

Utah State University

DigitalCommons@USU

All Graduate Theses and Dissertations

Graduate Studies

5-1976

The Development of a Composite Criminal Suicide Attempt Scale

Norman Salzberg
Utah State University

Follow this and additional works at: <https://digitalcommons.usu.edu/etd>



Part of the [Psychology Commons](#)

Recommended Citation

Salzberg, Norman, "The Development of a Composite Criminal Suicide Attempt Scale" (1976). *All Graduate Theses and Dissertations*. 5789.
<https://digitalcommons.usu.edu/etd/5789>

This Dissertation is brought to you for free and open access by the Graduate Studies at DigitalCommons@USU. It has been accepted for inclusion in All Graduate Theses and Dissertations by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



THE DEVELOPMENT OF A COMPOSITE CRIMINAL
SUICIDE ATTEMPT SCALE

by

Norman Salzberg

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

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

Utah State University
Logan, Utah

1976

ACKNOWLEDGMENTS

I would like to express my gratitude to my co-chairmen, Drs. David Stone and Keith Checketts, for their interest and encouragement during my graduate studies and for their counsel and suggestions during this study. I am also grateful to other members of my committee, Drs. Walter Borg, Michael Bertoch, and Theresel Black, and to Dr. John Prioulaud, a former professor at the university and member of my committee.

I want to thank Utah State Prison staff psychologists, Drs. A. Carlyle and Richard Oldroyd, for their assistance with statistical techniques used in this study; the staff medical social caseworker, Mr. Earl Bearry, for rating the lethality of suicide attempts made by inmates at the prison; and other prison personnel and the administration for their cooperation.

I especially want to thank Dr. Al Roe, chief psychologist at the prison, for suggesting this study, for helping me formulate its research design, and for his untiring efforts and encouragement.

Norman Salzberg

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	vii
ABSTRACT	ix
CHAPTER	
I. INTRODUCTION	1
Problem	1
Objectives	2
Incidence of Suicidal Behavior in the United States.	2
Definitions of Suicidal Behavior	3
II. REVIEW OF THE LITERATURE	5
Explanations of Suicidal Behavior.	5
Sociological explanation	6
Psychological explanation	7
Psychosocial explanation.	9
Research on Suicidal Behavior of Inmates.	12
Suicidal Prediction Studies	14
Suicidal scales	15
Lethality scales	21
III. METHODS AND PROCEDURES	23
Sampling	23
Type of Data Obtained	25
Bipolar Psychological Inventory (BPI).	25
Personal and behavioral data	27

TABLE OF CONTENTS (continued)

	Page
Statistical Procedures	29
The comparison of suicide attempt and non-suicide attempt inmates on continuous and categorical variables	29
The BPI Suicide Attempt Scale	30
The development of the BPI Suicide Attempt Scale	30
The validation of the BPI Suicide Attempt Scale	32
The Criminal Suicide Attempt Scale	32
The development of the Criminal Suicide Attempt Scale	32
Determining the cut-off class interval for the Criminal Suicide Attempt Scale	33
IV. RESULTS AND DISCUSSION.	36
Results and Discussion	36
The comparison of suicide attempt and non-suicide attempt inmates on the 33 behavioral and personal variables	37
Comparison of the two groups of the original sample on the 33 personal and behavioral variables	37
Comparison of the two groups of the replication sample on the 33 behavioral and personal variables	40

TABLE OF CONTENTS (continued)

	Page
Comparison of the two groups of the original sample with those of the replication sample on the 33 behav- ioral and personal variables	42
The BPI Suicide Attempt Scale	42
The development of the BPI Suicide Attempt Scale	42
The content analysis of the BPI Suicide Attempt Scale	44
The validation of the BPI Suicide Attempt Scale	52
The BPI Suicide Attempt Scale as a clinical tool	53
A supplementary study of the BPI Suicide Attempt Scale	53
The comparison of the prison suicide attempters on the BPI Suicide Attempt Scale with each of the two groups of the replication sample	53
The relationship of the BPI Suicide Attempt Scale to the scales of the BPI	55
The relationship of the BPI Suicide Attempt Scale to a risk rating	57
The BPI Suicide Attempt Scale as a research tool	58
The Criminal Suicide Attempt Scale	60
The development of the Criminal Suicide Attempt Scale	60

TABLE OF CONTENTS (continued)

	Page
Predicting scores on the Criminal Suicide Attempt Scale	63
Determining the cut-off class interval for the Criminal Suicide Attempt Scale	63
Conclusion.	68
V. SUMMARY AND CONCLUSION.	70
Summary and Conclusion	70
BIBLIOGRAPHY.	77
APPENDIXES	80
Appendix A. Bipolar Psychological Inventory (BPI)	81
Appendix B. Description of the Bipolar Psychological Inventory Scales. .	97
Appendix C. An Item Analysis on the BPI Responses of the Suicide Attempt and Non-Suicide Attempt Inmates of the Original Sample	103
VITA.	111

LIST OF TABLES

Table	Page
1. Bipolar Psychological Inventory Scales	27
2. Comparison between suicide attempt and non-suicide attempt inmates of the original sample on behavioral and personal variables	38
3. Comparison of proportions of suicide attempt and non-suicide inmates of the original sample on behavioral and personal variables	39
4. Comparison between suicide attempt and non-suicide attempt inmates of the replication sample on behavioral and personal variables.	40
5. Comparison of proportions of suicide attempt and non-suicide attempt inmates of the replication sample on behavioral and personal variables.	41
6. Comparison between suicide attempt and non-suicide attempt inmates of the original sample on three sets of BPI items	44
7. Items of the BPI Suicide Attempt Scale	45
8. Comparison between suicide attempt and non-suicide attempt inmates of the replication sample on the BPI Suicide Attempt Scale	52
9. Comparison between prison suicide attempters and the replication non-suicide attempt inmates on the BPI Suicide Attempt Scale	55
10. The correlation between the BPI Suicide Attempt Scale and the BPI Scales.	56
11. Risk rating.	59

LIST OF TABLES (continued)

Table	Page
12. Intercorrelations among the components and the dichotomous criterion, suicide attempt vs. non-suicide attempt inmate (SA = 1, NSA = 0)	62
13. Constants, B weights, correlations and standard error of estimates of one and two component(s) with the dichotomous criterion, suicide attempt vs. non-suicide attempt inmate (SA = 1, NSA = 0)	62
14. Example of how to use constants and B weights in the regression equation for two components in predicting scores on the Criminal Suicide Attempt Scale . .	64
15. Statistics used to select one of the class intervals of the Criminal Suicide Attempt Scale to be its cut-off class interval and to examine the general utility of the scale, with this selected interval as its cut-off, for the Utah State Prison population where the suicide attempt base rate (SABR) and the non-suicide attempt base rate (NSABR) are 22.74 percent and 77.26 percent respectively	65

ABSTRACT

The Development of a Composite Criminal
Suicide Attempt Scale

by

Norman Salzberg, Doctor of Philosophy

Utah State University, 1975

Major Professors: David Stone and Keith Checketts
Department: Psychology

This study was designed to understand and identify prison male inmates who had attempted suicide in their history prior to their incarceration. The objectives were (1) the comparison of inmates who had indicated that they had attempted suicide in their past, referred to as "suicide attempt inmates," with inmates who had not, referred to as "non-suicide attempt inmates," on 33 behavioral and personal variables; (2) The development of a suicide attempt scale by means of an item analysis on the responses of suicide attempt and non-suicide inmates to the items of the Bipolar Psychological Inventory (BPI). This scale was named the BPI Suicide Attempt Scale; (3) The development of a composite suicide attempt scale; the components selected for this scale would be the BPI Suicide Attempt Scale, and/or one or more of the 33 personal and behavioral variables. This scale was named the Criminal Suicide Attempt Scale.

Based on an original and a replication sample of suicide attempt inmates and non-suicide attempt inmates at the Utah State Prison, with those in the original sample being younger, the findings were: (1) of the 33 personal and behavioral variables only one of them, prior drug use, differentiated each of the two groups within each of the two samples; several other different ones of them differentiated each of the two groups within each of the two samples; (2) BPI Suicide Attempt Scale, derived from the Bipolar Psychological Inventory which the inmates at the prison take usually soon after their incarceration, and developed on the two groups of the original sample, was able to differentiate the two groups of the replication sample at the .001 level; (3) The Criminal Suicide Attempt Scale, which consisted of two weighted components, drug use variable and the BPI Suicide Attempt Scale, correlated .38 with the suicide attempt vs. non-suicide attempt inmates of the replication sample and it was shown to have moderate accuracy in identifying suicide attempt inmates.

In an attempt to further validate the developed BPI Suicide Attempt Scale, a supplementary study was included in this dissertation. It concerned the use of this scale on male inmates at the Utah State Prison who had attempted suicide at the prison, referred to as "prison suicide attempters." It compared their scores on this scale with those of the two groups of the replication sample, and related

their scores on the scales of the Bipolar Psychological Inventory (BPI) and a risk rating. The findings were (1) derived from their BPI, the scores on the BPI Suicide Attempt Scale of the prison suicide attempters and of the non-suicide attempt inmates differed significantly at the .02 level. The mean score of the prison suicide attempters was essentially the same as that of the suicide attempt inmates of the replication sample; (2) the BPI Suicide Attempt Scale scores of the prison suicide attempters correlated positively and significantly with their scores on 8 scales of the BPI. Six of these scales, depression, self-degradation, impulsiveness, psychic pain, family discord and dependence are related to factors indicated in the literature of suicidology to be associated with suicidal individuals; (3) the BPI Suicide Attempt Scale scores of the prison suicide attempters did not correlate with their risk factors scores on the risk-rescue rating of Weisman and Worden (1974).

(111 Pages)

CHAPTER I

INTRODUCTION

Problem

Suicidal behavior has been a complex phenomenon which has perplexed, angered, grieved, shamed, and fascinated societies for centuries. It has been known to exist in different types of cultures and has been associated with different types of diagnostic and personality pattern categories. Various theories or explanations, coming from biological, psychological, sociological, and social-psychological sources, have attempted to explain the causes of this phenomenon. However, in general, they have had only moderate success.

Before a model can be developed which can explain the varied causes associated with suicidal behavior, more research should be done on the different types of suicidal behavior, as associated with different types of diagnostic or personality pattern categories within different types of cultures or social settings.

Very little research has been done on inmates who have exhibited suicidal behavior while in prison or prior to incarceration. This study will concern itself specifically with male inmates who

have attempted suicide in their history prior to their incarceration.

Objectives

The first objective of this study is to compare male inmates who have indicated that they had attempted suicide in their past, referred to as suicide attempt inmates, with male inmates who have not, referred to as non-suicide attempt inmates, with respect to 33 behavioral and personal variables.

The second objective is the development of a suicide attempt scale by means of an item analysis on the responses of the suicide attempt and non-suicide attempt inmates to the items of the Bipolar Psychological Inventory (BPI). This scale is to be referred to as the BPI Suicide Attempt Scale.

The third objective, the major purpose, is the development of a composite suicide attempt scale. The components selected for this scale will be the BPI Suicide Attempt Scale, and/or one or more personal and behavioral variables. This scale is to be referred to as the Criminal Suicide Attempt Scale.

Incidence of Suicidal Behavior in the United States

In 1964 an average of 56 suicides were committed daily in the United States (Massey, 1967). This amounted to 20,588

reported suicides for that year and represented about 1 percent of all deaths occurring. In terms of 100,000 population, 19.8 people committed suicide. For every individual committing suicide, it has been estimated that 15 attempt suicide (Pretzel, 1972).

With respect to statistics on suicidal behavior of inmates, only that on completed suicide of Federal inmates could be found. Rieger (1971), stated that between 1950 and 1969 approximately 10.5 per 100,000 inmates committed suicide. While no reported suicide or having prior suicidal behavior, it was found in this study that 22.74 percent of inmates at the Utah State Prison have indicated that they had attempted suicide at least once prior to their incarceration.

Definitions of Suicidal Behavior

Suicidal behavior has usually been classified in three major categories: threatened, attempted, and committed. Threatened suicide is defined as verbal behavior indicating intent to commit suicide. Attempted suicide is defined as any non-fatal act or self-damage and committed suicide as any fatal act of self-damage.

In this study male inmates of the Utah State Prison who have or have not attempted suicide prior to their incarceration were

investigated. The criterion used to determine whether they have attempted suicide in their past was the response that they gave to the item, "I have tried to kill myself" of the Bipolar Psychological Inventory (BPI), a test which they take usually within the first three weeks of their incarceration. This item is referred to in this study as the "suicide attempt item."* If an inmate responded "true" to this item, he was referred to as a "suicide attempt inmate;" if he responded "false," a "non-suicide attempt inmate." This criterion was used since these inmates' prison records do not contain information pertaining to their suicidal behavior prior to their incarceration.

*This item does possess good reliability. Sometimes the BPI test is taken again by an inmate, usually if the inmate is to appear before the board of pardons or if the inmate is re-entering the prison. There were 115 inmates who had taken this test twice and had valid scores on each of them. The time between test and retest for these inmates ranged from 1 to 60 months with a mean of 23.65 and a standard deviation of 16.53. Of these 115 inmates, 87 and 28 of them, respectively, had marked "false" and "true" to this item the first time. Of these 87, 83 marked "false" the second time; of these 28, 22 marked "true" the second time. The Phi coefficient of correlation between test and retest for this group on this item was .79 (See chapter on Methods and Procedures for both a description of the BPI and an explanation of what is considered a valid BPI record).

CHAPTER II

REVIEW OF THE LITERATURE

This review will first deal briefly with explanations of suicidal behavior from the viewpoints of sociology, psychology and social-psychology.* Second, it will concern itself with research on the suicidal behavior of criminals, of which there is very little. Finally, it will review representative suicidal studies involving the development and use of suicidal scales and lethality scales.

Explanations of Suicidal Behavior

There have been three approaches in understanding suicidal behavior. They are the sociological explanation, which relates suicidal behavior to the effects of society and its institutions, the psychological explanation, which traces suicidal behavior to internal psychological dynamics, and the social-psychological explanation, which associates suicidal behavior with the combined effects of sociological and psychological factors.

*For a more extensive review of these explanations, the reader is referred to Beall's article (1969).

Sociological explanation

The first major systematic sociological study on suicide was done in 1897 by a Frenchman, Emile Durkheim (1938). Durkheim has been classified as an early functionalist, a functionalist being a sociological theorist who believes that for an individual to function adequately he must be integrated into a society which is integrative itself. An integrative society is one in which its institutions, such as family, religion, and government, have certain functions which complement each other and are not in conflict with one another.

Durkheim stated that there are three major types of suicides: altruistic, egoistic, anomic, each of which concerns the relationship of the individual to society.

Altruistic suicide occurs in a culture within which the individual is well integrated. The act of suicide is considered acceptable in that it is consistent with the norms or needs of that culture. Durkheim gave examples of this type of suicide as it occurred in primitive society. He said records show that in some of them men killed themselves when they had reached old age and in others that women killed themselves when their husbands died. These individuals killed themselves, he added, because they had been indoctrinated to do so. A more recent example might be hara-kiri as committed by Japanese before and during World War II.

Egoistic suicides are those committed by individuals who were never effectively integrated within society simply because the functions of that society were not themselves well integrated or operating effectively. Durkheim stated that the more integrated were the functions of the institutions of a society, the less would be the number of egoistic suicides. He found that the institutional functions in Catholic countries were more integrated than in Protestant countries and that consequently there were fewer egoistic suicides in these countries.

Anomic suicide occurs when the individual links to various consolidated groups of society are weakened. Durkheim stated that when a person lost his wealth, for instance, his social position would be weakened and he would thus be more prone to suicide. He also said that the sudden acquisition of great wealth would isolate the individual from his social groups, which could result in suicide. Other anomic suicides occur when an individual loses his ties with others who are significant to him, such as through their deaths or divorce.

Psychological explanation

One of the first psychological theories that dealt with the understanding of suicidal behavior was that of the psychoanalysts. Most psychoanalysts, such as Freud and Menninger, showed minimum concern for cultural factors in explaining suicidal behavior,

just as Durkheim had a similar conviction that individual dimensions were of minimal relevance. In general, the psychoanalysts explain the dynamics involved in suicidal behavior in the manner indicated by this example (Hendin, 1970, Litman and Tabachnick, 1968, Menninger, 1938, and Litman, 1970). A person with a strong ambivalent feeling of love and hate towards an individual may be afraid to express his hostility because he fears that he will lose the person's affection. At the same time he feels guilty for having these hostile feelings and as a means of atonement may become self-destructive. Such self-destructive feelings may then actualize into suicidal behavior. They would also state that it is possible for such an individual to introject his ambivalent object and thus, by carrying out a suicidal act, he not only atones for his guilt but may also destroy this introjected love object.

In addition to the above constellation of motives, specific motives have also been postulated by psychoanalysts. (Hendin, 1970, Litman, 1970, and Litman and Tabachnick, 1968). Two of these are "to reunite," and "to relieve oneself of feeling dead." A good example of the "reuniting" motive might be this incident from this author's own experience as a clinical psychologist. A Catholic patient, aged 10, whose parents had been killed in an automobile accident when he was 5, said to the author, "If I commit suicide, I will then be back with my parents."

With regard to the "to relieve oneself of feeling dead" motive, this author once had a 20 year old female patient who had been through a severe crisis which had resulted in her developing intolerable hostility and guilt. To rid herself of these feelings, she was able to almost completely dissociate all of her feelings. This dissociative state, however, made her feel dead, which was very painful to her. As a result she thought about taking her life.

Psychosocial explanation

Many researchers have stated that in order to understand the cause of suicidal behavior one must take into consideration not only the psychological factors, but also the social or cultural factors (Beall, 1969). Suicidal behavior is thus seen as resulting from an interaction of these factors.

Jacobs (1971) investigated the suicide attempt behavior of adolescents as associated with the relationship between their social environment and their behavior. He matched suicide attempt and control (non-suicide attempt) adolescents with respect to age, sex, race and level of their mother's education. He collected data on them by interviewing both them and their parents with regard to disruptive events they had experienced during their life time, behavior problems they had had during the five years prior to the interview, and disciplinary techniques that their parents had used on them during the same period.

He found that while both suicide attempt and control adolescents had experienced disruptive events in their lives, the suicide attempt adolescents had experienced more of these events during the five year period, as well as before this time. Some of the events experienced by both groups during the five year period were residential moves, school changes, suspension from school, a broken romance, pregnancy, various physical illnesses, serious physical illnesses of other family members, and separation or divorce of parent.

Jacobs also found that the parents of the suicide attempt group had been more punitive than those of the control group during the five year period. They employed more criticism, nagging, yelling, with-holding of approval, whipping and spanking.

Finally, he found that during the five year period suicide attempt adolescents had had more behavioral problems than had the control adolescents. While both groups had a similar degree of rebellious behavior, suicide attempt adolescents both withdrew more into themselves and withdrew themselves more often physically, or in other words ran away from home.

He concluded that the interrelationship of more punitive parents and more disruptive events as experienced by the suicide attempt adolescents resulted in their becoming more isolated from

meaningful social relationship and this caused them to attempt suicide.

In his book Theory of Suicide, published in 1968, Farber compared the social-psychological dimensions in Norway and Denmark, both Scandinavian countries, to determine why Denmark had a higher rate of suicide (20 per 100,000) than Norway (7 per 100,000). He used different methods and investigations to study these dimensions. These involved (1) observations of social institutions and cultures of both countries, such as their national economy, folk tales, comic strips, historical material, and child rearing practices; (2) giving questionnaires, which contained personality and value items, to university students of both countries; and (3) the giving of intensive clinical interviews to Norwegian and Danish patients recovering from suicide attempts.

In his study, Farber was not explicit, at times, as to his methods of investigation. In addition, he seemed, occasionally, to draw conclusions from insufficient facts.

His more important findings seemed to be as follows: (1) Danes as compared to the Norwegians were less hopeful about the future, i.e. less confident in their expectations that a desired outcome would occur. (2) Danish parents handled their children by encouraging dependency behavior, punishing aggressive responses, fostering guilt and de-evaluating their self-esteem. In contrast,

the Norwegian parents encouraged both dependency and independence and showed much affection towards them.

He concluded that because of the inter-relationship of cultural values and parents' training of their children, more Danes in contrast to Norwegians became adults who were less competent, i.e., less efficient in mastering their environment, and less hopeful. Feelings of hopelessness and incompetence are major factors associated with potentially suicidal individuals, according to Farber.

Research on Suicidal Behavior of Inmates

Research has been extremely limited on inmates who have exhibited some form of suicidal behavior before, during, or after being incarcerated. Only two research studies could be located which dealt with suicidal behavior of such individuals.

Rieger (1970) did an exploratory study on male inmates at a Federal prison with a history of one or more suicide attempts during and/or before their being incarcerated. He was interested in finding out whether the severity of their attempt, or their most recent attempt, if there had been more than one, was related to any of the following: the loss of a loved one within six months before the attempt, age when separated from the mother, or previous attempt at suicide. He categorized the severity of the suicide attempts by

a method developed by Motto (1965), which operates as follows. Category 1 is a suicidal gesture only, without significant physical injury. Category 2 is a suicidal act requiring medical attention but without significant risk to life or health. Category 3 involves moderate to severe self-injury with potentially fatal outcome but with clear ambivalence. Category 4 is an unequivocal attempt to end one's life. Rieger found none of his subjects belonging to Category 4.

His findings indicated that more of his most serious attempt subjects, those belonging to Category 3, as compared to his less serious attempt subjects, those belonging to Category 2 or 1 had lost a loved one within six months of their attempts and had been separated from their mother (he does not explain what he means by separation) between 15 and 20.

With respect to previous suicidal attempts, 58, 10, and 50 percent of the subjects in Categories 1, 2, and 3 respectively had at least one previous suicidal attempt.

Beigel and Russell (1972) compared the characteristics of inmates in Arizona jails who had attempted suicide while being incarcerated, with those who had not. Their sample of suicide-attempt inmates was obtained as follows: they sent a questionnaire to all the sheriffs in the state, requesting information from their records about prisoners who had attempted suicide during the year.

Sufficient data were obtained on 30 prisoners. For their non-suicide attempt inmates, they collected the same information on 30 prisoners selected randomly on a single day from the state's entire jail population. Their suicide attempt group contained all males, 60 percent whom were non-Anglos, predominantly Mexican-American. In their non-suicide attempt group 83 percent were males and 43 percent non-Anglos.

Their results showed that significantly more suicide attempt inmates as compared to non-suicide attempt inmates, were younger, had had an unsuccessful marriage, were in jail for a non-violent crime and had been previously confined in jail or prison or both. Also more suicide attempt inmates had had a history of at least one previous suicide attempt.

Suicidal Prediction Studies

Different types of psychological instruments have been used to predict and understand suicidal behavior. The major ones have been standard tests, such as the MMPI, Rorschach, TAT, and Bender-Gestalt; suicidal scales, which involve items pertaining to disparate behavioral and personal variables; and lethality scales, which involves items pertaining primarily to the intent to kill oneself and/or to the implementation of the suicidal act. Before 1970 the emphasis was on standard tests and suicidal scales in

understanding and predicting this phenomenon.* Since then suicidal prediction studies have involved less use of standard tests and more use of both lethality and suicidal scales.

This section will review representative suicidal studies involving the development and use of suicidal and lethality scales.

Suicidal scales

There are two general types of suicidal scales. The first type predicts suicidal behavior of individuals who have not necessarily been suicidal in the past. This type of suicidal scale is generally developed in the following manner: Admittance data pertaining to personal and behavioral variables are collected on non-suicidal patients. Within a specified period of time the admittance data of those who exhibit suicidal behavior are compared with the same of those who do not. Items of the data which differentiate these two groups are used as the items for the scale.

The second type predicts suicidal behavior of individuals who have already exhibited some form of suicidal behavior. This type of suicidal scale is being more often developed than the first type. The reason for this is that former suicidal individuals are a

*For a comprehensive review of many standard psychological tests used in studying and predicting suicidal behavior and of suicidal scales developed for those purposes the reader is referred to Lester's paper (1970).

much higher risk for future suicidal behavior than are non-suicidal individuals. This type of suicidal scale is generally developed in the following manner: Admittance data, pertaining to personal and behavioral variables, are collected on individuals admitted to the hospital because of suicidal behavior. Within a specified period of time the admittance data of those who exhibit further suicidal behavior are compared with the same of those who do not. Items differentiating repeaters from non-repeaters are then used as the items for the scales.

Miskimins, DeCook and Lowell (1967) developed a suicidal scale of the first type. They accomplished this by matching patients of a state hospital who later committed suicide with those who did not with respect to age, marital status and diagnosis. They then compared these patients on behavioral and personal variables obtained on them while they had been in the hospital. Those variables which differentiated these patients plus the matched variables were used as the items on their scale.

The scale was tried out on various groups from the hospital. The mean scores on the test of the original matched completed suicide and non-suicidal patients were significantly different at the .001 level. With the original suicide group and randomly selected patient group, the scores were significantly different at the .001 level. With a highly suicidal group, as determined by the staff at

the hospital, and the above randomly selected patient group, the scores were significantly different at the .001 level.

In 1969, Miskimins and Wilson (1969) obtained the scores on the above suicide test from a new group of a group of patients who had committed suicide and a group of patients, randomly selected, who had not exhibited any suicidal activity. The mean scores of these two groups were significantly different at the .001 level. In addition to determining whether the test could discriminate the two groups, they did an item analysis on the responses of these groups to the test to cull out the least discriminative items. They wanted to eliminate the least discriminative items in order to increase the scale's precision and to decrease its length. After these least discriminative items were eliminated, their scale consisted of 16 items based on the following characteristics: sex and age, diagnosis, times admitted, marital status, education, pre-occupation, slowing of thought, language use, anger, depression, apathy, inappropriate behavior, social pattern against, impaired effectiveness, external precipitating stress, and danger to self.

The following suicidal scales developed were of the second type. For their scale Cohen, Motto, Seiden (1966) obtained the initial data of a group of persons of both sexes who had been admitted to a general hospital in San Francisco because of suicide attempt behavior. Initial data of those patients who had

subsequently attempted or committed suicide within eight years were compared with the same of those who had not. Fifteen factors were found to differentiate the two groups and were used as the factors in their scale. Several of these factors associated with repeaters were: male, 45 years or older, former or current antisocial problem, drug problem, alcohol problem and previous hospitalization.

They determined the predictiveness of their scale on the group from which the scale was developed. They categorized these individuals as high risk, medium risk and low risk with respect to their scores on the test. Of the individuals in the high risk category 49 percent were repeaters and 51 percent non-repeaters; in the medium risk category 33 percent were repeaters and 67 percent non-repeaters; and in the low risk category 4 percent were repeaters and 96 percent non-repeaters.

These results indicate that the scale efficiency in predicting whether an individual will be a repeater or non-repeater is very discriminative for scores in the low risk category, but become less in the medium risk category and even less for the high risk category.

Whereas Cohen, Motto and Seiden (1966) developed a scale that could be used with both sexes, Buglass and McCulloch (1970) developed a scale for each sex. These scales were based on the initial data of individuals who were admitted to an English hospital for suicide attempt behavior. The male scale contained items of the initial data which differentiated those males who within

three years had attempted or committed suicide from those males who had not. The items of the female scale were likewise obtained from the initial data of the females. The male scale contained three items: (1) alcoholism, (2) alcohol at the time of the suicide attempt, and (3) violence in key relationship. The female scale consisted of seven items: (1) previous attempted suicide, (2) previous psychiatric treatment, (3) psychopathy, (4) drug addiction, (5) dwelling mobility, (6) father absent when patient was under 10 years, and (7) mother absent when patient was under 10 years.

The predictiveness of each of the two scales was assessed on the sample on which it was developed and on another similar sample of the same gender. The males and females of these samples were categorized as high risk, medium risk and low risk with respect to their scores on the female and male scales. With regard to the males of the original male sample, in the high risk category, 57 percent were repeaters and 43 percent were non-repeaters; in the medium risk category, 32 percent were repeaters and 68 percent non-repeaters; in the low risk category, 13 percent were repeaters and 87 percent were non-repeaters. With regard to the females of the original female sample, in the high risk category 56 percent were repeaters and 44 percent were non-repeaters; in the medium risk category 30 percent were repeaters and 70 percent were non-repeaters; and in the low risk category 8 percent were repeaters and 92 percent non-repeaters.

For the other two samples, the female scale showed similar discriminative accuracy as it had on the original female sample. The male scale, however, was very poor in differentiating male repeaters and non-repeaters within each of the three risk categories.

Whereas the scales of Cohen, Motto and Seiden (1966) and Burglass and McCulloch (1970) were constructed to predict attempted or completed suicide of individuals who had attempted suicide, Lettieri (1974) developed scales that would predict completed suicide of individuals who have had suicidal ideation. The scales were for each of four different age-sex categories of individuals: older males, younger males, older females and younger females. Each of the scales was constructed from the initial data of one of these categories, each member of which had contacted the suicide prevention center and expressed suicidal ideation which in some instances had followed a suicide attempt and in others had not. The items of each scale were selected by means of a discriminate function analysis performed on the initial data of those members who were alive after two years from their initial contact with the center versus the same of those members who had committed suicide within this period. The predictiveness of each scale was based on the sample from which the scale was developed. Each of the scales proved to be predictive.

As an illustration of these scales, some of the items of the young male scale associated with subsequent completed suicide are

Caucasian, confused thinking, omnipresent suicidal feelings and recent divorce. With a particular cutoff score, this scale was able to predict correctly as suicide commits 77 percent of those young males who actually committed suicide and incorrectly as suicide commits 17% percent of those who were still alive.

Lethality scales

As it will be recalled, the factors associated with lethality scales deal specifically with the intensity of the wish of an individual wanting to kill himself at the time of the suicide attempt, and/or with the implementation of his suicide attempt act, rather than with disparate factors associated with subsequent suicidal behavior as are found in suicidal scales.

Beck, Schuyler and Herman (1974) developed a lethality scale primarily to measure the intent of an individual wanting to kill himself at the time of his suicide attempt. The scale is divided into three sections. The first section consisted of items pertaining to the circumstances related to the suicide attempt, such as the degree of planning for the suicide attempt and the precautions against intervention. The second section's items pertain to the individual's thoughts and feelings at the time of the attempt. Some of these are expectations regarding the fatality of the act, ambivalence towards living, and the degree of premeditation with regard to the suicide act. The third section deals with various other aspects with regard

to suicide, such as the individual's current feelings about the attempt and his conceptions of death.

The authors of the scale plan to give it to individuals who have been admitted to a Philadelphia hospital because of attempting suicide. They will then follow up these patients to determine whether their scores on the test will be associated with future suicidal behavior.

Weisman and Worden (1974) developed a scale which measures the lethality of implementation, that is the estimated probability of irreversible damage that an individual actually wanted to inflict upon himself during a suicide attempt. This measurement is assessed by the ratio of a risk rating to a rescue rating. The risk rating is determined by the type of method used in actualizing one's destruction and the actual damage sustained during one's suicide attempt. For example, an individual would receive a higher risk rating if in actualizing his destruction he had used shooting instead of jumping and if due to his attempt a more severe lesion had been incurred than a less severe one. The rescue rating is determined by the observable circumstances and available resources present at the time of his attempt. For example, an individual would receive a higher rescue rating if he had attempted his act at a familiar location rather than a remote one, and if the person rescuing him was known by him instead of a passerby.

CHAPTER III

METHODS AND PROCEDURES

This chapter will describe the samples, the types of data, and the statistical procedures used in this investigation.

Sampling

Since around 1970, the Bipolar Psychological Inventory (BPI) has been given to most male inmates at the Utah State Prison and usually within the first three weeks of their incarceration. Eight hundred and forty-four had taken this test by July, 1974*. Of these, 22.74 percent or 192 have marked "true" to the suicide attempt item of the BPI, "I have tried to kill myself," and 77.26 percent or 652 inmates have marked "false." As has been mentioned, those who marked "true" were to be referred to as the "suicide attempt inmates." These two groups of inmates were the subjects of this study's research population from which two samples of suicide attempt inmates and non-suicide attempt inmates were derived and were

*This did not include inmates who had been there for a 90 day evaluation.

referred to, respectively, as the original and the replication sample.

When this study was initiated on November, 1973, it had been planned that there would be an original and a replication sample of inmates who were representative of the inmate population and who had valid scores on the BPI. (If an inmate scored at or above the 85th percentile on the lie or invalid scale of the BPI, his BPI record was considered invalid.) However, this plan had to be altered. Inmates who had already had their responses to the items of the BPI punched out on data cards were used as the subjects of the original sample. It was assumed that these inmates were representative of the inmate population and had valid scores on the BPI. However, it was discovered that this was not the case. They were young inmates who had either valid or invalid scores on the BPI. From the research population a search for other young inmates on whom complete behavioral and personal information was available turned up an insufficient number for the replication sample. In consultation with the psychologists at the prison it was decided that, excluding the inmates of the original sample, the replication sample would consist of all inmates of the research population who had valid scores on the BPI and on whom complete behavioral and personal information was available. A description of these two samples follows:

The original sample consisted of 226 inmates with valid or invalid scores on the BPI. Sixty-two were suicide attempt inmates, whose ages ranged from 20 to 29, with a mean of 24.92 and a standard deviation of 2.24. One hundred and sixty-four were non-suicide attempt inmates whose ages ranged from 18 to 30 with a mean of 25.12 and a standard deviation of 2.55.

The replication sample consisted of 171 inmates whose BPI scores were valid. Forty were suicide attempt inmates whose ages ranged from 21 to 69 with a mean of 34.63 and a standard deviation of 9.57. One hundred and thirty-one were non-suicide attempt inmates whose ages ranged from 22 to 61 with a mean of 38.26 and a standard deviation of 8.34.

Type of Data Obtained

BPI item data, behavioral variables, and personal characteristics were analyzed in this study. The behavioral and personal variables were obtained from the inmate's folder. The BPI item data was obtained from the inmate's BPI, which he took usually within the first three weeks of his incarceration.

Bipolar Psychological Inventory (BPI)

The BPI is a relatively new, self-administering, personality inventory developed by Roe, Howell, and Payne in 1969 and published

in 1972 (Howell, Payne, and Roe, 1972). The authors designed the inventory to be used in assessing comprehensively the personality of normal and clinical abnormal individuals and especially that of the criminal individual. Initial studies show that this test can differentiate criminals from non-criminals and distinguish between different criminal groups (Roe, 1972).

A summary of the construction of the test, as given by the authors (Howell, Payne, and Roe, 1971) is as follows:

This test consists of 300 items rationally and statistically selected for their contribution to 15 subscales. Internal consistency was determined by requiring each item to correlate with its particular subscale at least at the .05 level of significance. Content validity was assured by five judges unanimously agreeing on their selection of items from an initial pool of approximately 700 items. This was reduced to an initial test form of 438 items. Refinement by item analysis further reduced the test to the final form of 300 items. Each of the personality subscales has from 20 to 24 items. Each item contributes to only one scale. A test-retest reliability (N=117) yielded subscale coefficients ranging from .67 to .91 with a mean reliability of .84.

A copy of the BPI items grouped according to scales can be found in Appendix A. A description of the scales or dimensions can be found in Appendix B. Table 1 lists the BPI Scales.

Table 1. Bipolar Psychological Inventory Scales

	Number of Items
Invalid - Valid	10
Lie - Honest	13
Defensive - Open	22
Psychic Pain - Psychic Comfort	21
Depression - Optimism	22
Self-Degradation - Self-Esteem	22
Dependence - Self-Sufficiency	20
Unmotivated - Achieving	20
Social Withdrawal - Gregariousness	21
Family Discord - Family Harmony	22
Sexual Immaturity - Sexual Maturity	24
Social Deviancy - Social Conformity	21
Impulsiveness - Self Control	22
Hostility - Kindness	20
Insensitivity - Empathy	20

Personal and behavioral data

1. Age. The age denoted the age of the inmate at the time this study was undertaken.

2. Intelligence. Intelligence denoted the intelligence of the inmate obtained from previous intelligence test scores available in the accumulative record.
3. Sentences. Sentences denoted the number of prison sentences the inmate served, in addition to the one he is presently serving.
4. Rap Sheet Entry. The rap sheet entry denoted all arrests made against the individual.
5. Race. Race denoted whether the inmate is Caucasian, Negroid, or Spanish.
6. Marital Status. Marital status denoted whether the inmate is married, divorced, or single.
7. Juvenile Offenses. Juvenile offenses denoted the number of arrests the inmate had as a juvenile.
8. Drug Use. Drug use denoted any history of the use of drugs.
9. Alcohol Use. Alcohol use denoted any history of the use of alcohol.
10. Tattooed. Tattooed denoted if the inmate has a tattoo.
11. Religion. Religion denoted if the inmate's religious preference is Latter-day Saint, Catholic, Protestant or none.
12. Parole Violation. Parole violation denoted if the inmate has ever broken inmate parole conditions which resulted in re-incarceration at the Utah State Prison.
13. Crime denoted the type of crime for which the inmate was imprisoned. The crime committed could have been one of the following: burglary, 2nd, robbery, forged checks, grand larceny, murder 1, murder 2, insufficient checks, physical assault, narcotics, child sex offense, rape or other.
14. Height. Height denoted the height of the inmate in inches.

15. Weight. Weight denoted the weight of the inmate.
16. Escape denoted any escape made by the inmate at any adult correctional institution.

Statistical Procedures

This section describes the statistical procedures involved in: (1) comparing suicide attempt and non-suicide attempt inmates on behavioral and personal variables, (2) developing and validating the BPI Suicide Attempt Scale, (3) developing and determining the efficiency of the Criminal Suicide Attempt Scale.

The comparison of suicide attempt and non-suicide attempt inmates on continuous and categorical variables

Suicide Attempt inmates and non-suicide attempt inmates of each of the original and the replication samples were first compared on continuous variables. These continuous variables consisted of the following 7 behavioral or personal characteristics: IQ, age, grade completed, sentences, rap sheet entry, height in inches and weight. The mean and standard deviation of each of these continuous variables was computed for both groups of each of these two samples. Then a t test was computed to determine the significance of the difference between the means of the two groups within each of these two samples with respect to each of these variables.

The two groups within each of these two samples were next compared on categorical variables. These categorical variables consisted of the following 26 behavioral or personal characteristics: Caucasian, Mexican, Negro, Married, Divorced, Single, Juvenile Record, Escape, Drug Use, Tattooed, LDS, Catholic, Protestant, Parole Violation, Burglary 2nd, Robbery, Forged Checks, Grand Larceny, Murder 1, Murder 2, Insufficient Checks, Physical Assault, Narcotics, Child Sex Offense, and Rape. The proportions of the two groups of each of these two samples having each of these characteristics were computed. A z test was then computed to determine the significance of the difference of the proportions of the two groups in each sample for each characteristic.

The BPI Suicide Attempt Scale

The development of the BPI Suicide Attempt Scale. The following procedure was used in the development of the BPI Suicide Attempt Scale. First an item analysis was performed on the responses of the suicide attempt and non-suicide attempt inmates of the original sample to the items of the BPI.* This involved computing the proportion of each of the two groups responding true to each of

*While the BPI consists of 300 items, 299 were used in this analysis because one of the items, the suicide attempt item was already used to identify the suicide attempt and non-suicide attempt inmates.

the items of the BPI and then computing a z test to determine the significance of the difference of these proportions for each of these items.

Next, from the items of the BPI which were found to be significantly discriminative, sets of items at three levels of significance were selected: .001 level or better, .01 level or better, and .05 level or better.

Finally, to determine which of these sets of items maximally discriminated the two groups of the original sample the following procedure was used. First, the score of each inmate of the original sample for each set of items was computed. This score for each set was determined by the number of keyed responses that the inmate gave. A keyed response was a response, "true" or "false," to an item that a greater proportion of suicide attempt inmates had given as compared to non-suicide attempt inmates. One point was given for each keyed response. Second, the mean and standard deviation of the scores of each of the two groups for each set was computed. And finally, a t test was computed to determine the significance of difference between the means of the scores of the two groups for each of the sets. The set which differentiated the two groups at the highest level of significance was considered the most discriminative. This set was used in other parts of this study and was referred to as the "BPI Suicide Attempt Scale."

The validation of the BPI Suicide Attempt Scale. The BPI Suicide Attempt Scale was cross-validated on the suicide attempt inmates and non-suicide attempt inmates of the replication. From the BPI which they had taken, their scores on the BPI Suicide Attempt Scale were determined. Then, the mean and standard deviations of the scores of each of the two groups were computed. Finally a t test was used to determine the significance of the difference between mean scores of the two groups.

The Criminal Suicide Attempt Scale

The development of the Criminal Suicide Attempt Scale.

The following procedure was used in the development of the Criminal Suicide Attempt Scale. First the components for the scale were selected. These components consisted of the following: the BPI Suicide Attempt Scale and/or one or more of the Behavioral and Personal Variables. For the BPI Suicide Attempt Scale or a behavioral or personal variable to be selected as a component, each had to significantly differentiate the suicide attempt and non-suicide attempt inmates within each of the original and replication samples in the same direction and at .05 level or better.

Second, weights for the components selected were determined by a stepwise multiple regression analysis (Nie, Brent and Hall, 1970) performed on the suicide attempt and non-suicide attempt inmates of the replication sample. In addition to determining the

weights of these components, the analysis also gave the intercorrelations among these components and the dichotomous criterion, suicide attempt inmates vs. non-suicide attempt inmates (SA = 1, NSA = 0) and the multiple correlation of these components combined, against this criterion.

Determining the cut-off class interval for the Criminal Suicide Attempt Scale. The following procedure was used both to determine which of the class intervals of the Criminal Suicide Attempt Scale would be selected as its cut-off class interval and to examine the efficiency of the scale with the interval selected.* This cut-off class interval is the interval in which inmates scoring within and above would be identified as suicide attempt inmates, and inmates scoring below would be identified as non-suicide attempt inmates.

First, based on the predicted scores of the replication sample, as determined by the stepwise multiple regression equation for the components selected, the following statistics corresponding with each class interval were computed:

1. The frequency distribution for scores (f). From each of the replication groups of suicide attempt and non-suicide attempt inmates, the number of each scoring within the class interval.

*This procedure used was adopted and modified from the methods of Meehl and Rosen (1950) and Wiggins (1973) for determining the cut-off class interval and/or the general efficiency of scales.

2. The proportion distribution of scores (p). From each of the replication groups of suicide and non-suicide attempt inmates, the proportion of each scoring within the class interval.
3. The cumulative proportion of scores (cp). From each of the replication groups of suicide attempt and non-suicide attempt inmates, the proportion of each scoring within and above the class interval.

Second, based on the results of the above computations and the suicide attempt and non-suicide attempt base rates of the research population, 22.74 and 77.26 percent respectively, the following statistics corresponding with each class interval were computed:

4. The probability of valid positives (PVP), the probability of correctly identifying suicide attempt inmates as suicide attempt inmates from a population with a suicide attempt base rate of 22.74 percent. The Suicide Attempt Base rate \times the proportion of suicide attempt inmates from the total number of suicide attempt inmates of the replication sample scoring within and above the class interval.
5. The probability of false positive (FPF), the probability of incorrectly identifying non-suicide attempt inmates as suicide attempt inmates from a population with the above suicide attempt base rate. The non-suicide attempt base rate \times the proportion of non-suicide attempt inmates from the total number of non-suicide attempt inmates of the replication sample scoring within and above the class interval.
6. The probability of true negative (PTN), the probability of correctly identifying non-suicide attempt inmates as non-suicide attempt inmates from a population with the above suicide attempt base rate. The non-suicide attempt base rate \times the proportion of non-suicide attempt inmates of the replication sample scoring below the class interval.
7. The probability of false negative (PFN), the probability of incorrectly identifying suicide attempt inmates as

non-suicide attempt inmates from a population with the above suicide attempt base rate. The Suicide Attempt base rate X the proportion of suicide attempt inmates from the total number of suicide attempt inmates of the replication sample scoring below the class interval.

8. The probability of correct hits (PH), the probability of correctly identifying suicide attempt inmates and non-suicide attempt inmates as suicide attempt inmates and non-suicide attempt inmates, respectively, from a population with the above suicide attempt base rate. The probability of true positives + the probability of true negatives.
9. The selection ratio for positives (SRP), the probability of identifying both suicide attempt inmates and non-suicide attempt inmates as suicide attempt inmates from a population with the above suicide attempt base rate. The probability of true positives + the probability of false positives.
10. The efficiency of the scale for positive identification (ESP), the probability of correctly identifying suicide attempt inmates as suicide attempt inmates from those suicide attempt inmates and non-suicide attempt inmates identified as suicide attempt inmates in a population with the above suicide attempt base rate. The probability of true positives divided by the selection ratio for positives.

The class interval which had optimally associated with it the largest probability of true positives accompanied with the smallest probability of false positives was then selected to be the cut-off class interval for the scale. These two probabilities, as well as other statistics associated with this class interval, were used in examining the general utility of the scale for identifying suicide attempt and non-suicide attempt inmates.

CHAPTER IV
RESULTS AND DISCUSSION

Results and Discussion

This chapter will present and discuss the findings of this investigation. In addition, it will present a supplementary study done by this author from April to July 1975 at the Utah State Prison in an attempt to further validate the developed BPI Suicide Attempt Scale. This study concerned the use of this scale on male inmates who had attempted suicide at the prison, referred to as "prison suicide attempters." It compared them on this scale with each of the groups of the replication sample, and related their scores on it with their scores on the scales of the BPI and a risk rating.

fact

post

post

This chapter will present the findings of this investigation and supplementary study as follows: (1) the comparison of each of the two groups of each of the original and replication samples on the 33 behavioral and personal variables; (2) the development and validation of the BPI Suicide Attempt Scale; (3) the comparison of the prison suicide attempters with each of the two groups of the replication sample on the BPI Suicide Attempt Scale, and the relationship of the scores of the prison suicide attempters on this scale with their

fact

scores on the scales of the BPI and a risk rating; (4) the development of the Criminal Suicide Attempt Scale, a composite suicide attempt scale, and the evaluation of its efficiency in identifying suicide attempt inmates.

The comparison of suicide attempt and non-suicide attempt inmates on the 33 behavioral and personal variables

Comparison of the two groups of the original sample on the 33 personal and behavioral variables. Tables 2 and 3 present the results of the comparison of the suicide attempt and non-suicide attempt inmates of the original sample on the 33 personal and behavioral variables.* The variables in Table 2 are continuous and those in Table 3 are categorical. These two tables show that there were four variables which significantly differentiated these two groups at the .05 level or better; prison sentences, drug use, escape and parole violation.

pen

In this sample the suicide attempt inmates had had fewer prison sentences than had the non-suicide attempt inmates and a lesser proportion of them had escaped or had broken parole.

post

*Only those suicide attempt and non-suicide attempt inmates of the original sample on whom complete behavioral and personal information was available were used in this comparison.

Table 2. Comparison between suicide attempt and non-suicide attempt inmates of the original sample on behavioral and personal variables

	Suicide Attempt Inmates N=48		Non-Suicide Attempt Inmates N=124		t	Sign.
	M	S.D.	M	S.D.		
IQ	100.81	13.83	100.93	17.93	-0.048	N.S.
Age	25.17	2.94	25.70	2.22	-1.031	N.S.
Grade Completed	10.06	1.48	10.19	1.78	-0.485	N.S.
Sentences	1.08	.34	1.27	0.56	-3.102	.01
Rap Sheet Entry	8.25	5.92	7.56	4.75	0.683	N.S.
Ht. in inches	69.10	3.33	69.60	2.56	-0.877	N.S.
Weight	149.21	21.45	155.99	22.29	-1.844	N.S.

Table 3. Comparison of proportions of suicide attempt and non-suicide inmates of the original sample on behavioral and personal variables

Trait	Suicide	Non-Suicide	z	Sign.
	Attempt Inmates N=48 P	Attempt Inmates N=124 P		
Caucasian	.79	.74	0.681	N.S.
Mexican	.17	.15	0.353	N.S.
Negro	.02	.09	-1.567	N.S.
Married	.35	.40	-0.496	N.S.
Divorced	.10	.14	-0.580	N.S.
Single	.54	.47	.870	N.S.
Juvenile Rec.	.73	.80	-0.981	N.S.
Escape	.02	.21	-3.054	.01
Drug Use	.73	.44	3.364	.001
Alcohol Use	.79	.86	-1.152	N.S.
Tattooed	.56	.56	.072	N.S.
L.D.S.	.48	.44	.517	N.S.
Catholic	.29	.26	0.447	N.S.
Protestant	.19	.20	-0.208	N.S.
Parole Violation	.04	.15	-2.004	.05
Burglary 2nd	.33	.28	0.658	N.S.
Robbery	.06	.12	-1.124	N.S.
Forged Checks	.13	.06	1.526	N.S.
Grand Larceny	.06	.13	-1.249	N.S.
Murder 1	.04	.03	0.302	N.S.
Murder 2	.02	.00	1.612	N.S.
Insufficient Checks	.00	.01	-0.624	N.S.
Physical Assault	.06	.05	0.373	N.S.
Narcotics	.10	.06	0.882	N.S.
Child Sex Offense	.06	.03	0.900	N.S.
Rape	.00	.04	-1.412	N.S.

However, a greater proportion of suicide attempt inmates had a prior history of drug use.

Comparison of the two groups of the replication sample on the 33 behavioral and personal variables. Tables 4 and 5 present the results of the comparison of the suicide attempt and non-suicide attempt inmates on the replication sample on the 33 personal variables. These tables show that there were 5 variables which differentiated these two groups at the .05 level or better: age, weight, marital status, juvenile record, and drug use.

Table 4. Comparison between suicide attempt and non-suicide attempt inmates of the replication sample on behavioral and personal variables

Trait	Suicide Attempt Inmates N=40		Non-Suicide Attempt Inmates N=131		t	Sign.
	M	S.D.	M	S.D.		
IQ	106.82	8.02	106.92	15.44	-0.030	N.S.
Age	34.63	9.57	38.26	8.34	-2.080	.05
Grade Completed	9.82	2.38	10.36	1.80	-1.231	N.S.
Sentences	1.92	1.32	2.16	1.43	-0.983	N.S.
Rap Sheet Entry	12.72	9.14	15.47	9.81	-1.646	N.S.
Ht. in inches	68.97	2.89	69.26	2.43	-0.917	N.S.
Weight	152.95	21.95	161.64	25.53	-2.169	.05

Table 5. Comparison of proportions of suicide attempt and non-suicide attempt inmates of the replication sample on behavioral and personal variables

Trait	Suicide Attempt	Non-Suicide Attempt	z	Sign.
	Inmates N=40 P	Inmates N=131 P		
Caucasian	.82	.83	-0.104	N.S.
Mexican	.13	.08	0.780	N.S.
Negro	.02	.08	-1.158	N.S.
Married	.17	.47	-3.287	.001
Divorced	.47	.32	1.784	N.S.
Single	.32	.20	1.669	N.S.
Juvenile Rec.	.70	.52	2.018	.05
Escape	.17	.12	0.858	N.S.
Drug Use	.52	.31	2.538	.05
Alcohol Use	.97	.87	1.890	N.S.
Tattooed	.55	.58	-0.337	N.S.
L.D.S.	.32	.41	-0.989	N.S.
Catholic	.25	.23	-0.275	N.S.
Protestant	.25	.26	-0.121	N.S.
Parole Violation	.27	.28	-0.092	N.S.
Burglary 2nd	.35	.21	1.752	N.S.
Robbery	.17	.16	0.220	N.S.
Forged Checks	.07	.13	-0.943	N.S.
Grand Larceny	.13	.15	-0.319	N.S.
Murder 1	.05	.02	0.890	N.S.
Murder 2	.00	.02	-0.966	N.S.
Insufficient Checks	.02	.02	0.410	N.S.
Physical Assault	.02	.05	-0.581	N.S.
Narcotics	.05	.05	0.110	N.S.
Child Sex Offense	.00	.02	-0.966	N.S.
Rape	.00	.02	-0.966	N.S.

In this sample, the suicide attempt inmates were younger and weighed less than the non-suicide attempt inmates. A greater proportion of the suicide attempt inmates had used drugs and had a juvenile record, and a smaller proportion of them were married.

Comparison of the two groups of the original sample with those of the replication sample on the 33 behavioral and personal variables. When the two groups of the younger sample are compared with those of the replication sample whose inmates were older, on personal and behavioral variables, only one identical variable statistically differentiated the two groups in both of these samples. In both samples, proportionally, more suicide attempt than non-suicide attempt inmates had used drugs.

Probably more identical personal and behavior variables would have differentiated the two groups of both these samples if the ages between the inmates of these samples were more similar.

The BPI Suicide Attempt Scale

The development of the BPI Suicide Attempt Scale. The first part of the procedure in developing the BPI Suicide Attempt Scale was an item analysis of the responses to the 300 BPI items of the suicide attempt and non-suicide attempt inmates of the original

sample.* The results of this item analysis are given in Appendix C. It shows that 61 items differentiated these two groups at the .05 level or better. Of these 61 items, 36 were significant at the .05 level, 16 at the .01 level and 9 at the .001 level.

The second part involved using three sets of items from these differentiating items. The first set of items consisted of 9 items which differentiated these two groups at the .001 level; the second set consisted of 25 items, 9 and 16 of which differentiated these two groups at the .001 and .01 levels respectively; the third set consisted of 61 items, 9, 16, and 36 of which differentiated these two groups at the .001, .01, and .05 levels respectively.

The final part involved determining which of the three sets was the most discriminative. Table 6 gives the mean and standard deviation of the scores of the suicide attempt and non-suicide attempt inmates of the original sample on each of the three sets. It also presents the results of the t ratio and its level of significance for the difference of the mean scores of these two groups on each set. It is shown on this table that each of the sets differentiated these two groups at the .001 level. Set 2, containing 25 items which had differentiated these two groups at the .01 level or better, had the

*Actually, 299 items of the BPI were used in the item analysis, as one of the items, the suicide attempt item, had already been used to identify the suicide attempt and non-suicide attempt inmates.

highest t ratio of the three scales and thus differentiated somewhat better these two groups than did the other two scales. Because of its better discriminative power, set 2 was used instead of either of the other two scales in other parts of this study and was referred to throughout the study as the "BPI Suicide Attempt Scale."

Table 6. Comparison between suicide attempt and non-suicide attempt inmates of the original sample on three sets of BPI items

Set	Suicide Attempt Inmates N=62		Non-Suicide Attempt Inmates N=164		t	Sign.
	M	S.D.	M	S.D.		
Set 1 (9 items sign. at the .001 level or better)	3.24	2.08	1.41	1.46	5.841	.001
Set 2 (25 items sign. at the .01 level or better)	9.66	4.75	4.98	3.43	6.566	.001
Set 3 (61 items sign. at the .05 level or better)	26.50	7.20	17.03	7.20	6.404	.001

The content analysis of the BPI Suicide Attempt Scale.

Table 7 presents the BPI Suicide Attempt Scale. Column 1 of this table gives the BPI booklet numbers of the 25 items of the BPI Suicide Attempt Scale. Column 2 gives the items. Column 3 gives the BPI

Table 7. Items of the BPI Suicide Attempt Scale

Item No.	Items	BPI Scales	Suic. Att. Key. Resp.	Prop. of Suic. Att. Inmates	Prop. of Non-Suic. Att. Inmates	Z	Level of Sign.
108.	I often ran away from home.	Social Deviancy	True	.53	.27	3.736	.001
6.	I usually feel unhappy around my parents.	Family Discord	True	.39	.16	3.693	.001
160.	I can usually decide how I will feel about something.	Impulsive-ness	False	.23	.06	3.589	.001
208.	I have enjoyed close and lasting relationships with people of the opposite sex.	Sexual Immaturity	False	.23	.06	3.589	.001
211.	I feel worthless.	Self Degradation	True	.37	.16	3.334	.001
154.	My parents never took much interest in anything I did.	Family Discord	True	.47	.24	3.260	.001
292.	I like myself.	Self Degradation	False	.24	.09	3.248	.001

Table 7. Continued

Item No.	Items	BPI Scales	Suic. Att. Key. Resp.	Prop. of Suic. Att. Inmates	Prop. of Non-Suic. Att. Inmates	Z	Level of Sign.
227.	I often feel that I am doomed to ruin.	Depres- sion	True	.42	.21	3.221	.001
86.	I have usually done what needed doing.	Depend- ence	False	.35	.16	3.219	.001
132.	I'm afraid I might end up in a mental hospital	Psychic Pain	True	.27	.10	3.200	.01
225.	My family usually does a lot of things together.	Family Discord	False	.58	.35	3.177	.01
250.	I generally feel sad and unhappy.	Depres- sion	True	.44	.23	3.125	.01
289.	I usually stick to a job until it is finished.	Unmoti- vated	False	.32	.14	3.116	.01
121.	I seldom talk my problems over with other people.	Defensive	True	.77	.55	3.023	.01

Table 7. Continued

Item No.	Items	BPI Scales	Suic. Att. Key. Resp.	Prop. of Suic. Att. Inmates	Prop. of Non-Suic. Att. Inmates	Z	Level of Sign.
263.	I don't like myself.	Self Degradation	True	.19	.06	3.000	.01
198.	I sometimes wonder if I'm homosexually inclined.	Sexual Immaturity	True	.18	.05	2.894	.01
228.	In the past, I enjoyed the thought of showing my sex organs to other people.	Sexual Immaturity	True	.18	.05	2.894	.01
113.	I have trouble getting started on things that need doing.	Dependence	True	.53	.32	2.889	.01
209.	Being by myself for a long period of time would really bug me.	Social Withdrawal	False	.68	.46	2.874	.01
179.	I take care of myself in almost any situation.	Dependence	False	.28	.09	2.859	.01

Table 7. Continued

Item No.	Items	BPI Scales	Suic. Att. Key. Resp.	Prop. of Suic. Att. Inmates	Prop. of Non-Suic. Att. Inmates	Z	Level of Sign.
207.	It seems that I need help with most things I try to do.	Depend- ence	True	.34	.16	2.855	.01
233.	I usually "put my foot in my mouth" when I talk.	Self Degrada- tion	True	.34	.16	2.855	.01
278.	I generally do not express my opinions when I'm with other people.	Self Degrada- tion	True	.53	.33	2.798	.01
277.	I seldom showed respect for my family.	Family Discord	True	.42	.24	2.690	.01
17.	I usually finish what I plan to do.	Depend- ence	False	.42	.24	2.588	.01

Scales from which these items came. Column 4 gives the keyed responses to these items, that is the responses, true or false, given to these items more often by the suicide attempt inmates than by the non-suicide attempt inmates. Columns 5 and 6 give the proportion of the suicide attempt and non-suicide attempt inmates, respectively, who gave the keyed responses to these items. Columns 7 and 8 give the z ratios and levels of significance of these items, respectively.

As it turned out, the keyed responses to each of the 25 items of the BPI Suicide Attempt Scale were the same as the keyed responses to these items for the BPI scales or dimensions. Thus responding to these items in the keyed direction for the BPI Suicide Attempt Scale is also responding in the pathological direction for which these items are keyed within their respective BPI scales.

With an exception for a few items, these items can be grouped into four major areas: family discord; dependence; sexual immaturity; and depression and self-degradation. The relationship of suicide attempt inmates and non-suicide attempt inmates to these clusters of items is as follows:

With regard to family problems, more suicide attempt inmates responded "true" to the following items: I often ran away from home; I usually feel unhappy around my parents; my parents never took much interest in anything I did; and I seldom showed

respect for my family. More of them responded "false" to the following item: My family usually does a lot of things together.

With regard to problems of sexuality, more suicide attempt inmates responded "true" to the following item: In the past I enjoyed the thought of showing my sex organs to other people; I sometimes wonder if I'm homosexually inclined. More of them responded "false" to the following items: I have enjoyed close and lasting relationships with people of the opposite sex.

With regard to dependence or inadequate self-sufficiency problems more suicide attempt inmates responded "true" to the following items: I have trouble getting started on things that need doing; and it seems that I need help with most things I try to do. More of them responded "false" to the following items: I have usually done what needed doing; I take care of myself in almost any situation; and I usually finish what I plan to do.

The literature of suicidology often indicates that family problems, depression, self-degradation, and dependence are important factors associated with suicidal individuals. To a lesser extent, sexual immaturity, such as problems relating to the opposite sex and sexual deviation, are cited as factors, especially by those of a psychoanalytic leaning or persuasion, such as Leonard (1967) and Weisman (1967). Thus this scale has good content validity.

An analysis of these clusters of items may suggest the following etiology or dynamics of inmates with a suicidal background.

His parents showing a lack of interest in him, his showing disrespect for them, his feeling of being unhappy around them and his often running away from home strongly demonstrate that he was a product of an unhealthy family.

His lack of independence or confidence in himself, his sexual immaturity, and his problems in relating to people suggest that his family or significant others thwarted his development into a healthy, mature adult. Lack of confidence was noted in his inability to complete tasks and his reliance on others to assist him in almost any situation. Problems of sexuality were noted in his not having enjoyed a close and lasting relationship with people of the opposite sex and his wondering whether he is homosexually inclined. Problems of relating to people are noted not only in his not having developed a good relationship with the opposite sex, but also in his inhibition in expressing his opinions to others and, when he does, his concern that he will usually put his foot in his mouth.

Finally, his feelings of worthlessness and sadness and his fear that he might end up in a state hospital may have resulted from his problems with his family, with sexuality and with confidence in himself.

The validation of the BPI Suicide Attempt Scale. The BPI Suicide Attempt Scale was cross-validated on the suicide attempt and non-suicide subjects of the replication sample. Table 8 shows that the mean scores of these suicide attempt and non-suicide attempt inmates were 9.40 and 5.71 respectively, and that the difference between these means was significant at the .001 level. These results were similar to those of the two groups of the original sample.

Table 8. Comparison between suicide attempt and non-suicide attempt inmates of the replication sample on the BPI Suicide Attempt Scale

	Suicide Attempt Inmates (N=40)		Non-Suicide Attempt Inmates (N=131)		t	Sign.
	M	S.D.	M	S.D.		
BPI Suicide Attempt Scale	9.40	4.43	5.71	3.99	4.551	.001

Since the BPI Suicide Attempt Scale was developed on a sample, the original sample, whose inmates were younger than those of the replication sample and whose inmates' age range was more narrow, 18 to 30, as compared to 21 to 69 of that of the inmates of the replication sample, it can be concluded that this scale has very good generalized validity.

The BPI Suicide Attempt Scale as a clinical tool. Since the BPI Suicide Attempt Scale appears to have some validity, the scale should have potential as a clinical tool in understanding inmates who have attempted suicide in the past. More specifically, the scale could provide the clinician with an assessment of these inmates in that it specifies those problems associated with inmates who have attempted suicide in their history. However, the scale should be used with the BPI so that its assessment of these inmates can be made with a relatively complete understanding of their personality and its validity can be determined.

A supplementary study on the BPI
Suicide Attempt Scale

Because the BPI Suicide Attempt Scale was developed on inmates who had reported that they had tried to kill themselves, a supplementary study was conducted on inmates who had attempted suicide at the prison. This study concerned the use of this scale on these inmates. It compared them on it with each of the two groups of the replication sample and related their scores on it with their scores on the scales of the BPI and a risk rating. The study involved three parts.

The comparison of the prison suicide attempters on the BPI
Suicide Attempt Scale with each of the two groups of the replication

sample. In the first part, inmates who had attempted suicide at the prison were compared with each of the two groups of the replication sample on the BPI Suicide Attempt Scale. In this comparison, the inmates who had attempted were taken from a sample identified by the prison staff.* They were selected if they had taken the BPI and had valid scores on it, and if an attempt of theirs had occurred after they had taken the BPI, from which their BPI Suicide Attempt Scales scores were derived. Fifteen inmates of this sample satisfied these criteria and were referred to as the "prison suicide attempters."** These 15 prison suicide attempters had attempted the act within five years after they had taken the BPI. Their age at the time the investigation for the dissertation was undertaken ranged from 20 to 35 with a mean of 26.60 and a standard deviation of 4.33.

As shown in Table 9, the mean scores on this suicide attempt scale of the prison suicide attempters and the non-suicide attempt inmates were 9.07 and 5.71 respectively, these mean scores being significantly different at the .02 level. The mean score of the

*These inmates of this sample were those who had attempted prior to April, 1975.

**If any of these inmates had taken the BPI twice prior to his attempt, his first BPI was used in this study. This first BPI was taken by most of these inmates within the first three weeks of their incarceration.

suicide attempt inmates was 9.40, which is nearly the same as that of the prison suicide attempters.

Table 9. Comparison between prison suicide attempters and the replication non-suicide attempt inmates on the BPI Suicide Attempt Scale

	Prison Suicide Attempters (N=15)		Non-Suicide Attempt Inmates (N=131)		t	Sign.
	M	S.D.	M	S.D.		
BPI Suicide Attempt Scale	9.066	5.006	5.71	3.99	2.4269	.02

The fact that the mean scores on the BPI Suicide Attempt Scale of the prison suicide attempters and of the suicide attempt inmates were similar, seems to indicate that inmates who have attempted in the past and those who do attempt are similar with respect to what this suicide attempt scale is measuring.

The relationship of the BPI Suicide Attempt Scale to the scales of the BPI. In the second part of the study, the BPI Suicide Attempt Scale scores of the 15 prison suicide attempters were correlated with their scores on the scales of the BPI. The results of these correlations are presented in Table 10, which shows that 8 of the BPI Scales correlated positively and significantly with the BPI Suicide Attempt Scale. These scales were, in the order of the highest to the

lowest with respect to their correlation with this suicide attempt scale: depression, self-degradation, impulsiveness, psychic pain, dependence, family discord, non-motivation, and social deviancy.

Table 10. The correlation between the BPI Suicide Attempt Scale and the BPI Scales

BPI Scale	BPI Suicide Attempt Scale
Lie	-.475
Defensiveness	-.173
Psychic Pain	.735**
Depression	.867*
Self-Degradation	.820*
Dependence	.691**
Unmotivated	.687**
Social Withdrawal	.462
Family Discord	.718**
Sexual Immaturity	.257
Social Deviance	.582***
Impulsiveness	.766*
Hostility	.244
Insensitivity	.240

*P .001
 **P .01
 ***P .05

The literature of suicidology indicates that depression, self-degradation, impulsiveness, psychic pain, family discord and dependence are some of the factors associated with suicidal individuals. Of all the factors associated with suicidal individuals, depression has always been considered a major one. The correlation

of the BPI Suicide Attempt Scale with those BPI scales related to these above factors associated with suicidal individuals and, especially, its high correlation of .86 with the BPI Depression scale would indicate consistency with previous research.

The relationship of the BPI Suicide Attempt Scale to a risk rating. In the third part, the BPI Suicide Attempt Scale scores of the prison suicide attempters were correlated with their scores on a risk rating which assessed the method they had used and the damage they had sustained during their first attempt after taking the BPI.* The rating used, was the risk rating of Weisman and Worden's risk-rescue rating (1974, see the review of the literature, p. 22, for a discussion of their rating). Since the factors of their rescue rating, or modified factors for this population of prison suicide attempters, would be difficult to assess, mainly because these attempters' records contain insufficient information pertaining to such events, only the factor of their risk rating could be used. However, both risk and rescue factors must be used to determine the "estimated probability of inflicting irreversible damage from a given attempt" (1974, Weisman and Worden). It is recommended that rescue factors be documented on future inmates who attempt.

*Efforts were made to obtain a rating on their first attempt after they had taken the BPI. There is a slight possibility that an earlier attempt might have occurred and was not documented.

The staff medical social caseworker assessed these inmates on these risk factors, of which there are five, by using Weisman and Worden's risk form, which is presented in Table 11. As is shown on this form, each of the factors is rated on a scale of one to three points and the total risk points are then converted to an overall risk score ranging from one to five, a score of one being equated with low risk, and five with high risk.

From the results of his rating, the risk scores for these inmates ranged from 1, a low risk score, to 4, a high risk score, with a mean of 2.0, a low moderate score, and a standard deviation of .76. The correlation between risk score and the BPI Suicide Attempt Scale was $-.30$, which is non-significant.*

The BPI Suicide Attempt Scale as a research tool. The BPI Suicide Attempt Scale appears to have potential as a research tool. Several possibilities are: (1) the BPI Suicide Attempt Scale scores of inmates who subsequently attempt could be compared to those of inmates who do not attempt in order to determine the scale's potential as a predictive instrument; (2) the scale could be used at other state prisons and various institutions, such as state hospitals, mental health clinics, and suicidal prevention centers, to determine

*The correlation between the risk points and the BPI Suicide Attempt Scale was $-.50$, which is not quite significant.

Table 11. Risk rating

Inmate:

Risk Factors

1. Agent Used:
 1. Ingestion, cutting, stabbing
 2. Drowning, asphyziation, strangulation
 3. Jumping, shooting
2. Impaired consciousness:
 1. None in evidence
 2. Confusion, semicoma
 3. Coma, deep coma
3. Lesions/Toxicity:
 1. Mild
 2. Moderate
 3. Severe
4. Reversibility:
 1. Good, complete recovery expected
 2. Fair, recovery expected with time
 3. Poor, residuals expected, if recovery
5. Treatment:
 1. First aid, emergency ward care
 2. House admission, routine treatment
 3. Intensive care, special treatment

Total Risk Points: _____

Risk Score

5. High risk (13-15 risk points)
 4. High Moderate (11-12 risk points)
 3. Moderate (9-10 risk points)
 2. Low Moderate (7-8 risk points)
 1. Low risk (5-6 risk points)
-

its generalizability with respect to both predictive and post-dictive validity; (3) inmates who have attempted only in prison, inmates who have attempted both in prison and prior to prison, and inmates who have never attempted, could be compared on the BPI Suicide Attempt Scale, the BPI, and social, personal, and behavioral factors. In addition, the first two groups could be further compared on a suicidal intent scale and Weisman and Worden's risk-rescue rating. It would be interesting to determine whether these three groups can be differentiated with respect to these factors.

The Criminal Suicide Attempt Scale

The development of the Criminal Suicide Attempt Scale. As will be recalled, one of the major objectives of this investigation was to develop a composite suicide attempt scale, referred to as the Criminal Suicide Attempt Scale, with which to identify suicide attempt inmates. The components for this scale would consist of the BPI Suicide Attempt Scale and/or one or more of the 33 behavioral and personal variables. As mentioned in the statistical procedure section, for any behavioral or personal variable to be used as a component, it had to statistically differentiate the suicide attempt and non-suicide attempt inmates within each of the original and replication samples. Likewise, for the BPI Suicide Attempt Scale to be used as a component, it had to statistically differentiate these two groups within each of these samples.

Only one identical behavioral and personal variable was significant in both the original and replication sample and that was the drug use variable. The BPI Suicide Attempt Scale was found to be significant in both the original sample and the replication sample. Thus the Criminal Suicide Attempt Scale would consist of two components: the drug use variable and the BPI Suicide Attempt Scale.

A stepwise multiple regression analysis program was used on the suicide attempt and non-suicide attempt inmates of the replication sample to determine the weights of these two components, the interrelationship among the components and the dichotomous criterion, suicide attempt vs. non-suicide attempt inmates ($SA = 1$, $NSA = 0$), and the multiple correlation of the combined components with the criterion. The results of this program are presented on Tables 12 through 15.

Table 12 shows that the BPI Suicide Attempt Scale correlated much higher with the criterion than did the drug variable with the criterion. The BPI Suicide Attempt Scale correlated .36 with the criterion and thus could account for .13 of the variance of the criterion. The drug use variable correlated .19 with the criterion and thus could account for .04 of the variance of the criterion. As shown in Table 13, the combined components, the BPI Suicide Attempt Scale and the drug use variable, correlated .38 with the

Table 12. Intercorrelations among the components and the dichotomous criterion, suicide attempt vs. non-suicide attempt inmate (SA = 1, NSA = 0)

	Criterion	BPI Suicide Attempt	Drug Use
Criterion	1.00000	0.35584	0.19411
BPI Suicide Attempt Scale	0.35584	1.00000	0.15796
Drug Use	0.19411	0.15796	1.00000

Table 13. Constants, B weights, correlations and standard error of estimates of one and two component(s) with the dichotomous criterion, suicide attempt vs. non-suicide attempt inmate (SA = 1, NSA = 0)

	One Component BPI Suicide Attempt Scale	Two Components, the BPI Suicide Attempt Scale and Drug Use
Constant	.00770	-0.02268
Variable B Weight	.03439	(BPI Suic. Att.) .032223 (Drug Use) .12498
Multiple Correlation	.35582	.38226
R Square	.12662	.14683
Standard Error of Estimate	.39795	.39465

criterion and thus together accounted for .15 of the variance of the criterion.

Thus the BPI Suicide Attempt Scale accounted for a moderate amount of the variance of the criterion and the drug use variable for a small amount. When the drug variable is combined with the BPI Suicide Scale, it increased the accountability of the variance of the criterion by only .02.

Predicting scores on the Criminal Suicide Attempt Scale.

Table 14 shows how the multiple regression equation can be used to predict scores on the Criminal Suicide Attempt Scale. The formula for the multiple regression equation is $Y' = a + b_1X_1 + b_2X_2$. Where Y' is the predicted score on the scale, c is the computed constant, X_1 and X_2 are the scores on the BPI Suicide Attempt Scale and Drug Use Variable, respectively, and b_1 and b_2 are the B weights for these variables.

The score on the BPI Suicide Attempt Scale is determined by how many keyed responses the individual gives. A point is given for each keyed response (see statistical procedure). In regard to the drug variable, one point is given if the individual has ever used drugs, and zero if not.

Determining the cut-off class interval for the Criminal Suicide Attempt Scale.

From the class intervals of the Criminal Attempt Scale, one was selected to be its cut-off class interval.

This is the interval in which inmates scoring within or above it would be identified as suicide attempt inmates and those scoring below it would be identified as non-suicide attempt inmates.

Table 14. Example of how to use constants and B weights in the regression equation for two components in predicting scores on the Criminal Suicide Attempt Scale

	One Component BPI Suicide Attempt Scale	Two Components BPI Suicide Attempt Scale and Drug Use
Inmate's Score	10	1
Constant	.00770	-.02268
Variable B Weights	(BPI Suic. Att.) .03439	(BPI Suic. Att.) .03223 (Drug Use) .12498
Equation	$y' = a + b_1X_1 + b_2X_2$	
One Component	$.00770 + .03439 (10) = .3516$	
Two Components	$-.02268 + .03223 (10) + .12498 (1) = .42560$	

Table 15 presents the statistics used in selecting this cut-off interval and in examining the utility of the scale with this selected interval as its cut-off. The statistics were based on the predicted scores of the suicide attempt and non-suicide inmates of the replication sample on this scale and on the Utah State Prison

Table 15. Statistics used to select one of the class intervals of the Criminal Suicide Attempt Scale to be its cut-off class interval and to examine the general utility of the scale, with this selected interval as its cut-off, for the Utah State Prison population where the suicide attempt base rate (SABR) and the non-suicide attempt base rate (NSABR) are 22.74 percent and 77.26 percent respectively

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Scores in the Scale	SA* f***	NSA** f	SA p	NSA p	SA cp	NSA cp	TP	FP	FN	TN	PH	SRP	ESP
.715 to .765	0	1	.000	.0076	.000	.0076	.0000	.0059	.2274	.7667	.7667	.0059	.0000
.655 to .705	5	0	.125	.0000	.125	.0076	.0284	.0059	.1990	.7667	.7951	.0343	.8280
.595 to .645	0	0	.000	.0000	.125	.0076	.0284	.0059	.1990	.7667	.7951	.0343	.8280
.535 to .585	0	3	.000	.0229	.125	.0305	.0284	.0236	.1990	.7490	.7774	.0520	.5462
.475 to .525	1	2	.025	.0153	.150	.0458	.0341	.0354	.1933	.7372	.7713	.0695	.4906
.415 to .465	3	6	.075	.0458	.225	.0916	.0512	.0708	.1762	.7018	.7530	.1220	.4197
.355 to .405	10	10	.250	.0763	.475	.1679	.1080	.1297	.1194	.6429	.7509	.2377	.4544
.295 to .345	6	15	.150	.1145	.625	.2824	.1421	.2182	.0853	.5544	.6965	.3603	.3944
.235 to .285	9	15	.225	.1145	.850	.3969	.1933	.3066	.0341	.4660	.6593	.4999	.3867
.175 to .225	2	16	.050	.1221	.900	.5190	.2047	.4010	.0227	.3716	.5763	.6057	.3380
.115 to .165	2	16	.050	.1221	.950	.6411	.2160	.4953	.0114	.2773	.4933	.7113	.3037
.055 to .105	2	24	.050	.1832	1.000	.8243	.2274	.6368	.0000	.1358	.3632	.8642	.2631
-.005 to .045	0	20	.000	.1527	1.000	.9770	.2274	.7548	.0000	.0178	.2453	.9822	.2315
-.065 to -.015	0	3	.000	.0229	1.000	.9999	.2274	.7726	.0000	.0000	.2274	1.0000	.2274
	40	131	1.000	.9999									

*SA = Suicide Attempt Inmates

**NSA = Non-suicide Attempt Inmates

***See study for explanation of symbols in this table.

suicide attempt base rate, which is 22.72 percent.* Column 1 of this table presents the class intervals of the scale and the other columns present the statistics associated with each of them. They are as follows: in columns 2 and 3, the frequency distribution (f) of the suicide attempt and non-suicide attempt inmates for scores, respectively; in columns 4 and 5, the proportion distribution (p) of suicide attempt and non-suicide attempt inmates for scores, respectively; in columns 6 and 7, the cumulative proportion (cp) of suicide attempt and non-suicide attempt inmates for scores, respectively; in column 8, the probability of true positives (PTP); in column 9, the probability of false positives (PFP); in column 10, the probability of false negatives (PFN); in column 12, the probability of correct hits (PH); in column 13, selection ratio for positives (SRP); and in column 14, the efficiency of the scale for positive identification (ESP). (For a detailed description of these statistics the reader is referred to the sub-section, Determining the cut-off class interval for the Criminal Suicide Attempt Scale in the Statistical Procedure Section.)

In Table 15 the class interval which had optimally associated with it the highest probability of true positives accompanied

*This base rate is the percent of inmates at the Utah State Prison who have indicated that they have attempted suicide some time in this history prior to their incarceration (see p. 23).

with the lowest probability of false negatives was selected to be the cut-off class interval. The interval, in which these criteria applied the best, was .175 to .225.

The probability, as expressed as a percentage, of true positives corresponding to this interval was 20.4 percent. With a 22.74 percent suicide attempt base rate, 90 percent (PTP/SABR) of all the suicide attempt inmates would be correctly identified as suicide attempt inmates. The probability of false positives corresponding to this interval was 40.10 percent. With a 77.26 percent non-suicide attempt base rate, 51.9 percent (FPF/NSABR) of all the non-suicide attempt inmates would be incorrectly identified as suicide attempt inmates.

In addition, the efficiency of the scale for positive identification ($PTP/PTP + PFP$) associated with this class interval was 33.80 percent. This percent efficiency means that 33.8 percent of all inmates identified to be suicide attempt inmates would actually be suicide attempt inmates. The efficiency of the scale for negative identification ($PTN/PTN + PFN$) associated with this class interval was 94 percent. This means that 94 percent of all inmates identified to be non-suicide attempt inmates would actually be non-suicide attempt inmates.

It is possible to increase the efficiency of the test for positive identification over 33 percent by selecting, with the exception of the highest class interval, any interval over the interval of .175 to .225 to

be the cut-off class interval. However, each of these higher intervals successively would have associated with it an increasingly lower percentage, respectively, of suicide attempt inmates from the total number of suicide attempt inmates from which the scale could identify. For example, if the interval of .595 to .645 is used as the cutoff class interval, the efficiency of the scale for positive identification would be 82.80 percent. More specifically, 82.80 percent of the individuals identified to be suicide attempt inmates would actually be suicide attempt inmates. However, these correctly identified suicide attempt inmates would represent only 12.5 percent of the total number of suicide attempt inmates.

Conclusion. Several facts indicate that the Criminal Suicide Attempt Scale has good generalized validity. (1) Each of the components of the scale, the drug use variable and the BPI Suicide Attempt Scale had differentiated the suicide attempt and non-suicide inmates within each of the original and replication samples. (2) The inmates of the original sample were younger than those of the replication sample and the range of their ages was much more narrow, 18 to 30 as compared to 21 to 69 of the inmates of the replication sample. (3) The time of the suicide attempt of the suicide attempt inmates was not controlled. As it will be recalled, the inmates were classified as suicide attempt inmates or non-suicide attempt inmates if they had marked "true" or "false," respectively, to the BPI item

"I have tried to kill myself." The test, the BPI, in which this item occurs was given to the inmates usually soon after their incarceration. If they had marked "true" to this item, this would indicate that their suicide attempt behavior could have occurred any time in their past prior to their incarceration.

While the Criminal Suicide Attempt Scale can be used in understanding inmates with a suicide attempt background, and with moderate accuracy in identifying them, it is possible that it could be used along with other variables found to be associated with this type of individual to increase the understanding and identification of them.

CHAPTER V

SUMMARY AND CONCLUSION

Summary and Conclusion

This study was designed to understand and identify male inmates who have attempted suicide sometime in their history prior to their incarceration. Three objectives were pursued. They were: (1) The comparison of male inmates who had indicated that they had attempted suicide in their past, referred to as suicide attempt inmates, with male inmates who had not, referred to as non-suicide attempt inmates, on 33 behavioral and personal variables; (2) The development of a suicide attempt scale by means of an item analysis on the responses of the suicide attempt and non-suicide attempt inmates to items of the Bipolar Personality Inventory (BPI). This scale was named the BPI Suicide Attempt Scale; (3) The development of a composite suicide attempt scale. The components selected for this scale would be the BPI Suicide Attempt Scale, and/or one or more of the 33 personal and behavioral variables. This scale was named the criminal suicide attempt scale.

From the male inmate population at the Utah State Prison, most inmates (since 1970) have taken the BPI and usually soon after

their incarceration. Inmates who had responded "true" or "false" to the suicide attempt item of the BPI "I have tried to kill myself," were designated as "suicide attempt inmates" and "non-suicide attempt inmates," respectively. An original and replication sample of these inmates were used to achieve the above objectives.

The original sample consisted of 62 suicide attempt inmates, whose ages ranged from 20 to 29 with a mean of 24.92 and a standard deviation of 2.24, and 164 non-suicide attempt inmates whose ages ranged from 18 to 30 with a mean of 25.12 and a standard deviation of 2.55.

The replication sample consisted of 40 suicide attempt inmates whose ages ranged from 21 to 69 with a mean of 34.63 and a standard deviation of 9.57, and 131 non-suicide attempt inmates whose ages ranged from 22 to 61 with a mean of 38.26 and a standard deviation of 8.34.

With respect to the first objective, the suicide attempt and non-suicide attempt inmates of each of the two samples were compared on the 33 behavioral and personal variables. Four variables significantly differentiated the two groups of the original sample: prison sentences, drug use, escape and parole violation. In this sample, the suicide attempt inmates had fewer prison sentences than the non-suicide attempt inmates and a smaller proportion of them had

escaped and broken parole. However, a greater proportion of them had a prior history of drug use.

Five variables differentiated the two groups of the replication sample: age, weight, marital status, juvenile record and drug use. In this sample, the suicide attempt inmates were younger and weighed less than the non-suicide attempt inmates. A greater proportion of the suicide attempt inmates had a prior history of drug use and a juvenile record, and fewer of them were married.

In comparing the two samples, there was only one identical variable, the drug use variable, which differentiated the two groups in both samples. That there was a lack of common variables significant in both samples may be due largely to the age difference between the samples.

With respect to the second objective, an item analysis of the responses of the two groups of the original sample to the items of the BPI was used to develop the BPI Suicide Attempt Scale. Twenty-five items differentiated the two groups at the .01 level or better and were used as the items of the scale. These 25 items pertain primarily to family problems, sexual immaturity, dependence, depression, and self-degradation.

The scale was applied to the two groups of the original sample and then validated on the replication sample. It differentiated each of the two groups of each of the two samples at the .001 level.

Since this scale was developed on a sample, the original sample, which was younger than that of the replication sample, it can be concluded that it has good generalized validity.

In addition to developing the BPI Suicide Attempt Scale and establishing its post-dictive validity, this dissertation included a supplementary study on the use of the BPI Suicide Attempt Scale on inmates who had attempted suicide at the prison, referred to as "prison suicide attempters." It compared their scores on this scale with each of those of the two groups of the replication sample, and related their scores on this scale with their scores on the scales of the BPI, and a risk rating. The findings were: (1) derived from their BPI's, the scores on the BPI Suicide Attempt Scale of the prison suicide attempters and of the non-suicide attempt inmates of the replication sample differed significantly at the .02 level. The mean score of the prison suicide attempters on this scale was essentially the same as that of the suicide attempt inmates of the replication sample; (2) the BPI Suicide Attempt Scale scores of the prison suicide attempters correlated positively and significantly with their scores on 8 scales of the BPI. Six of these scales, depression, self-degradation, impulsiveness, psychic pain, family discord, and dependence are related to factors indicated in the literature of suicidology to be associated with suicidal individuals; (3) the BPI Suicide Attempt Scale scores of the prison suicide attempters did not correlate

significantly with their risk factor scores on the risk-rescue rating of Weisman and Worden (1974).

The use of the BPI Suicide Attempt Scale as a clinical tool was discussed. In addition, suggestions were offered on research that could be done with this scale.

With respect to the third objective, the drug variable and the BPI Suicide Attempt Scale were selected as the components of the composite suicide attempt scale, referred to as the Criminal Suicide Attempt Scale. These two variables were selected because only they had each differentiated each of the two groups of each of the original and replication samples. A stepwise multiple regression analysis program was used on the suicide attempt and non-suicide attempt inmates of the replication sample to determine the weights of these two components, the correlation of each of the components with the dichotomous criterion, suicide attempt inmates vs. non-suicide attempt inmate behavior, (SA = 1, NSA = 0) and the multiple correlation of the combined components with the dichotomous criterion. The BPI Suicide Attempt Scale and the drug use variable correlated, separately, with the dichotomous criterion .36 and .19, respectively. These two components combined correlated .38 with the dichotomous criterion.

The predicted scores of the suicide attempt and non-suicide attempt inmates of the replication sample on the Criminal Suicide

Attempt Scale, and the suicide attempt base rate for the prison, which is 22.74 percent, were used in selecting the scale's cut-off class interval.* (This cut-off class interval is the interval in which inmates scoring within or above it would be identified as suicide attempt inmates and those scoring below it would be identified as non-suicide attempt inmates.) A class interval was selected as a cut-off interval which would have optimally associated with it the highest probability of true positives accompanied with the lowest probability of false positives. The one that was selected had a probability, expressed as a percentage, of true positives of 20.47 percent and a probability of false positives of 40.10 percent. With a suicide attempt base rate of 22.74 percent, 90 percent ($20.47/22.74 \times 100$) of all the suicide attempt inmates would be correctly identified as suicide attempt inmates. With a non-suicide attempt base rate of 77.26 percent, 51.9 percent ($40.10/77.26 \times 100$), of all non-suicide attempt inmates would be incorrectly identified as suicide attempt subjects.

In addition, the efficiency of the scale for positive identification associated with this cut-off was 33.80 percent. This percent efficiency means that 33.8 percent of all inmates identified as suicide attempt inmates would actually be suicide attempt inmates.

*The suicide attempt base rate refers to the percent of Utah State inmates indicating that they have attempted suicide in their history prior to their incarceration.

The efficiency of the scale for negative identification associated with this cut-off was 94 percent. This means that 94 percent of all inmates identified as non-suicide attempt inmates would actually be non-suicide attempt inmates.

In conclusion, while the Criminal Suicide Attempt Scale can be used in understanding inmates with a suicide attempt background, and with moderate accuracy, in identifying them, it is possible that it could be used along with other variables found to be associated with this type of individual in increasing the understanding and identification of them.

BIBLIOGRAPHY

- Beall, I. 1969. The dynamics of suicide: a review of the literature 1897-1965. *Bulletin of Suicidology*, March, 2-16.
- Beck, A. R., D. Schuyler, and L. Herman. 1974. Development of suicidal intent scales, pp. 45-56. In Beck, A. R., H. L. Resnik, and D. Lettieri (Eds.), *The prediction of suicide*. Charles Press Publishers, Inc., Bowie, Maryland.
- Beigel, A. and H. E. Russell. 1972. Suicide attempts in jails: prognostic consideration. *Hospital and Community Psychiatry* 23 (2):361-363.
- Buglass, D. and J. W. McCulloch. 1970. Further suicidal behavior: the development and validation of predictive scales. *British Journal of Psychiatry*, 116:483-491.
- Cohen, E., J. Motto, and R. Seiden. 1966. An instrument for evaluating suicidal potential. *American Journal of Psychiatry*, 122:866-891.
- Durkheim, E. 1951. *Suicide: a study in sociology*. Free Press, Glencoe, Illinois.
- Farber, M. L. 1968. *Theory of suicide*. Funk and Wagnalls, New York.
- Hendin, H. 1965. *Suicide and Scandinavia*. Doubleday, New York.
- Hendin, H. 1967. Suicide, pp. 1170-1179. In Freedman, A. and H. Kaplan (Eds.). *Psychiatry*. Williams and Wilkins Company, Baltimore, Maryland.
- Howell, R. J., I. R. Payne, and A. V. Roe. 1971. Differences among behavioral variables, personal characteristics and personality scores of tattooed and non-tattooed prison inmates. *Journal of Research in Crime and Delinquency*, 32-37.
- Howell, R. J., I. R. Payne, and A. V. Roe. 1972. *Bipolar personality inventory administration manual*. Psychological Research Associates, Provo, Utah.

- Jacobs, J. 1971. Adolescent suicide. Wiley-Interscience, New York.
- Leonard, C. V. 1967. Understanding and preventing suicide. Thomas, Springfield, Illinois.
- Lester, D. 1970. Attempts to predict suicidal risk using psychological tests. *Psychological Bulletin*, 74:1-17.
- Lettieri, Dan. 1974. Suicidal death prediction scales, pp. 163-192. In Beck, A. R., H. L. P. Resnik, and D. Lettieri. Charles Press Publishers, Inc., Bowie, Maryland.
- Litman, R. and N. Tabachnick. 1968. Psychoanalytic theories of suicide, pp. 73-81. In Resnick, H. L. P. (Ed.). Suicidal behaviors. Little Brown and Company, Boston, Massachusetts.
- Litman, R. E. 1967. Sigmund Freud on suicide, pp. 324-344. In Shneidman, E. S. (Ed.). Essays on self-destruction. Science House, New York.
- Masey, J. 1967. Suicide in the United States, pp. 1-34. In vital and health statistics. National Center for Health Statistics. Washington, D. C.
- Menninger, K. 1938. Man against himself. Harcourt, Brace and World, New York.
- Meehl, P. E., and A. Rosen. 1955. Antecedent probability and the efficiency of psychometric signs, patterns, or cutting scores. *Psychological Bulletin* 52:194-216.
- Miskimins, R. W., R. DeCook, L. T. Wilson, and R. F. Maley. 1967. Prediction of suicide in a psychiatric hospital. *Journal of Clinical Psychology*, 23:296-301.
- Miskimins, R. W., and Lowell Wilson. 1969. Revised suicide potential scale. *Journal of Consulting and Clinical Psychology*, 33(2):258.
- Motto, J. 1965. Suicide attempt. *Archives of General Psychiatry*, 13:516-520.
- Pretzel, P. 1972. The suicidal person. Abingdon Press, Nashville, Tennessee.

- Nie, N. H., D. H. Bent, and O. H. Hull. 1970. SPSS. McGraw-Hill, New York.
- Roe, Al. 1974. Bipolar psychological inventory studies. Psychological Resources, Orem, Utah.
- Weisman, A. 1967. Self-destruction and sexual perversion, pp. 265-299. In Shneidman, E. S. (Ed.). Essays in self-destruction. Science House, New York.
- Weisman, A., and J. W. Worden. 1974. Risk-rescue rating in suicide assessment, pp. 193-214. In Beck, A. R., H. L. P. Resnick, and D. J. Lettieri (Eds.). The prediction of suicide. Charles Press Publishers, Inc., Bowie, Maryland.
- Wiggins, J. 1973. Personality and prediction. Addison Wesley, Reading, Massachusetts.

APPENDIXES

APPENDIX A

BIPOLAR PSYCHOLOGICAL INVENTORY (BPI)

BIPOLAR PSYCHOLOGICAL INVENTORY

INVALID - VALID

TRUE

- 28. I am allergic to water and air.
- 97. I am over seven feet tall and weigh over 300 pounds.
- 203. I can run a mile in less than three seconds.
- 242. I can hold my breath under water for hours at a time.
- 285. I usually eat 14 large meals a day.

FALSE

- 162. My birthday comes once every year.
- 218. It is healthful to eat fruits and vegetables.
- 256. Many people live in New York City.
- 270. Americans speak better English than the Chinese do.
- 299. Airplanes can fly faster today than they could 50 years ago.

BIPOLAR PSYCHOLOGICAL INVENTORY

LIE - HONEST

TRUE

- 14. I would go without lunch rather than borrow even small amounts of money.
- 42. A promise of getting something for nothing would be no temptation to me.
- 99. I cannot think of any way in which I have failed a friend.
- 125. Even when I have not had enough sleep, I wake up as cheerful and ready to work as ever.
- 163. I always live up to my responsibilities.
- 219. I am never late for appointments.
- 300. I always admit my errors very frankly without trying to hide them.

FALSE

- 29. Sometimes I gossip about my friends.
- 69. Sometimes I act lazy.
- 83. When people tease me, I sometimes get annoyed even if it is meant in fun.
- 148. Sometimes I make up excuses in order to get out of doing someone a favor.
- 204. Sometimes I daydream or get distracted when I am supposed to be working.
- 271. I can remember at least one time when I damaged or lost someone else's property and did not replace or repair it.

BIPOLAR PSYCHOLOGICAL INVENTORY

DEFENSIVE - OPEN

TRUE (Feeling)

- 1. A person has to figure out his own problems; other people can't help him.
- 56. Psychologists try to get you to talk about a lot of things that are none of their business.
- 70. I don't like tests like this.
- 84. It embarrasses me to talk about my personal life.
- 220. I don't need any help with my problems.

FALSE (Feeling)

- 15. I would like to talk to a psychologist or psychiatrist about problems.
- 98. I think I could get some help from somebody I trusted.
- 164. Sometimes I think there is something wrong with my mind.
- 177. I always feel much better after I talk over my personal problems.
- 190. I would like to be hypnotized.
- 272. I like people who are interested in knowing about me.
- 286. I enjoy taking this test.

TRUE (Behavior)

- 30. I leave people alone and work it so they leave me alone.
- 111. I have never shared the details of my private life with people.
- 121. I seldom talk my problems over with other people.
- 149. I keep my feelings to myself.

FALSE (Behavior)

- 43. I talk to people about my background such as family, school, work, etc.
- 126. I have received help with my personal problems from my friends.
- 131. I have tried to get help from a person like a minister, caseworker or doctor.
- 205. When I have a problem, I usually discuss it with a close friend.
- 243. I sometimes ask people what they think of me.
- 257. I often let people know how I feel about them.

BIPOLAR PSYCHOLOGICAL INVENTORY

PSYCHIC PAIN - PSYCHIC COMFORT

TRUE (Feeling)

- 2. I need help.
- 44. I am bothered by some fears.
- 85. I wish I could stop worrying about some things.
- 112. I can't handle my problems by myself.
- 132. I'm afraid I might end up in a mental hospital.
- 150. I'm confused because so many things are going through my head.
- 178. I'm scared.
- 206. My mind is really messed up.
- 221. I feel very guilty about my behavior.
- 244. I can't stand to think about some of the things I've done.

FALSE (Feeling)

- 31. I am satisfied with the way things are going.
- 127. I'm usually relaxed.
- 238. I feel calm.

TRUE (Behavior)

- 16. I get fidgety when I sit very long.
- 57. Often, for no reason, my heart pounds.
- 71. I bite my fingernails.
- 165. I'm not really myself at times.
- 191. I have nervous habits that sometimes bother other people.
- 258. I get headaches frequently.
- 273. Sometimes my hands shake for no good reason.
- 287. My stomach is often tied up in knots.

BIPOLAR PSYCHOLOGICAL INVENTORY

DEPRESSION - OPTIMISM

TRUE (Feeling)

- 37. I usually feel unimportant.
- 105. I am afraid of the unhappiness the future holds for me.
- 197. I have often felt depressed.
- 227. I often feel that I am doomed to ruin.
- 234. I usually wake up unhappy in the morning.
- 250. I generally feel sad and unhappy.

FALSE (Feeling)

- 22. I am as happy as my friends are.
- 77. My life has been a pretty happy one.
- 136. I feel happy.
- 156. I am satisfied with the way things are going for me.
- 184. My future is bright.

TRUE (Behavior)

- 8. I often do not do what people expect of me.
- 118. My face and mannerisms let others know when I am blue or sad.
- 142. I often do just anything just to be doing something.
- 171. I am more emotional than other people.
- 212. I have tried to kill myself.
- 293. I can't do my work as well as I used to be able to do.

FALSE (Behavior)

- 50. I do well in most things that I try.
- 63. I do a lot of things that are enjoyable and worthwhile.
- 91. I act happy most of the time.
- 264. People often tell me that I seem happy.
- 279. I am full of life in my work and play.

BIPOLAR PSYCHOLOGICAL INVENTORY

SELF DEGRADATION - SELF ESTEEM

TRUE (Feeling)

- 21. I often feel humiliated.
- 76. I usually regard opinions of others more highly than my own.
- 117. I feel self-critical.
- 141. I don't trust my feelings.
- 211. I feel worthless.
- 249. I'm usually dissatisfied with the job I have done.
- 263. I don't like myself.

FALSE (Feeling)

- 7. I feel good about myself.
- 90. I have a good reputation among friends and acquaintances.
- 155. I feel good about my future.
- 170. I am satisfied with most of the things I do.
- 292. I like myself.

TRUE (Behavior)

- 36. I do not put my best foot forward, volunteer, or otherwise place myself in a position where I might fall below expectations.
- 62. I seldom say much that interests other people.
- 183. I have few, if any, accomplishments to be proud of.
- 233. I usually "put my foot in my mouth" when I talk.
- 278. I generally do not express my opinions when I'm with other people.

FALSE (Behavior)

- 49. I have several good friends that I spend time with.
- 104. I meet friends or associates whenever I can to have lunch or just talk.
- 135. I have been told I get along well with others.
- 196. I do most things well.
- 226. People tell me I am likeable.

BIPOLAR PSYCHOLOGICAL INVENTORY

DEPENDENCE - SELF SUFFICIENCY

TRUE (Feeling)

- 3. I am not self sufficient.
- 58. I am not as smart as other people.
- 72. I feel I can't control my emotions.
- 166. I will probably have a hard time just taking care of the things that need to be done.
- 207. It seems that I need help with most things I try to do.
- 259. I feel it is best for me to seek help from others when making a decision.
- 274. I feel dependent on other people.

FALSE (Feeling)

- 32. I feel confident with my own abilities.
- 128. I am as smart as the next guy.

TRUE (Behavior)

- 45. I usually ask other people's advise before doing something important.
- 100. I usually give in to other people.
- 113. I have trouble getting started on things that need doing.
- 151. I generally don't try to compete with other people.
- 192. I often ask people to help me make decisions.
- 222. People often correct me.
- 245. Other people often have to finish things I start.

FALSE (Behavior)

- 17. I usually finish what I plan to do.
- 86. I have usually done what needed doing.
- 179. I take care of myself in almost any situation.
- 288. People often come to me for advice.

BIPOLAR PSYCHOLOGICAL INVENTORY

UNMOTIVATED - ACHIEVING

TRUE (Feeling)

- 4. I have very little desire to continue my schooling.
- 73. When I do a job, I have very little desire to do my best unless I am highly interested.
- 114. It has never been important to me to be real successful.
- 180. I feel uncomfortable if I have to be the boss.
- 260. I would rather work alone than with other people.

FALSE (Feeling)

- 18. I have a very strong desire to achieve success in some area.
- 59. I feel a strong urge or drive to get back and finish a job as soon as possible.
- 129. When working on a project with others, I would rather be the boss or the assistant boss than one of the workers.
- 193. It is important to me to gain recognition for my achievements.
- 275. In order to be happy I have to feel I am accomplishing things.

TRUE (Behavior)

- 33. I seldom put in extra time on a job.
- 101. I am usually not chosen as an officer or leader in groups.
- 167. I usually do not take an active part in groups that I am in.
- 237. I usually let others make decisions in important matters.

FALSE (Behavior)

- 46. When in school I worked hard to be at the top of my class.
- 87. When in school I put more time into studying than many others.
- 152. I generally succeed at most things that I try.
- 223. I have received an award for something I have done.
- 235. When on a job I work hard and do the best I can.
- 289. I usually stick to a job until it is finished.

BIPOLAR PSYCHOLOGICAL INVENTORY
SOCIAL WITHDRAWAL - GREGARIOUSNESS

TRUE (Feeling)

- 5. I am happiest when I'm by myself.
- 60. People typically annoy me.
- 74. If I am angry I can get over it best by getting away from people.
- 88. I prefer movies to social gatherings.
- 276. If I were a pilot I would rather fly a single seat fighter than a bomber with a crew.

FALSE (Feeling)

- 47. I look forward to social gatherings.
- 102. One thing that I enjoyed about school was the association with others.
- 194. I enjoy visiting with other people.
- 209. Being by myself for a long period of time would really bug me.
- 290. My happiest moments are when I'm with my friends.

TRUE (Behavior)

- 19. I generally do things alone.
- 115. My friends would describe me as a loner.
- 133. I have done better on jobs where I have worked by myself.
- 153. I usually watch a ball game on TV by myself rather than watching or going to it with my friends.
- 168. I have only a few friends.
- 224. I do more reading than visiting with others.
- 247. On weekends I typically get off by myself.

FALSE (Behavior)

- 34. I am usually with people rather than alone.
- 130. I often take a job where I work with others.
- 181. Most of my recreation is with other people rather than by myself.
- 261. I usually eat with a group of people rather than by myself.

BIPOLAR PSYCHOLOGICAL INVENTORY

FAMILY DISCORD - FAMILY HARMONY

TRUE (Feeling)

- 6. I usually feel unhappy around my parents.
- 103. There is very little love among members of my family.
- 116. I often feel hatred or jealousy toward members of my family.
- 154. My parents never took much interest in anything I did.
- 169. My parents are or were often unfair to me.

FALSE (Feeling)

- 35. I feel very close to my family.
- 182. I enjoy being with my family.
- 210. I have always felt my parents were proud of me.
- 232. I enjoy being at home more than anywhere else.
- 248. I love my mother and father very much.
- 262. I love all members of my family.

TRUE (Behavior)

- 48. I often argued with my parents.
- 61. I have often talked back to members of my family.
- 140. I stayed away from my family as much as I could.
- 277. I seldom showed respect for my family.

FALSE (Behavior)

- 20. I often did things with my father.
- 75. I have pleasant talks with members of my family.
- 89. I often talked over my problems with my parents.
- 134. My parents often said they were proud of me.
- 195. I do everything that I can to make my parents happy.
- 225. My family usually does a lot of things together.
- 291. I usually apologize to members of my family after a disagreement.

BIPOLAR PSYCHOLOGICAL INVENTORY
SEXUAL IMMATURITY - SEXUAL MATURITY

TRUE (Feeling)

- 38. I try to keep sex thoughts out of my mind.
- 64. I get sexual pleasure when I think of handling women's clothing.
- 92. I feel I have a sex problem.
- 198. I sometimes wonder if I'm homosexually inclined.
- 228. In the past, I enjoyed the thought of showing my sex organs to other people.
- 280. I feel guilty over some of the sexual ideas I have.

FALSE (Feeling)

- 51. I have been satisfied with my sex life in the past.
- 106. I feel mature sexually.
- 185. I like to dance.
- 208. I have enjoyed close and lasting relationships with people of the opposite sex.
- 265. I would feel sickened by sexual advances by members of my own sex.

TRUE (Behavior)

- 23. I have often found myself looking at the sex organs of another person of my own sex.
- 78. Sometimes I haven't been able to control my sex behavior.
- 143. As a teen-ager I used to spend much more time with members of my own sex than with members of the opposite sex.
- 172. I have had homosexual experiences.
- 213. There have been times when I have peaked through a window to watch somebody undress.
- 236. I have had sexual relations with someone considerably older or younger than myself.
- 246. I have demanded sex relations against the wishes of my partner.
- 294. Since I was 12 years of age I have had sexual play with younger children more than once.

FALSE (Behavior)

- 9. I have never exhibited my sexual organs to others.
- 119. My sexual behavior has always been normal.
- 137. My sex behavior has never caused me any trouble.
- 157. I have never window peaked.
- 251. When I was in my teens, I dated regularly.

BIPOLAR PSYCHOLOGICAL INVENTORY
SOCIAL DEVIANCY - SOCIAL CONFORMITY

TRUE (Feeling)

- 40. I don't feel as bad as other people do when I have done something wrong.
- 66. I think that if a person wants to live a life of crime, society should let him do so.
- 80. I would enjoy breaking the law if I thought I could get away with it.
- 200. Most laws are unfair.
- 215. I think that a life of crime would be an exciting way to live.
- 282. I don't like the rules of society.

FALSE (Feeling)

- 11. I don't like it when a criminal is freed through the arguments of a smart lawyer.
- 138. Judges try to be fair.
- 145. I would not enjoy gambling.
- 253. I think that the police are honest.

TRUE (Behavior)

- 25. I have used alcohol excessively.
- 108. I often ran away from home.
- 122. Sometimes I do something against the law.
- 174. I have not lived a law-abiding life.
- 187. I have done many things that have gotten me into trouble.
- 230. In school I was sometimes sent to the principal for cutting up.
- 267. I have used drugs such as marijuana, heroin, or LSD.

FALSE (Behavior)

- 53. I have never been in trouble because of my behavior.
- 94. I go to church quite often.
- 159. I follow the laws of society.
- 296. I have never stolen anything I could be put in jail for.

BIPOLAR PSYCHOLOGICAL INVENTORY

IMPULSIVENESS - SELF CONTROL

TRUE (Feeling)

- 54. I often feel like doing things just for the heck of it.
- 67. I often think about quitting my job when it gets boring.
- 123. My feelings often change from one attitude to another.
- 239. Angry thoughts frequently bother me.
- 254. I have trouble controlling my thoughts and feelings.

FALSE (Feeling)

- 41. I can usually control what I am thinking.
- 81. I seldom feel like doing things impulsively.
- 160. I can usually decide how I will feel about something.
- 216. I seldom feel suddenly angry.
- 240. I do not mind doing one thing for a long period of time.
- 283. My feelings don't change very much from one time to another.

TRUE

- 12. I often do dangerous things without stopping to think.
- 95. I do many things on the spur of the moment.
- 139. I often do things just for the heck of it.
- 146. I do crazy things.
- 188. I usually do things in a hurry.
- 268. I don't stay long on a job that is boring.

FALSE (Behavior)

- 26. I usually stick to an unpleasant job that I have to complete.
- 109. I usually carry out my responsibilities.
- 175. I think and plan things carefully before I do something.
- 201. I think out what I am going to say before I say it.
- 297. I can do one thing for a long period of time.

BIPOLAR PSYCHOLOGICAL INVENTORY

HOSTILITY - KINDNESS

TRUE (Feeling)

- 27. I feel that most people would take advantage of you if you gave them the opportunity.
- 96. I often think it is better to take advantage of another person before they take advantage of you.
- 124. "An eye for an eye, a tooth for a tooth" is a good philosophy to live by.
- 176. There are a few people I would like to see worked over.
- 189. I wouldn't hesitate to step on people if it would benefit me.
- 217. I dislike many people.
- 241. It makes me feel better to tell someone off.

FALSE (Feeling)

- 55. Hitting someone is hardly ever necessary.
- 68. I feel that fighting is no way for people to settle their differences.
- 231. Turning the other cheek is better than fighting.

TRUE (Behavior)

- 82. I often tell others of my dislike for them.
- 147. I must admit that I usually laugh at the misfortunes of others.
- 161. I have been in my share of fights.
- 202. I've never gone out of my way to avoid a good fight.
- 298. I often get in fights or arguments.

FALSE (Behavior)

- 13. I very seldom talk back to people when they give me orders.
- 110. I have seldom yelled at people throughout my life.
- 255. I very seldom threaten anyone with a physical attack.
- 269. I haven't been in a fight for years.
- 284. I usually do not get even with a guy who has hurt me.

BIPOLAR PSYCHOLOGICAL INVENTORY

INSENSITIVITY - EMPATHY

TRUE (Feeling)

- 10. I am in favor of mercy killing.
- 39. Pain is the only thing some people understand.
- 186. Sometimes just for kicks I have felt like torturing animals.
- 214. Sex is probably more enjoyable when it hurts a little.

FALSE (Feeling)

- 93. Even though animals aren't human, I feel it is wrong to hurt them.
- 107. I could never accept the torturing of prisoners-of-war as a way to get information.
- 173. I don't think that war is a necessary part of life.
- 199. I don't feel that suffering is necessary in life.
- 229. I would not send many people to prison if I were a judge.
- 266. I wouldn't want to butcher animals.
- 295. The idea of any living creature being hurt bothers me.

TRUE (Behavior)

- 52. I have used fear to control children or other people.
- 65. I often watch fights or boxing matches.
- 144. I have hurt people just to see their reaction.
- 158. I stop and watch accidents whenever I can.
- 252. I would vote for physical punishment for some serious crimes.

FALSE (Behavior)

- 24. I have never laughed at a trapped or caged animal.
- 79. I don't go to horror movies.
- 120. I have never read or learned about torture methods.
- 281. I go out of my way to help a person who is hurt.

APPENDIX B

DESCRIPTION OF THE BIPOLAR PSYCHOLOGICAL
INVENTORY SCALES

Opposing ends of scale	No. of Items	Score	Meaning of Score
Invalid vs. Valid	10		<p>Items obviously true or false. High score is used to detect:</p> <ol style="list-style-type: none"> 1) gross confusion 2) inability to read 3) random marking of the answer sheet without reading the items, and the 4) uncooperative, practical joker, or defiant individuals.
Lie vs. Honest	13	High	<p>Subtle items which point up a tendency to consciously deceive by answering in a perfectionistic manner.</p> <p>The person is dishonest in his test taking in that he exaggerates by describing himself as having more positive traits than he actually has.</p>
		Low	<p>The person may be meticulously honest. He may tend to exaggerate his weaknesses.</p>
Defensiveness vs. Openness	22	High	<p>Defensive, doesn't like to reveal self or personal problems, keeps feelings to self, doesn't want professional help, guarded, does not solicit feedback.</p>

Opposing ends of scale	No. of Items	Score	Meaning of Score
Defensiveness vs. Openness (cont.)		Low	Open, seeks help, reveals problems freely, solicits pro- fessional help.
Psychic Pain vs. Contentment	21	High	Psychic pain, emo- tional, behavioral, and physical symptoms of anxiety, dissatis- faction, nervous.
		Low	Contentment, relaxed, calm, satisfied, uncon- cerned, controlled.
Depression vs. Optimism	22	High	Depression, fearful of the future, regret of the past, feeling of impending doom, suicidal, failure experiences, unhappy.
		Low	Happiness, optimism, successful, satis- faction, cheerful, energetic.
Self Degradation vs. Self Esteem	22	High	Self degradation, self-critical, infer- iority feelings, dis- satisfaction with self, self-depreciating, poor self-image, low ego strength, intro- punitive.
		Low	Self esteem, secure, self satisfied, con- fident, self assured, high self regard.
Dependence vs. Self Sufficiency	20	High	Dependent, inadequate, meek, gullible follow- er, acquiescing, sub- missive, deferent.

Opposing ends of Scale	No. of Items	Score	Meaning of Score
Dependence vs. Self Sufficiency (cont.)		Low	Self sufficiency, independent, assertive, confident, leader, self directing.
Unmotivated vs. Achievement	20	High	Unmotivated, under-achiever, lazy, procrastinator, unassuming, slothful, irresponsible.
		Low	Achievement oriented, competitive, aggressive, untiring, recognition seeking, academically oriented, successful, hard working, accomplished.
Social Withdrawal vs. Gregariousness	21	High	Social withdrawal, loner, solitary, avoids interaction and confrontation, schizoid, social avoidance, introverted.
		Low	Gregarious, sociable, seeks companionship, outgoing, extroverted, affiliative.
Family Discord vs. Family Harmony	22	High	Family discord, hatred, mutual rejection, dissension, interpersonal conflict.
		Low	Family harmony, closeness, pride, love, acceptance, family unity.
Sexual Immaturity vs. Sexual Maturity	24	High	Sexual immaturity, deviant tendencies, sexual anxieties, promiscuity, sexual guilt.

Opposing ends of scale	No. of Items	Score	Meaning of Score
Sexual Immaturity vs. Sexual Maturity (cont.)		Low	Sexual maturity, sexual adequacy or satisfaction, sexual control, normal heterosexuality.
Social Deviancy vs. Social Conformity	21	High	Social deviancy, anti-social criminal behavior, societal conflict, anti-establishment, irresponsible, psychopathic, law-breaking.
		Low	Social conformity, law abiding, ethical, socially sensitive, conforming.
Impulsivity vs. Self Control	22	High	Impulsivity, joy seeking, narcissistic, uncontrolled, moody, erratic, changeable, unreliable.
		Low	Self control, consistent, dependable, reliable, persistent, planful, stable.
Hostility vs. Friendliness	20	High	Hostility, anger, challenging, aggressiveness, verbally assertive, "eye-for-eye" attitude, threatening, intolerant, violent, vengeful.
		Low	Friendliness, easy going, accepting, quiet, forgiving, cooperative, peaceful.
Cruelty vs. Empathy	20	High	Cruelty, insensitive, morbid, punitive, calloused, sadistic.

Opposing ends of scale	No. of Items	Score	Meaning of Score
Cruelty vs. Empathy (cont.)		Low	Empathy, concern, sensitive to others, kind, considerate, sympathetic.

APPENDIX C

AN ITEM ANALYSIS ON THE BPI RESPONSES OF THE
SUICIDAL ATTEMPT AND NON-SUICIDAL ATTEMPT
INMATES OF THE ORIGINAL SAMPLE

	Suicide Attempt Inmates (N=62)	Non- Suicide Attempt Inmates (N=164)		
Item	Prop.	Prop.	z	Sign.
1	.31	.30	.112	N.S.
2	.87	.78	1.533	N.S.
3	.45	.41	.585	N.S.
4	.08	.12	-.767	N.S.
5	.29	.25	.616	N.S.
6	.39	.16	3.693	.001
7	.50	.52	-.327	N.S.
8	.60	.67	-1.040	N.S.
9	.40	.38	.262	N.S.
10	.34	.30	.579	N.S.
11	.29	.22	1.114	N.S.
12	.55	.48	.976	N.S.
13	.68	.66	.182	N.S.
14	.52	.45	.872	N.S.
15	.69	.72	-.385	N.S.
16	.60	.66	-.952	N.S.
17	.58	.76	-2.588	.01
18	.92	.95	-.918	N.S.
19	.63	.53	1.331	N.S.
20	.24	.40	-2.245	.05
21	.47	.30	2.291	.05
22	.42	.56	-1.902	N.S.
23	.06	.08	-.375	N.S.
24	.66	.52	1.851	N.S.
25	.42	.32	1.443	N.S.
26	.60	.67	-1.040	N.S.
27	.73	.80	-1.179	N.S.
28	.03	.01	1.533	N.S.
29	.50	.52	-.327	N.S.
30	.61	.54	1.031	N.S.
31	.34	.23	1.737	N.S.
32	.71	.77	-.911	N.S.
33	.39	.38	.125	N.S.
34	.68	.68	.008	N.S.
35	.69	.70	-.023	N.S.
36	.39	.39	-.043	N.S.
37	.66	.47	2.575	.05
38	.40	.35	.690	N.S.
39	.40	.38	.262	N.S.
40	.32	.31	.168	N.S.
41	.89	.90	-.340	N.S.

Item	Suicide Attempt Inmates (N=62)	Non- Suicide Attempt Inmates (N=164)	z	Sign.
	Prop.	Prop.		
42	.31	.32	-.153	N.S.
43	.60	.68	-1.129	N.S.
44	.74	.79	-.716	N.S.
45	.68	.67	.096	N.S.
46	.26	.30	-.691	N.S.
47	.58	.64	-.825	N.S.
48	.58	.57	.184	N.S.
49	.71	.71	-.055	N.S.
50	.81	.90	-1.954	N.S.
51	.82	.89	-1.357	N.S.
52	.32	.24	1.295	N.S.
53	.16	.13	.322	N.S.
54	.73	.60	1.704	N.S.
55	.79	.84	-.792	N.S.
56	.34	.33	.134	N.S.
57	.45	.34	1.168	N.S.
58	.50	.47	.409	N.S.
59	.55	.70	-2.163	.05
60	.34	.23	1.634	N.S.
61	.66	.66	.039	N.S.
62	.45	.40	.753	N.S.
63	.76	.86	-1.824	N.S.
64	.06	.04	.681	N.S.
65	.45	.60	-1.971	.05
66	.11	.13	-.426	N.S.
67	.69	.59	1.410	N.S.
68	.82	.85	-.458	N.S.
69	.90	.87	.761	N.S.
70	.55	.60	-.669	N.S.
71	.45	.45	.088	N.S.
72	.26	.16	1.597	N.S.
73	.52	.41	1.371	N.S.
74	.79	.74	.816	N.S.
75	.66	.79	-2.054	.05
76	.37	.27	1.508	N.S.
77	.32	.49	-2.311	.05
78	.21	.17	.678	N.S.
79	.26	.21	.716	N.S.
80	.34	.29	.670	N.S.
81	.40	.52	-1.544	N.S.
82	.27	.26	.182	N.S.

	Suicide Attempt Inmates (N=62)	Non- Suicide Inmates (N=164)		
Item	Prop.	Prop.	Z	Sign.
83	.58	.61	-.399	N.S.
84	.34	.25	1.334	N.S.
85	.85	.88	-.597	N.S.
86	.65	.84	-3.219	.001
87	.16	.21	-.876	N.S.
88	.56	.49	.948	N.S.
89	.24	.39	-2.086	.05
90	.65	.80	-2.401	.05
91	.84	.85	-.280	N.S.
92	.15	.10	.872	N.S.
93	.94	.90	.780	N.S.
94	.19	.26	-.984	N.S.
95	.65	.63	.154	N.S.
96	.18	.21	-.502	N.S.
97	.02	.01	.718	N.S.
98	.90	.91	-.269	N.S.
99	.32	.30	.347	N.S.
100	.48	.41	.937	N.S.
101	.77	.64	1.921	N.S.
102	.71	.76	-.811	N.S.
103	.18	.17	.119	N.S.
104	.69	.67	.327	N.S.
105	.47	.36	1.485	N.S.
106	.89	.88	.187	N.S.
107	.77	.75	.378	N.S.
108	.53	.27	3.736	.001
109	.65	.79	-2.292	.05
110	.48	.46	.357	N.S.
111	.53	.35	2.443	.05
112	.47	.36	1.485	N.S.
113	.53	.32	2.889	.01
114	.27	.25	.372	N.S.
115	.50	.40	1.407	N.S.
116	.23	.20	.511	N.S.
117	.55	.48	1.193	N.S.
118	.69	.69	.066	N.S.
119	.84	.85	-.164	N.S.
120	.47	.42	.636	N.S.
121	.77	.55	3.023	.01
122	.90	.96	-1.800	N.S.
123	.61	.68	-.905	N.S.

	Suicide Attempt Inmates (N=62)	Non- Suicide Inmates (N=164)		
Item	Prop.	Prop.	z	Sign.
124	.27	.28	-.094	N.S.
125	.45	.37	1.180	N.S.
126	.45	.57	-1.636	N.S.
127	.52	.62	-1.445	N.S.
128	.55	.69	-1.978	.05
129	.52	.37	2.052	.05
130	.81	.79	.229	N.S.
131	.52	.55	-.522	N.S.
132	.27	.10	3.200	.01
133	.60	.55	.649	N.S.
134	.40	.57	-2.283	.05
135	.77	.89	-2.233	.05
136	.56	.60	-.450	N.S.
137	.74	.79	-.820	N.S.
138	.65	.71	-.994	N.S.
139	.65	.58	.901	N.S.
140	.40	.26	2.161	.05
141	.29	.16	2.232	.05
142	.53	.54	-.140	N.S.
143	.44	.37	.874	N.S.
144	.24	.18	1.103	N.S.
145	.40	.39	.178	N.S.
146	.61	.51	1.355	N.S.
147	.31	.23	1.256	N.S.
148	.45	.36	1.266	N.S.
149	.76	.65	1.603	N.S.
150	.52	.49	.380	N.S.
151	.47	.38	1.141	N.S.
152	.81	.84	-.628	N.S.
153	.21	.24	-.448	N.S.
154	.47	.24	3.260	.001
155	.52	.65	-1.879	N.S.
156	.40	.27	1.869	N.S.
157	.56	.62	-.703	N.S.
158	.44	.38	.703	N.S.
159	.34	.24	1.433	N.S.
160	.77	.94	-3.589	.001
161	.71	.80	-1.430	N.S.
162	.95	.99	-1.650	N.S.
163	.42	.51	-1.164	N.S.
164	.56	.46	1.439	N.S.

Item	Suicide Attempt Inmates (N=62)		Non-Suicide Attempt Inmates (N=164)		z	Sign.
	Prop.	Prop.	Prop.	Prop.		
206	.35	.20			2.512	.05
207	.34	.16			2.855	.01
208	.77	.94			-3.589	.001
209	.32	.54			-2.874	.01
210	.24	.42			-2.482	.05
211	.37	.16			3.334	.001
212	1.00	.00			15.033	.001
213	.31	.22			1.359	N.S.
214	.16	.09			1.493	N.S.
215	.23	.12			2.089	.05
216	.60	.61			-.178	N.S.
217	.31	.32			-.153	N.S.
218	.90	.97			-2.066	.05
219	.37	.34			.415	N.S.
220	.10	.14			-.872	N.S.
221	.42	.45			-.430	N.S.
222	.48	.40			1.105	N.S.
223	.60	.67			-1.040	N.S.
224	.37	.30			.948	N.S.
225	.42	.65			-3.177	.01
226	.73	.84			-1.976	.05
227	.42	.21			3.221	.001
228	.18	.05			2.894	.01
229	.77	.71			.918	N.S.
230	.65	.64			.069	N.S.
231	.61	.51			1.355	N.S.
232	.42	.51			-1.164	N.S.
233	.34	.16			2.855	.01
234	.35	.31			.629	N.S.
235	.81	.87			-1.115	N.S.
236	.68	.65			.438	N.S.
237	.26	.16			1.597	N.S.
238	.56	.71			-2.034	.05
239	.52	.47			.626	N.S.
240	.52	.54			-.275	N.S.
241	.23	.20			.511	N.S.
242	.02	.01			.718	N.S.
243	.32	.34			-.268	N.S.
244	.48	.43			.770	N.S.
245	.23	.12			2.089	.05
246	.40	.24			2.463	.05

Item	Suicide Attempt Inmates (N=62)	Non- Suicide Attempt Inmates (N=164)	z	Sign.
	Prop.	Prop.		
247	.34	.21	2.054	.05
248	.84	.92	-1.820	N.S.
249	.27	.15	2.225	.05
250	.44	.23	3.125	.01
251	.66	.76	-1.533	N.S.
252	.21	.23	-.257	N.S.
253	.38	.40	-.349	N.S.
254	.26	.20	1.179	N.S.
255	.84	.84	-.050	N.S.
256	1.00	.96	1.526	N.S.
257	.31	.46	-2.133	.05
258	.37	.23	2.104	.05
259	.52	.40	1.623	N.S.
260	.45	.32	1.887	N.S.
261	.66	.80	-2.163	.05
262	.82	.87	-.822	N.S.
263	.19	.06	3.000	.01
264	.60	.71	-1.586	N.S.
265	.77	.87	-1.812	N.S.
266	.73	.76	-.468	N.S.
267	.68	.49	2.552	.05
268	.65	.60	.655	N.S.
269	.52	.51	.053	N.S.
270	.89	.96	-1.954	N.S.
271	.81	.73	1.161	N.S.
272	.73	.59	1.945	N.S.
273	.45	.28	2.446	.05
274	.34	.18	2.500	.05
275	.66	.65	.210	N.S.
276	.52	.57	-.770	N.S.
277	.42	.24	2.690	.01
278	.53	.33	2.798	.01
279	.76	.83	-1.217	N.S.
280	.26	.18	1.252	N.S.
281	.94	.92	.375	N.S.
282	.37	.31	.857	N.S.
283	.52	.51	.135	N.S.
284	.66	.62	.547	N.S.
285	.02	.02	-.377	N.S.
286	.44	.32	1.666	N.S.
287	.29	.18	1.876	N.S.

	Suicide Attempt Inmates (N=62)	Non- Suicide Attempt Inmates (N=164)		
Item	Prop.	Prop.	z	Sign.
288	.47	.46	.058	N.S.
289	.68	.86	-3.116	.01
290	.63	.55	1.006	N.S.
291	.63	.74	-1.605	N.S.
292	.74	.91	-3.248	.001
293	.27	.23	.664	N.S.
294	.19	.12	1.378	N.S.
295	.65	.56	1.146	N.S.
296	.03	.07	-1.003	N.S.
297	.60	.70	-1.401	N.S.
298	.19	.15	.745	N.S.
299	.97	.99	-1.533	N.S.
300	.47	.59	-1.671	N.S.

