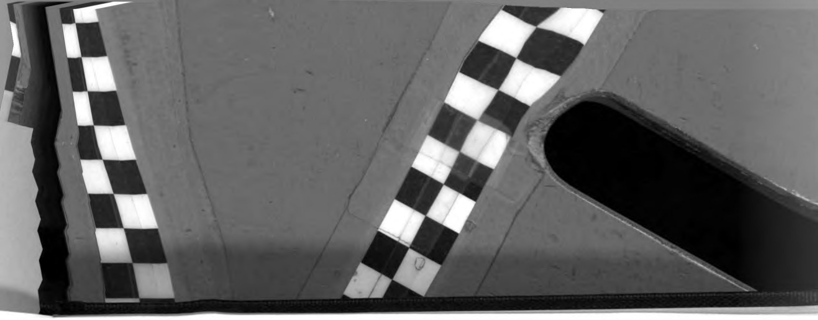

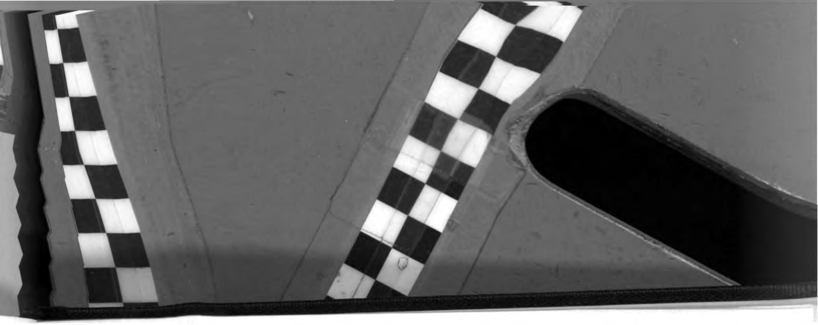

# AN INVESTIGATION OF THE CAUSES OF SUICIDE IN PATIENTS DIAGNOSED AS SCHIZOPHRENIC

By

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A THESIS

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Michigan State University
in partial fulfillment of the requirements
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# ABSTRACT

## AN INVESTIGATION OF THE CAUSES OF SUICIDE IN PATIENTS DIAGNOSED AS SCHIZOPHRENIC

By Harold Dean Esler

The purpose of this study is to interpret the dynamics of suicidal patients and to devise a scale that will be valuable in differentiating suicidal from non-suicidal schizophrenic patients.

A pilot was undertaken employing forty patients, twenty of whom were known suicidal and twenty non-suicidal. They were presented with miscellaneous objects consisting of two hundred varied items. Their task was to mark each object important, very important, unimportant, or very unimportant. The hypothesis that suicidal patients would choose significantly fewer important items as compared to the non-suicidal patients was substantiated at the 1% level.

A test of thirty miscellaneous and varied items was developed from among the two hundred objects used in the pilot study. By using this test, the Bender-Gestalt Test, and the Draw-A-Person Test, the major research was organized. The hypotheses were:

1. Suicidal Patients will choose significantly fewer items as important compared with non-suicidal patients.

1A. The Test of Objects will differentiate suicidal from non-suicidal patients.

2. There will not be a significant difference in pathology between suicidal and non-suicidal patients.

There were two hundred subjects in the study. One hundred of them were suicidal (50 male and 50 female), and one hundred of them were non-suicidal (50 male and 50 female). A suicidal patient was defined as one who had made actual attempts to take his life. A non-suicidal patient was one who had not made such an attempt. All the subjects were diagnosed as schizophrenic. The whole population was given the Test of Objects, the Bender-Gestalt Test, and Draw-A-Person Test.

All the hypotheses were confirmed. Hypothesis 1 and 1A were confirmed at the 1% level of significance. The reliabilities of both the Bender-Gestalt and Draw-A-Person Tests in confirming hypothesis 2 were rated by two clinical psychologists with a result of .97 reliability on the Bender-Gestalt Test and .89 reliability on the Draw-A-Person Test.

It was concluded that suicidal patients, as a group, are either unable to realize as many important experiences as non-suicidal patients or are unable to distinguish the relative importance of objects as well as non-suicidal

patients.

The Test of Objects might be used as a screening device in helping to recognize potential suicides but more research is needed to confirm its validity. It is not regarded as a definitive instrument in the measurement of suicidal potential, but points to suicidal tendencies and can be a clue for further investigations.

# VITA

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## TABLE OF CONTENTS

## LIST OF TABLES

# LIST OF APPENDICES

# CHAPTER I

# THE PROBLEM

## Introduction

The problem of suicide has been with us for many years. Society has, for many thousands of years, taken various positions in relation to the subject of suicide. Some cultures mildly disapprove, some completely condemn, while others accept suicide and incorporate it as one of their mores of communal life (Farberow and Shneidman, 1961). The problem of suicide in the United States is increasing: the national suicide rate for 1957 was 9.8 per hundred thousand (Farberow and Shneidman, 1961). This is the actual suicide rate for the population of the United States and does not include suicidal attempts. A careful tabulation of suicidal attempts made by Farberow and Shneidman (1961) revealed that there were 111.4 attempts per hundred thousand population or about eight times as many attempts as committed suicides. Patients diagnosed as schizophrenic account for 70% of actual suicides (Farberow and Shneidman, 1961).

Some have said that increase in the suicidal rate is

a reflection of the sickness of our society (Fromm, 1959). Others believe that the suicidal phenomenon is the result of internalized aggression and depression. There is an apparent lack of interest in the area of suicide as is stated clearly by Karl Menninger: "To the normal person, suicide seems too dreadful, and senseless to be conceivable. There almost seems to be a taboo on the serious discussion of it. There has never been a wide campaign against it, as there has been against less easily preventable forms of death. There is no organized public interest in it . . . In many instances, (it) could have been prevented by some of the rest of us." (Farberow and Shneidman, 1957).

Research shows that the schizophrenic patients who have attempted and threatened suicide are a far greater suicidal risk than other diagnostic groups. It is also found that the hospital behavior of the schizophrenic is not a reliable indicator of suicidal potential. (Farberow and Shneidman, 1961).

Most psychological tests are not adequate enough at this time to predict suicide (Hertz, 1949, 1956 and Lindner, 1945). A few tests (Rabin, 1946, Hertz, 1949, 1956 and Lindner, 1946) reflect some accuracy in demonstrating the dynamics of suicide. These tests, however, are time consuming and must be administered and interpreted by a highly skilled practitioner.

## Pilot Study

A pilot study was done to test the hypothesis that suicidal patients will realize significantly fewer objects as important than non-suicidal patients. This pilot study was carried out at Northville State Hospital, Northville, Michigan. Forty patients were employed in the study, all of whom had a diagnosis of schizophrenia. The patients were placed in two groups of twenty each. There were ten males and ten females in each group. The groups were matched by age and by degree of psychopathology as closely as possible. Both groups were given the Test of Objects. The Test of Objects consisted of two hundred varied items and directions to check the relative importance of each object by the following simple labels: important, very important, unimportant, and very unimportant. The objects used in the test were among ones previously designated as important by psychology students at Michigan State University, East Lansing, Michigan.

An analysis of the results showed that the suicidal patients were reliably differentiated from non-suicidal patients at the 1% level of significance. From this study, the major research was evolved.

## Hypotheses

The hypotheses advanced in this study are:

1. Suicidal patients will choose significantly fewer objects as important than non-suicidal patients.

1A. The Test of Objects will differentiate suicidal patients from non-suicidal patients.

2. There will not be a significant difference in pathology between suicidal and non-suicidal patients.

## Definitions

A suicidal patient was defined as one who had made an actual attempt to take his life, an attempt that could result in his death without medical intervention. Also included in the definition were patients who believed that they would die as a result of their suicidal attempts. The non-suicidal patient was defined as one who had no history of a suicidal attempt.

Schizophrenia in this study is understood to be a psychiatric diagnosis of a patient by the staff at the institution.

## Summary

In this chapter, the problem is defined,the procedure is explained and the pilot study including definitions is presented. The hypotheses resulting from the pilot study are listed and clarified in the order of their significance.

# CHAPTER II

# REVIEW OF THE LITERATURE

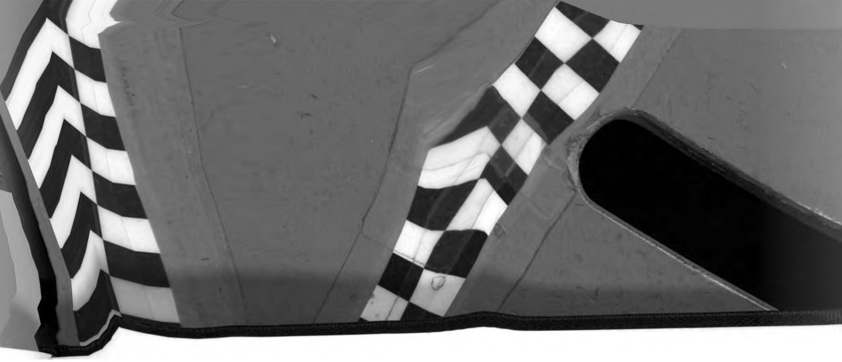
## Introduction

This chapter is a review of suicide literature. It includes Freudian and Neo-Freudian psychoanalytic theory, learning theory, studies on suicide, studies on suicide in schizophrenia, and prediction of suicide through psychological instruments.

## Psychoanalytic Theory

Psychoanalytic theory has made many contributions to the theories of suicide. Freud (1949, 1959) suggested the existence of instincts in man that propel him toward different goals. In Freud's later life, he suggested the existence of a death instinct. He applied this directly to many suicides. Freud spoke about the conflict between the life and death instinct as a constant, unresolved conflict. He said that man has often internalized his aggressive impulses. This internalization of aggression is a major part of suicide.

Karl Menninger (1938, 1959) composes three main components necessary for suicide. These are: the desire to



die, the desire to be killed, and the desire to kill. He shows how many suicides are actually and originally aggressive attacks on individuals other than the person who commits the suicide. He gives many examples to show how hostility originally directed toward another individual has become directed toward the self. He shows how some people have thrown themselves into boiling lead, have consumed acids, have wrapped themselves around a red hot stove, and have devised many other painful and horrible methods to terminate their lives. Menninger suggested that many accidents in which people are killed are actually suicides; also, that people who become the victims of accidents or murders perhaps set up the situation so that they can be killed because of their inability to take their own lives.

Fenichel (1945) proposed some theories to explain the phenomena of suicide. Fenichel believes tension is produced by the superego because of the ego's inability to live up to the demands of the superego. The tension is unbearable, and the ego feels it is not supported by the superego and can not live.

He suggests that one of the motives of suicide is the attempt to unload an unbearable guilt tension at any cost. For Fenichel, the desire to live means that the ego is being supported and protected by the superego. When the desire to live vanishes, a feeling of annihilation

which is a revival of feelings of infancy is experienced.

Suicide sometimes is a matter of forcing forgiveness from the superego. The ego is punished severely by the aggression it has aroused against the self. This is an attempt to convince the superego that enough punishment has been experienced by the ego so that the superego will not exert any more punishment.

Another cause of suicide, suggested by Fenichel, not involving the ego and superego conflict, is the feeling usually expressed about as follows: "The world will be sorry after I'm dead." Being dead or dying is connected with hopeful fantasies. These fantasies are more satisfying than real life and may precipitate suicide.

When the person's needs are supplied by an external superego, that is, a person outside of himself, now dead, the suicide may be an attempt by one to join his benefactor in death and again receive benefits.

Suicide may be an attempt to gain oceanic feelings by joining a deceased mother who previously provided protection and nurturance and was originally one with the child.

Suicide may also be an attempt to regain self esteem by joining a deceased loved one.

The pain of suffering many losses is often resolved by

suicide. The patient feels that he will suffer no more losses when he is dead.

Robert Lindner (1944), as well as Fenichel, demonstrates that suicide is a result of a person's inability to reduce tension.

Freida Fromm-Reichmann (1959) is in essential agreement with Fenichel, Freud, and Menninger in the causes of suicide, and she has made some elaborations on these theories. She has suggested that in many suicides, the ego looses its boundaries and identifies itself with the ambivalence previously felt toward the mother. When an individual commits suicide, he is killing the object of fear or hatred rather than himself. Dr. Fromm-Reichmann suggests that many suicides emanate from a poor early object relationship. This means that the person can not depend on others. The hope of suicide in these cases, is a relinquishing of a pattern. It is an attempt to resolve the unreliability of people and life by suicide. Suicide ends the unpredictability of life and anxiety. With reference to the aggressive component of suicide, Dr. Fromm-Reichmann illustrates this theory with the example of the patient who is recovering and makes an attempt to kill her doctor rather than repeat her attempt to kill herself.

Edmund Bergler (1946) suggests that suicide is a magic

gesture. He claims that people who commit suicide are actually doing to themselves what they wish others would not do to them. He also says there is an element of masochism which he prefers to call psychic masochism. For him, most suicides embody these two principles.

Harold Greenwald (1958) contributes some clinical evidence to support the psychoanalytic theory that sometimes suicide is an attempt to injure the mother or even the balance between the superego and ego. Greenwald has shown that in suicide attempts by call girls, the purpose often is to produce guilt reactions in the mother because of the injustices experienced by the girls at her mother's hands. Greenwald also states that call girls often have internalized a condemnation of society which produces a feeling of worthlessness.

Harold Rosen (1953) points out how many more neurotic patients are prone to suicide than might be suspected. He reveals how symptoms are frequently protections against suicidal impulses. Using hypnotherapy, he found that if the symptom is removed without removing the guilt, suicide might occur. The symptom can be an intermediary between the ego and the superego. It permits punishment by the superego, but the punishment is modified in the symptom. If the symptom is removed, the modification of the punishment is also removed. This, in turn, creates overwhelming

guilt that can not be tolerated and must be reduced; the reduction can be suicide. The aggressive component is also explained by Rosen. He shows that in hypnosis, if the conscious and unconscious impulses are released without support by the therapist, the aggression can be exerted against the self which can result in suicide. A very interesting suggestion by Rosen is that surgical procedures frequently serve the purpose of punishing. He indicates that often the depressed patient will bring about surgical procedure in an attempt to experience pain, thereby bribing the superego and reducing the attacks of the superego.

## Neo-Freudian

The Neo-Freudians (Blum, 1953) suggest that suicide is caused by the interpersonal reaction of the patient and the environment. They stress much less the reaction of the superego and ego; the major emphasis is on the interpersonal relationship.

Alfred Adler (Adler, 1958, Farberow and Shneidman, 1961) indicates that interpersonal relationships are a major factor in suicide, but he is not opposed to the aggressive ingredient in suicide. He believes that suicide is actually a means of hurting others by hurting oneself. He concludes that there are many predisposing factors in suicide and that suicide is a complex type of behavior. Adler suggests four main factors in suicide:

Pampered Life Style: By pampered life style Adler means that the suicidal patient has been conditioned throughout his life to depend on others for achievement and support and will always try to lean on others. He expects and demands others to fulfill his wishes, and he expects a favorable outcome to all situations and become extremely frustrated when the outcome is not to his planning.

Inferiority Feelings and Self Centered Goals: The suicidal patient's self esteem from childhood is very low, as can be seen from his pattern of unceasing attempts to achieve greater importance. The suicidal patient is an ambitious and vain person. The planning of suicide gives him the feeling of mastery over life and death. This feeling is the supreme expression of the goal of superiority on the useless side of life. The patient's thinking is self-centered.

Degree of Activity: Adler finds that the greatest degree of activity is found in people who engage in antisocial behavior. He states that among neurotics and psychotics, activity is generally low, but there is a difference between the groups, and he suggests that it is lowest in the anxiety neurosis and schizophrenia; it is great among compulsive neurotics and depressives, and it is greatest in suicides.

Veiled Aggression: The suicidal patient believes he is hurting those he professes to dislike when he hurts himself. He dreams about this, administering punishment to himself in the belief that he will thus injure others. Sometimes suicide is combined with open aggression: for example, where suicide is preceded by murder. Suicide can be interpreted as an act of reproach or revenge. In this respect, it is not unlike depression, alcoholism or drug addiction, all of which are forms of veiled attacks on target individuals.

Fromm (1959) states that our society is sick and uses as evidence the number of suicides committed in the world. He also cites the high rate of alcoholism and incidents of psychosomatic illnesses. Fromm believes that every human being potentially possesses the ability to love, but it is a difficult ability to develop, and very few actually are able to experience the real feeling of love. Fromm believes that man has alienated himself and projects power to society, machinery, and other objects with which he is afraid to deal himself. Fromm concludes that the underdeveloped ability to love and the loss of opportunity to love can be important factors in suicide.

Sullivan (Farberow and Shneidman, 1961) is in essential agreement with the other Neo-Freudians in the view of suicide. One of his main contributions is the treatment of suicidal patients, particularly those who are schizophrenic.

Sullivan considers suicide often a means of manipulation. He says that the patient is trying to control the world by using suicide as a threat. Sullivan demonstrates the importance of disarming the patient of this controlling mechanism if he is to be treated.

## Learning Theory

Dollard and Miller (1950) have observed how the reduction of anxiety can be rewarding. They have demonstrated how rats will continue to behave in an apparently unrewarding or senseless way if it reduces their fear or anxiety. We can easily see how this mechanism can be used to explain the suicidal phenomena. The person who is extremely anxious or fearful will try many means to reduce the anxiety. He will first try means that have been rewarding in the past. If these means do not achieve the goal, the anxiety will increase, and the means to attempt to reduce the anxiety will become less and less rational. The ultimate method will be suicide.

Skinner (1953) indicates that suicide is an attempt to remove an individual from an unacceptable situation. He indicates that this is a segmentation of behavior joined to emit the response. He is suggesting that the would-be suicide is trying to escape from an unpleasant situation by using a mechanism that he has never attempted before. He believes that the would-be suicide joins previously-learned

responses to emit a response with which he has had no previous experience.

If we used field theory to explain suicide, it might be stated that in a person's life space, the valence that directs him towards death is stronger than the valence that directs him towards life. He is in an avoidance conflict which he can not resolve, so he chooses to leave the field (suicide). (Hilgard, 1948)

## Miscellaneous Studies

Farberow and Shneidman (1957) did a study using the three main components of suicide suggested by Menninger. They attempted to classify suicide notes by their content into the three groupings established by Menninger. They found the groupings varied with the age of the individual suicides. A desire to die appeared more frequently among older people, while the desire to kill appeared more frequently among younger ones. This is clearly seen by comparing age groups. Between the ages of twenty and thirty-nine years, thirty-one percent of the would-be suicides in the study demonstrated the desire to kill, while of those sixty years and above, only eleven percent demonstrated the desire to kill, as evidenced in their suicidal notes. In the age bracket of twenty to thirty-nine years, twenty-three percent demonstrated the desire

to die, while in the age bracket of sixty years and older, fifty-seven percent demonstrated this factor. The desire to die seems to be a more important factor in older patients than in younger ones. It is this writer's opinion that the desire to die has not been emphasized enough; it will be an important factor in this study.

Spitz (1945) has found that newborn infants often die in hospitals despite more hygenic precautions than are found in foster homes. Spitz regards one of the reasons for this the lack of stimulation; the desire or zest for life is lacking. Spitz believes that the baby dies because of the feeling of not being wanted and because of the lack of love stimulation in the environment.

William Mayer (1958) found that American prisoners of war in Korea frequently gave up. They did not want to live any longer. They, literally, crawled into a corner and died. He believed that, for them, life had no further purpose, and the challenge to live was too burdensome or too overwhelming.

Intelligence seems to be an important factor in suicide. It has been found that children with superior intelligence very rarely commit suicide (Carmichael, 1954). In comparing the number of suicides in gifted children to the normal population, the percentage was incredibly small. Ljungberg (1957) found that people with I. Q.'s of under ninety are

more prone to suicide than people with higher intelligence quotients. Ljungberg (1957) states that more unmarried and divorced people attempt suicide than married people. Farberow (1950), using mental patients as the studied group, stated that the suicidal patient, usually, is single or divorced, and if married, only married a short time and has none or few children. He usually lives in the city, and he is usually in a higher-than-average economic level, is usually of Protestant faith, and if diagnosed by a psychologist or psychiatrist would be considered insane. His efforts to adapt to his environment usually result in failure or poor adjustment. His personality is inhibited by dread, fear, conflict, spite and tension.

Another study (Farberow and Shneidman, 1957) suggested that the suicidal patient is usually an ex-mental patient, and if he commits suicide, he usually does it within ninety days after leaving the hospital. An important suggestion in this study is that almost all the patients threaten suicide some time before committing it.

Farberow (1950), in comparing suicidal patients with non-suicidal patients, found that some of the predominant features of the suicidal patients were hostility, aggression and agitation. Suicidal patients were in poor contact with reality and had little ability to integrate with society. The aggression they experienced was mainly toward the father.

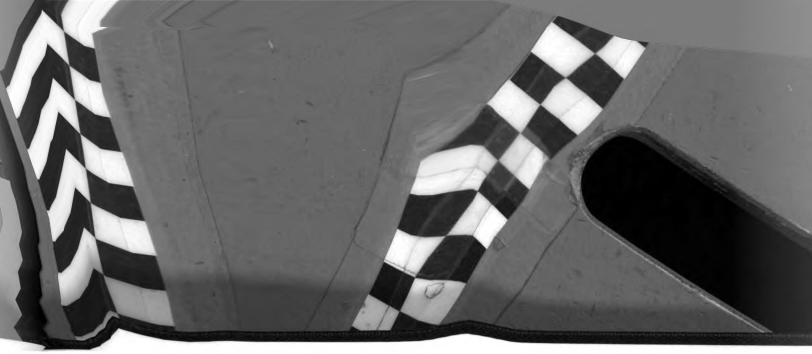
or father figure. They appeared not to be bothered by frustration. They seemed to express much aggression inwardly and a suicidal attempt seemed to have an abreactive effect.

Farberow and Shneidman (1957), (Farberow, 1950) have found that the patient usually feels better after he had made a suicidal attempt, but this feeling is short lived.

A study done with twins showed that in eleven cases of identical twins who had been institutionalized for severe psychopathology, there were no cases in which both twins committed suicide (Jallman, Anstosic, 1947). It was the author's conclusion that suicide is such a complicated phenomenon that it can not be duplicated, even when heredity and pathology are held relatively constant.

Some (Anon., 1947) of the means of committing suicide are firearms, hanging, asphixiation and poison. This accounts for about seventy-five percent of the suicides between 1941 and 1946. Poisoning is decreasing and hanging increasing. Men use guns twice as frequently as women. There are about sixteen thousand suicides in the United States per year (Farberow and Shneidman, 1957).

One study (Farberow and Shneidman, 1961) substantiated Sullivan's view. Three Army psychiatrists selected a group of patients who had threatened suicide or who had actually attempted it, but who showed no evidence of depression or psychotic confusion. These patients were told



that their various demands would not be granted. Furthermore, they were told that no one would prevent them from committing suicide, but such an act, if successful, would be punished by revoking all material benefits to their respective families, and if unsuccessful, would be punished by court martial. This was told to the patients by a psychiatrist without hostility, and none of the patients were hospitalized. In a follow-up study, it was found that there was only one suicide committed among the seventy-five patients.

## Suicide in Schizophrenia

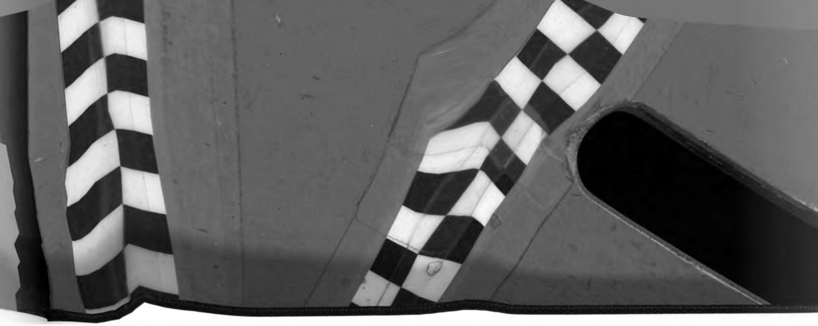
Among the psychiatric diagnostic categories, the category of schizophrenia accounts for more suicides than all the rest put together. The schizophrenic patient accounts for about seventy percent of the total number of suicides (Farberow and Shneidman, 1961). Because of the seriousness of a suicidal threat made by a schizophrenic patient, Farberow and Shneidman did an extensive study using sixty schizophrenic patients in thirty-seven mental hospitals throughout the United States. All sixty subjects were male and caucasian with the diagnosis of schizophrenia. The sub-categories were not considered. Thirty of the patients had actually committed suicide while thirty had not. These patients had been hospitalized during the interval of 1955 to 1958. Their records were examined extensively. The

control group (non-suicidal) was matched as closely as possible on a man-to-man basis in terms of religion, marital status and age.

In this study, Farberow and Shneidman found that there were differences between the suicidal and non-suicidal patients. The suicidal patients were found to be persons who were under stress. Over seventy percent of them were people with a previous suicidal attempt or with suicidal ideations. In stress situations, these people were extremely tense, breathless, and impulsive. They were demanding; made many requests; and constantly suggested that there was nothing being done to relieve their tension. Their demands or requests and their manner of expressing their demands or requests varied. They appeared driven to achieve some kind of relief, even self action, if the tension continued unrelieved. On the other hand, the characteristics found in the non-suicidal patient were: passivity, acceptance, and relative indifference toward hospitalization and toward his environment. More than half of the non-suicidal population accepted hospitalization, not requesting, demanding, or resisting treatment or accommodations. The non-suicidal patient did not appears to be dependent on the hospital nor did he seem to reject or resist it. He did not ask to leave the hospital nor did he leave without permission, nor did he feel a need to stay in the hospital. He often even seemed somewhat indifferent on

being discharged. This patient was frequently quite delusional, hallucinatory, isolated or preoccupied. This type of patient seemed able to make a passive adjustment to his psychopathology. A very distinct characteristic of the non-suicidal patient was his ability to handle stress or disregard it. This does not mean that he handled it in a healthy way, but he was able to develop a mechanism to prevent himself from experiencing a stress painful at a conscious level. He was usually not depressed, nor restless, and did not usually have somatic complaints. He tended to be an older, single man, often alcoholic, whose degree of illness did not seem so severe as in the other schizophrenic patients. He was often able to function outside of the hospital at a marginal level. He was often hospitalized, and this hospitalization was precipitated by unusual situations, or perhaps, occurred after a prolonged alcoholic episode.

Farberow and Shneidman (1961) conclude that there can be some distinctions made among schizophrenic patients as to their suicidal tendencies. Farberow and Shneidman have developed a check list which is included in their book: The Cry for Help. One of the most marked characteristics of the suicidal schizophrenic patient is that he has suggested or made a suicidal attempt in the past. At the Suicidal Prevention Center in Los Angeles, any suggestion of suicide by a patient diagnosed as schizophrenic is considered serious, and



such a suggestion from a patient diagnosed as schizophrenic with a history of suicidal attempt is considered even graver.

According to Farberow and Shneidman, releasing from the hospital a patient diagnosed as schizophrenic who has made a suicidal attempt or gesture is dangerous because the problem of suicidal proclivity probably has not been treated. It is surmised that the patient was given tranquilizers; these tranquilizers mask the symptoms, and the patients do not appear as disturbed as they actually are. It is also understood that the stresses in the hospital are not as severe as those found on the outside. Farberow and Shneidman suggest that each patient who has a suicidal history be evaluated carefully before being released. They prescribe that he be evaluated psychiatrically and at a more dynamic level than is likely in the controlled, tranquil conditions of hospital environment.

## Prediction of Suicide Using Psychological Tests

Work has been done toward producing the perfect pattern in psychological tests so that an accurate prediction of suicide can be made. Hertz (1949) produced ten Rorschach patterns indicative of suicide, and she states that the presence of five or more of these in a single protocol are enough to be reasonably certain of the presence of suicidal trends. In the two different validation studies, she was able to predict

eighty-five percent of the suicidal group and eighty-five percent of the non-suicidal group. The ten patterns are as follows:

1. Neurotic structure. Use of shading and color. Reduced R. Low M. Failure and rejection trends. Low F% behavior indicating insecurity and strain.
2. Deep anxiety. Preoccupation or reaction to shading and/or shading shock.
3. Depressed states. Failure and/or rejection trends. Low M. Slow reaction time. Impaired mental approach. High F. Low M and C. Constriction. Narrow content. Behavior indicating sadness, anxiety and dejection.
4. Constriction. High F%. Low M and C. Overemphasized control. Drs. High P. Low O. Narrow interest. Evasive and non-commital behavior.
5. Active conflict and deep inner struggle. Low C. Color shock, repressed or disguised M. Flexor extensor and frozen M. Midline details. Unbalance of W:M. S. P. failure. Symmetry preoccupations and spatial characteristics.
6. Ideational Symptomolog. Peculiar eccentric thinking. Fixed ideas. Phobias. Obs. Comp. trends. High C-, F-, and C. Shading and/or M-.
7. Agitation. High Dr. Low M, C and P. High S. Perseveration and self-reference. Behavior indication restlessness and agitation.
8. Resignation trends. Behavior indicating listlessness,

indifference and inertia. Flexor M. Low C. No S. Sterile, narrow content.

9. Sudden and/or inappropriate emotion. Sudden, unexpected and spasmodic C.

10. Withdrawal from the world. Lack of feeling tone, long RT. Low FC. High F-. Few H. Spaces used as holes O-. Low P.

Hertz made no attempt to find rationale for her technique, and the patterns are by no means clear. It is speculated that her means of predicting suicide by the Rorschach are predicated by her own past experience, her internalization of norms, and her intuitive skill.

Hertz also can be criticized for defining commonly used psychological terms in her own terms and by the use of symbol patterns. In these ways, she adds to the already tremendous confusion in the field.

Simmons and Hale (1949) tested fifty assorted suicidal patients with the MMPI. They found a consistent rise in the D and PT scales. They attempted to explain this by stating that the D is related to "appropriate effective component of suicide" and the PT "a strong, obsessive compulsive component often clinically observed by a manifestation of impulsive tendencies."

They have now attempted to devise a suicide scale, and if and when they finish it, it may well answer many questions.

# CHAPTER III

## DESIGN OF THE STUDY

### Hypotheses

The hypotheses advanced in this study are:

1. Suicidal patients will choose significantly fewer objects as important than non-suicidal patients.

1A. The Test of Objects will differentiate suicidal patients from non-suicidal patients.

2. There will not be a significant difference in pathology between suicidal and non-suicidal patients.

### Selection of Sample

Two hundred schizophrenic patients were chosen from three institutions. In the suicidal group, twenty-two females were chosen from Ypsilanti State Hospital, Ypsilanti, Michigan, and twenty-eight from Northville State Hospital, Northville, Michigan. In the male sampling, twenty-one were chosen from Ypsilanti State Hospital, twenty-two from Northville State Hospital and seven from Boy's Training School, Whitmore Lake, Michigan. Among the non-suicidal group, fifty females were chosen from Northville State Hospital. In the male group, one was chosen from Ypsilanti State Hospital, forty-two from Northville State Hospital and seven from Boy's Training School.

Beck (1945), after analyzing one case in some detail, states that the test pattern is strongly suggestive of suicide when, in an individual of high intelligence, there is a marked anxiety, strenuous internal conflict, and a compulsive personality, accompanied by a marked preoccupation with personal life experience.

Lindner (1946) sees card four on the Rorschach "as a suicide card." Responses indicating decay, rottenness, or blackness with depression, he says, should be viewed as strong suicidal indicators.

There are many and varied interpretations of psychological tests to indicate suicide. These interpretations seem to be based on individual orientation and the past clinical background of the interpreter. Up to this time, there does not seem to be an adequate psychological test to predict suicide. Farberow's and Shneidman's (1961) procedure using case histories and accumulation of facts about suicidal patients seems to be as good a predictor of suicide as any.

## Summary

In this chapter the literature on suicide is reviewed. First, the psychoanalytic theories of suicide are presented both Freudian and Neo-Freudian. Then, learning theory and various studies, including studies of suicide in schizophrenia are covered. The chapter is concluded with a review of the prediction of suicide by psychological tests.

In both groups, the patients have a diagnosis of schizophrenia. All the patients were suggested by the psychiatrists, social workers, and psychologists of the institutions. A total of one hundred patients had made suicidal attempts; a total of one hundred patients had no history of suicidal attempts.

In this research, it was an extremely difficult task to acquire the male suicidal samples. The research, in fact, was delayed some time because of the difficulty. Often these patients were tested individually, and frequently the examiner had to wait until an attempted male suicide was admitted to the hospital.

Seven of the male suicidal patients were selected from the boys at Boy's Training School, Whitmore Lake, Michigan. There was either factual information of a suicidal attempt in their records, or they had made a suicidal attempt while at Boy's Training School. One of the boys had made five attempts while in the institution over a two-month period before being transferred to a mental hospital.

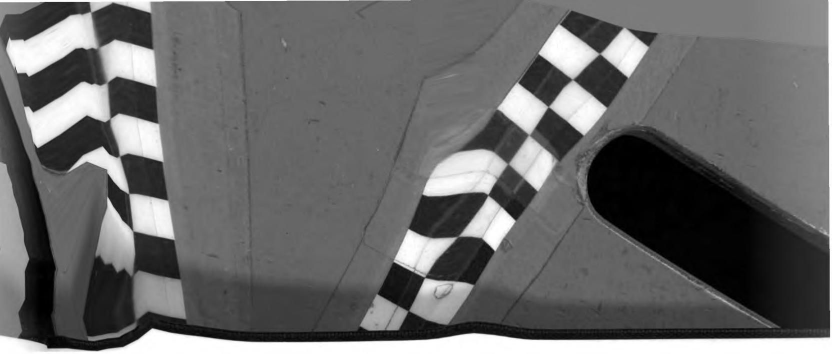
In the non-suicidal group, the fifty females were chosen from Northville State Hospital and were selected from wards that approximated the wards from which the suicidal patients were taken. This was also true for the most part of the patients in the male non-suicidal group. (The seven suicide samples from Boy's Training School were matched by seven non-suicidal patients from the same institution).

## Selection of Tests

The Test of Objects was compiled and devised from the pilot study in which a test of two hundred objects was administered to forty patients, twenty of whom were suicidal with a diagnosis of schizophrenia and twenty of whom were non-suicidal with a diagnosis of schizophrenia.

A statistical analysis was done on the two hundred objects. The objects that had previously differentiated the suicidal from the non-suicidal group at the five percent level were chosen. Also, objects that were thought to have discriminative effects because they appealed to one sex more than another were removed from the list (e.g., cigars, football, baseball, etc.). Objects that it was thought might mislead a subject or cause him confusion were also removed. This kind of confusion was observed in the initial presentation of the test to the patient when many questions were asked about such infinitely abstract items as social prestige, relationship with people, etc. When these items were carefully analyzed, many were deleted, and thirty objects were finally selected.

The Bender-Gestalt was chosen as a test to measure the degree of psychopathology that the patient was experiencing. This test was selected because of its simplicity of procedure in administering, its non-threatening quality, and the accuracy, ease, and clarity with which it can be interpreted. The test is believed by many (Bender, 1938) to be



an accurate assessor of psychopathology. Hutt and Briskin (1960) have shown that the test can discriminate neurotics and psychotics and can point to the degree of psychopathology. This has also been suggested by Pascal and Suttell (1951). Further, the test was chosen because of the author's own clinical experience which has lead him to believe that this test is an excellent instrument for measuring psychopathology.

<u>The Machover Draw-A-Person Test</u> was chosen for many of the same reasons that the Bender-Gestalt test was chosen: ease of administering, the non-threatening quality of the instrument, and its ability to measure psychopathology. Research on the Machover Draw-A-Person Test produces conflicting results, but the implications are that this instrument can differentiate severely disturbed people from undisturbed people, and it has great value in an interpretation of personality (Anastasi, 1952, Machover, 1949, 1963). Further, the Machover Draw-A-Person Test was chosen because of the examiner's belief based upon his clinical experience that it is a valid clinical instrument in assessing personality and in differentiating severely disturbed from less disturbed patients. His clinical impression is a result of his service in a state hospital among psychotic patients and his experience in other institutions where this test was used successfully as a measurement of personality.

## Procedure

The Test of Objects, Bender-Gestalt, and Draw-A-Person tests were administered to the two hundred schizophrenic patients. Most of the tests were group-administered. Usually, they were given in the classroom at the hospital. The patients were presented with the Test of Objects and asked to put a checkmark next to the object indicating its degree of importance. After they had completed the Test of Objects, they were given a small stack of 8½" x 11" white paper and told to draw a picture of a person. Two of the subjects would not draw a picture of a person and were consequently dropped from the study. After the completion of the Draw-A-Person Test, the Bender-Gestalt Test was administered. No one refused to take the Bender-Gestalt Test.

Two females in the suicidal group and two in the non-suicidal group were so disturbed (catatonic) that they could not respond to the stimulus. One non-suicidal patient was mentally retarded to the extent that she could not respond to the tests. One of the female patients in the non-suicidal group was so paranoid that she could not cooperate in the testing situation. In the suicidal group, two of the females showed gross signs of organicity on the Bender-Gestalt, and upon checking their records, it was discovered that they had experienced brain injury. These eight subjects were dropped from the sample groups being tested.

## Analysis of Data

Hypothesis One:

To test hypothesis one, the objects chosen as both very important and important by both the suicidal and non-suicidal patients will be grouped into one classification. The objects thus chosen by the male suicidal and male non-suicidal groups will be compared; then the objects thus chosen by the female suicidal group and female non-suicidal group will be compared. After this is completed, the objects thus chosen by the suicidal group will be put into one classification and the objects thus chosen by the suicidal group into another, and then they will be compared.

The statistics used for this comparison will be the normal test for means (McNemar, 1949). The minimum level of acceptance of the hypothesis will be the five percent level.

Hypothesis One A:

To determine whether the hypothesis that the Test of Objects differentiates suicidal from non-suicidal patients, the number of objects chosen as important by suicidal patients will be compared with the number of items chosen as important by non-suicidal patients. The comparison used will be calculated from the normal test for means. The minimum level of acceptance will be the .05 level.

Hypothesis Two:

Hypothesis two will be tested by using the Bender-Gestalt and Draw-A-Person Tests. These two tests will be rated by two clinical psychologists who have had a minimum of five years of working experience with these instruments and with patients diagnosed as schizophrenic. They will rate the tests on a one to five basis as follows:

1. A person mildly disturbed.
2. A person moderately disturbed.
3. A person severely disturbed.
4. A person quite severely disturbed.
5. A person very severely disturbed.

Before the two psychologists judge the tests, they will be given some sample tests on which to practice so that they are well aware of the common criteria in making judgments and so that they can agree on a fixed definition and common evaluation for the terms mild, moderate, severe, quite severe, and very severe. Following this, a test of reliability of the two examiners will be done using The Reliability Coefficient. The minimal level of acceptance will be .70 (Super, 1957). After this is completed, the scores on the Bender-Gestalt and Draw-A-Person Tests of the male suicidal patients will be compared with the scores of the male non-suicidal patients to determine the degree of

psychopathology. The statistics used will be the T Test Statistic using the normal curve in a two-tailed test. The scores of the female suicidals and non-suicidals will be compared also. Then the sample groups will be combined; that is, the combined average scores of the female and male suicidal patients will be compared with the combined average scores of the female and male non-suicidals. The statistic again will be the T Test using normal curve in a two-tailed test.

## Summary

In this chapter the design of the study is presented. The hypotheses are presented along with the means for testing these hypotheses.

## CHAPTER IV

## ANALYSIS OF DATA

### Procedure

Each of two hundred patients diagnosed as schizophrenic was asked to complete the Test of Objects, to do the Draw-A-Person Test, and to take the Bender-Gestalt Test. Usually the patients were tested in groups of five to ten, depending on the number of patients available in a particular ward. At times it was necessary to test some patients individually, especially male suicidal patients who were notably scarce. It appears that males are more successful in their suicide attempts than females (Farberow and Shneidman, 1961), or that there are fewer suicide attempts among male schizophrenics.

Two clinical psychologists, each of whom had a minimum of five years working experience with schizophrenics and with diagnostic instruments, were asked to rate the two hundred Bender-Gestalt and Draw-A-Person Tests. They were instructed to rate the tests on a one to five basis (See Chapter III). The two clinical psychologists worked in separate institutions. Examiner B scored the tests

independently of Examiner A. After scoring five sample tests, Examiner B gave the scored tests to Examiner A, the purpose being to establish common understanding and agreement and fixed standards as to what the examiners would consider mild, moderate, severe, quite severe and very severe forms of schizophrenia. There was no verbal communication between the examiners, nor did either examiner have access to any information other than that which has already been mentioned.

## Population

The subjects tested were two hundred patients diagnosed as schizophrenic, one hundred male and one hundred female. Half of each sex group were potentially suicidal and half were non-suicidal. The population was taken from Northville State Hospital, Northville, Michigan; Ypsilanti State Hospital, Ypsilanti, Michigan; and Boy's Training School, Whitmore Lake, Michigan. The samples were selected by the professional staff at the respective institutions. In order to rule out sex as a factor in suicide, the patients were grouped three different ways for statistical analysis:

1. Suicidal versus non-suicidal (TABLE 1.).
2. Male suicidal versus male non-suicidal (TABLE 2).
3. Female suicidal versus female non-suicidal (TABLE 3).

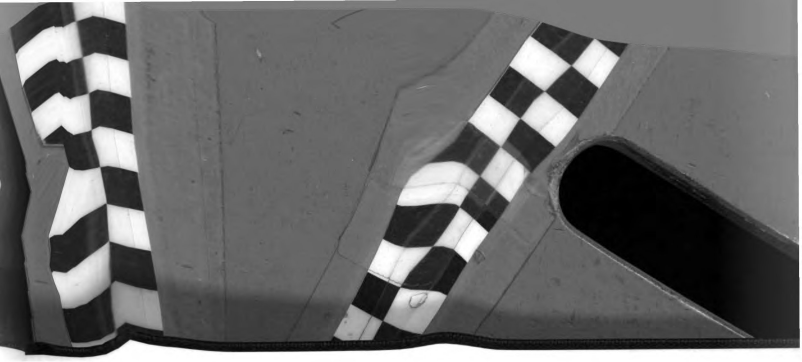


TABLE 1.--Composition of total sample grouped as suicidal and non-suicidal

| | Suicidal | Non-suicidal |
|---|---|---|
| Mean Age (years) | 32.10 | 35.50 |
| Mean Educational (grade) Level | 10.50 | 10.00 |
| Number in Group | 100.00 | 100.00 |

Table 1 includes the total population studied. It does not include the several cases that were removed from the study because of organic brain syndrome and mental deficiency.

TABLE 2.--Composition of male sample grouped as suicidal and non-suicidal

| | Suicidal | Non-suicidal |
|---|---|---|
| Mean Age (years) | 30.80 | 33.23 |
| Mean Educational (grade) Level | 10.14 | 10.00 |
| Number in Group | 50.00 | 50.00 |

The male suicidal group is slightly younger in average age than the total suicidal group or the female suicidal group. The mean age of the suicidal male group is also lower than the mean age of the non-suicidal male group.

This male suicidal group was the most difficult to find. As a possible reason for this, it is suggested that when males attempt suicide, they are usually successful. It has been found that males use more violent means of trying to kill themselves than do females, thereby significantly increasing the likelihood of successful suicides (Anon., 1947).

TABLE 3.--Composition of Female sample grouped as suicidal and non-suicidal

| | Suicidal | Non-suicidal |
|---|---|---|
| Mean Age (years) | 34.20 | 38.18 |
| Mean Educational (grade) Level | 10.36 | 10.33 |
| Number in Group | 50.00 | 50.00 |

It was not difficult to obtain female suicidal patients. Many of their suicidal attempts are unsuccessful because they tend to be milder than male attempts and are often unsuccessful because of medical intervention. Overdoses of sleeping pills are frequently female suicide attempts very often thwarted by medical intervention.

## Results

### Null Hypothesis 1

Suicidal and non-suicidal patients will choose an

equal number of objects as important.

Alternate Hypothesis 1

Suicidal patients will choose significantly fewer objects as important than non-suicidal patients.

Null Hypothesis 1A

The Test of Objects will not differentiate suicidal from non-suicidal patients.

Alternate Hypothesis 1A

The objects will differentiate suicidal patients from non-suicidal patients.

Findings

Using the normal test of means, Null Hypothesis 1 was rejected at the 1% level, and the Alternate Hypothesis 1 was accepted. These hypotheses refer to the total population and a comparison between the sexes.

Null Hypothesis 1A was rejected, and Alternate Hypothesis 1A was accepted for all three groups at the 1% level of significance using the normal test for the differences between means. There was very little difference between the three groups. The highest level of significance was between the female suicidal and female non-suicidal. The lowest level of significance was between the male suicidal and male non-suicidal. The variance was low for all of the groups.

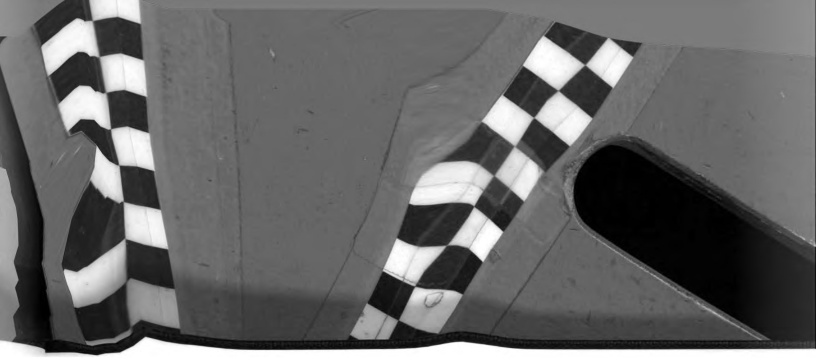


TABLE 4.--A comparison of number of objects chosen as important and a comparison of the scores on the Test of Objects between suicidal and non-suicidal patients using the normal tests for means

| | Suicidal | Non-suicidal | Suicidal (Male) | Non-suicidal (Male) |
|---|---|---|---|---|
| Mean No. of Items Chosen | 17.17 | 23.79 | 17.9 | 24.2 |
| Variance | 1.80 | .41 | 1.44 | .74 |

| | Suicidal (Female) | Non-suicidal (Female) |
|---|---|---|
| Mean No. of Items Chosen | 16.2 | 23.4 |
| Variance | 1.22 | .90 |

| | Suicidal vs. Non-suicidal | Male Suicidal vs. Male Non-suicidal | Female Suicidal vs. Female Non-suicidal |
|---|---|---|---|
| T Scores | 4.5* | 4.1* | 4.9* |

*Significant at the 1% level.

## Results

**Null Hypothesis 2**

There will not be a significant difference in pathology between suicidal and non-suicidal patients.

**Alternate Hypothesis 2**

There will be a significant difference in pathology between suicidal and non-suicidal patients.

Findings

To determine the reliability between the examiners, the reliable coefficient was done. The reliability between the two examiners was considerably above the level of acceptance required by the study. The minimum level of acceptance is .70. This level was surpassed on both the Draw-A-Person Test and the Bender-Gestalt Test (TABLE 5).

TABLE 5.--Comparison of reliability of raters on Bender-Gestalt using the reliability coefficient (Guilford, 1954)

| | Sum of Squares | Degrees of Freedom | Variance |
|---|---|---|---|
| Raters | 5 | 1 | |
| Persons | 354 | 199 | 2.28 |
| Remainder (error) | 9 | 200 | 1.45 |
| Total | 368 | 400 | |

r=97

In their earlier training, the examiners had different introductions to the Draw-A-Person Test. They were exposed to the same supervisor, however, when this test was used in the evaluation of schizophrenia.

TABLE 6.--Comparison of reliability of raters on Draw-A-Person Test using the reliability coefficient (Guilford, 1954)

| | Sum of Squares | Degrees of Freedom | Variance |
|---|---|---|---|
| Raters | 13 | 1 | |
| Persons | 271 | 199 | 1.36 |
| Remainder (error) | 39 | 200 | .14 |
| Total | 323 | 400 | |

r=89

Null Hypothesis 2

Utilizing the two-tailed test, the hypothesis that there will not be a significant difference in psychopathology between the suicidal schizophrenic and non-suicidal schizophrenic patients was accepted. The difference between the psychopathology of the suicidal and non-suicidal patients, as a group, is non-significant on both tests. This was true of the male suicidal and non-suicidal as well as the female suicidal and non-suicidal groups.

TABLE 7.--A comparative rating of degrees of severity of illness by the two examiners using the Bender-Gestalt Test

| | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal |
|---|---|---|---|---|---|---|---|---|---|---|
| A | | | 4 | 4 | 41 | 37 | 29 | 22 | 21 | 23 |
| B | | 1 | 15 | 12 | 45 | 33 | 27 | 47 | 13 | 7 |

TABLE 8.--A comparative rating degrees of severity of illness by the two examiners using the Draw-A-Person Test

| | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal | Non-Sui-cidal | Sui-cidal |
|---|---|---|---|---|---|---|---|---|---|---|
| A | | | 1 | 2 | 23 | 23 | 42 | 41 | 34 | 34 |
| B | 2 | 1 | 7 | 10 | 28 | 30 | 48 | 44 | 25 | 15 |

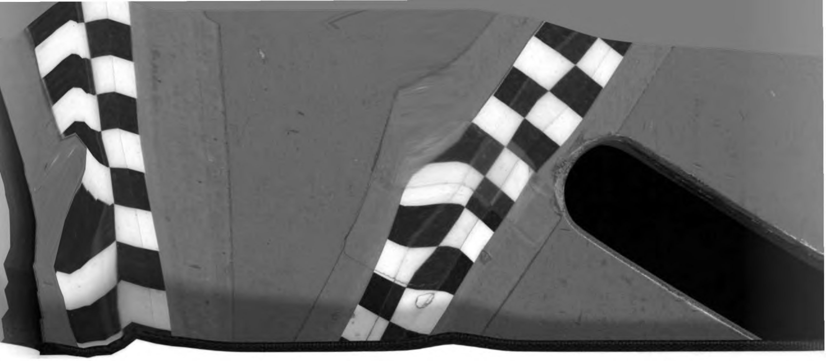


TABLE 9.--Comparison of degree of psychopathology between suicidal and non-suicidal subjects using the Bender-Gestalt and Draw-A-Person Tests

| | Rater A Suicidal | Rater B Suicidal | Rater A Non-suicidal | Rater B Non-suicidal |
|---|---|---|---|---|
| Mean Bender-Gestalt Rating | 3.64 | 3.47 | 3.77 | 3.38 |
| Mean Draw-A-Person Rating | 4.05 | 3.64 | 4.09 | 3.77 |

| | Suicidal vs. Non-suicidal | Male Suicidal vs. Male Non-suicidal | Female Suicidal vs. Female Non-suicidal |
|---|---|---|---|
| T Score Rater A Bender-Gestalt | 1.13 | 1.6 | .6 |
| T Score Rater A Draw-A-Person | .64 | 1.3 | 0. |
| T Score Rater B Bender Gestalt | .28 | .55 | 1.6 |
| T Score Rater B Draw-A-Person | .61 | .21 | .005 |

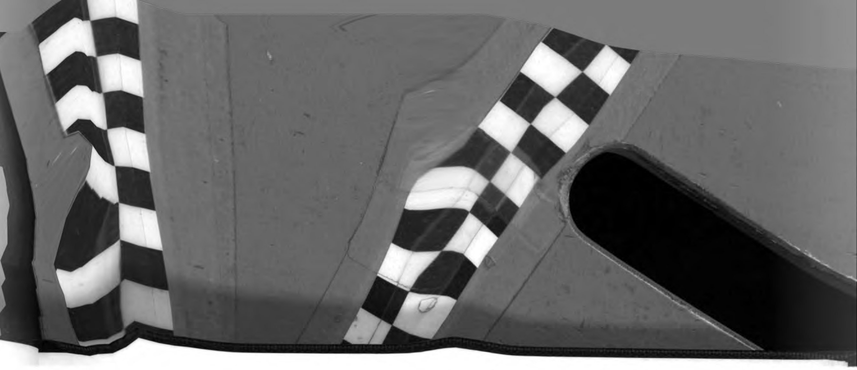
# CHAPTER V

# DISCUSSION

## Hypothesis 1

A statistical comparison of the objects chosen by the suicidal and non-suicidal patients in the test of objects reveals that patients who are suicidal chose significantly fewer objects as important than the non-suicidal patients.

Many possible reasons were not explored in this research as to why patients attempted suicide; but the results of the Test of Objects implies a very plausible cause. One significant difference between the suicidal and non-suicidal groups was the difference in the number of objects chosen by each group on the writer's Test of Objects. Speculation must be allowed as to the reason for this difference. Support is given to the theory that as people regard fewer objects as important, their desire to live diminishes. There appears to be a need for objects in order to sustain the desire for life. Further evidence for this is seen by the number of patients (29) in the non-suicidal group who chose all the objects as important compared with the number



in the suicidal group (5) who chose all the objects as important. Often from the suicidal patients, we hear the statement, "I have nothing to live for." This research suggests that this kind of remark may have significant meaning in the motivation of suicide.

The underlying theory in the development of Hypothesis 1 evolves from psychoanalytic theory, which states that suicidal patients withdraw their libido from objects outside themselves, tending to direct such energies internally (Fenichel, 1945). This theory is further expanded by the author because of his experience with suicidal patients who state that they would die if it were not for certain objects they feel are important. The author's theory is that one will continue to have the desire to live as long as there are rewards available to him. If these rewards are taken away, either by external or internal factors, the desire to live is reduced. When there are no rewards or objects available, then one wishes to die. If other dynamics such as internalized aggression are present, he may make a suicidal attempt.

From Hypothesis 1, it can be concluded that suicidal patients who are diagnosed as schizophrenic find fewer objects of value than those schizophrenic patients who are non-suicidal. This statement is valid only in reference to schizophrenic suicidals, and the inference should

not include types of suicidal patients other than schizophrenic.

## Hypothesis 1A

Hypothesis 1A: The Test of Objects will differentiate suicidal patients from non-suicidal patients. This hypothesis was accepted at the 1% level. The test that the writer developed is able to differentiate suicidal from non-suicidal patients as a group. Some of the suicidal patients attached importance to all of the objects as did many of the non-suicidal patients. Thus, variations in scores indicate that some suicidal patients will not be detected using the Test of Objects. Moreover, in discussing the protocols with the patients after they had taken the test, it was found that perseveration was a factor in some of the results. In some cases, the first response on the test was inadvertently repeated throughout, and in other cases, there was evidence of a tendency to avoid attending faithfully to the test. When the examiner questioned some subjects about this, they were unable to communicate clearly their explanation because of their psychopathology.

The examiner checked each participant in the non-suicidal group to make sure there was no history of suicide in his record. On occasion, when a patient checked

all or a high percentage of objects as unimportant, the examiner questioned him to determine if he had any history of suicide. Two of the patients who, on close investigation, indicated a history of suicide were removed from the non-suicidal group and were placed in the suicidal group. Four of the patients in the non-suicidal group had chronic wishes to die, but never had made a suicidal attempt. The rest of the patients who chose many objects as unimportant have no history of suicide nor suicidal thoughts. This provides some evidence that the Test of Objects with some revision may be useful as a screening device to help discriminate between suicidal and non-suicidal patients who are diagnosed as schizophrenic. Far more extensive research, however, is necessary before this test can be considered adequate as a screening device in general suicide. The wide variation of responses indicates that many suicidal patients would not be detected by the test as it is now composed.

## Hypothesis 2

The hypothesis that there will not be a significant difference in the psychopathology between suicidal and non-suicidal patients was confirmed. Earlier research (Farberow, 1950) has suggested that the suicidal patient is a more severely ill patient than the non-suicidal. It

is the examiner's belief that this is not accurate. This is concluded from observations of suicidal and non-suicidal patients. It may be that suicide is the method by which some patients choose to deal with their conflicts. The suicidal patient is often considered sicker because he suggested or attempted suicide, being possibly self destructive, and is a severe threat to the hospital staff and to the environment.

Suicidal behavior is considered by many the sickest means of adjustment. When the degree of psychopathology in suicidal and non-suicidal patients is measured by projective tests, the differences in psychopathology is not significant. Certainly, this does not mean there is no difference in the psychopathology of the suicidal and non-suicidal populations; this does, however, mean that the relatively sensitive tests can not discriminate a difference in psychopathology, and therefore, such differences as may exist can not be, in this study, considered very significant. The fact that two examiners, who have years of experience in testing, show such a high degree of agreement in their judgments, lends credence to the suggestion that there is not a significant difference in psychopathology of suicidal and non-suicidal patients. This hypothesis applies to the total population, and it can not be interpreted on an individual basis.

The highest reliability was on the Bender-Gestalt Test. It may be important to note that both examiners had their first introduction to this test by the same supervisor. This introduction occurred over five years ago but may be an important variable in the high degree of agreement. In their earlier training, the examiners had different introductions to the Draw-A-Person Test. They were exposed to the same supervisor, however, when this test was used in evaluation of schizophrenia.

Some of the patients in the suicidal group were so disturbed that they would not know that they were injuring themselves. Their behavior was on an infantile level, and their capacity to differentiate their own thinking from reality was extremely impaired. These patients were judged suicidal because of injurious acts which they had inflicted upon themselves. The writer wonders, however, whether they can be judged suicidal any more than an infant could who injures himself because of poor reality testing. In the non-suicidal group, some of the patients were so severely disturbed that they would not have enough motivation or energy to inflict bodily harm.

It is believed by the writer that suicide is an attempt at adjustment motivated by internal turmoil that

is relatively independent of the degree of psychopathology of the patient. This statement can apply only to schizophrenic patients and can not be generalized to apply to other types of mental patients.

## CHAPTER VI

## SUMMARY AND CONCLUSION

### The Problem

The purpose of this study was to investigate some of the dynamics of schizophrenic patients who have made suicidal attempts and to compare these dynamics with patients who have not made suicidal attempts. An effort was made to develop a test that would aid significantly in screening schizophrenic patients who might be suicidal risks. The problem of suicide is a serious social problem and appears to be on the increase. There is a need for a method of recognizing the suicidal patient; such a method can mean saving the lives of many people.

There are two main hypotheses and a sub-hypothesis advanced:

1. Suicidal patients will choose significantly fewer objects as important than non-suicidal patients.

1A. The Test of Objects will differentiate suicidal patients from non-suicidal patients.

2. There will not be a significant difference in pathology between suicidal and non-suicidal patients.

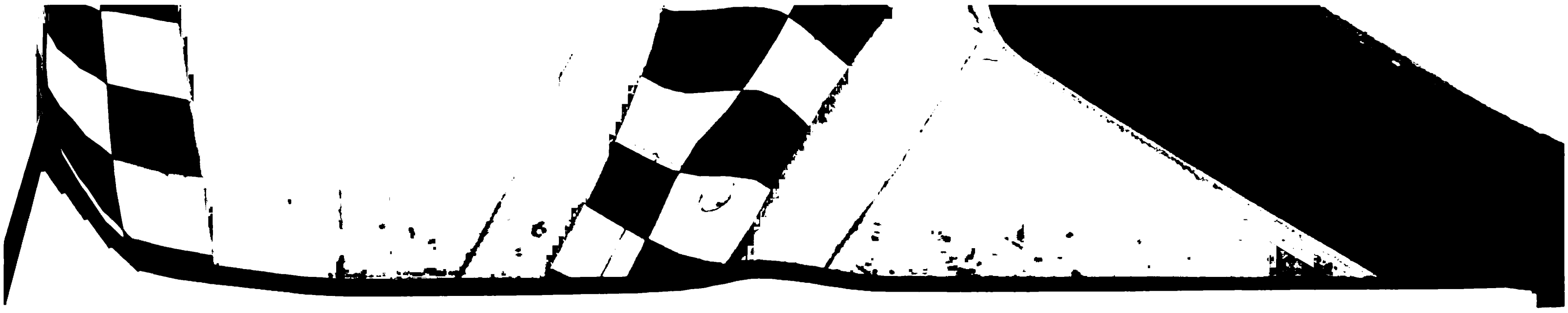
## <u>Methodology and Procedure</u>

A pilot study was done from which the Test of Objects was developed with a list of objects named as important by psychology students at Michigan State University. From this list, two hundred items were selected, and they were developed into the Test of Objects. This test was explained to schizophrenic patients. The patients were directed to determine each object's relative degree of importance, as: important, very important, unimportant, and very unimportant by placing a check mark under appropriate headings and beside each object listed on a simple tally sheet.

Forty schizophrenic patients were tested at Northville State Hospital--twenty suicidal and twenty non-suicidal. The suicidal patients were those who, according to the staff and hospital records, had made serious attempts on their lives. Non-suicidal patients were those who had no history of suicide. Twenty were male and twenty were female. The hypothesis of the study was that suicidal patients would choose significantly fewer objects as important. The pilot study substantiated the hypothesis at the 1% level of significance, using the Binomial Test of Proportions.

The test of two hundred objects was analyzed, and thirty of them were found to be significant at the 5% level using Chi Square. The revised Test of Objects was then developed using thirty items and the major research was organized.

Two hundred patients from three institutions were used in the study. One hundred of them (fifty male and fifty female) were in the suicidal group. One hundred of them (fifty male and fifty female) were in the non-suicidal group. All of the two hundred patients had been diagnosed as schizophrenic by the staffs of the institutions. The original hypothesis of the pilot study was retained, and one major and one minor hypothesis added. Recent research (Farberow, 1950) proposed that suicidal patients are more seriously ill than non-suicidal patients. It was the author's belief that this was not the case. For this reason, another hypothesis was evolved which stated that there was not a significant difference in psychopathology between the two groups. The instruments used to measure psychopathology were the Bender-Gestalt and the Draw-A-Person Tests. These tests were used because of the ease of administration and interpretation. Two examiners, one male and one female, who had at least five years of work experience with these instruments in uncovering the dynamics of schizophrenic patients, were employed to rate the degree of psychopathology. They were required to rate the protocols on a one to five range, one being Mildly disturbed and five being Very Severely disturbed.



## Findings

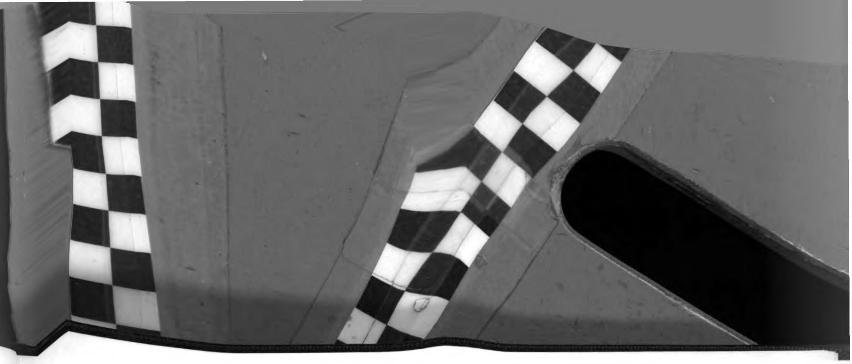
The hypotheses advanced were confirmed: Hypothesis 1: Suicidal patients would choose significantly fewer objects as important than non-suicidal patients was confirmed at the 1% level of significance, using the normal test for means proportions. Hypothesis 1A: The Test of Objects will differentiate suicidal patients from non-suicidal patients was confirmed at the 1% level of significance, using the normal test of means. Hypothesis 2: There will be no significant difference in psychopathology between suicidal and non-suicidal patients was confirmed, using the T Test Statistic, two-tailed test. The degree of reliability between Examiner A and Examiner B was .97 on the Bender-Gestalt and .89 on the Draw-A-Person Test. These results suggest strongly that the examiners who were rating the test agreed on standard measurements for mild, moderate, severe, quite severe, and very severe forms of schizophrenia.

## Conclusions and Implications

The outcome of this research certainly suggests that one of the main causes of suicidal behavior is the inability of the patient to find objects that are of value to him in the environment. This can be considered only a general statement concerning schizophrenic suicidal patients as a group;

specific implications regarding individual patients must be viewed with extreme caution. The view that the schizophrenic suicidal patient is sicker than the schizophrenic non-suicidal patient does not stand the test of this research. The more accurate implication is that the suicidal patient has a different method of solving his conflict.. He is a severely hazardous threat but not necessarily sicker from the standpoint of psychopathology. Research that was presented after this study was begun also suggests that the suicidal patient is more dissatisfied with his treatment and is less a conformist than the schizophrenic patient who is non-suicidal (Farberow and Shneidman, 1961).

The Test of Objects does have some value in differentiating suicidal from non-suicidal patients as a group. Its only implication is in reference to patients,as a group, who are diagnosed as schizophrenic, but since 70% of the patients who commit suicide are in this diagnostic category, it could be, after further validation, a valuable tool in ascertaining potential suicidal patients (Farberow and Shneidman, 1961). The Test of Objects may indicate clues to suicidal tendencies and might be used as a quick screening device in the admission wards of hospitals. As the test is now composed, it is valid only in large group testing. Further investigation and revision must be made before it can apply validly and accurately to individuals. This



research suggests that the instrument has no face validity; therefore, it would be unlikely for the patient to be suspicious about what the test measures.

When many unimportant objects are checked by a patient, the suspicion of suicidal potential should be raised. A deep clinical interview and perhaps projective tests would give a more definitive answer to the question of suicide tendencies.

Another implication that this study suggests has reference to the treatment of suicidal patients. It may be very important for the therapist to reward the patient so that the patient has something pleasant to which to look forward. Theoretically, it is possible that if the therapist arranges, for example, the opportunity for a suicidal patient interested in baseball to attend a baseball game, the suicide might be averted. The literature indicates that suicide can be averted by a phone call, an invitation to a dance, or other experiences that gives the patient pleasant anticipation (Farberow and Shneidman, 1961).

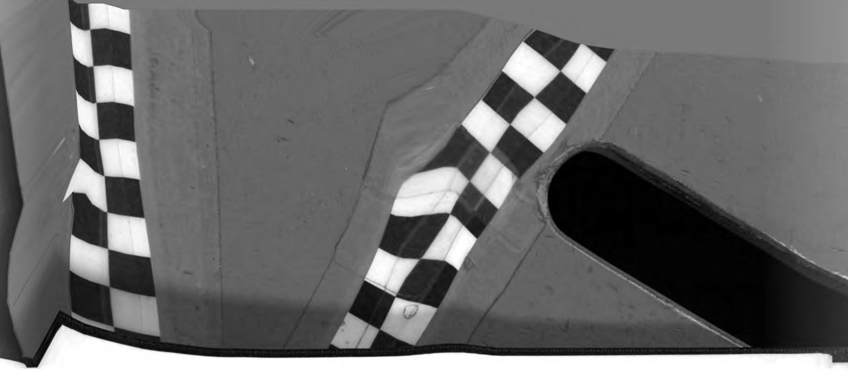
The sickness of society can not be excluded as a factor that influences suicide (Fromm, 1959). When the patient has no employment and can see no chances for employment, his motivation for living is reduced.

Another therapeutic suggestion regarding suicidal patients is that the therapist should be keenly aware of

the things that the patient considers important. It is important for him not to project his own values onto the patient but to acquire from the patient the knowledge of things that the patient considers important. It is as important as anything else in the treatment of the suicidal patient to make sure that attention is given to what the patient values. If, for any reason, the patient is disappointed, and the rapport is diminished, the chances of effective treatment are reduced significantly.

## Implications for Further Research

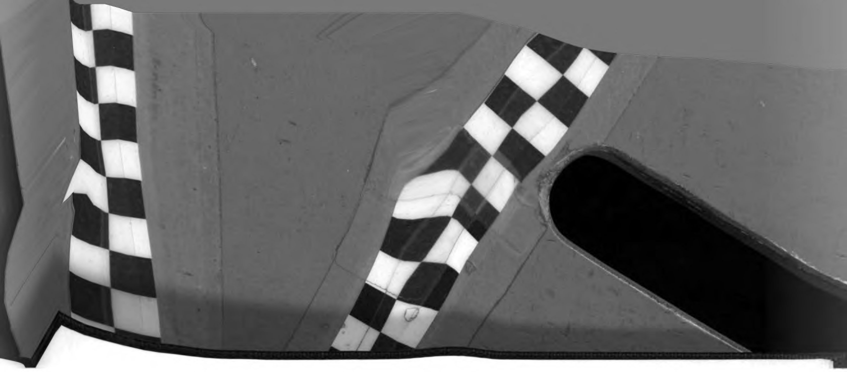
As a means of attempting to validate further the Test of Objects, it is suggested that a researcher administer it to a group of schizophrenic patients evenly grouped; for example, one hundred schizophrenic patients, twenty-five males and twenty-five females in the suicidal group, and twenty-five males and twenty-five females in the non-suicidal group. An important variable not used in this study might be that the scorer would not have access to the knowledge of which patients are suicidal and which patients are non-suicidal. He could group the ones he considered suicidal and group the ones considered non-suicidal. He could then run a statistical analysis to determine how accurate his choices are. Another important suggestion is that the Test of Objects be given to patients



who are not diagnosed as schizophrenic but who have a history of suicide and compare the results of their choices of items to the results acquired by testing a controlled group of people from the normal population.

A refinement of the Test of Objects might be an important contribution. This might be achieved by asking patients diagnosed as schizophrenic to list the ten most important things in life. After analysis of these ten important things is complete, a new test of objects could be compiled. A comparison between suicidal and non-suicidal patients should then be completed.

Anyone who is interested in determining whether the Bender-Gestalt and Draw-A-Person Tests can differentiate suicidal from non-suicidal patients could easily analyze these tests to see if there are any common factors that differentiate the two groups. If a common factor is found, it would be valuable to accompany the Test of Objects as an aid in differentiating suicidal from non-suicidal patients.



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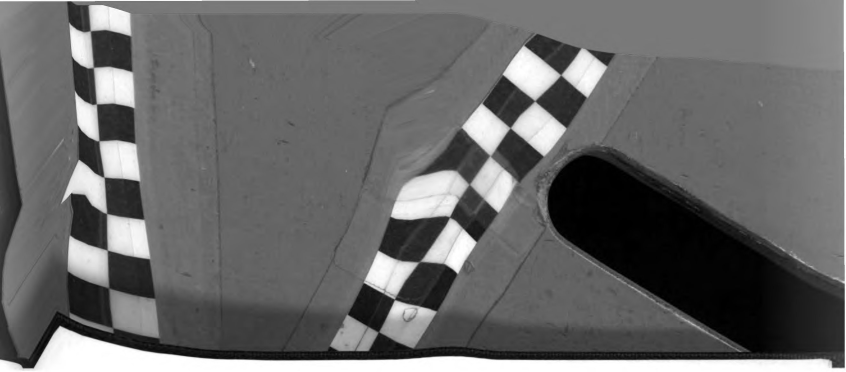

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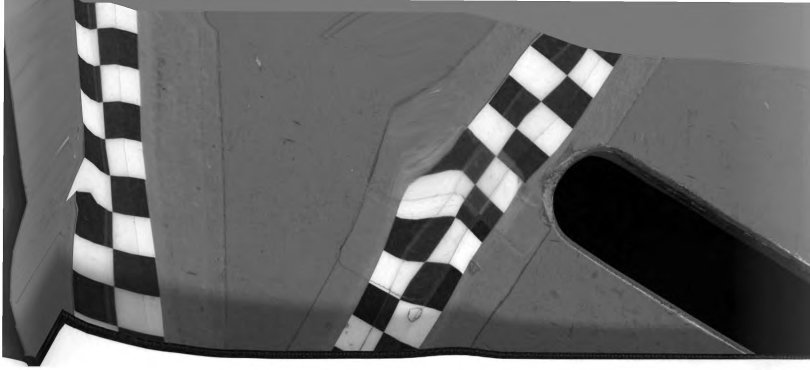

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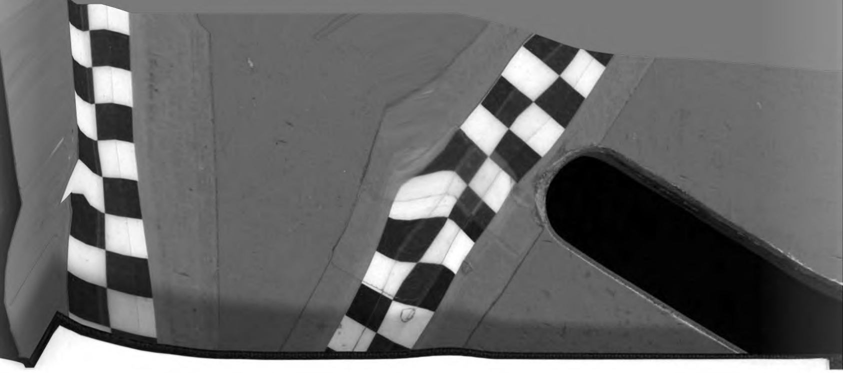
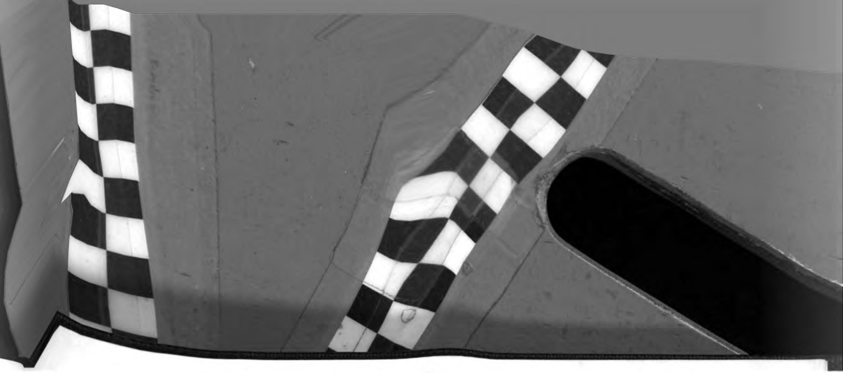


# APPENDIX A

## Test of Objects



# DIRECTIONS

Please check the following items as to how important they are to you:

| ITEM | VERY IMPORTANT | IMPORTANT | VERY UNIMPORTANT | UNIMPORTANT |
|---|---|---|---|---|
| 1. Soft drinks | | | | |
| 2. Television | | | | |
| 3. Doughnuts | | | | |
| 4. Peaches | | | | |
| 5. Spareribs | | | | |
| 6. Pie | | | | |
| 7. Chocolate cake | | | | |
| 8. Self | | | | |
| 9. Summer cottage | | | | |
| 10. Water | | | | |
| 11. Time | | | | |
| 12. Swimming | | | | |
| 13. Laughter | | | | |
| 14. Hobby | | | | |
| 15. Being active | | | | |
| 16. Christmas | | | | |
| 17. July 4th | | | | |
| 18. Warm Summer Evenings | | | | |
| 19. Entertainment | | | | |
| 20. Hamburgers | | | | |
| 21. Ice Cream | | | | |
| 22. Fish | | | | |
| 23. Dancing | | | | |
| 24. Traveling | | | | |
| 25. Playing | | | | |
| 26. Long life | | | | |
| 27. Milk | | | | |
| 28. Potatoes | | | | |
| 29. Nature | | | | |
| 30. Hot dogs | | | | |

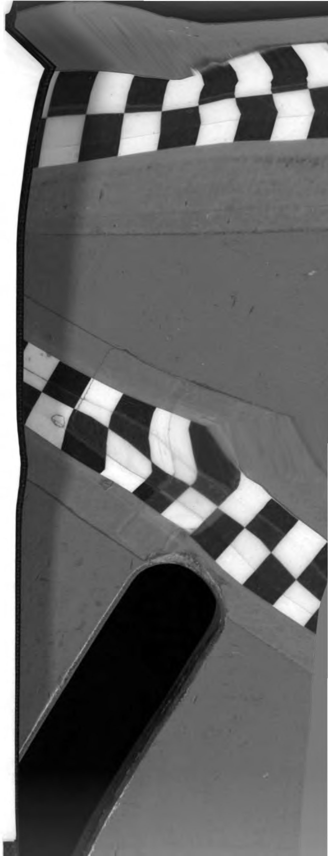
# APPENDIX B

Data Records

- Male Suicidals
- Female Suicidals
- Total Suicidals
- Male Non-Suicidals
- Female Non-Suicidals
- Total Non-Suicidals

## MALE SUICIDAL

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE A | BENDER SCORE B | DAP SCORE A | DAP SCORE B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 20 | 10 | 1 | 11 | 12 | 18 | 1 | 17 | 2 | 2 | 3 | 3 |
| 52 | 14 | 3 | 2 | 18 | 20 | 10 | 0 | 10 | 4 | 4 | 5 | 4 |
| 53 | 31 | 11 | 0 | 16 | 16 | 14 | 2 | 12 | 3 | 3 | 5 | 4 |
| 54 | 61 | 7 | 6 | 7 | 13 | 17 | 3 | 14 | 5 | 4 | 5 | 4 |
| 55 | 34 | 12 | 12 | 17 | 29 | 1 | 0 | 1 | 5 | 4 | 4 | 4 |
| 56 | 18 | 10 | 12 | 13 | 25 | 5 | 0 | 5 | 3 | 3 | 4 | 3 |
| 57 | 35 | 8 | 0 | 30 | 30 | 0 | 0 | 0 | 3 | 4 | 5 | 5 |
| 58 | 23 | 11 | 7 | 11 | 18 | 12 | 6 | 6 | 4 | 4 | 5 | 5 |
| 59 | 23 | 9 | 6 | 9 | 15 | 15 | 7 | 8 | 5 | 3 | 4 | 3 |
| 60 | 23 | 8 | 0 | 7 | 7 | 23 | 0 | 23 | 3 | 3 | 3 | 3 |
| 61 | 30 | 12 | 20 | 7 | 27 | 3 | 1 | 2 | 4 | 4 | 5 | 3 |
| 62 | 28 | 12 | 16 | 11 | 27 | 3 | 2 | 1 | 3 | 3 | 3 | 3 |
| 63 | 25 | 8 | 0 | 3 | 3 | 27 | 0 | 27 | 3 | 3 | 3 | 3 |
| 64 | 30 | 10 | 29 | 1 | 30 | 0 | 0 | 0 | 3 | 3 | 4 | 3 |
| 65 | 31 | 10 | 0 | 23 | 23 | 7 | 0 | 7 | 5 | 5 | 5 | 4 |
| 66 | 34 | 10 | 0 | 4 | 4 | 26 | 0 | 26 | 3 | 3 | 3 | 4 |



MALE SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE |  | DAP SCORE |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | A | B | A | B |
| 67 | 25 | 11 | 7 | 6 | 13 | 17 | 1 | 16 | 3 | 3 | 5 | 5 |
| 68 | 30 | 10 | 2 | 22 | 24 | 6 | 2 | 4 | 3 | 3 | 3 | 3 |
| 69 | 42 | 5 | 7 | 0 | 7 | 23 | 23 | 0 | 4 | 4 | 4 | 5 |
| 70 | 29 | 7 | 10 | 10 | 20 | 10 | 9 | 1 | 3 | 4 | 3 | 3 |
| 71 | 21 | 11 | 13 | 10 | 23 | 7 | 5 | 2 | 4 | 4 | 4 | 4 |
| 72 | 19 | 8 | 3 | 5 | 8 | 22 | 7 | 15 | 3 | 4 | 4 | 4 |
| 73 | 55 | 10 | 30 | 0 | 30 | 0 | 0 | 0 | 3 | 4 | 4 | 4 |
| 74 | 42 | 12 | 17 | 13 | 30 | 0 | 0 | 0 | 3 | 4 | 4 | 3 |
| 75 | 24 | 12 | 0 | 28 | 28 | 2 | 0 | 2 | 4 | 5 | 4 | 4 |
| 76 | 33 | 8 | 27 | 0 | 27 | 3 | 0 | 3 | 3 | 4 | 5 | 5 |
| 77 | 29 | 17 | 5 | 13 | 18 | 12 | 4 | 8 | 3 | 4 | 4 | 3 |
| 78 | 47 | 10 | 1 | 16 | 17 | 13 | 0 | 13 | 3 | 4 | 4 | 4 |
| 79 | 22 | 12 | 1 | 4 | 5 | 25 | 0 | 25 | 2 | 2 | 3 | 4 |
| 80 | 53 | 12 | 5 | 20 | 25 | 5 | 2 | 3 | 4 | 4 | 5 | 5 |
| 81 | 36 | 12 | 10 | 15 | 25 | 5 | 2 | 3 | 3 | 3 | 4 | 2 |
| 82 | 18 | 12 | 2 | 8 | 10 | 20 | 1 | 19 | 3 | 3 | 3 | 3 |

## MALE SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE A | BENDER SCORE B | DAP SCORE A | DAP SCORE B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | 31 | 15 | 1 | 20 | 21 | 9 | 0 | 9 | 3 | 2 | 4 | 4 |
| 84 | 34 | 8 | 0 | 0 | 0 | 30 | 0 | 30 | 5 | 4 | 5 | 5 |
| 85 | 36 | 14 | 0 | 13 | 21 | 9 | 3 | 6 | 3 | 3 | 5 | 4 |
| 86 | 46 | 12 | 0 | 0 | 0 | 30 | 0 | 30 | 4 | 3 | 4 | 4 |
| 87 | 15 | 10 | 8 | 8 | 16 | 14 | 0 | 14 | 3 | 4 | 3 | 1 |
| 88 | 16 | 9 | 15 | 6 | 21 | 9 | 3 | 6 | 4 | 3 | 4 | 3 |
| 89 | 15 | 10 | 5 | 4 | 9 | 21 | 0 | 21 | 5 | 2 | 5 | 4 |
| 90 | 21 | 4 | 10 | 12 | 22 | 8 | 3 | 5 | 4 | 4 | 5 | 4 |
| 91 | 74 | 8 | 0 | 11 | 11 | 19 | 1 | 18 | 4 | 4 | 5 | 5 |
| 92 | 39 | 16 | 6 | 20 | 26 | 4 | 0 | 4 | 3 | 2 | 5 | 3 |
| 93 | 50 | 6 | 13 | 12 | 25 | 5 | 0 | 5 | 4 | 4 | 5 | 5 |
| 94 | 34 | 19 | 0 | 23 | 23 | 7 | 0 | 7 | 3 | 4 | 4 | 3 |
| 95 | 22 | 10 | 1 | 12 | 13 | 17 | 10 | 7 | 5 | 4 | 5 | 5 |
| 96 | 25 | 14 | 15 | 12 | 27 | 3 | 0 | 3 | 3 | 2 | 4 | 4 |
| 97 | 16 | 10 | 0 | 13 | 13 | 17 | 0 | 17 | 3 | 3 | 4 | 3 |

## MALE SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE | | DAP SCORE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | A | B | A | B |
| 98 | 18 | 9 | 7 | 2 | 9 | 21 | 1 | 20 | 3 | 3 | 3 | 2 |
| 99 | 15 | 9 | 0 | 23 | 23 | 7 | 0 | 7 | 4 | 3 | 4 | 3 |
| 100 | 16 | 10 | 10 | 0 | 10 | 20 | 0 | 20 | 3 | 2 | 3 | 2 |
| Total | 1508 | 514 | 350 | 549 | 889 | 601 | 99 | 502 | 175 | 170 | 204 | 183 |
| Mean | 30.8 | 10.14 | 7 | 10.49 | 17.9 | 12.0 | 1.49 | 10.2 | 3.5 | 3.4 | 4.08 | 3.66 |

## FEMALE SUICIDAL

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE | | DAP SCORE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | A | B | A | B |
| 1 | 29 | 10 | 6 | 0 | 6 | 24 | 24 | 0 | 4 | 3 | 4 | 4 |
| 2 | 28 | 12 | 3 | 12 | 15 | 15 | 10 | 5 | 5 | 4 | 5 | 4 |
| 3 | 33 | 11 | 10 | 14 | 24 | 6 | 6 | 0 | 3 | 3 | 3 | 2 |
| 4 | 18 | 11 | 23 | 4 | 27 | 3 | 3 | 0 | 5 | 4 | 4 | 3 |
| 5 | 43 | 6 | 8 | 5 | 13 | 17 | 4 | 13 | 3 | 4 | 4 | 4 |
| 6 | 24 | 7 | 0 | 7 | 7 | 23 | 2 | 21 | 4 | 4 | 4 | 4 |
| 7 | 20 | 12 | 8 | 7 | 15 | 15 | 1 | 14 | 3 | 3 | 3 | 3 |
| 8 | 39 | 13 | 0 | 5 | 5 | 25 | 3 | 22 | 3 | 3 | 4 | 4 |
| 9 | 49 | 12 | 17 | 6 | 23 | 7 | 2 | 5 | 3 | 3 | 5 | 4 |
| 10 | 43 | 9 | 4 | 6 | 10 | 20 | 3 | 17 | 5 | 4 | 5 | 4 |
| 11 | 23 | 7 | 16 | 3 | 19 | 11 | 1 | 10 | 5 | 4 | 5 | 4 |
| 12 | 43 | 19 | 3 | 1 | 4 | 26 | 0 | 26 | 3 | 3 | 3 | 3 |
| 13 | 43 | 14 | 1 | 13 | 14 | 16 | 1 | 15 | 5 | 3 | 4 | 3 |
| 14 | 37 | 12 | 9 | 13 | 22 | 8 | 0 | 8 | 3 | 2 | 5 | 3 |
| 15 | 37 | 11 | 0 | 22 | 22 | 8 | 0 | 8 | 3 | 3 | 3 | 2 |
| 16 | 39 | 10 | 0 | 7 | 7 | 23 | 15 | 8 | 2 | 3 | 2 | 2 |

## FEMALE SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE |  | DAP SCORE |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | A | B | A | B |
| 17 | 19 | 12 | 1 | 5 | 6 | 24 | 0 | 24 | 3 | 2 | 4 | 3 |
| 18 | 20 | 10 | 4 | 6 | 10 | 20 | 1 | 19 | 3 | 2 | 2 | 3 |
| 19 | 16 | 10 | 4 | 5 | 9 | 21 | 3 | 18 | 2 | 1 | 3 | 2 |
| 20 | 36 | 11 | 7 | 19 | 26 | 4 | 1 | 3 | 3 | 3 | 3 | 2 |
| 21 | 27 | 8 | 23 | 5 | 28 | 2 | 0 | 2 | 3 | 4 | 4 | 3 |
| 22 | 29 | 12 | 12 | 5 | 17 | 13 | 2 | 11 | 5 | 4 | 4 | 3 |
| 23 | 42 | 7 | 8 | 3 | 11 | 19 | 4 | 15 | 5 | 4 | 5 | 4 |
| 24 | 62 | 8 | 10 | 8 | 18 | 12 | 1 | 11 | 3 | 2 | 4 | 4 |
| 25 | 29 | 12 | 10 | 4 | 14 | 16 | 6 | 10 | 3 | 3 | 4 | 4 |
| 26 | 15 | 9 | 6 | 23 | 29 | 1 | 0 | 1 | 3 | 4 | 3 | 3 |
| 27 | 30 | 14 | 3 | 12 | 15 | 15 | 3 | 12 | 5 | 4 | 5 | 4 |
| 28 | 26 | 10 | 0 | 21 | 21 | 9 | 8 | 1 | 5 | 4 | 5 | 4 |
| 29 | 43 | 12 | 12 | 0 | 12 | 18 | 0 | 18 | 5 | 5 | 5 | 5 |
| 30 | 20 | 7 | 6 | 10 | 16 | 14 | 0 | 14 | 5 | 4 | 5 | 4 |
| 31 | 38 | 7 | 4 | 9 | 13 | 17 | 13 | 4 | 3 | 2 | 4 | 4 |
| 32 | 34 | 11 | 12 | 9 | 21 | 9 | 1 | 8 | 3 | 3 | 3 | 4 |

FEMALE SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE |  | DAP SCORE |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | A | B | A | B |
| 33 | 35 | 11 | 0 | 26 | 26 | 4 | 2 | 2 | 5 | 4 | 5 | 4 |
| 34 | 54 | 5 | 14 | 3 | 17 | 13 | 1 | 12 | 5 | 5 | 5 | 5 |
| 35 | 20 | 7 | 0 | 0 | 0 | 30 | 0 | 30 | 5 | 5 | 5 | 4 |
| 36 | 28 | 13 | 26 | 3 | 29 | 1 | 0 | 1 | 3 | 4 | 4 | 4 |
| 37 | 50 | 14 | 0 | 0 | 0 | 30 | 0 | 30 | 4 | 4 | 4 | 3 |
| 38 | 40 | 11 | 17 | 3 | 20 | 10 | 3 | 7 | 5 | 5 | 5 | 5 |
| 39 | 47 | 12 | 15 | 6 | 21 | 9 | 0 | 9 | 4 | 4 | 4 | 4 |
| 40 | 41 | 11 | 11 | 6 | 17 | 13 | 2 | 11 | 3 | 4 | 3 | 4 |
| 41 | 33 | 12 | 14 | 0 | 14 | 16 | 2 | 14 | 4 | 4 | 4 | 4 |
| 42 | 30 | 7 | 20 | 7 | 27 | 3 | 1 | 2 | 4 | 4 | 3 | 4 |
| 43 | 27 | 12 | 6 | 18 | 24 | 6 | 2 | 4 | 3 | 4 | 5 | 5 |
| 44 | 47 | 12 | 12 | 15 | 27 | 3 | 1 | 2 | 3 | 3 | 4 | 4 |
| 45 | 39 | 16 | 9 | 12 | 21 | 9 | 6 | 3 | 5 | 4 | 5 | 5 |

## FEMALE SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE | | DAP SCORE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | A | B | A | B |
| 46 | 36 | 12 | 3 | 13 | 16 | 14 | 0 | 14 | 4 | 5 | 4 | 2 |
| 47 | 34 | 12 | 5 | 2 | 7 | 23 | 0 | 23 | 3 | 3 | 4 | 2 |
| 48 | 35 | 12 | 0 | 14 | 14 | 16 | 0 | 16 | 4 | 4 | 4 | 4 |
| 49 | 18 | 9 | 30 | 0 | 30 | 0 | 0 | 0 | 4 | 4 | 4 | 4 |
| 50 | 54 | 12 | 5 | 4 | 9 | 21 | 0 | 21 | 3 | 3 | 3 | 3 |
| Total | 1702 | 536 | 417 | 401 | 818 | 682 | 138 | 544 | 189 | 177 | 201 | 181 |
| Mean | 34.2 | 10.36 | 8.17 | 8.10 | 16.2 | 13.6 | 2.8 | 10.44 | 3.78 | 3.54 | 4.02 | 3.62 |

## MALE AND FEMALE SUICIDAL

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 3210 | 1050 | 767 | 950 | 1717 | 1283 | 237 | 1046 | 364 | 347 | 405 | 364 |
| Mean | 32.1 | 10.5 | 7.62 | 9.5 | 17.17 | 12.83 | 2.37 | 10.46 | 3.64 | 3.47 | 4.05 | 3.64 |

## MALE NON-SUICIDAL

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE | | DAP SCORE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | A | B | A | B |
| 151 | 16 | 8 | 9 | 7 | 16 | 14 | 11 | 3 | 3 | 3 | 5 | 5 |
| 152 | 22 | 8 | 9 | 15 | 24 | 6 | 0 | 6 | 3 | 2 | 3 | 4 |
| 153 | 28 | 10 | 14 | 6 | 20 | 10 | 6 | 4 | 3 | 2 | 4 | 4 |
| 154 | 31 | 10 | 6 | 21 | 27 | 3 | 0 | 3 | 3 | 4 | 4 | 4 |
| 155 | 28 | 3 | 30 | 0 | 30 | 00 | 0 | 0 | 5 | 3 | 4 | 4 |
| 156 | 38 | 9 | 14 | 9 | 23 | 7 | 0 | 7 | 3 | 3 | 4 | 4 |
| 157 | 35 | 12 | 0 | 30 | 30 | 0 | 0 | 0 | 3 | 3 | 5 | 5 |
| 158 | 42 | 12 | 8 | 11 | 19 | 11 | 3 | 8 | 3 | 3 | 4 | 4 |
| 159 | 28 | 9 | 16 | 14 | 30 | 0 | 0 | 0 | 4 | 4 | 4 | 5 |
| 160 | 36 | 9 | 0 | 30 | 30 | 00 | 0 | 0 | 5 | 5 | 5 | 5 |
| 161 | 29 | 12 | 6 | 14 | 20 | 10 | 5 | 5 | 5 | 5 | 4 | 4 |
| 162 | 40 | 12 | 13 | 15 | 28 | 2 | 2 | 0 | 3 | 3 | 4 | 5 |
| 163 | 42 | 6 | 0 | 30 | 30 | 0 | 0 | 0 | 4 | 4 | 4 | 4 |
| 164 | 38 | 11 | 0 | 21 | 21 | 9 | 9 | 0 | 4 | 3 | 4 | 5 |
| 165 | 38 | 10 | 0 | 30 | 30 | 0 | 0 | 0 | 5 | 5 | 5 | 5 |
| 166 | 33 | 11 | 3 | 12 | 15 | 15 | 10 | 5 | 3 | 3 | 5 | 4 |
| 167 | 53 | 5 | 1 | 2 | 3 | 27 | 6 | 21 | 5 | 4 | 5 | 3 |

MALE NON-SUICIDAL (continued

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE A | BENDER SCORE B | DAP SCORE A | DAP SCORE B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 168 | 53 | 9 | 20 | 10 | 30 | 0 | 0 | 0 | 5 | 4 | 5 | 4 |
| 169 | 32 | 6 | 0 | 17 | 17 | 13 | 0 | 13 | 4 | 3 | 4 | 4 |
| 170 | 61 | 12 | 28 | 0 | 28 | 2 | 2 | 0 | 3 | 5 | 4 | 4 |
| 171 | 54 | 4 | 30 | 0 | 30 | 0 | 0 | 0 | 5 | 3 | 5 | 5 |
| 172 | 45 | 8 | 25 | 5 | 30 | 0 | 0 | 0 | 3 | 4 | 3 | 3 |
| 173 | 58 | 12 | 3 | 7 | 10 | 20 | 8 | 12 | 4 | 5 | 5 | 5 |
| 174 | 56 | 9 | 30 | 0 | 30 | 0 | 0 | 0 | 5 | 4 | 5 | 5 |
| 175 | 53 | 6 | 25 | 0 | 25 | 5 | 5 | 0 | 5 | 5 | 5 | 4 |
| 176 | 53 | 10 | 19 | 11 | 30 | 0 | 0 | 0 | 5 | 2 | 5 | 4 |
| 177 | 36 | 9 | 0 | 17 | 17 | 13 | 2 | 11 | 3 | 5 | 3 | 2 |
| 178 | 24 | 8 | 30 | 0 | 30 | 0 | 0 | 0 | 5 | 5 | 5 | 5 |
| 179 | 32 | 12 | 5 | 21 | 26 | 4 | 0 | 4 | 5 | 4 | 5 | 5 |
| 180 | 30 | 6 | 30 | 0 | 30 | 0 | 0 | 0 | 4 | 5 | 5 | 4 |
| 181 | 36 | 12 | 30 | 0 | 30 | 0 | 0 | 0 | 4 | 5 | 4 | 5 |
| 182 | 52 | 6 | 0 | 28 | 28 | 2 | 0 | 2 | 5 | 5 | 5 | 5 |
| 183 | 38 | 8 | 28 | 1 | 29 | 1 | 0 | 1 | 5 | 5 | 5 | 5 |

## MALE NON-SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE A | BENDER SCORE B | DAP SCORE A | DAP SCORE B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 184 | 50 | 7 | 0 | 27 | 27 | 3 | 2 | 1 | 3 | 3 | 5 | 4 |
| 185 | 22 | 4 | 15 | 0 | 15 | 15 | 15 | 0 | 4 | 4 | 4 | 4 |
| 186 | 16 | 11 | 11 | 16 | 27 | 3 | 0 | 3 | 3 | 3 | 4 | 3 |
| 187 | 28 | 14 | 18 | 9 | 27 | 3 | 1 | 2 | 3 | 2 | 3 | 2 |
| 188 | 33 | 12 | 1 | 17 | 18 | 12 | 0 | 12 | 3 | 2 | 3 | 2 |
| 189 | 34 | 12 | 4 | 15 | 19 | 11 | 0 | 11 | 3 | 2 | 4 | 4 |
| 190 | 23 | 12 | 11 | 11 | 22 | 8 | 3 | 5 | 4 | 3 | 4 | 3 |
| 191 | 19 | 11 | 10 | 8 | 18 | 12 | 12 | 0 | 2 | 3 | 3 | 4 |
| 192 | 26 | 13 | 15 | 10 | 25 | 5 | 0 | 5 | 2 | 3 | 3 | 4 |
| 193 | 22 | 13 | 8 | 14 | 22 | 8 | 0 | 8 | 3 | 3 | 3 | 3 |
| 194 | 14 | 9 | 27 | 1 | 28 | 2 | 1 | 1 | 5 | 3 | 4 | 4 |
| 195 | 16 | 9 | 15 | 14 | 29 | 1 | 1 | 0 | 2 | 2 | 3 | 3 |
| 196 | 14 | 9 | 12 | 16 | 28 | 2 | 1 | 1 | 3 | 3 | 3 | 3 |
| 197 | 16 | 10 | 2 | 15 | 17 | 13 | 0 | 13 | 4 | 3 | 4 | 3 |
| 198 | 16 | 9 | 10 | 13 | 23 | 7 | 0 | 7 | 3 | 2 | 5 | 5 |

MALE NON-SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE |  | DAP SCORE |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | A | B | A | B |
| 199 | 17 | 9 | 4 | 22 | 26 | 4 | 0 | 4 | 3 | 3 | 4 | 4 |
| 200 | 17 | 9 | 12 | 10 | 22 | 8 | 0 | 8 | 4 | 3 | 4 | 3 |
| Total | 1673 | 467 | 607 | 602 | 1209 | 291 | 105 | 186 | 188 | 175 | 209 | 201 |
| Mean | 33.23 | 9.17 | 12.7 | 12.2 | 24.2 | 5.8 | 2.5 | 3.36 | 3.76 | 3.5 | 4.18 | 4.02 |

## FEMALE NON-SUICIDAL

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE | | DAP SCORE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | A | B | A | B |
| 101 | 43 | 11 | 8 | 18 | 26 | 4 | 2 | 2 | 4 | 3 | 3 | 2 |
| 102 | 47 | 9 | 26 | 4 | 30 | 0 | 0 | 0 | 4 | 4 | 4 | 3 |
| 103 | 32 | 12 | 4 | 13 | 17 | 13 | 2 | 11 | 3 | 3 | 3 | 3 |
| 104 | 50 | 10 | 9 | 13 | 22 | 8 | 0 | 8 | 3 | 3 | 4 | 3 |
| 105 | 46 | 13 | 7 | 13 | 20 | 10 | 0 | 10 | 3 | 2 | 3 | 2 |
| 106 | 51 | 16 | 13 | 8 | 21 | 9 | 5 | 4 | 3 | 3 | 4 | 4 |
| 107 | 15 | 9 | 18 | 10 | 28 | 2 | 1 | 1 | 3 | 4 | 3 | 4 |
| 108 | 50 | 8 | 18 | 0 | 18 | 12 | 3 | 9 | 3 | 3 | 4 | 3 |
| 109 | 64 | 5 | 29 | 1 | 30 | 0 | 0 | 0 | 5 | 4 | 5 | 5 |
| 110 | 36 | 12 | 2 | 22 | 24 | 6 | 1 | 5 | 3 | 2 | 4 | 4 |
| 111 | 47 | 12 | 4 | 3 | 7 | 23 | 0 | 23 | 4 | 3 | 4 | 4 |
| 112 | 43 | 8 | 13 | 13 | 26 | 4 | 1 | 3 | 2 | 3 | 2 | 2 |
| 113 | 59 | 13 | 6 | 11 | 17 | 13 | 0 | 13 | 3 | 3 | 3 | 3 |
| 114 | 61 | 5 | 30 | 0 | 30 | 0 | 0 | 0 | 5 | 4 | 5 | 5 |
| 115 | 29 | 11 | 4 | 18 | 22 | 8 | 0 | 8 | 5 | 3 | 5 | 4 |
| 116 | 29 | 8 | 30 | 0 | 30 | 0 | 0 | 0 | 4 | 3 | 4 | 4 |

FEMALE NON-SUICIDAL (continued

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE |  | DAP SCORE |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | A | B | A | B |
| 117 | 40 | 15 | 0 | 30 | 30 | 0 | 0 | 0 | 3 | 2 | 4 | 5 |
| 118 | 36 | 12 | 0 | 7 | 7 | 23 | 6 | 17 | 4 | 4 | 4 | 4 |
| 119 | 29 | 12 | 30 | 0 | 30 | 0 | 0 | 0 | 4 | 4 | 4 | 3 |
| 120 | 43 | 26 | 0 | 26 | 26 | 4 | 0 | 4 | 3 | 4 | 3 | 3 |
| 121 | 40 | 9 | 30 | 0 | 30 | 00 | 0 | 0 | 5 | 4 | 4 | 4 |
| 122 | 38 | 14 | 8 | 8 | 16 | 14 | 7 | 7 | 4 | 3 | 4 | 2 |
| 123 | 39 | 12 | 10 | 7 | 17 | 13 | 11 | 2 | 3 | 3 | 3 | 3 |
| 124 | 31 | 9 | 8 | 17 | 25 | 5 | 0 | 5 | 5 | 4 | 5 | 4 |
| 125 | 16 | 8 | 4 | 6 | 10 | 20 | 0 | 20 | 3 | 3 | 4 | 3 |
| 126 | 26 | 13 | 7 | 15 | 22 | 8 | 4 | 4 | 3 | 3 | 3 | 3 |
| 127 | 47 | 6 | 22 | 8 | 30 | 0 | 0 | 0 | 4 | 4 | 5 | 5 |
| 128 | 44 | 12 | 19 | 7 | 26 | 4 | 1 | 3 | 3 | 2 | 5 | 5 |
| 129 | 29 | 11 | 21 | 8 | 29 | 1 | 1 | 0 | 4 | 4 | 3 | 3 |
| 130 | 46 | 10 | 4 | 5 | 9 | 21 | 4 | 17 | 3 | 3 | 5 | 5 |
| 131 | 35 | 12 | 13 | 10 | 23 | 7 | 0 | 7 | 4 | 4 | 5 | 4 |
| 132 | 38 | 14 | 14 | 5 | 19 | 11 | 6 | 5 | 5 | 3 | 3 | 3 |

FEMALE NON-SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE A | BENDER SCORE B | DAP SCORE A | DAP SCORE B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 133 | 15 | 8 | 12 | 7 | 19 | 11 | 0 | 11 | 4 | 3 | 5 | 3 |
| 134 | 37 | 12 | 4 | 24 | 28 | 2 | 0 | 2 | 4 | 2 | 3 | 1 |
| 135 | 50 | 4 | 0 | 30 | 30 | 0 | 0 | 0 | 5 | 4 | 4 | 4 |
| 136 | 42 | 12 | 24 | 1 | 25 | 5 | 2 | 3 | 4 | 3 | 4 | 4 |
| 137 | 44 | 12 | 3 | 10 | 13 | 17 | 3 | 14 | 4 | 2 | 4 | 3 |
| 138 | 45 | 10 | 18 | 4 | 22 | 8 | 0 | 8 | 5 | 4 | 5 | 5 |
| 139 | 34 | 12 | 5 | 14 | 19 | 11 | 3 | 8 | 3 | 3 | 5 | 4 |
| 140 | 38 | 11 | 11 | 10 | 21 | 9 | 0 | 9 | 3 | 3 | 3 | 1 |
| 141 | 37 | 10 | 30 | 0 | 30 | 0 | 0 | 0 | 4 | 5 | 5 | 4 |
| 142 | 37 | 6 | 22 | 7 | 29 | 1 | 0 | 1 | 3 | 2 | 4 | 3 |
| 143 | 33 | 12 | 12 | 18 | 30 | 0 | 0 | 0 | 5 | 3 | 4 | 3 |
| 144 | 29 | 12 | 17 | 12 | 29 | 1 | 0 | 0 | 3 | 4 | 3 | 3 |
| 145 | 33 | 13 | 2 | 19 | 21 | 9 | 0 | 9 | 4 | 4 | 4 | 3 |
| 146 | 54 | 12 | 24 | 6 | 30 | 0 | 0 | 0 | 5 | 3 | 5 | 5 |
| 147 | 18 | 9 | 22 | 8 | 30 | 00 | 0 | 0 | 5 | 4 | 5 | 4 |
| 148 | 19 | 10 | 29 | 1 | 30 | 0 | 0 | 0 | 4 | 4 | 4 | 3 |

FEMALE NON-SUICIDAL (continued)

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE |  | DAP SCORE |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | A | B | A | B |
| 149 | 35 | 16 | 0 | 30 | 30 | 0 | 0 | 0 | 3 | 3 | 4 | 4 |
| 150 | 39 | 8 | 17 | 0 | 17 | 13 | 13 | 0 | 4 | 3 | 5 | 5 |
| Total | 1918 | 533 | 663 | 508 | 1171 | 330 | 76 | 254 | 189 | 163 | 200 | 177 |
| Mean | 38.18 | 10.33 | 13.13 | 10.7 | 23.4 | 6.6 | 1.26 | 5.4 | 3.78 | 3.26 | 4.0 | 3.52 |

MALE AND FEMALE NON-SUICIDAL

| CODE | AGE | ED. | VERY IMPORT. | IMPORT. | TOTAL | TOTAL | VERY UNIMPORT. | UNIMPORT. | BENDER SCORE A | BENDER SCORE B | DAP SCORE A | DAP SCORE B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 3550 | 1000 | 1207 | 1109 | 2379 | 621 | 181 | 440 | 377 | 338 | 409 | 377 |
| Mean | 35.5 | 10.0 | 12.07 | 11.09 | 23.79 | 6.21 | 1.81 | 4.4 | 3.77 | 3.48 | 4.09 | 3.77 |