate self-harm indicate that no one definition is likely to include all acts of self-harm. The separation of subgroups of patients with clear inclusion and exclusion criteria is essential in further research if we seek to compare or contrast various groups of suicidal individuals. For example, in the last 10 years the focus of research has shifted to a new subgroup of patients characterized by self-harm attempts with low lethality and no intent to die. It is questionable whether this group is part of the "suicide attempt" class or is a class of its own.

The review of definitions was necessary to delineate the type of behaviours which belong to the "suicide attempt" class. To understand the nature of suicide attempt, however, we must narrow the focus of the inquiry from populations to individuals. Next, I will review studies on the background, interpersonal relationships, and psychological characteristics of individuals who attempt suicide.

**Psychological Studies in Suicide Attempt**

Studies on the psychological characteristics of individuals attempting suicide are relatively few. Most existing studies attempted to identify variables related to high suicide risk by comparing suicide attempters and
suicide completers along a number of dimensions. Next, I will discuss some of the studies which highlight the attempters' early family and background history.

In a large survey study, Maris (1981) aimed to identify "complex indices" (made up by a combination of single variables unified by an abstract concept) which differentiate among natural deaths, non-fatal suicide attempts and completed suicides. The study yielded valuable information about the early development, nature of relationships, and psychosocial determinants which play a role in suicide attempt. Using multivariate nominal scale analyses, Maris has identified age, negative social interactions, drug use, and early trauma as predictors of suicide attempt.

Among these "early trauma" and "negative social interactions" are complex indices defined by a number of single variables. Early trauma includes: object loss due to death or separation of parents during the first 12 years of life, and major problems in the family of origin while growing up (alcoholism, drug abuse, sexual deviance, mental illness, foster home, family member arrested). The suicide attempt group scored significantly higher than completers on items suggesting early traumatic relationships while growing up. Maris noted that suicide attempters scored particularly high on items reflecting early object loss (especially fathers) through death or separation.
The "negative social relations" index includes variables related to problematic social relationships such as lack of emotional closeness, difficulties in marriage and work, disturbances in conduct, and social isolation. An interesting finding was that the suicide attempt group was less socially isolated than suicide completers. The suicide attempters appeared more involved socially although the quality of their relationships was more negative. This finding seems to underscore the interpersonal and communicative nature of suicide attempt in contrast to the social isolation and intrapersonal turmoil of the suicide completer.

Other studies also point to problems in the families of suicide attempt patients while growing up. Walton (1958) reviewed detailed case histories of patients admitted to hospital with depressive illness. He hypothesized that parental deprivation in childhood (loss of a parent before 14 years of age, parental disharmony, and feelings of prolonged estrangement from one parent) is a significant etiological factor in suicide attempt. He divided his sample of depressed patients into two groups: 163 depressed non-suicidal patients and 60 depressed patients with a history of suicide attempts. A comparison of the two groups revealed that the depressed group with a history of suicide attempts had a significantly higher incidence of parental deprivation in early childhood. He concluded that the
absence of parents in early life, as well the presence of gross parental disharmony, may predispose people with depressive illness to suicide attempts.

A study by Murphy and Wetzel (1982) revealed that in the family history of suicide attempt patients there are frequent reports of suicidal behaviours (suicide, attempted suicide, and suicide threats). Specifically, among the suicide-attempt patients with a personality disorder diagnosis (45% of their patient sample) there were significantly more suicide attempts reported among family members than in patient groups with any other diagnosis. Because of the strong relationship between personality disorder diagnosis (predominantly antisocial personality disorder) and family history of suicidal behaviours, the authors suggest that suicide attempt "seems to be part of the package identified by clinical diagnosis" (p.89).

A study by Rosenbaum and Richman (1970) focused on the manner in which the suicide attempt patient's family deals with hostile and angry feelings. They found that in these families the victim was the target of significantly more hostility and less support than in non-suicidal families. The study of family interactions revealed that the victim was typically blamed for his difficulties and did not have the right to complain or to retaliate. Based on these observations, the authors concluded that attempted suicides and successful suicides are the patient's way of dealing
with the family members' hostility, lack of emotional support, and their own inability for immediate retaliation.

In summary, these studies reveal that early parental separation, family history of hostility, suicidal behaviours, personality disorder diagnosis, and early life trauma (particularly losses) are some of the precursor events related to suicide attempt. Given these background characteristics, suicide attempters seem to have a great difficulty in achieving a satisfying personal or interpersonal adjustment.

To identify personality traits related to suicide attempt, Philip (1970) tested 50 hospitalized men and women within two days following their attempt. Tests included the Sixteen Personality Factor Questionnaire (16 PF) to cover a range of personality traits, the Symptom Sign Inventory (SSI) to identify psychiatric symptoms, and the Hostility and Direction of Hostility Questionnaire (HDHQ) to identify hostile attitudes in this population. There were no controls used in the study. The author compared the test results to norms given in the test manuals. The suicide attempt group endorsed items frequently encountered under the character disorder personality diagnosis: chronic emotional and interpersonal difficulties, high anxiety, and hostility toward others. On the 16 PF, the attempted suicide group endorsed factors which define anxiety: emotionally unstable, shy, suspicious, apprehensive, a high
degree of tenseness and an inability to relax. On factors which describe personal relationships, the suicide attempt group scored high on suspiciousness, lack of spontaneity, evasion of obligation, and aloof and asocial interpersonal behaviour (p. 481). The suicide attempt group was significantly more outwardly hostile than normals or neurotics.

Conte and Plutchik (1974) compared the emotional profile and background characteristics of 30 psychiatric inpatients with 30 patients admitted to hospital following a suicide attempt. The authors matched the two groups on sex, age, race, and marital status. The suicide attempt group scored significantly higher than controls on items related to depression and aggression. The suicide attempt group also scored significantly higher than controls on items related to a past history of depression. More than half (55%) of the suicide attempt group reported having had five or more episodes of severe depression, as compared to only 10% of controls (p. 183). In addition, the suicide attempt group frequently endorsed items such as taking drugs regularly, agitation, wanting to hurt people, and frequent suicide attempts in the two years before their last attempt.

Crook, Raskin, and Davis (1975) aimed to identify variables which characterize suicide attempts in depressive illness. Their sample consisted of 308 psychiatric inpatients admitted to hospital because of depression. The
authors divided the sample into three groups: (1) 115 patients who had no history of attempts or threats, (2) 130 patients who had a history of suicidal threats or gestures, and (3) 30 patients who had a history of at least one serious attempt. The patients, their relatives, and the attending staff completed a large battery of questionnaires containing sociodemographic, background, and clinical variables. From the items evaluating clinical status at the time of admission, the authors derived 17 symptom variables or "superfactors" based on the method proposed by Raskin and McKeon (1971). The article did not reveal what tests or items defined individual factors. The results indicated that the suicide attempt group (groups 2 and 3 combined) scored significantly higher than the non-suicidal group on factor dimensions indicating presenting symptomatology such as Emotional-Withdrawal, Guilt-Worthlessness, Social Participation, and Irritability. They also scored significantly higher on variables reflecting chronicity: number of hospitalizations for psychiatric disorder, as well as a number of psychological difficulties in childhood and adolescence compared to their peers. The authors concluded that the suicide attempt patient is characterized by chronic maladaptive interpersonal relationships with persistent outer-directed hostility and withdrawal from social contact (Crook et al., 1975, p. 387). Associated with this behavioral style are expressions of feelings of
low self-esteem, personal worthlessness as well as feelings of guilt and self-reproach. These behavioral patterns, the authors argue, are a reflection of a chronic form of maladjustment rather than a transient maladaptive reaction to a particular situation.

Overall, these findings describe the individual with a history of suicide attempts as a poorly integrated personality with concomitant feelings of anxiety, agitation, guilt, general tension, and poor impulse control. Interpersonally, the attempter is characterized as socially withdrawn, hostile, overly sensitive to criticism, and feeling without emotional support. Due to early life trauma such as early loss of a parent, family discord, rejection, hostility, and family history of suicidal behaviours, the suicide attempt patient is unable to develop and to maintain emotionally sustaining relationships. Under stress, particularly in interpersonal situations, their emotional instability is reactivated.

Indications are that this form of adjustment is an enduring style of life rather than a temporary maladjustment to situational crisis. Most studies found that personality disorder is the most frequently observed diagnostic category in suicide attempt samples. In a study by Maris (1981) 31 percent of 64 patients with suicide attempts had a personality disorder diagnosis. Philip (1970) found that 48 percent of his suicide attempt patients had this diagnosis.
while in the Murphy and Wetzel (1982) study this was 45 percent. Among the Personality Disorder diagnoses, the Borderline (Ennis, 1983) and the Antisocial Personality Disorder (Murphy & Wetzel, 1982) predominate. Self-harm behaviour, however, can occur during acute regression in many other more mature personality types (Pattison & Kahan, 1983, p. 871).

Pattison and Kahan (1983) hypothesized that, in psychodynamic terms, deliberate self-harm represents a "masochistic surrender response" to a crisis in rapprochement-phase relationships with others (p. 871). During this developmental stage, there is an increased differentiation between self-representation and object representation with a concomitant increase in separation anxiety (Masterson, 1981). Accordingly, "masochistic surrender" represents a defense against feelings of separation or abandonment by a parental figure. The aggressive feelings experienced towards the abandoning parental figure are directed against the self.

Clinical observations of depressed high suicide risk patients also suggest that they experience difficulties in handling aggressive impulses. Sarwer-Foner (1969) delineated two profiles: the "Impulse Ridden Character Disorder" and the "Life Long Masochist". In impulsive character disorders, intense anger and rage are discharged abruptly in various aggressive acts directed against self or
external objects (p. 105). In masochistic character disorder, aggressive impulses towards significant life figures are repressed and are turned against the self (p. 107). In both instances there is a poor control of inner tension and aggressive feelings. According to Ennis (1983), one of the major characteristics of deliberate nonfatal self-harm patients is poor impulse control: "their inability to delay gratification and plan ahead contributes to an unstable and unsatisfying lifestyle. Among self-harm people, who are highly sensitive to rejection, the inability to tolerate feelings of depression, rage, and hurt often leads to impulsive acts of self-destruction" (p. 122).

Depression is another emotional characteristic frequently encountered in suicide attempt patients. The prevalence of depression in these patients is estimated from 10 to 50 percent (Maris 1981, p. 217). Crook, Raskin, and Davis (1975) found that, among all cases admitted to the first National Institute of Mental Health study of drug treatment in depression, over 56 percent of patients had previously threatened or attempted suicide. The incidence of clinically diagnosed depression in self-harm patients is estimated in a number of studies from 30 to 66 percent (Ennis, Barnes, Kennedy, & Trachtenberg, 1989; Goldney, Adam, O'Brian, & Termansen, 1981).

The prevalence, type, and degree of depression in suicide attempt patients, however, tend to vary according to
sample, method of assessment, and hospital admission policies. For example, Ennis et al. (1989) found that self-report inventories tend to inflate the number of "severe-depression" diagnosis. In their study, the Beck Depression Inventory scores of patients with a character disorder diagnosis were in the same range as patients diagnosed with major depression. Using DSM-III criteria, however, many of the character disordered patients were not diagnosed as suffering from a major depression (p. 45).

Another possible bias influencing the estimated frequency of depression is the "cathartic effect" of suicide attempt. Van Praag and Plutchik (1985) found that, in suicide attempt patients, there was a significant decrease in depression within a few days following hospitalization in comparison to non-suicidal depressed patients. They concluded that the level of depression measured following a suicide attempt may not be an accurate reflection of the patients' level of depression prior to the attempt, and that the frequency and the severity of depression in suicide attempt patients may be underestimated (p.129). Ennis et al. (1989) found a significant drop in Beck Depression Inventory scores for patients who completed the test for the second time five days after their admission.

Thus, the classification of type and severity of depression is an important consideration in the study of suicide attempts. In assessing suicide potential,
Kernberg (1984) differentiates between patients with major affective disorder and patients who have severe personality disorders with secondary depression. Patients with major depression are particularly at risk for suicide during their recovery from depression, while patients with severe personality disorder are at a continuous risk because of chronic problems with impulse control. In this latter group of patients, the self-destructive handling of hostile and angry feelings is an ongoing problem in their struggle for personal and interpersonal adjustment.

This review of studies regarding the suicide attempters' psychological characteristics emphasized that early family history and the quality of social interactions are important precursors and possibly contributing factors in the formation of the suicide attempters' psychological traits. It is important to note that the attempters' psychological characteristics appear to form a pervasive, characterological adjustment manifested in difficulties in handling of aggressive impulses, particularly outwardly directed hostility, as well as depressive feelings. The relationship between aggressive and depressive feelings will be discussed next.

The Relationship of Depression and Hostility

The relationship between depression and angry or hostile feelings has been of particular significance in the
psychoanalytic school of psychology. The mechanism of anger directed towards self is the classical psychoanalytic formulation of depression and suicide. According to early psychoanalytic observations, melancholic patients experience a great deal of guilt feelings over their hostile impulses toward parental figures (Litman 1967, p.325). Particularly after a parent’s death, these hostile feelings are blocked from expression and are directed towards self, that is against an internalized parental figure. Bibring (1953), however, questioned the hypothesis of depression as aggression turned inward. According to Bibring, depression is an affective state independent of the vicissitudes of aggressive impulses. In his formulation, the ego’s awareness of its helplessness and loss of self-esteem are what bring about the turning of aggression against the self (p. 41).

To investigate the relationship between hostility and depression, Gershon, Cromer, and Klerman (1968) repeatedly tested six depressed women during their entire hospitalization. There was no control group used in this study. They used the Hamilton scale for Depression to rate the severity of depression from clinical interviews and Gottschalk’s three hostility scales (Hostility-Out, Hostility-In, and Ambivalent Hostility Scale) to measure various forms of hostility. To further discriminate between manifest expressions of depressed affect from self-critical
statements, Gershon et al. modified the Hostility-In scale and derived two new scales: the Affect-In and the Modified Hostility-In scales. The average length of hospitalization was 77 days. For each patient weekly mean scores were obtained for eleven weeks on average. The results indicated that all Hostility-In scale scores (Gottschalk Hostility-In, Affect-In, and Modified Hostility-In scale) correlated positively with the Depressive Symptom Scale scores (p. 229). There was no relationship between the Hostility-Out and Depressive Symptom Scale scores. However, there was a relationship between personality style and the Hostility-Out scores. In hysterical personalities, there was little expression of depressed affect and hostility-out scores increased with deepening depression. In females with obsessive-compulsive features, however, there were high expressions of depressed affect, but there were no correlations between hostility-out and depression (p. 230). Gershon et al. (1968) proposed that high hostility-out patients are less depressed than the "classical" patients with high hostility-in. In high hostility-out patients, the authors suggested, the outwardly directed hostility with a secondary depressive symptomatology is a reflection of character neurosis. The results of this study raised interesting questions regarding the influence of qualitative differences in the expressions of hostility and depressed affect. Unfortunately, the generalizability of these
results is questionable because of the lack of a control group.

A study by Millar (1983) lends support to the hypothesis that patients with character neurosis tend to show more outwardly directed hostility than depressive patients. Millar assessed the intensity and direction of hostility and anger in 11 obsessional neurotic and 11 depressive patients matched for severity of illness. The obsessional neurotic group demonstrated significantly greater outwardly directed hostility and outward irritability than the depressed group. In depressed patients the pattern was reversed: there was significantly greater hostility directed inward as well as higher inward irritability (p. 818).

There is further evidence that personality style is an important variable in the direction of expression of aggression. Murthy (1969) found that female suicide-attempt patients with obsessive features are more intro-punitive and represent higher suicide risk than female patients with hysterical features. Similarly, Waugh (1974) found that in his suicide-attempt sample the "Satisfied-Symbiotic" group (characterized by self-effacement, conformity and cooperativeness) demonstrated significantly more intro-directed aggression than non-suicidal controls. The "Dependent-Dissatisfied" type (characterized by manipulative dependency and vacillation between closeness and rejection),
exhibited more extra-directed aggression. When suicide-attempt patients were not classified according to their personality style, the suicide attempt and non-suicidal groups did not differ in their style of expression of aggression.

In a study on the relationship between hostility, depression, and clinical improvement, Friedman (1970) compared hostility levels in 190 inpatients treated for depression with 98 non-depressed volunteers from the community. The authors matched the two groups on age, sex, race, education, and religious background. The measures included a modified Buss-Durkee Inventory, several clinical improvement measures, and a structured rating scale for measuring depression. The Buss-Durkee Inventory, as revised by Raskin (1965), has subscales measuring seven types of aggressive-hostile behaviour: Assault, Indirect Aggression, Negativism, Verbal Hostility, Resentment, Suspicion, and Internalization of Anger. The results showed that the Internalization of Anger subscale (composed mainly of items related to somatization of aggression) failed to differentiate between the hostility patterns of the two groups. The depressive group scored significantly lower on Verbal Hostility (negative affect expressed in both style and content of speech) but scored significantly higher on Resentment (items related to feelings of anger at the world over real or fantasized mistreatment). The authors
concluded that depressives are likely to project hostility onto the world because they perceive themselves as suffering "passive victims" and are less likely to be able to express their hostile reactions. This seems to be in accordance with previous psychological studies which indicate that the suicide attempt patient is the target of significant amounts of hostility and, if blocked from retaliation, adjusts with some form of "masochistic surrender". A Guilt-Worthlessness measure correlated positively with Depression and Internalization of Anger scale scores, but it also correlated positively with all other hostility measures. This finding is contrary to the classical psychoanalytic formulation of depression in which guilt is positively related to depression and is adversely related to hostility directed outwardly. The authors interpreted this finding as an indication that "... if there are more hostile-aggressive tendencies or impulses in the organism there is the need or tendency both to externalize more and to internalize more at the same time" (p. 531). In other words, the authors suggested that aggression is not a unitary entity which is expressed either inside or outside. Rather, the direction of expression of aggression appears to vary according to personality type and situations.

Research with non-clinical populations also indicates a relationship between depression and hostility. In undergraduate student samples, depression measures
correlated positively with almost all measures of the hostility-aggression-anger dimension (Biagio & Godwin, 1987; Selby & Neimeyer, 1986). A closer examination of the pattern of correlations indicates that depression is more closely related to intropunitive, covert, and attitudinal hostility than overt aggression and hostility.

Farmer (1987) reviewed a number of studies on the relationship between hostility, direction of hostility, and depression. He concluded that methodological problems, the heterogeneity of the depressed patient population, and the complex nature of hostility are some of the reasons which may account for the inconsistent results (p. 611). Furthermore, Farmer found that there are various patterns of depression and that only one subgroup of depressed patients is characterized as primarily "hostile". Farmer emphasized that, in view of the relationship between hostility and depression, future studies on the role of hostility and suicide attempt should also elucidate the role of depression.

A number of biological studies involving cerebrospinal fluid (CSF) neurotransmitter metabolites also suggest a relationship between deregulation of mood, aggression and suicide attempt. Brown and Goodwin (1982) found that there is a trivariate relationship between history of suicide attempt, aggression and serotonin levels. In patients with a personality disorder diagnosis, a history of suicide
attempt was associated with high mean aggression scores and low levels of 5-Hydroxyindoleacetic acid (5-HIAA; an indicator of decreased serotonin metabolism in the Central Nervous System, p. 230). Van Praag (1986) reviewed a number of studies indicating that lowered CSF 5-HIAA was also found in depressed patients, and in depressed patients with violent suicide attempts. Since lowered CSF 5-HIAA was found in both depressed patients and suicide attempters with aggression disorders and suicide attempts, Van Praag hypothesized that disturbances in serotonergic regulation could give rise to both mood and aggression disorders (p. 128). Since both clinical observations and biological studies suggest a relationship between disturbances in mood and aggression, the possible interactive role of these disorders should be explored in the aetiology of suicide attempt.

The Role of Hostility and Depression in Suicide Attempt

In an attempt to identify the role of hostility in depression and suicide attempt, Weissman, Fox, and Klerman (1973) compared 29 acutely depressed inpatient women with 29 women hospitalized for suicide attempt. They matched the two groups on age, social class, race and marital status. Both groups scored in a moderately depressed range on two clinical evaluation ratings. During the clinical interview, however, the suicide attempt group appeared significantly
less depressed in appearance, demonstrated less pessimism and hopelessness, and less impaired work performance than the depressed group. At both intake and discharge interviews, the suicide attempt group demonstrated significantly more manifest hostility than depressed inpatients (p. 452). The suicide attempt group also endorsed significantly more items indicating a history of hostile relationships manifested in interpersonal friction and arguments with family members, relatives, and friends. Although both groups were equally depressed clinically, the suicide attempt patients appeared less so because of manifest hostility. Weissman et al. (1973) concluded that the data analyses supported Bibring’s hypothesis that depression is relatively independent of the vicissitudes of aggressive impulses. It is important to note the clinical implications of this finding. If a suicide attempter manifests hostility towards staff in a hospital setting, he is likely to be discharged with the rationalization that he has recovered from depression. Thorough clinical evaluation, however, would likely show that the openly manifest hostility is the patient’s way of adjusting to depressive feelings.

Other studies also point to the presence of persistent overt hostility in depressed suicide attempt patients. Paykel and Dienelt (1971) conducted a 10 month follow-up study of 189 depressed patients to identify variables which
could predict suicide attempts. During the ten months, 12 patients attempted suicide and one patient completed suicide. A comparison of the suicidal group (13 patients) and the non-suicidal group (176 patients) revealed that attempters were significantly younger, character disordered, suffering from neurotic rather than endogenous depression, and with striking evidence of persistent and overt hostility. The suicidal group scored significantly higher on hostility and anger directed towards others as measured by the Inventory of Psychic and Somatic Complaints, a battery of mood scales, and psychiatric interview. Guilt measures did not differentiate between the two groups. The authors concluded that the suicidal group was different from the depressive stereotype of a middle aged obsessive-compulsive, with severe depression of sometimes psychotic intensity. The suicide attempters were younger, suffering from neurotic type depression, character disorder, and displayed persistent outwardly directed hostility (p. 241).

Crook, Raskin, and Davis (1975) also found that, among hospitalized depressed patients, those with a history of attempted suicide showed a persistent outwardly directed hostility. The test score patterns of the suicide attempt group indicated chronic maladjustment in interpersonal relationships, inactivity, introversion, and making no effort to maintain social contact (p. 387). The suicide attempt group scored significantly higher than the non-
suicidal group on "superfactors" labelled "Guilt-Worthlessness", and "Emotional-Withdrawal". Staff reports also characterized these patients as exhibiting "...self-deprecating behaviour, to express feelings of inferiority and worthlessness, and to display signs of reduced self-esteem" (p.387). These measures and behavioral observations would seem to indicate hostility or anger turned against the self. However, the authors appeared to focus in their conclusions on outwardly directed hostility.

A study by Yesavage (1983) provides some indications that indirect rather than direct hostility is related to self-destructive acts. In his study, Yesavage assessed 45 males hospitalised with major depressive disorders on the Buss-Durkee measures of hostility and Lion scale of self destructive behaviours. A range of self-destructive behaviours were included, ranging from banging one's head against the wall to suicide attempts. The number of restraints necessary to protect the patient from self-harm and number of seclusions necessary to protect others were also recorded. The results indicated that the Indirect Hostility factor (derived from the Buss-Durkee Inventory) correlated significantly with self-destructive acts. The Direct Hostility factor correlated significantly with seclusion and restraint (p. 348). These results, however, cannot be generalized to patients with major depression who attempt suicide. The study used only male patients, there
was no control group, and the definition of self-destructive acts was too broad. Nevertheless, this study suggests that hostility expressed in an indirect rather than direct (verbal or physical assault) manner is related to self-destructive acts.

A study by Farmer and Creed (1986) focused on the role of hostility and the direction of hostility in self-poisoning (drug overdose) patients. The authors used the Hostility and Direction of Hostility Questionnaire which measures overall hostility levels as well as the direction of expression of hostility. Two scales, the Self-Criticism and the Guilt-Scale, make up the Intro-Punitiveness dimension. The Extra-Punitiveness dimension is the sum of three scales: Criticism of Others, Urge to Act out Hostility, and Projected Delusional Hostility. The Intro-punitiveness score measures hostility directed against the self. People endorsing the items of this scale are described as frequently expressing self-doubt and self-criticism. The Extra-Punitiveness score measures hostility directed outward. People endorsing the items of this scale are described as cynical, resentful, and easily angered. Farmer and Creed also administered a Suicide Intent Scale to assess the circumstances and risk involved in the suicide attempt, as well as a Present State Examination scale to assess the severity of depression. The results revealed that all of the suicide-attempt patients in their sample
scored high on the Extra-Punitiveness scale irrespective of their depression scores. Intro-punitive scores, however, correlated positively with depressed symptomatology, seriousness of attempt, and frequency of attempts (three or more). When controlled for depression, the magnitude of the correlation between Intro-Punitive scale scores and Suicide-Intent scores did not change significantly. Thus, the results of the study indicate that severely depressed suicide attempters scored significantly higher on both Intro-Punitiveness and Extra-Punitiveness than the less depressed attempters. Farmer and Creed also suggest that either hostility scale, Intro-Punitiveness or Extra-Punitiveness, may discriminate between depressed suicidal and depressed non-suicidal patients. However, this generalization is questionable, because the study did not utilize a control group: hostility scale scores for depressed suicide attempt patients were compared to scores obtained in other studies. Additionally, in their sample they included patients aged between 17 to 35 years. Previous research on suicide attempt, however, indicates that age is an important variable in suicide attempt and that the expression of hostility may be different in patients from an older age group. Nevertheless, these results tend to support earlier findings (Murthy, 1969) that the seriousness of suicide attempt and inner directed hostility are positively related. Murthy found that
patients in the high risk suicide attempt group (Tuckman-Youngman scale) had a more obsessive personality style and were predominantly intropunitive in their expression of hostility. The patients in the low suicide risk group, however, were more extrapunitive in their expression of hostility. When the two groups (high-risk and low-risk) were collapsed into one group, the direction of the hostility did not differentiate between the suicide attempt and control groups. This finding also emphasizes the heterogeneity of the suicide attempt population and the necessity to use a seriousness of intent scale in future suicide attempt studies.

Farmer (1987) used Venn diagrams to illustrate the relationship among hostility, depression, and self-poisoning. He concluded that "extrapunitive hostility might characterize self-poisoning subjects as a group" (p. 612). According to Farmer, only a small portion of depressed self-poisoning patients, mostly those severely depressed, appear to express hostility directed toward the self. However, the expression and the direction of hostility are also influenced by the severity of suicide intent and psychiatric diagnosis. Character disordered patients typically appear less depressed, have lower suicide intent scores, and are outwardly hostile. If these subjects were overrepresented in Farmers' suicide-attempt sample, then his conclusion that self-poisoning subjects are
primarily extrapunitve in their expression of hostile feelings is likely to be biased in the extrapunitve direction.

The clarification of the expression and direction of hostility also has clinical and treatment implications. Hostile patients tend to arouse strong countertransference feelings and could be discharged prematurely. Similarly, patients who are unable to communicate their suicidal intent, and who are unable to arouse empathy in others are shown to go without psychiatric care more often than those who do (Lehtinen & Jokinen, 1981). Furthermore, depressed patients who manifest more externally directed rather than inner directed hostility are less likely to be compliant with treatment recommendations regarding medication intake (Pugh, 1983). Conversely, depressed patients who appear to direct hostility primarily against the self show the most improvement in their depressive states in response to cognitive intervention following suicide attempt (Goldberg & Sakinowsky, 1988, p. 83).

In summary, the bulk of the evidence on the role of hostility and depression in suicide attempt indicates that suicide attempters are outwardly hostile, particularly with increasing levels of depression and severity of suicide intent. The evidence for hostility directed against the self, however, is less clear. Variables such as age, sex, seriousness of intent, and personality organization have
been shown to influence the manner and direction in which hostility is expressed. For example younger females (below forty), with obsessive personality features and a history of serious suicide attempts tend to show considerable hostility directed against the self.

The majority of the studies reviewed have focused on the measurement of outwardly directed hostility and had either inadequate or no measures for inner directed hostility. This is partly because there seems to be relative consensus about the conceptualization and measurement of outwardly directed hostility. Inner directed hostility, however, is a more elusive concept. It is more difficult to define, to measure, and it is often not differentiated from hostility directed away from the self (Gottschalk & Gleser 1969, p. 27). For example, Zillman (1979), in a major theoretical work on hostility and aggression, stated that sadomasochistic behaviour (which he equates with aggression directed against the self), no matter how self-destructive, is not an aggressive act (p. 35).

These inconsistent conclusions regarding the relationship between the direction of hostility and suicide attempt have several implications for future research:

1. Tests with better construct validity for the measurement of hostility directed against the self are needed.
2. Hostility does not constitute a unitary dimension which is expressed either towards the outside or towards the self. Moderator variables, such as age, diagnosis, severity of suicidal intent, and level of depression, which may influence the direction of expression of hostility should be specified.

3. The role of depression in the expression and direction of hostility in suicide attempt is not clear. It is questionable whether hostility directed against the self is a result of the state of depression or is a trait characteristic of the suicide attempt population.

4. The suicide attempt population is a heterogeneous group. Future suicide-attempt studies should focus on specifying the variables differentiating the various subgroups. Once these variables are assessed and controlled, one will be able to draw more valid generalizations about the role of hostility in a suicide attempt subgroup.

Conclusions

In the suicide attempt literature there is considerable evidence for the presence of outwardly directed hostility in the suicide attempt population. Indeed, manifest hostility appears to be of characterological importance in the suicide attempt population. The evidence for the presence of hostility directed towards the self, however, is less clear.
This is partly because hostility against the self is more difficult to conceptualize and to measure. Furthermore, most existing studies have only assessed conscious hostility and have neglected assessing possible unconscious hostility. Nevertheless, this review has identified a number of variables which play a role in the expression of aggression and hostility in suicide attempt. These are: (a) the patients' age and sex, (b) seriousness of intent, (c) personality organization, and (d) level of depression.

Epidemiological studies show a preponderance of younger patients in the suicide attempt population. A younger person (16 to 35 years) is more "affect laden" and tends to "feel more intensely angry and hostile toward another person and to be more depressed, self-disparaging, and guilt ridden than an older person" (Farberow & Shneidman, 1961). In future studies it would be interesting to differentiate among the patterns of hostility according to various age groups.

Many studies did not comment on possible sex differences in the expression of aggression and hostility. Gottschalk and Gleser (1969) found sex differences in the expression of hostility and depression. They found a stronger correlation between hostility directed inward and depression in females than in males. Conversely there was a higher correlation between hostility directed outward and depression in males than in females. Larsen (1976) has
reviewed the evidence for aggression as a personality construct from a social function analysis. He concluded that some of the male-female differences in the manner of expression of hostility appear to be socially conditioned. Females tend to be more approval seeking and tend to show lower levels of aggression, whereas aggressive behaviour is socially more acceptable in males. Statistics on attempted suicide indicate that females are about three times more likely than males to attempt suicide. According to the social conditioning hypothesis, it is more socially acceptable for women to turn aggression against the self than expressing it outwardly. It would be interesting to see in future studies if female suicide attempt patients differ from male patients in their expression of hostility.

The deliberate self-harm population described by Pattison and Kahan (1983) is a group of younger patients with non-serious suicide intent, low lethality, and low frequency of feelings of worthlessness and hopelessness. It is likely that, in these patients, self-harm attempts are a manifestation of hostility directed outwardly, that is interpersonally. Patients with serious suicidal intent, however, also score high on inward directed hostility (Farmer & Creed, 1986; Murthy, 1969). With increasing levels of suicide intent and depression there is an increased likelihood that aggression and hostility are inwardly directed. In attempts with low suicide intent
aggression and hostility are predominantly outwardly directed.

The finding that externally directed hostility and depression coexist in depressed patients appears to support Bibring's (1953) formulation that depression and hostility are not always negatively related. Perhaps the direction in which aggression and hostility are expressed changes from outward to inward in an oscillating fashion. We must note at this point, that the majority of studies on suicide attempt involved patients with neurotic type depressions and character disorders. Freud's (1917/1950) formulation of depression as aggression turned inward, however, is based on observations of patients with severe depressions. The types and severity of depression may need to be further classified to clarify the role of aggression in depression and suicide attempt.

In view of the confusion around the definition and conceptualization of hostility directed against the self, tests with better construct validity should be used. It is questionable whether a "superfactor" labelled "Guilt-Worthlessness" (in Crook, Raskin, & Davis, 1975) or somatization items from an "Internalization of Anger" scale (in Friedman, 1970) do in fact measure inner directed hostility. Tests such as the Hostility and Direction of Hostility Questionnaire (Caine, Foulks, & Hope 1967), or the Gottschalk-Gleser Content Analysis Scales (Gottschalk,
Winget, & Gleser, 1969) have shown some evidence of construct validity and their use in future research is recommended.

Problem Statement and Hypotheses

Clinical observations and research studies on suicide attempt indicate a relationship between hostile and depressive feelings in suicide attempt patients. Specifically, suicide attempters experience difficulties in handling hostile impulses and, in particular, outwardly directed hostility. However, the role of depression in the expression and the direction of hostile impulses in suicide attempt is not clear. Methodological problems encountered in previous studies are partly the reason. Studies have used inadequate or no controls, inadequate measures to assess hostility and depression, and the severity of suicide intent was disregarded. Similarly, few of the studies have accounted for the heterogeneity of the suicide-attempt population (e.g., various methods of attempt, seriousness of suicide intent, sex and age differences, diagnosis). Farmer’s (1987) review on the relationship between hostility and depression indicates that only a subgroup of depressed patients is characterized as "hostile". It is possible, however, that severely depressed patients who tend to direct their hostility toward the self were excluded from the "hostile" group, even though hostility directed toward
self may be of etiological importance in their depression.

While both outward and inner directed hostility may be present in depressed patients, the predominant manner in which hostility is expressed has important treatment implications. Suicide attempt patients with outwardly directed hostility may fail to arouse empathy in helping professionals, tend to arouse strong countertransference feelings, and not follow up with treatment recommendations. For these patients, alternative treatment strategies need to be formulated. Patients who tend to direct hostility against the self appear to respond more favourably to treatment recommendations. With these patients, traditional forms of therapy may be more successful.

The present study is an attempt to clarify the role of hostile feelings in suicide-attempt patients. Moderator variables identified in previous studies, such as seriousness of intent, sex, age, method of attempt, and diagnosis were assessed and used as control variables. In this study, a state measure (Gottschalk-Gleser Content Analysis Scales) and trait measure (Hostility and Direction of Hostility Questionnaire) of hostility were used. The Beck Depression Inventory was used to assess the presence of depression so that the relationship between depression and direction of hostility in suicide attempt could also be evaluated. Since indications are that hostility and depression levels may decrease following a suicide attempt
an outpatient control group with a suicide-attempt history was also included. It was hoped that the comparison of outpatient and inpatient attempters on measures of depression and hostility would likely highlight differences, if any, due to hospitalization following an attempt.

The following hypotheses were tested to clarify the role of hostility in suicide attempt:

1. Relationship between seriousness of suicide intent and inwardly directed hostility.
It was hypothesized that the seriousness of suicide intent and hostility turned toward the self are positively related. That is, suicide-attempt patients with a high level of suicide intent should score higher on measures of hostility directed towards the self than those with a low suicide intent. The relationship between outwardly directed hostility and seriousness of suicide intent was also assessed.

2. Relationship between inwardly directed hostility, depression, and suicide intent:
Knowing about depression scores is helpful in predicting suicidal intent, but it is not sufficient. Hostility directed against the self should predict suicidal intent beyond the effects of depression alone. That is, if we control for the effects of depression, measures of hostility
directed against the self should show a significant and positive relationship with suicide intent.

3. Relationship of diagnosis to direction and overall level of hostility:
Indications are that personality organization is an important variable influencing the direction of hostility. Accordingly, it was hypothesised that a subgroup of personality disordered suicide-attempters (borderline, narcissistic, psychopathic, and histrionic) would score higher on measures of hostility directed outwardly than would a group of non-attempter unipolar depressives. Conversely, unipolar depressives with none of the above personality disorders should exhibit more inwardly directed hostility.

In addition, overall levels of hostility among the non-clinical, personality disordered attempters, and depressed groups were also assessed.
CHAPTER II

Method

Participants

The sample in this study consisted of 100 participants assigned to one of four groups. The inpatient suicide-attempt sample consisted of 30 patients admitted consecutively to hospital following a suicide attempt. The other inpatient sample consisted of 30 patients admitted to hospital with a Unipolar depression diagnosis. The inpatient samples were tested at the Toronto East General Hospital and at the Homewood Mental Health Centre in Guelph. The outpatient sample consisted of patients with a history of at least one suicide attempt treated at the Community Mental Health Clinic in Guelph. Unfortunately, due to difficulties in finding volunteers for this group, data were collected from only ten outpatients. Thirty staff members who were not involved in clinical work and their relatives from the Guelph Community Mental Health Clinic, made up the non-clinical sample.

Measures

The Gottschalk-Gleser Content Analysis Scales. The Gottschalk-Gleser Content Analysis scales (Gottschalk, Winget, & Gleser, 1969) are designed to quantify the magnitude and the direction of transient affect on a hostility-anger dimension. It is a measure of state rather
than trait hostility. It consists of three scales: 1) Hostility Directed Outward, 2) Hostility Directed Inward, and 3) Ambivalent Hostility.

The Hostility Directed Outward scale measures the intensity of "adversely critical, angry, assaultive, asocial impulses and drives towards objects outside oneself" (Gottschalk & Gleser, 1969, p. 32). The Hostility Directed Outward scale is further differentiated into overt (self is the central actor) and covert (others are the centre of action) dimensions. The Hostility Directed Inward scale measures "...degrees of self-hate and self-criticism and, to some extent, feelings of anxious depression and masochism (p. 32). The Ambivalent Hostility Scale measures destructive and critical thoughts or actions of others to the self most similar to the sadomasochistic as well as the paranoid syndrome in psychiatry (Gottschalk, Gleser, & Springer, 1963, p. 257). While the Ambivalent Hostility scale has some degree of overlap with both inward and outward hostility scales, it also has some features separate from the other two sales. The type of hostility measured by this scale refer to "...destructive, injurious, critical thoughts and actions of others toward the self" (Gottschalk et al., 1963, p. 257).

Participants are instructed to speak for five minutes about any interesting or dramatic personal life experiences with as little interruption as possible. The tape recorded
verbal samples are then transcribed. The number of words in
the sample are counted. The sentences are then divided into
clauses, weighted, and scored according to their thematic
category and intensity. The raw scores are then transformed
by a formula which allows for a comparison of verbal samples
regardless of the speed of delivery or the number of words
spoken.

Although the Gottschalk-Gleser content analysis scales
are similar to projective measures, these scales have
impressive psychometric properties. The test-retest
reliability of scores for 50 psychiatric outpatients, 65
mixed psychiatric inpatients, and 43 non-psychiatric medical
patients for one scorer are: Hostility Outward (overt) .65-
.66, Hostility Outward (covert) .82-.96, Total Hostility
Outward .78-.87, Hostility Inward .78-.89, and Ambivalent
Hostility .76-.92 respectively. Interrater reliability
estimates for the same samples for two scorers are somewhat
higher, ranging from .76 to .98 across all scales
(Gottschalk et al., 1963, p. 262, Table 1).

Validity studies include criterion related validity
estimates derived through psychiatric interviews, self-
reports, and measures of physiological functioning from
normative, neurotic, and psychotic populations. The
Hostility Directed Outward scale is similar to the
assaultive and angry impulses and feelings reported on
various hostility scales (Assault subscale of Buss Hostility
Scale, Buss, Durkee, & Baer, 1956). This scale also includes observable destructive and asocial behaviour or attitudes directed to objects external to self. Hostility Directed Outward is dissimilar to the psychological state measured by a variety of depression scales. Hostility Directed Inward is a similar construct to depression and fatigue as measured by a variety of depression ratings (in one study it’s correlation with the Beck Depression Inventory was .47). Indications are that social desirability does not influence the participants’ responses.

The Hostility and Direction of Hostility Questionnaire. The Hostility and Direction of Hostility Questionnaire (HDHQ; Caine, Foulds, & Hope, 1967) consists of 51 items taken from the MMPI to measure a "...range of possible manifestations of aggression, hostility, or punitiveness" (Caine et al., 1967, p. 5). These items are organized into five scales: 1) Urge to act out hostility (AH), 2) Criticism of Others (CO), 3) Paranoid Hostility (PH), 4) Self criticism (SC), and 5) Guilt (G). The HDHQ is a paper and pencil questionnaire which uses a true-false forced choice format.

A principal components analysis of HDHQ subtest intercorrelations for normal and neurotic samples revealed two major components: General Hostility (GH) and Direction of Hostility (DH) (Caine et al., 1967). The General
Hostility scale is designed to measure the overall degree of hostility and is calculated by summing all subscales:

\[ GH = AH + CO + PH + SC + G. \]

The Direction of Hostility scale contrasts the three summed extrapunitive components (AH, PH, CO) with two summed intro-punitive tests (SC, G).

Accordingly, Direction of Hostility is calculated by the following formula: \(2(SC+G) - (CO + PH + AH)\). It is important to note that the Direction of Hostility scale can take on both positive (hostility directed against the self) and negative values (hostility turned outwardly).

Philip (1969) reviewed the results of the factor analysis and proposed that the two principal components labelled as General Hostility and Direction of Hostility are, respectively, Extra-punitiveness (AH + CO + PH) and Intro-punitiveness (SC + G). In the present study the scales provided by Caine et al., (1967) as well as the two proposed by Philip (1960) were used.

Test-retest reliability estimates have been calculated for normal and neurotic samples. For non-patient groups, the reliability for the General Hostility component is .75, while for the Direction of Hostility component is .51. Individual scales vary from .23 for the Guilt scale, to .70 for the Urge to Act Out Hostility scale. With a neurotic sample (HDDHQ administered four times over a year) the reliability for patients who improved in treatment was .73 (GH) and .57 (DH), and for those who failed to improve
in treatment was .50 (GH) and .72 (DH) respectively. Data on the validity of the HDHQ scales have accumulated over a variety of studies and populations. A study using normals, neurotics, melancholics, paranoids, and non-paranoid schizophrenics contrasted group scores on HDHQ scales. All diagnostic groups scored in the expected direction. On the General Hostility component psychotics, neurotics, and normals scored in a descending order (Caine et al., 1969, p. 9). On the Direction of Hostility dimension, all of the diagnostic groups also scored in the expected direction. The paranoid group scored at the extrapunitive end, the melancholics at the intropunitive end, and patients with a depressive illness scored further away from the middle than those without depressive elements. An unexpected finding was that the normal sample scored in a more extrapunitive dimension than neurotics but in a less extrapunitive direction than psychotics.

The Beck Depression Inventory. The Beck Depression Inventory (BDI) was "derived from clinical observations about the attitudes and symptoms displayed frequently by depressed psychiatric patients and infrequently by non-depressed psychiatric patients" (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI consists of 21 items which rate the frequency and the intensity of symptoms on a 0 to 3 scale. The score range is from 0 to 63. In classifying the intensity of depression the following cut-off scores were
proposed: 1) 0-9 none or minimal depression, 2) 10-18 mild or moderate depression, 3) 19-29 moderate to severe depression, and 4) 30-63 severe depression (Beck, Steer, & Garbin, 1988).

A review of 25 years of research on the psychometric properties of the BDI indicates high levels of reliability and validity (Beck, Steer, & Garbin, 1988). Reliability estimates include indices of internal consistency and test-retest stability. Mean internal consistency estimates (coefficient alpha) averaged 0.86 (p. 83). Test-retest stability estimates including time intervals from 1 to 6 hours to 4 months ranged from .48 to .86 (p. 84).

Beck et al., (1988) also found that the BDI shows high levels of concurrent validity with clinical ratings of depression and other instruments measuring depression (p. 85). The BDI also discriminates between psychiatric and non-psychiatric patients. In one study (Plumb & Holland, 1977) suicide attempters obtained higher mean BDI scores than cancer patients and the cancer patients' next of kin. There are also a number of studies which indicate a positive relationship between suicidal behaviours and depression as measured by BDI (p. 91).

The Suicide Intent Scale. The Suicide Intent Scale (SI; Beck, Schuyler, & Herman, 1974) was designed to "record data regarding the intensity of the attempter's wish to die at the time of the attempt" (p. 47). The SI consists of 15
items specifically relevant to suicide intent. Each item has three alternative forms graded in intensity on a scale from 0 to 2. The items are scored by the interviewer on the basis of data gathered from the patient’s interview and other sources. The scores for each item are tallied and added for a total scale score.

The scale consists of two parts. The first section contains eight items about the "Objective Circumstances Related to Suicide Attempt". These items attempt to gain factual information related to the events and circumstances of the attempt: isolation, timing, precautions against discovery, acting to get help during the attempt, final acts in anticipation of death, active preparation for the attempt, suicide note, and overt communication of the intent before the attempt.

The second part, the "Self Report", contains seven items related to the patient’s thoughts and feelings at the time of the attempt: alleged purpose of the attempt, expectations of fatality, conception of the method’s lethality, seriousness of attempt, attitude toward living/dying, conception of medical rescuability, and degree of premeditation. According to the authors, this part of the scale is potentially the most relevant to assessing suicide intent. A number of studies indicate that the Self-Report part has higher correlations with the total SIS score than the more objective "Circumstances" part (Pierce, 1977).
Initial reliability studies indicated that estimates of internal consistency (Spearman-Brown correlation coefficient) were .82, while interrater reliability in one study was .91 (Beck et al., 1974, p.51). The SIS total scale scores had successfully discriminated between fatal suicides and attempted suicides, and repeated attempters and those who did not reattempt (Beck, Morris, & Beck, 1974; Beck, Schuyler, & Herman, 1974). An examination of the factorial structure of the SI indicates that it is important to gather information about both objective (overt behaviour) and subjective (self-report) aspects of the attempt in order to gain a more comprehensive understanding of the nature of the attempt (Beck, Weissman, Lester, & Trexler, 1976).

Procedure

Only those psychiatric patients were included who signed a consent form regarding the purpose of the study. The consent form (see Appendix A) specifically stated that participation in the study was voluntary and that refusal to participate would not influence treatment in any manner. Each patient was informed that the purpose of the study is to gain more understanding about the nature of suicide attempt. Testing was conducted in an office or in the patient's room on an individual basis.

Following an introduction and clarification of patients' questions, a semistructured interview provided the
information necessary to fill out the Suicide Intent Scale. Following the interview the order of test administration was: (a) tape recorded five minute verbal sample for the Gottschalk-Gleser Content Analysis Scales, (b) the Hostility and Direction of Hostility Questionnaire, and (c) the Beck Depression Inventory. Testing was done in one session lasting approximately one hour and thirty minutes. Following the completion of measures, the author recorded the participants' demographics: the participant's age, sex, marital status, social position, and diagnosis (for the patient group).

The non-patient sample was informed that the purpose of the study was to assess the characteristics of the suicidal personality. All volunteer staff and/or their relatives without a history of suicide attempt were included in the study. The author informed all patients and non-patients that the results of the study would be analyzed in a group form only. It was emphasized that individual participants would not be referred to or identified in any way. To ensure confidentiality, the interviewer asked each participant to omit his or her name on all answer sheets.
CHAPTER III
Results

The results are presented in the following order: first the demographic characteristics for clinical and non-clinical groups will be presented; then, the relationships among the clinical variables will be examined in view of the proposed hypotheses.

Sample Demographics

Among the demographic variables the participants' age distribution is illustrated in Table 1. The entire sample ranged in age from 18 to 69 years. A one way Anova revealed significant differences in the mean ages among the four groups ($F[3, 96] = 8.12, p < .001$; see Table 2). Shafee's Multiple range test (at $p < .05$ level) revealed that the suicide-attempt inpatients ($M = 33.6$) and the non-clinical controls ($M = 33.2$) were significantly younger than the depressed group ($M = 45.3$).

The Index of Social Position (ISP; Hollingshead, 1957) and corresponding social class categories are illustrated in Table 3. It is important to note that, according to Hollingshead's calculations of social position, lower ISP scores correspond to higher social class. Accordingly, the affective disorder group and non-clinical controls had lower ISP scores (and higher corresponding social class) than the
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Suicide attempt inpatient</th>
<th>Suicide attempt outpatient</th>
<th>Unipolar depressive</th>
<th>No. clinical controls</th>
<th>Total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 20</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>21 - 30</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>12</td>
<td>26</td>
</tr>
<tr>
<td>31 - 40</td>
<td>12</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td>41 - 50</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>51 - 60</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>61 - 69</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>10</strong></td>
<td><strong>30</strong></td>
<td><strong>30</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
### Table 2

**Means and Standard Deviations for Age as a Function of Group**

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicidal inpatient</td>
<td>30</td>
<td>33.6</td>
<td>8.4</td>
<td>8.12*</td>
</tr>
<tr>
<td>Suicidal outpatient</td>
<td>10</td>
<td>34.4</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Unipolar depression</td>
<td>30</td>
<td>44.3</td>
<td>12.04</td>
<td></td>
</tr>
<tr>
<td>Non-clinical controls</td>
<td>30</td>
<td>33.2</td>
<td>11.7</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Group mean pairs different at $p < .05$.

*$p < .05$*
Table 3


<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicidal inpatient</td>
<td>30</td>
<td>45.4</td>
<td>14.9</td>
<td>2.55</td>
</tr>
<tr>
<td>Suicidal outpatient</td>
<td>10</td>
<td>44.9</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>Unipolar depression</td>
<td>30</td>
<td>35.4</td>
<td>16.4</td>
<td></td>
</tr>
<tr>
<td>Non-clinical controls</td>
<td>30</td>
<td>39</td>
<td>14.5</td>
<td></td>
</tr>
</tbody>
</table>

Note.

Social Class categories and corresponding Index of Social Position ranges are as follows: 1) 11-17, 2) 18-27, 3) 28-43, 4) 44-60, 5) 61-77.
suicide-attempt groups. This difference approached, but did not reach statistical significance \( \chi^2 [3, 96] = 2.56, p < .059 \). Out of the 100 participants, 36 were male and 64 were female (Table 4). A chi-square analysis revealed no significant differences in the distribution of males and females among the four groups \( [3, N = 100] = 3.07, p < .38 \). Table 5 displays the frequencies of marital status categories within each group. A chi-square analysis indicated no significant differences in the frequency of marital status among groups \( [12, N = 100] = 14.36, p < .28 \). However, there was a significant difference between the groups \( [3, N = 100] = 15.01, p < .001 \) in the frequency of patients abusing drug or alcohol (Table 6). Out of 28 participants admitting substance abuse, 67 percent \( (N = 19) \) were in the suicide attempt groups.

Because multivariate analyses of variance between the outpatient and inpatient suicide attempters indicated no significant differences on any of the hostility scales, these two groups were collapsed into a single group with \( N = 40 \) in subsequent analyses.

Each patient was assessed at intake, and diagnoses according to the Diagnostic and Statistical Manual of Mental Disorders-Revised (DSM-III-R, American Psychiatric Association, 1987) were recorded.
Table 4

Gender Representation in Sample Groups

<table>
<thead>
<tr>
<th>Sex</th>
<th>Suicidal inpatient</th>
<th>Suicidal outpatient</th>
<th>Unipolar depressive</th>
<th>Non clinical controls</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>12</td>
<td>4</td>
<td>13</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>Female</td>
<td>18</td>
<td>6</td>
<td>17</td>
<td>23</td>
<td>64</td>
</tr>
<tr>
<td>Total %</td>
<td>30</td>
<td>10</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 5

**Distribution of Marital Status in Sample Groups**

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Suicide Attempt-inpatient</th>
<th>Suicide Attempt-outpatient</th>
<th>Unipolar Depressive</th>
<th>Non Clinical Control</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>11</td>
<td>4</td>
<td>19</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td>Single</td>
<td>10</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Divorced</td>
<td>9</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Separated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total %</td>
<td>30</td>
<td>10</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 6

**Distribution of Substance Abuse in Sample Groups**

<table>
<thead>
<tr>
<th>Group</th>
<th>Suicidal inpatient</th>
<th>Suicidal outpatient</th>
<th>Unipolar depressive</th>
<th>Nonclinical controls</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>6</td>
<td>23</td>
<td>28</td>
<td>72</td>
</tr>
<tr>
<td>Total %</td>
<td>30</td>
<td>10</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>
For the patient samples, the DSM-III-R diagnostic classifications on AXIS-I (major clinical syndromes) and AXIS-II (personality disorders), as well as their frequency distribution are presented in Table 7 and Table 8 respectively.
Table 7

Frequency Distribution of DSM-III-R Diagnosis on Axis I and Axis II for Suicide Attempt Group

### Axis I - Major Clinical Syndrome

<table>
<thead>
<tr>
<th>Value label</th>
<th>Code</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depression, Moderate</td>
<td>296.22</td>
<td>1</td>
</tr>
<tr>
<td>Major Depression, Severe</td>
<td>296.23</td>
<td>3</td>
</tr>
<tr>
<td>Major Depression, Recurrent</td>
<td>296.30</td>
<td>1</td>
</tr>
<tr>
<td>Major Depression, Recurrent, Moderate</td>
<td>296.32</td>
<td>1</td>
</tr>
<tr>
<td>Major Depression, Recurrent, Severe</td>
<td>296.33</td>
<td>11</td>
</tr>
<tr>
<td>Bipolar Disorder, Severe</td>
<td>296.53</td>
<td>1</td>
</tr>
<tr>
<td>Bipolar Disorder, Mixed, Moderate</td>
<td>296.62</td>
<td>1</td>
</tr>
<tr>
<td>Bipolar Disorder, Mixed, Severe</td>
<td>296.63</td>
<td>1</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>300.40</td>
<td>5</td>
</tr>
<tr>
<td>Adjustment Disorder, Depressed</td>
<td>309.00</td>
<td>11</td>
</tr>
<tr>
<td>Adjustment Disorder, Anxious</td>
<td>309.24</td>
<td>1</td>
</tr>
<tr>
<td>Adjustment Disorder, Mixed</td>
<td>309.40</td>
<td>2</td>
</tr>
<tr>
<td>Adjustment Disorder, Not Specified</td>
<td>309.90</td>
<td>1</td>
</tr>
</tbody>
</table>

**TOTAL** 40

### Axis II - Personality Disorders

<table>
<thead>
<tr>
<th>Value label</th>
<th>Code</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paranoid</td>
<td>301.00</td>
<td>1</td>
</tr>
<tr>
<td>Schizoid</td>
<td>301.20</td>
<td>1</td>
</tr>
<tr>
<td>Obsessive-Compulsive</td>
<td>301.40</td>
<td>2</td>
</tr>
<tr>
<td>Histrionic</td>
<td>301.50</td>
<td>1</td>
</tr>
<tr>
<td>Dependent</td>
<td>301.60</td>
<td>4</td>
</tr>
<tr>
<td>Antisocial</td>
<td>301.70</td>
<td>6</td>
</tr>
<tr>
<td>Borderline</td>
<td>301.83</td>
<td>11</td>
</tr>
<tr>
<td>Passive-Aggressive</td>
<td>301.84</td>
<td>2</td>
</tr>
<tr>
<td>Personality Disorder Not Specified</td>
<td>301.90</td>
<td>1</td>
</tr>
<tr>
<td>Deferred or No Diagnosis</td>
<td>799.90</td>
<td>11</td>
</tr>
</tbody>
</table>

**TOTAL** 40
Table 8

Frequency Distribution of DSM-III-R Diagnosis on Axis I and Axis II for Affective Disorder Group

<table>
<thead>
<tr>
<th>Value label</th>
<th>Code</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depression, Moderate</td>
<td>296.22</td>
<td>4</td>
</tr>
<tr>
<td>Major Depression, Severe</td>
<td>296.23</td>
<td>4</td>
</tr>
<tr>
<td>Major Depression, Recurrent, Moderate</td>
<td>296.32</td>
<td>1</td>
</tr>
<tr>
<td>Major Depression, Recurrent, Severe</td>
<td>296.33</td>
<td>4</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>300.40</td>
<td>17</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value label</th>
<th>Code</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aranoid</td>
<td>301.00</td>
<td>1</td>
</tr>
<tr>
<td>Obsessive-Compulsive</td>
<td>301.4</td>
<td>4</td>
</tr>
<tr>
<td>Dependent</td>
<td>301.60</td>
<td>2</td>
</tr>
<tr>
<td>Antisocial</td>
<td>301.70</td>
<td>1</td>
</tr>
<tr>
<td>Narcissistic</td>
<td>301.81</td>
<td>1</td>
</tr>
<tr>
<td>Deferred or No Diagnosis</td>
<td>799.90</td>
<td>22</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>
Tests of hypotheses

Suicidal Intent and Direction of Hostility

Hypothesis I proposed that the Suicidal Intent Scale (SIS) scores and hostility directed against the self (as measured by the Gottschalk Inward Directed Hostility, Caine Direction of Hostility, and Philip Intro-punitiveness scales), are positively related. Table 9 displays the Pearson product-moment intercorrelations between the suicide intent and Gottschalk Hostility scale scores for the suicide-attempt group. Contrary to prediction, none of the Gottschalk scales showed a significant correlation with the suicide intent scores. Table 10 indicates that among the Caine hostility subscales, the Criticism of Others (CO) and suicide intent scores correlated in a negative direction ($r = -.45, p < .005$) while the Guilt subscale correlated positively with suicide intent scores ($r = .36, p < .05$). Among the Caine composite scales, the Inwardly direction of hostility correlated positively ($r = .53, p < .001$) with suicide intent (see Table 11). The Philip Intro-punitiveness scale also showed a positive correlation ($r = .35, p < .027$) with suicide intent. The Beck Depression Inventory (BDI) scale scores correlated significantly and in a positive direction with suicide intent scores (BDI, $r = .38, p = .016$). Thus, the pattern of correlations indicates that inwardly directed hostility, but not outwardly directed
Table 9

Intercorrelations of Suicide Intent Scale with Gottschalk Hostility Scales for Suicide Attempt Group (N=40)

<table>
<thead>
<tr>
<th></th>
<th>SIS</th>
<th>OVERTH</th>
<th>COVERTH</th>
<th>TOUT</th>
<th>AMB</th>
<th>INWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERTH</td>
<td>-.02</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVERTH</td>
<td>.01</td>
<td>-.03</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOUT</td>
<td>.00</td>
<td>.70*</td>
<td>.64*</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMB</td>
<td>-.08</td>
<td>-.11</td>
<td>.16</td>
<td>.07</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>INWARD</td>
<td>.14</td>
<td>-.2:**</td>
<td>-.20</td>
<td>-.29</td>
<td>.20</td>
<td>--</td>
</tr>
</tbody>
</table>

Note.

SIS = Suicide Intent Scale  
OVERTH = Overth Hostility Outward  
COVERTH = Coverth Hostility Outward  
TOUT = Total Hostility Outward  
AMB = Ambivalent Hostility  
INWARD = Inward Directed Hostility

*p < .001

The correlations are inflated because Total Hostility Out is a composite of Overt Hostility Outward and Covert Hostility Outward scales.
Table 10

**Intercorrelations of Suicide Intent Scale with the Caine Hostility Scales for the Suicide Attempt Group (N=40)**

<table>
<thead>
<tr>
<th></th>
<th>SIS</th>
<th>CO</th>
<th>PH</th>
<th>AH</th>
<th>SC</th>
<th>GUILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>-.45***</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH</td>
<td>-.01</td>
<td>.39*</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AH</td>
<td>-.19</td>
<td>.56***</td>
<td>.31*</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>.28</td>
<td>-.00</td>
<td>.29</td>
<td>.42**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>GUILT</td>
<td>.36*</td>
<td>.03</td>
<td>.41**</td>
<td>.28</td>
<td>.52***</td>
<td>--</td>
</tr>
</tbody>
</table>

**Note.**

- SIS = Suicide Intent Scale
- CO = Criticism of Others
- PH = Projected Hostility
- AH = Urge to Act Out Hostility
- GUILT = Guilt

\*p < .05  
\**p < .01  
\***p < .005
Table 11

**Intercorrelations of Suicide Intent and Beck Depression Scales with Caine and Philip Hostility Scales for Suicide Attempt Group (N=40)**

<table>
<thead>
<tr>
<th></th>
<th>SIS</th>
<th>GH</th>
<th>DIRH</th>
<th>IP</th>
<th>EP</th>
<th>BDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>GH*</td>
<td>-.00</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIRH*</td>
<td>.53***</td>
<td>.07</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP*</td>
<td>.35*</td>
<td>.77***</td>
<td>.69***</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP*</td>
<td>-.29</td>
<td>.86***</td>
<td>-.45***</td>
<td>.33*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI</td>
<td>.38*</td>
<td>.62***</td>
<td>.30</td>
<td>.68***</td>
<td>.37*</td>
<td>--</td>
</tr>
</tbody>
</table>

**Note.**
- *Caine composite scales
- *Philip composite scales

SIS = Suicide Intent Scale  
GH = General Hostility  
DIRH = Direction of Hostility  
IP = Intro-Punitiveness  
EP = Extra-Punitiveness  
BDI = Beck Depression Inventory

*p < .05  
**p < .005  
***p < .001

The correlations among the Caine and Philip scales are inflated due to overlap among subscales.
hostility, related positively to suicide intent.

The author further examined the possible influence of age and index of social position in the prediction of suicide intent by means of a regression analyses. The results of a regression analysis with suicide intent scores as the dependent variable and age and the index of social position as independent variables indicated that the multiple $R$ was not significant ($F_{[2, 37]} = 2.13, p < .13$; Table 12). Thus, age and index of social position did not act as effective moderator variables.

The relationship between clinical variables and suicide intent was also explored. The residual variance in suicide intent scores (the variance in suicide intent scores not accounted for by Age and Index of Social Position) was used as the dependent variable. The clinical variables—that is the Beck Depression scores, the Gottschalk three hostility scale scores (Outward Directed Hostility, Ambivalent Hostility, and Inward Directed Hostility) and the two Caine scale scores (General Hostility and Direction of Hostility)—were entered as predictors. This regression model accounted for 44 percent of the variance in the residualized Suicide Intent scores ($F_{[6, 33]} = 4.38, p < .005$; see Table 13).

Thus, the results indicate that the combination of various hostility measures and level of depression correlated significantly and positively with suicide intent.
Table 12

Summary of Regression Analysis of Age and Index of Social Position on Suicide Intent.

<table>
<thead>
<tr>
<th>Predictors</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2</td>
<td>160.49</td>
<td>80.24</td>
</tr>
<tr>
<td>Residual</td>
<td>37</td>
<td>1393.49</td>
<td>37.66</td>
</tr>
</tbody>
</table>

Multiple R = .32  
R Square = .10  
F = 2.13  
Sig. F = .13
Table 13

Regression of Suicide Intent on Depression and Direction of Hostility Scales

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Bet</th>
<th>Partial</th>
<th>SIG.T</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIRH</td>
<td>.39</td>
<td>.42</td>
<td>.01</td>
</tr>
<tr>
<td>GH</td>
<td>-.45</td>
<td>-.41</td>
<td>.01</td>
</tr>
<tr>
<td>AMB</td>
<td>-.38</td>
<td>-.42</td>
<td>.01</td>
</tr>
<tr>
<td>TOUT</td>
<td>.12</td>
<td>.15</td>
<td>.40</td>
</tr>
<tr>
<td>INWARD</td>
<td>.14</td>
<td>.16</td>
<td>.34</td>
</tr>
<tr>
<td>BDI</td>
<td>.52</td>
<td>.43</td>
<td>.009</td>
</tr>
</tbody>
</table>

Multiple R   .67*
R Square      .44
Adjusted R Square .34

Note.

DIRH = Direction of Hostility
GH = General Hostility
AMB = Ambivalent Hostility
TOUT = Total Outward Hostility
INWARD = Inward Directed Hostility
BDI = Beck Depression Inventory

* p < .005
The pattern of correlations and the results of regression analyses can be interpreted as supporting the hypothesis that there is a positive linear relationship between suicide intent and inwardly directed hostility. Neither age nor index of social position affected this relationship.

**Depression, Direction of Hostility, and Suicide Intent**

Hypothesis II proposed that hostility directed against the self would predict suicidal intent beyond the effects accounted for by depression. To examine the relationship between suicide intent and direction of hostility while controlling for the effects of depression, the following strategies were used: (a) examining the partial correlation coefficient between suicide intent and direction of hostility with the effects of depression partialed out, (b) hierarchical regression analysis, and (c) analysis of mean group differences in the direction of hostility while using depression scores as a covariate.

For the suicide attempt group, partial correlations between suicide intent and direction of hostility were calculated with the help of the SPSS regression procedure. The residual variance in suicide intent score (i.e. variance not accounted for by age and index of social position) was used as the dependent variable. The Beck depression scores and the Direction of hostility scores were used as independent variables. Table 14 indicates that the multiple
correlation between the combined depression and inwardly directed hostility with the residual suicide intent was significant ($R = .50, p < .005$). The correlation between the residual suicide intent and inwardly directed hostility with depression partialed out was $\rho = .44$. Thus, inwardly directed hostility as measured by the Direction of Hostility scale showed a significant and positive correlation with suicide intent after age and index of social position were controlled and the effects of depression were partialed out.

Hierarchical regression is a useful way of partitioning variance because it indicates the amount of unique variance accounted for by an independent variable beyond the variance accounted for by the variables already entered in the equation (Cohen & Cohen, 1983, p.121). To evaluate the proportion of unique variance in suicide intent scores accounted for by inwardly directed hostility, a hierarchical regression was used with Suicide Intent score as the dependent variable. The predictors entered in order were Age, Index of Social Position, Substance abuse, Beck Depression score, and last the Direction of Hostility scale. Although the Direction of Hostility was entered last into the equation, the $R$-square chang. (.17) was more than twice as great as the $R$-square change for any other variable including depression (see Table 15). This result indicates that the amount of unique variance accounted for by inwardly
Table 14
Regression of Beck Depression and Direction of Hostility on Suicide Intent Scores Adjusted for Age and Index of Social Position

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Beta</th>
<th>Partial</th>
<th>Signif.T</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIRH</td>
<td>.45</td>
<td>.44</td>
<td>.004</td>
</tr>
<tr>
<td>BDI</td>
<td>.20</td>
<td>.14</td>
<td>.403</td>
</tr>
</tbody>
</table>

Multiple R = .50*
R square = .25
Adjusted R square = .21

Note. N =40

*p < .005

DIRH = Direction of Hostility
BDI = Beck Depression Inventory
Table 15

Hierarchical Regression Analysis: Summary of R-square
Changes as a Function of Variable Entered in the Equation

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Multiple-R</th>
<th>R-Square</th>
<th>R-square change</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>.28</td>
<td>.08</td>
<td>.08</td>
<td>3.20</td>
</tr>
<tr>
<td>ISP</td>
<td>.32</td>
<td>.10</td>
<td>.03</td>
<td>2.13</td>
</tr>
<tr>
<td>ABUSE</td>
<td>.33</td>
<td>.11</td>
<td>.00</td>
<td>1.44</td>
</tr>
<tr>
<td>BDI</td>
<td>.44</td>
<td>.19</td>
<td>.08</td>
<td>2.05</td>
</tr>
<tr>
<td>DIRH</td>
<td>.60</td>
<td>.36</td>
<td>.17</td>
<td>3.91*</td>
</tr>
</tbody>
</table>

Note. *p < .01

AGE = Participant's age
ISP = Index of Social Position
ABUSE = Substance abuse
BDI = Beck Depression Inventory
DIRH = Direction of Hostility
directed hostility is significant beyond the variance accounted for by the demographic variables and depression combined.

Thus, the results of the partial correlation analysis and the hierarchical regression analysis support the hypothesis that inwardly directed hostility contributes significantly to the prediction of suicide intent beyond the effects attributable to depression. That is, knowing about an attempter’s level of inwardly directed hostility yields significant information about the severity of the suicide intent beyond the information provided by knowing the level of depression.

To further explore the effects of inwardly directed hostility scores among various diagnostic groups a series of analyses of variance was conducted. To examine group differences in the mean Direction of Hostility scores a one way analysis of variance was conducted. Groups (suicide attempt, unipolar depressives, and non-clinical controls) and sex (Male, Female) were the independent variables. Table 16 indicates that all three groups differed in their level of inward directed hostility ($F [2, 97] = 13.03, p < .001$). The non-attempter depressed group showed the highest inwardly directed hostility ($M = 8.77$). Suicide-attempt patients were significantly less inwardly directed in hostility than the depressed group ($M = 4.75$), but showed significantly more inwardly directed hostility than non-
Table 16

Means and Standard Deviations for Direction of Hostility as a Function of Group

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide Attempt</td>
<td>40</td>
<td>4.75</td>
<td>7.11</td>
<td>13.03*</td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td>30</td>
<td>8.77</td>
<td>5.40</td>
<td></td>
</tr>
<tr>
<td>Non-clinical Controls</td>
<td>30</td>
<td>.77</td>
<td>5.10</td>
<td></td>
</tr>
</tbody>
</table>

**Note.**

*p < .001*
clinical controls ($M = 0.77$). The non-clinical controls scored in the least inwardly hostile direction. Calculating the 95 percent confidence intervals, the range for the Direction of hostility scores for the normal control group was between $-1.14$ to 2.67. This indicates that the mean scores for the normal control group were approaching outwardly directed hostility. There was no significant difference between male and female scores on direction of hostility.

To control for the effects of depression, two separate 2 x 2 between groups analysis of covariance was performed on direction of hostility with depression scores as covariate. In the first analysis of covariance the independent variables consisted of Group (affective disorder, suicide-attempt) and Sex (male, female). The assumptions of homogeneity of variance and homogeneity of regression was secured. Table 17 indicates that after adjustment for the Beck depression scores the suicide attempter group still scored significantly lower on inwardly directed hostility than the non-attempter depressed inpatients ($F = [1, 65] = 8.96, p < .004$).

In the second analysis of covariance, the independent variables consisted of Groups (Suicide attempt, Non-clinical controls) and Sex (Male, Female). To ensure the homogeneity of variance of the depression scores for the two groups, the square root of the depression scores was used.
Table 17

Summary of Analysis of Covariance for Direction of Hostility Scores by Group and Sex, with Beck Depression as the Covariate

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>140.51</td>
<td>1</td>
<td>140.51</td>
<td>3.55</td>
</tr>
<tr>
<td>Group</td>
<td>354.72</td>
<td>1</td>
<td>354.72</td>
<td>8.96*</td>
</tr>
<tr>
<td>Sex</td>
<td>42.23</td>
<td>1</td>
<td>42.23</td>
<td>1.07</td>
</tr>
<tr>
<td>Error</td>
<td>2572.18</td>
<td>65</td>
<td>39.57</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>n</th>
<th>M^a</th>
<th>SD</th>
<th>M^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide Attempt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16</td>
<td>3.19</td>
<td>7.67</td>
<td>3.30</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>5.80</td>
<td>6.67</td>
<td>5.10</td>
<td></td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13</td>
<td>7.46</td>
<td>5.75</td>
<td>7.46</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>7.77</td>
<td>5.06</td>
<td>9.77</td>
<td></td>
</tr>
</tbody>
</table>

Note.  *a*Observed mean.  *b*Adjusted mean

*p < .005*
homogeneity of regression for the covariate was secured. Table 18 indicates, that, after adjusting for the covariate, there was no significant difference in inwardly directed hostility between the suicide-attempt and non-clinical control groups.

An earlier group comparison of demographic variables (Table 2) revealed that suicide-attempters were significantly younger than the depressed group. To control for the possible effects of age in the direction of hostility between the suicide attempt and affective disorder group, a 2 x 2 analysis of variance was computed with age as covariate. Table 19 indicates that, after adjusting for age, there was no significant difference in direction of hostility between the two groups.

Thus, the results of the above group comparisons indicate that suicide-attempters showed significantly less inwardly directed hostility than unipolar depressives, although the two groups scored in the same range on the Beck Depression Inventory. Differences in age, however, appeared to be an important moderator variable as it adjusted for the differences in inwardly directed hostility scores. The comparison between the suicide-attempt and non-clinical controls indicates a relationship between inwardly directed hostility and depression. When controlling for the differences in depression scores there was no significant difference in the level of inwardly directed hostility
Table 18

Summary of Analysis of Covariance for Direction of Hostility by Group and Sex, with the Square Root of Beck Depression Scores as Covariate

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>230.34</td>
<td>1</td>
<td>230.34</td>
<td>6.16*</td>
</tr>
<tr>
<td>Group</td>
<td>16.37</td>
<td>1</td>
<td>16.37</td>
<td>.44</td>
</tr>
<tr>
<td>Sex</td>
<td>9.52</td>
<td>1</td>
<td>9.52</td>
<td>.25</td>
</tr>
<tr>
<td>Error</td>
<td>2430.93</td>
<td>65</td>
<td>37.40</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>n</th>
<th>M^a</th>
<th>SD</th>
<th>M^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide attempt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>16</td>
<td>3.18</td>
<td>7.67</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>5.79</td>
<td>6.67</td>
<td>2.52</td>
</tr>
<tr>
<td>Non-clinical Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>7</td>
<td>1.00</td>
<td>5.80</td>
<td>3.50</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>23</td>
<td>.70</td>
<td>5.01</td>
<td>3.66</td>
</tr>
</tbody>
</table>

Note.  
^aObserved mean.  ^bAdjusted mean.  

*P < .05
Table 19

Summary of Analysis of Covariance for the Direction of Hostility by Group, with Age as Covariate

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>67.01</td>
<td>1</td>
<td>67.01</td>
<td>1.63</td>
</tr>
<tr>
<td>Group</td>
<td>113.28</td>
<td>1</td>
<td>113.28</td>
<td>2.76</td>
</tr>
<tr>
<td>Error</td>
<td>2749.86</td>
<td>67</td>
<td>41.04</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M(^a)</th>
<th>SD</th>
<th>M(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide Attempt</td>
<td>40</td>
<td>4.75</td>
<td>7.11</td>
<td>5.29</td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td>30</td>
<td>8.77</td>
<td>5.40</td>
<td>8.22</td>
</tr>
</tbody>
</table>

Note.  \(^a\)Observed mean.  \(^b\)Adjusted mean.
between suicide attempters and non-clinical controls.

**Diagnosis and Direction of Hostility**

It was predicted that those suicide-attempt patients with a personality disorder (borderline, narcissistic, antisocial, or hysterical) diagnoses should score higher on measures of outwardly directed hostility than unipolar depressed patients without these personality disorders. Conversely, patients with a primary diagnosis of unipolar depression should score higher on measures of hostility directed towards self than suicide attempters with a personality disorder diagnosis.

In the present sample, 18 out of 40 attempters (45%) were diagnosed with a hysterical, borderline, or an antisocial personality disorder (see Table 7). In the unipolar depression group, there were two such patients: one male patient was diagnosed as narcissistic, and the other as an antisocial personality disorder. In the following analyses, these two cases were excluded from the depressed group.

The order of comparisons between the personality disordered attempters and depressed non-attempter group was as follows: First, sample characteristics were assessed, followed by comparisons on the hostility scales. A series of analyses of variance with Age and Index of Social Position as the dependent variables and groups (Personality disordered attempters, Depressed non-attempter) as the
independent variable indicated that the Personality disordered attempter group was significantly younger ($F[1, 46] = 19.1, p < .001$), and significantly lower on the Index of Social Position ($F[1, 46] = 5.89, p < .05$), than the depressed non-attempter group (see Table 20 and 21 respectively). An analysis of variance with Beck Depression scores as the dependent variable, and Groups and Sex as the independent variables, revealed that the Personality disordered attempters scored significantly higher on the Beck depression scale ($F[1, 42] = 5.88, p < .02$) than the depressed group (see Table 22). There were no significant differences between male and female depression scores.

To assess the role of diagnostic categories and possible sex differences in the expression of hostility a series of multivariate analyses of variance were computed on all hostility scoring methods. Thus, Sex (male, female) and
Table 20

Means and Standard Deviations for Age as a Function of Group

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality Disorder</td>
<td>18</td>
<td>31.9</td>
<td>6.12</td>
<td>19.1*</td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td>30</td>
<td>45.3</td>
<td>12.04</td>
<td></td>
</tr>
</tbody>
</table>

Note.

p < .001
Table 21

Means and Standard Deviation for Index of Social Position as a Function of Group

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality Disorder</td>
<td>18</td>
<td>47</td>
<td>15.2</td>
<td>5.89*</td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td>30</td>
<td>35.4</td>
<td>16.4</td>
<td></td>
</tr>
</tbody>
</table>

Note: $p < .05$
Table 22

Means and Standard Deviation for Beck Depression Scores

as a Function of Group and Sex

<table>
<thead>
<tr>
<th></th>
<th>Beck Depression</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group</td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Personality Disordered</td>
<td>Male</td>
<td>7</td>
<td>29.9</td>
<td>12.6</td>
</tr>
<tr>
<td>Disordered Attempters</td>
<td>Female</td>
<td>11</td>
<td>33.9</td>
<td>12.1</td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td>Male</td>
<td>11</td>
<td>19.3</td>
<td>10.8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>17</td>
<td>26.5</td>
<td>12.4</td>
</tr>
</tbody>
</table>

Note.

*p < .05

Cut-off scores for Beck Depression Inventory: 1) 0-9 none or minimal, 2) 10-18 mild to moderate, 3) 19-29 moderate to severe, and 4) 30-63 severe (from Beck, Steer, & Garbin, 1988).
Group (attempts diagnosed with personality disorder, unipolar depression non-attempter) were the independent variables in all of these analyses. The dependent variables were, respectively: (a) the Gottschalk-Gleser content analysis scales, (b) Caine Hostility and Direction of Hostility Questionnaire scales, and (c) the Philip composite scales (Intro-punitiveness, Extra-Punitiveness). Separate analyses were required for the Cain and Philip composite scales in order to avoid multicollinearity due to scale overlap. To correct for the increased type I error rate within each Manova model, significance levels for individual F-tests were calculated according to the Bonferroni correction (Tabachnik and Fidell, 1989). This procedure involved dividing the nominal alpha ($\alpha < .05$) by the number of variables in the study. The significance of each univariate F-test was then compared to this adjusted alpha level.

In the first Manova, group and sex effects on the Gottschalk scales (OVERTH, COVERTH, TOUT, AMB, and INWARD) were assessed. Pillai's criterion was significant for groups ($F [5,38] = .26, p < .05$). Examination of univariate F-tests indicated that suicide attempters scored significantly higher on Overt Hostility scale than the depressed group ($F [1,42] = 10.33, p < .003$; Table 23).

In the second Manova, the effects of group and sex on the Caine scales (CO, AH, PH, SC, and G) were assessed.
Table 23

Summary of Means and Standard Deviations for the Gottschalk, Caine, and Philip Hostility Scales as a Function of Group

<table>
<thead>
<tr>
<th>Hostility Scales</th>
<th>Groups</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overt Hostility&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>1.47</td>
<td>.53</td>
<td>18</td>
<td></td>
<td>10.33*</td>
</tr>
<tr>
<td>D</td>
<td>.95</td>
<td>.57</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Act-out Hostility&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>6.17</td>
<td>2.18</td>
<td>18</td>
<td></td>
<td>9.95**</td>
</tr>
<tr>
<td>D</td>
<td>4.07</td>
<td>2.09</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra Punitiveness&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>15.11</td>
<td>5.26</td>
<td>18</td>
<td></td>
<td>8.59**</td>
</tr>
<tr>
<td>D</td>
<td>10.71</td>
<td>5.05</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direction of Hostility&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>3.83</td>
<td>7.95</td>
<td>18</td>
<td></td>
<td>6.16*</td>
</tr>
<tr>
<td>D</td>
<td>8.71</td>
<td>5.57</td>
<td>28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note.

<sup>a</sup>Gottschalk-Gleser hostility scale
<sup>b</sup>Caine et al., hostility scale
<sup>c</sup>Philip hostility scale

PD = Attempters diagnosed with Personality Disorder
D = Non-attempters diagnosed with Unipolar Depression

*<sub>p</sub> < .05
**<sub>p</sub> < .005
Using Pillai's criterion, a significant effect for groups was found ($F_{[5, 38]} = .27, p < .05$). Univariate $F$-tests indicated significantly higher Acting out hostility scores for the attempters with a personality disorder diagnosis group compared to the depressed group ($F_{[1, 42]} = 9.95, p < .003$; Table 23).

In the third Manova, group and sex were the independent variables and the composites proposed by Philip i.e. Intro-punitiveness and Extra-punitiveness were the dependent variables. Using Pillai's criterion, there were significant group differences found for the dependent variables ($F_{[2, 41]} = .18, p < .02$). Univariate $F$-tests indicated significantly higher Extra-punitiveness scores for the attempters with a personality disorder than for the depressed group ($F_{[1, 42]} = 8.59, p < .005$; Table 23).

In the fourth Manova, the Caine composite scales, that is General hostility and Direction of hostility scale scores, were the dependent variables. Pillai's criterion indicated a significant effect for groups ($F_{[2, 41]} = .20, p < .01$). An examination of univariate $F$ ratios indicated significant differences between groups on the Direction of hostility scale scores ($F_{[1, 42]} = 6.16, p < .02$; Table 23). Suicide attempters with a personality disorder scored in a significantly less inwardly direction than the depressed group. It is notable that there were no significant effects found for sex on any of the hostility
measures. Thus, the pattern of group differences on the various hostility scale scores indicated that the personality disordered attempters showed significantly more overtly hostile verbal content, urge to act out hostility, and extra-punitiveness as well as significantly less inwardly directed hostility than the non-suicidal depressed group.

An earlier examination of sample demographics indicated that the suicide attempt group was significantly younger than the affective disorder group. To control for the possible effects of age differences on the hostility and the direction of hostility scales, a multivariate analysis of variance was computed with age as a covariate and with group (personality disordered attempters, unipolar depression) as the independent variable. The four hostility scales, that is (a) Gottschalk's Overt hostility, (b) Caine's Urge to Act-out Hostility, (c) Direction of Hostility, and (d) Philip's Extra-punitiveness, were the dependent variables. Indices for the tests of multivariate homogeneity of variance and homogeneity of regression indicated that assumptions for analysis of covariance were met. Using Pillai's criterion, the hypothesis that there is no difference between the two groups on the hostility scales cannot be rejected. In other words, after adjusting for differences in age, there were no significant differences between groups on any of the hostility scales. Thus, it
appears that younger age is associated with feelings of overt hostility and an urge to act on these feelings.

To compare the level of general hostility among the non-clinical, suicide attempters with a personality disorder, and unipolar depression groups a one way analysis of variance was calculated. To ensure the homogeneity of variance for the general hostility scores across all groups, a square root transformation was used. The results of Scheffe multiple range test revealed that the non-clinical group showed significantly less overall hostility than either suicide-attempters with a personality disorder or the depressed patients (Table 24).

To control for the differences in depression between the groups the analysis of variance was recalculated with depression scores as the covariate. To ascertain the homogeneity of variance in depression scores across groups, the square root of the Beck Depression score was used as a covariate. The assumption for the homogeneity of regression across groups was secured. Again, the square root of the General Hostility score was used as the dependent variable. Table 25 indicates that when the square root of the General Hostility scores were adjusted for the square root of Beck Depression scores, between group differences in general hostility levels had disappeared. Thus, in comparison with the clinical groups, the non-clinical control group showed the least inwardly directed hostility (see Table 16) and the
Table 24

Means and Standard Deviation for the Square Root of General Hostility Scores as a Function of Group

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality disordered attempters(^a)</td>
<td>18</td>
<td>5.12</td>
<td>.72</td>
<td>51.2*</td>
</tr>
<tr>
<td>Unipolar depression(^b)</td>
<td>28</td>
<td>4.63</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>Non-clinical(^a) controls</td>
<td>30</td>
<td>3.14</td>
<td>.62</td>
<td></td>
</tr>
</tbody>
</table>

Note. \(^{a,b}\)Group mean pairs different at \(p < .05\) level.

\(p < .001\)
Table 25

Analysis of Covariance for the Square Root of General Hostility scores by Group, with the Square Root of Beck Depression scores as the Covariate

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>11.37</td>
<td>1</td>
<td>11.37</td>
<td>29.9*</td>
</tr>
<tr>
<td>Group</td>
<td>1.57</td>
<td>2</td>
<td>.78</td>
<td>2.07</td>
</tr>
<tr>
<td>Error</td>
<td>27.31</td>
<td>72</td>
<td>.38</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M*</th>
<th>SD</th>
<th>M^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality Disordered Attempters</td>
<td>18</td>
<td>5.12</td>
<td>.72</td>
<td>4.56</td>
</tr>
<tr>
<td>Unipolar Depression</td>
<td>28</td>
<td>4.63</td>
<td>.83</td>
<td>4.39</td>
</tr>
<tr>
<td>Non-clinical Controls</td>
<td>30</td>
<td>3.14</td>
<td>.63</td>
<td>3.94</td>
</tr>
</tbody>
</table>

Note.  
*Observed mean.  
^Adjusted mean.  

*P < .001
least amount of general hostility. Differences in depression levels appear to largely predict the differences in overall hostility and direction of hostility between the clinical and non-clinical groups. This pattern of relationship between depression, hostility and direction of hostility, and clinical diagnosis indicates that depressive feelings are related to both inwardly and outwardly directed hostility as well as overall levels of hostility.
CHAPTER IV
Discussion

Previous psychological studies which have attempted to clarify the suicide-attempter's personality characteristics indicate that hostility, particularly outwardly directed hostility, is prevalent in this population (Farmer & Creed, 1986; Philip, 1970; Weissman et al., 1973). In contrast, early psychoanalytic formulations emphasized that hostility turned towards the self is of etiological importance in depression and suicide (Freud, 1917/1950). However, research evidence for the role of hostility turned towards the self in suicide attempt is less clear than that for hostility directed outwardly.

The purpose of this study was to examine the role of direction and degree of hostility in suicide attempt. First, the study investigated the relationship between suicide intent and direction of hostility. The study then proceeded to explore whether measures of hostility and direction of hostility predict suicidal intent independently of depression. Lastly, suicide-attempters diagnosed with a personality disorder (antisocial, narcissistic, hysterical, or borderline) were contrasted on various measures of hostility with non-attempter patients diagnosed with unipolar depression and non-clinical controls.
Relationship between Suicide Intent and Inwardly Directed Hostility

The relationship between inwardly directed hostility and suicide intent was investigated by using two hostility measures: the Gottschalk-Gleser Content Analysis Scales (Gottschalk, Winget, & Gleser, 1969), and the Hostility and Direction of Hostility Scale (Caine, Foulds, & Hope, 1969).

The results indicate that, in the suicide-attempt group, the Gottschalk-Gleser scales of hostility showed no significant linear relationship with any of the other measures. There are a number of possible explanations for this lack of relationship. One explanation is that the suicide-attempt patients were tested at different stages of their hospitalization. In some cases patients were interviewed within 48 hours of their attempt, while others were interviewed anywhere between a month to two months following their attempt. The content of the five minute verbal samples collected and scored according to the Gottschalk's procedure, considered primarily as a "state" measure, may have been influenced by the patients' experience accumulated following their attempt such as: therapy, medication, and the reactions of significant others to the attempt. Ideally, all patients may need to be tested at a specific time interval, that is within 48 hours following the attempt to minimize the effect of some of these moderator variables. Another explanation is that the
instructions regarding administration may need to be more structured. The instruction to "speak for five minutes about any interesting or dramatic personal life experiences you have had" (Gottschalk et al., 1969, p. 5) may not be sufficient to elicit themes related to the patients' difficulties with hostile affect. For example, a female suicide-attempter chose to talk about her positive experiences during the birth of her two daughters without much reference to interpersonal difficulties documented in her case history. It is possible that, in a single verbal sample, more structured instructions could have been more successful in assessing her hostile affect. Another possibility is that repeated verbal samples collected during specified time intervals, such as done by in Gershon, Cromer, and Klerman (1968), are needed to adequately assess hostile affect.

When the direction of hostility was assessed by Caine's Direction of Hostility Scales, the hypothesis that suicide intent and inwardly directed hostility are positively related was supported. The positive correlation between suicide intent and inwardly directed hostility shows considerable overlap ($r = .53$) between the two scales. Confidence in this is further strengthened by the significant positive relationship between Philip's Intro-punitiveness and severity of suicide intent ($r = .35$). Thus, in the present suicide-attempt sample,
the stronger the wish to die the more hostility was inwardly directed. As measured by the Caine Direction of Hostility scale, inwardly directed hostility represents the predominance of feelings of guilt and self-criticism over outwardly directed hostility such as criticism of others, paranoid hostility, and urge to act-out hostility. This form of differential measurement of direction of hostility, that is the predominant direction of hostility within a person, has many advantages. In contrast to an either-or measurement of a single direction of hostility this form of measurement is a "dynamic concept representing at least part of what Jung termed direction of energy or interest" (Caine et al., 1967, p. 11). The assessment of the "predominant style" of hostility is in accord with the observation that aggression is not a unitary entity which is expressed either inside or outside and that the direction of expression of aggression varies according to personality type and situations (Friedman 1970). It is important to note that demographic variables such as age, sex, or social position did not correlate with suicide intent or inwardly directed hostility. Similarly, age and social position did not predict suicide intent. Thus, the possibility that these demographic variables may have been responsible for the positive relationship between suicide intent and inwardly directed hostility can be excluded.

The positive relationship observed between suicide
intent and inwardly directed hostility is in line with earlier studies (Farmer & Creed, 1986; Murthy, 1969) which also found that, in highly suicidal attempters, there are high levels of inwardly directed hostility. These results taken by themselves are in accord with early psychoanalytic formulations that, in suicidal patients, hostility is inwardly directed.

The Caine Criticism of Others scale was significantly related to suicide intent, but in a negative direction ($r = -.45$). The more criticism one demonstrates towards others the less likely is one to endorse items expressing a wish to die. This form of outwardly expressed hostility seems to be a characteristic of the "deliberate self-harm" patients described by Pattison and Kahan (1983) and Ennis (1983). This group of patients was characterized by non-serious suicidal intent, low lethality, and low frequency of feelings of worthlessness and hopelessness.

Thus, the results of this study show a strong positive relationship between seriousness of suicide intent and inwardly directed hostility. On this basis, if suicidal behaviours were ordered on a continuum of suicidal intent, from suicidal ideation to high levels of suicide intent, the predominant direction of hostility is progressively more inwardly directed.
Relationship between Depression, Direction of Hostility, and Suicide Intent

This hypothesis examined the relationship between depression and direction of hostility in suicide attempt. The incidence of clinically diagnosed depression in self-harm patients is estimated to range between 30 and 60 percent (Ennis, Barnes, Kennedy, & Thrachtenberg, 1989). In this study, suicidal intent and depression scores were positively related ($r = .38$). Thus, increasing levels of depression appear to be related to an increase in suicidal intent.

Inwardly directed hostility contributed significantly to the prediction of suicide intent beyond the variance accounted for by age, index of social position, substance abuse, and depression combined. Thus, knowing about an attempter’s level of depression is useful but not sufficient in predicting suicide intent. Knowing about the level of inwardly directed hostility, that is, the predominance of guilt and self-critical feelings over outwardly directed criticism, paranoid hostility, and urge to act out hostility, provides important additional information about the severity of suicidal intent. The predominance of feelings of guilt and self-criticism over hostility directed towards others is related to serious suicide intent.

The results also indicate that measures of inwardly directed hostility are positively related to depression.
The Beck Depression Inventory scores correlated significantly and positively with Guilt and Self-Criticism (see Appendix B), and with the Philip Intro-punitiveness scale (see Table 11). The correlation between inwardly directed hostility and depression was also in a positive direction, but did not reach significance ($r = .30$, $p = .057$). The pattern of comparisons between the suicide-attempt, depressed, and non-clinical controls also indicates that inwardly directed hostility and depression are related. The differences in level of inwardly directed hostility between suicide attempters and non-clinical controls disappeared when the hostility scores were adjusted for differences in depression levels. Similarly, non-suicidal patients with a diagnosis of unipolar depression scored in a significantly more inward direction than suicide-attempters and non-clinical controls (see Table 16).

This pattern of relationship between depression and inwardly directed hostility lends support to the classical psychoanalytic formulation of depression as hostility turned towards the self. However, among attempters, the picture is more complex. The Beck Depression Inventory scores also correlated significantly and positively with measures of outwardly directed hostility: Paranoid hostility, Urge to act-out hostility, General Hostility (see Appendix B) and Philip's Extra-punitiveness scale (see Table 11). These findings are in line with studies using other than suicidal
samples (Biaggio & Godwin, 1987; Friedman, 1970; Selby & Neimeyer 1986), which also found that measures of depression correlated positively with a variety of measures of the hostility-aggression-anger dimension. Thus, the pattern of relationship between depression and both inwardly and outwardly directed hostility indicates that depression is not necessarily a resolution of hostile feelings turned toward the self. In some cases depression appears to be a reflection of guilt and self-critical feelings, while in others general feelings of hostility and outwardly directed anger predominate. This pattern of relationship between depression and hostility is supportive of Bibring’s (1953) formulation that depression is not necessarily a solution to anger turned towards the self, and that the mechanisms of depression are relatively independent of the vicissitudes of aggressive and hostile impulses. In fact, the personality disordered attempters in this study were significantly more depressed and more outwardly hostile than depressed non-attempters. This issue will be further examined in the discussion of the next hypothesis.

Comparisons between the suicide-attempt group and the depressed non-attempter groups indicated that the attempters were significantly younger and less inwardly hostile than the depressed non-attempters. Other studies have also found that, among depressed patients, those with a history of suicide attempt were significantly younger than non-
attempters (Crook et al., 1975; Paykel & Dienelt, 1971). When the effects of age were controlled for, differences in the level of inwardly directed hostility disappeared. It is possible that in younger age groups feelings of outwardly directed hostility predominate over feelings of guilt and self-criticism although the later feelings are also present. The data from epidemiological studies in suicide attempt show a preponderance of younger age groups (16 to 30 years) in the suicide attempt population (Maris, 1981). There is some evidence that suicide completers in these age groups tend to be more "affect laden" and "feel more intensely angry and hostile toward another person" (Farberow & Schneidman, 1957), and that they are more likely to treat themselves as if they were reacting to another person (Leenaars & Balance, 1984). It is likely that, in younger suicide attempters, in spite of depressive feelings, guilt, and self-criticism, feelings of outwardly directed hostility predominate. It would be of interest to explore in future research whether younger suicide-attempters show lower suicide intent than those from older age groups. There are some indications that suicide intent is significantly and positively correlated with age, but this has not been consistently reported across studies (Dyer & Kreitman, 1984). Another possible explanation for the lower inwardly directed hostility demonstrated by the attempters is the role of psychiatric diagnostic group membership. A number
of studies indicate that among suicide-attempt patients the personality disorder diagnosis predominates (Maris, 1981; Murphy & Wetzel, 1982). The role of diagnostic group membership regarding the direction of hostility will be further discussed in the following section.

**Relationship between Diagnosis and Direction of Hostility**

Among suicide-attempters, the borderline (Ennis, 1983) and antisocial (Murphy & Wetzel, 1982) personality diagnoses predominate. In the present sample, 43 percent of attempters (borderline $N = 11$, antisocial $N = 6$) received this diagnosis. Hypothesis III proposed that attempters diagnosed with personality disorder (borderline, antisocial, narcissistic, and histrionic) would score significantly higher on measures of outwardly directed hostility than non-attempters diagnosed with unipolar depression. This hypothesis was supported. When compared to the depressed group on measures of outwardly directed hostility, the personality disordered attempters scored significantly higher on Caine's Urge to act-out hostility, Philip's Extrapunitiveness, and Gottschalk's Overt hostility scale. Additionally, the personality disordered attempters showed the highest level of general hostility among groups. This is in accordance with earlier studies (Crook, Raskin, & Davis, 1975; Paykel & Dienelt, 1971) which also found that suicide attempters show significantly more outwardly directed
hostility than depressed patients without a history of suicide attempts. These findings also support previous clinical observations and studies (Ennis, 1983; Kernberg, 1984; Philip, 1970; Sarver & Foner 1969) which found that suicide-attempt patients diagnosed with personality disorders are characterized by high levels of inner tension and chronic problems with impulse control which often leads to impulsive acts of self-destruction.

It is important to note that suicide-attempters with the above personality disorders manifested significantly more hostility and urge to act out hostility than depressed non-attempters, although the attempters also had significantly higher depression scores. One possible explanation may be that clinically this difference in depression levels may not represent a significant influence on direction of hostility. During testing both groups seemed quite depressed: in fact, the range of depression scores for both groups are largely in the moderate to severe range. Ennis et al. (1989) have suggested that the Beck depression scores of self-harm patients are inflated due to personality abnormalities, and that in a clinical interview these patients do not meet the DSM-III-R criteria for major depression. This view, however, may reflect a bias in the diagnostic criteria of depression according to which patients who present as outwardly hostile would not likely be observed and diagnosed as depressed. It is my opinion
that there is a general bias in equating depression with inwardly directed hostility and that, in overtly hostile patients, depression levels may be underestimated. This bias may pervade the DSM-III-R criteria for unipolar depression as well as the personal reaction of the interviewer. In the present sample, 11 out of 18 attempters also met the criteria for Major Depression on admission. The mean Beck Depression Inventory score for the personality disordered attempters was in the severe depression range (see Table 22). Possibly, this is a reflection of the acute distress experienced by this group.

The fact that suicide-attempters with borderline, histrionic, and antisocial personality disorders demonstrated high levels of overall hostility, overtly hostile verbal content, as well as an urge to act out hostility has important treatment implications. A number of studies on the treatment of suicide-attempt patients have emphasized that hostile and aggressive feelings manifested in the transference and countertransference aspects of treatment represent significant obstacles in their management (Birtchnell, 1983; Wolk-Wasserman, 1987). When care givers are confronted with the aggressive, provocative, and demanding side of the patient, as well as with repeated threats of suicidal ideation or attempts, the care giver’s commitment and involvement with such a patient is threatened.
Age was an important moderator variable interacting with measures of both inwardly and outwardly directed hostility. In this study, the suicide-attempt group as well as the personality disordered attempters were significantly younger than the non-attempter depressed group. When age was used as a covariate differences on inwardly and outwardly directed hostility scales disappeared. As indicated earlier, this is not likely to be an artifact arising from the sampling process. Previous observations indicate (Farberow & Schneidman, 1957) that in suicide, younger age is associated with the expression of angry and hostile feelings toward another person while in older age groups feelings of hopelessness predominate.

**Generalizability Issues and Future Research Recommendations**

As discussed earlier, the Gottschalk-Gleser Content Analysis scales did not correlate with any of the measures within the suicide attempt-sample. This lack of relationship, however, should not be taken to mean that the various states of hostility derived from verbal samples are irrelevant in suicide-attempt, or that there is a lack of relationship between these states and suicide intent. The fact that the suicide-attempters completed the measures at various time intervals following the actual attempt is a possible confounding variable in establishing a relationship between the actual attempt, suicide intent, and the various
measures of hostility. It is possible that the patients' responses on various measures were contaminated by their experiences since the attempt and were a reflection of their current state rather the one prior to the attempt. However, comparisons of outpatient and inpatient suicide-attempt groups indicated no significant differences on any of the clinical measures. Similarly, the established test-retest reliability estimates for the Hostility and Direction of Hostility Questionnaire should add to our confidence that the hostility constructs measured by this scale are relatively stable over time. Also, in this study, the 1978 version of the Beck Depression Inventory was used which instructed the participants to rate themselves for "the past week including today". There is some evidence that this form of administration improves test-retest reliability because it asks for more enduring states rather than a momentary mood (Beck, Steer, & Garbin, 1988, p. 82). Thus, the test-retest reliability of these measures strengthens the validity of the present findings and diminishes the possibility that the constructs measured were significantly altered due to the patients' intervening experiences. Nevertheless, in future research attempts should be made to assess patients as closely as possible to the actual attempt.

Studies on the suicide-attempter's background history indicate the presence of parental deprivation, negative and
unsatisfying social relations, and the presence of significant hostility directed at the patient (Maris, 1981; Rosenbaum & Richman, 1970). Psychoanalytic observations indicate that, psychosocially, the insecurity and frustration of the individual’s life, and the manner in which hostilities are taught in childhood are two major causes of hostility (Fine, 1978). In view of the chronic relationship and the consequent treatment difficulties with suicide-attempt patients, it is recommended that future research should focus on the study of these developmental factors which may well be major sources of hostility. The outcome of work in this area may bear upon the formulation of social policies and treatment strategies in the prevention of suicide attempt.

Implications for Clinical Practice

The main hypothesis, that suicide intent and inwardly directed hostility are positively related was supported. As measured by the Caine’s Direction of Hostility scale, inwardly directed hostility represents the predominance of feelings of guilt and self-critical attitudes over outwardly directed hostility such as criticism of others, paranoid hostility, and urge to act out hostility. However, in comparison to non-attempters diagnosed with unipolar depression, the suicide-attempt group diagnosed with a personality disorder (borderline, antisocial, narcissistic)
was significantly more depressed, expressed significantly more overtly hostile verbal content, experienced the most overall hostility and urge to act out hostility. Thus, in these patients, their level of depression and inner directed hostility is likely to be masked by their overall hostile presentation. In various studies, depressed and suicide-attempt patients were found to experience considerable guilt, worthlessness, depression, and inwardly directed hostility as well as considerable outwardly directed hostility (Crook, Raskin, & Davis, 1975; Farmer & Creed, 1986; Friedman, 1970). It is difficult to develop an empathic understanding and assessment of a patient’s inner struggle, such as feelings of guilt, self-criticism, and depression when the approach by a clinician is greeted by overtly hostile attitudes. The clinician, however, should not take the patient’s hostile attitudes as a personal attack (Birtchnell, 1983). Indications are that these patients would relate to anyone in the same manner. However, if the therapist is able to see through this initially hostile presentation, the patient’s depression and inwardly turned hostility are likely to surface.

In closing, I would like to illustrate this client-therapist interaction by sharing a personal clinical experience. A patient with a history of a criminal record, frequent physical fights, and alcoholism sought help because of his strong suicidal urges. His initial presentation was
tense, distrustful, with much overtly hostile verbal content. A few days earlier his wife left him because of physical abuse. Subsequently, he walked into a bar and provoked a fight. He was afraid to return home because of his strong urges to shoot himself. When the interviewer focused instead on the patient’s despair, loneliness, and sense of abandonment, he cried, and concretely acknowledged his feelings of guilt and sense of inadequacy. Concomitantly, his hostile verbal content gave way to the expression of depressed feelings over his sense of abandonment, and lead to the exploration of his overt hostility as his way of coping with guilt and worthlessness.
References


APPENDIX A

PARTICIPANT'S CONSENT FORM
APPENDIX A

Participant's Consent Form

Your name__________________________________________

I am carrying out a research study as part of my Ph. D. program. The aim of this research is to gain more understanding about the nature and treatment of suicide attempt. I would much appreciate your participation in this study, but the decision whether you wish to participate or not is completely voluntary. Refusing to participate will not affect your treatment in any way.

Your participation will take one meeting only. This will take at most one hour and a half of your time. During this meeting there will be a short interview. Five minutes of your speech will be tape recorded. You will also be asked to fill out two short questionnaires.

In order to ensure the confidentiality of your responses you are being asked to omit your name from any of the answer sheets. All questionnaires will have a number on top, not your name. Because the results of the study are analyzed in a group form only, individuals will not be identified or referred to in any way. For the statistical analysis of the data your age, sex, occupation, education, and diagnosis will be taken from your file.

Please indicate if you are willing to participate in this study by signing this form below.

Date________________ Signature__________________________

Thank you very much for your cooperation. If upon the completion of the study you would like to receive a summary of the final results please leave your name and address on this consent form.

Paul Szabo M.A.
APPENDIX B

INTERCORRELATIONS OF BECK DEPRESSION INVENTORY WITH GOTTSCALK AND CAINE HOSTILITY SCALES FOR THE SUICIDE-ATTEMPT GROUP
APPENDIX B

Intercorrelations of Beck Depression Inventory with Gottschalk Hostility Scales for the Suicide-Attempt Group

<table>
<thead>
<tr>
<th>BDI</th>
<th>OVERTH</th>
<th>COVERT</th>
<th>TOUT</th>
<th>AMB</th>
<th>INWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERTH</td>
<td>.05</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVERT</td>
<td>.26</td>
<td>-.03</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOUT</td>
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<td>.70*</td>
<td>.64*</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>AMB</td>
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<td>-.11</td>
<td>.16</td>
<td>.07</td>
<td>--</td>
</tr>
<tr>
<td>INWARD</td>
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<td>-.22</td>
<td>-.20</td>
<td>-.29</td>
<td>.20</td>
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</tbody>
</table>

Note.

BDI = Beck Depression Inventory
OVERTH = Overt Hostility Outward
COVERT = Covert Hostility Outward
TOUT = Total Hostility Outward
AMB = Ambivalent Hostility
INWARD = Inward Directed Hostility

*p < .001

Correlations are inflated because Total Hostility Out is a is a composite of Overt Hostility Outward and Covert Hostility Outward scales.
APPENDIX B (Continued)

Intercorrelations of Beck Depression Inventory with the Caine Hostility Subscales for the Suicide-Attempt Group

<table>
<thead>
<tr>
<th></th>
<th>BDI</th>
<th>CO</th>
<th>PH</th>
<th>AH</th>
<th>SC</th>
<th>GUILT</th>
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<tr>
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<td>0.06</td>
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<tr>
<td>PH</td>
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<td>0.41**</td>
<td>0.28</td>
<td>0.52***</td>
<td>--</td>
</tr>
</tbody>
</table>

Note.

BDI = Beck Depression Inventory  
CO = Criticism of Others  
PH = Projected Hostility  
AH = Urge to Act Out Hostility  
GUILT = Guilt

*p < .05  
**p < .01  
***p < .005  
****p < .001
VITA AUCTORIS

Paul Szabo was born on October 8, 1954 in Cluj-Napoca, Roumania. Following his participation in the fencing competition at the Montreal Olympic Games, he immigrated to Canada in 1975.

He received his Honours B.A. from York University in 1983, his M.A. in clinical psychology from the University of Windsor in 1985, and his Ph.D. in clinical psychology from the University of Windsor in 1992.

He is currently employed by the Guelph Community Mental Health Clinic in the adult outpatient program. He is married to Kinga Szabo, and they have a three year old son, Peter.