EMPLOYMENT OF THE RORSCHACH INKBLOT TEST
WITH THE DEVRIES SUICIDE INVENTORY

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

By

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Denton, Texas
May, 1976
Gordon, James L.  Employment of the Rorschach Inkblot Test with the Devries Suicide Inventory. Master of Arts (Clin. Psych.), May, 1976, 41 pp., 8 tables, bibliography, 41 titles.

This investigation represents an attempt to employ the Devries Suicide Prediction Scale and the Rorschach Inkblot Test in a two-stage predictive model which was designed to decrease the high false positive rate associated with the Devries and to design a way in which the Rorschach could be used efficiently in suicide prediction in a large mental hospital setting.

The Rorschach was not found to significantly improve the predictive ability of the Devries. An unexpectedly high percentage of mental patients in the study, thirty-eight percent, admitted to previous suicide attempts, raising the question of whether suicidal behavior is not more common than is usually thought.
TABLE OF CONTENTS

LIST OF TABLES ....................................................... iv

Chapter

I. INTRODUCTION ..................................................... 1

   Relevant Variables in Suicide Research

   The Search for a Self-Administering Test

   The Rorschach Test in Suicide Prediction

II. METHOD .............................................................. 19

III. RESULTS ............................................................ 22

IV. DISCUSSION .......................................................... 31

BIBLIOGRAPHY ........................................................... 38
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Results Using Records as a Criterion - Devries Alone</td>
<td>23</td>
</tr>
<tr>
<td>II.</td>
<td>Predictive Efficiency Obtained Using Records As a Criterion - Rorschach Used With Devries.</td>
<td>24</td>
</tr>
<tr>
<td>III.</td>
<td>Devries Employed Alone - Criterion at Least One Question Answered &quot;Yes&quot;</td>
<td>25</td>
</tr>
<tr>
<td>IV.</td>
<td>Devries Employed Alone - Criterion at Least Two Questions Answered &quot;Yes&quot;</td>
<td>26</td>
</tr>
<tr>
<td>V.</td>
<td>Devries Employed Alone - Criterion All Three Questions Answered &quot;Yes&quot;</td>
<td>27</td>
</tr>
<tr>
<td>VI.</td>
<td>Rorschach Used with Devries - Criterion At Least One Question Answered &quot;Yes&quot;</td>
<td>28</td>
</tr>
<tr>
<td>VII.</td>
<td>Rorschach Used with Devries - Criterion At Least Two Questions Answered &quot;Yes&quot;</td>
<td>29</td>
</tr>
<tr>
<td>VIII.</td>
<td>Rorschach Used with Devries - Criterion All Three Questions Answered &quot;Yes&quot;</td>
<td>30</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

The prediction of suicide is one of the most difficult and yet most pressing tasks that the clinical psychologist may set for himself. While society's opinion of the suicide has wavered between the Stoic idealization of him as heroic and the medieval condemnation of him as satanic, the Western faith in the sanctity of life has imposed upon the psychotherapist the duty of steering his patients away from that most final resolution of their difficulties. Unfortunately, it is a duty which he may never be sure he is fulfilling, for overt suicide is such a rare act that its occurrence has a "bolt from the blue" aspect. Often the suicidal patient commits his action at a time when others profess to have seen in him an improvement in spirit. And the gratuitous suicidal threats and ruminations which are common in depressed patients seldom reach fruition. The occasional fulfillment of expressed suicidal intentions is of such apalling effect, however, as to demand attention to those gestures which are relatively frivolous.

The statistics of suicide pose immediate obstacles for the would-be prognosticator. The suicide rate for men in the United States is sixteen to seventeen per hundred thousand (Freedman & Kaplan, 1967, p. 1170).
Successful suicide is therefore a rare phenomenon; we cannot expect one person in ten thousand to commit the act in a year's period. Thus in a randomly selected population our prediction that a certain individual will not commit suicide will be so rarely incorrect that we might employ the most ludicrous standards in our decision-making process for an indefinite period of time without ever being exposed to our folly. There are, of course, ameliorating factors in such a predictive effort. Many suicides are not reported as such, for the reprobation which society still harbors for the suicide prompts coroners to give the deceased the benefit of the doubt in many cases where the possibility of accident remains. The intention of the deceased in cases of purposeful automobile "accidents" is usually unfathomable, and such suicides are usually grouped with other traffic deaths. Suicide may be carried out in a myriad of subtle ways -- by refusing to eat, by refusing to take life-sustaining medicine, by refusing to slow down in an overtaxing job.

In addition, the number of suicidal attempts is far greater than the number of successes -- eight to ten times greater, according to public records, but probably much higher if those that are never brought to public attention are counted. Suicide is by no means merely a way to sur-cease of sorrow. The suicide attempt is probably most often a method of manipulation, as may be indicated by the fact that while women are much less likely than men to actually kill themselves, they are much more likely to carry out a suicide attempt. Those who attempt suicide secure
in the knowledge that someone will come upon the scene to save them may have more disturbed personalities than those who actually succeed, for in the latter group are many whose right to perform the act in order to escape the pain of terminal illness or the crush of inescapable circumstances would be accepted by many (as it was by the Romans) as justifiable. The prospective predictor of suicide faces grave difficulties, therefore, in deciding exactly what he wishes to predict, and what is to be the population from which he wishes to make this prediction.

To predict suicide using the general population as a pool is probably an impossible task, for no matter how subtle and excellent the method of decision-making is, the number of false positives that will arise in the process will be overwhelming. It is, for example, proper to state that the loss of a parent in childhood is a circumstance found much more often than chance among suicides (Hill, 1969). It is quite another matter to assert that an individual who suffered such a loss is a high suicide risk, for the number of persons who suffered such a childhood loss but never attempted suicide is vastly greater than the number of those who made such an attempt.

Only when we begin to narrow the population in fundamental ways will we begin to approach a position where suicide prediction is a feasible task. The population of mental patients, for example, is one in which the question of suicide is relatively pressing. Even here, however, the suicide rate is very low, being about twice as high as the general popula-
tion while the patients are in treatment and slightly higher still after their release from treatment (Rosen, 1954). If the focus is narrowed to certain kinds of psychiatric disorders, however, much higher rates of suicide appear. Guze and Robbins (1970) assess a suicide rate of fifteen percent on a long-term follow-up of patients with primary affective disorders. Other studies have estimated that up to twenty percent of the deaths of chronic alcoholics within the psychiatric population were a result of suicide (Keith-Spiegel and Spiegel, 1967). Such suicide proneness in certain groups is a factor routinely taken in account by those working in psychiatric hospital settings, for the assertion of the psychotically depressed patient that he deserves death is usually enough to insure that his guardians will be vigilant as to the possibility of the self-fulfillment of the death sentence he feels that he deserves. The real need in a psychiatric hospital setting is for a test (preferably self-administering) which will identify the suicide-prone patients from the stream of variegated cases which compose the majority of psychiatric hospital referrals.

Relevant Variables in Suicide Prediction

By far the greatest amount of research into variables characterizing suicide proneness has been in the area of individual psychological characteristics. Differences in personality profiles have been found between those who threaten, attempt and commit suicide, with Farberow and Schneidman (1955) making the paradoxical assertion that the threatening
group is actually the most disturbed of all. Rosen (1972) estimates that perhaps twenty percent of all suicide attempts are actually serious, with the typical wrist-slashing of the hysterical patient usually an attention-getting device. Successful suicides generally employ the more lethal methods of shooting and hanging. The completed group has been found to display a more frequent history of mental hospitalization among family members (Murray, 1972). Farberow and Schneidman state that sixty-two percent of the fatal group have made previous attempts and seventy-five percent had either attempted or threatened the deed, discounting the myth that those who actually kill themselves are the ones who never talk about it. Significantly, forty-one percent of the fatals in the Farberow-Schneidman study killed themselves within three months of discharge from the hospital, with sixty-nine percent doing it within a year. Paykel and Dienelt (1971) stated that depression, past or present and especially concurrent with insomnia, is the greatest distinguishing variable of the suicidal patient. Neurotic rather than endogenous depression is typically diagnosed, with striking signs of overt hostility in the successful suicidal patient.

Colson (1972) administered the Maudsley Personality Inventory and Ullman's Facilitation-Inhibition Scale (a measure of repression-sensitization) to twenty-six male and forty-six female graduate students who had attempted or seriously considered suicide. All scores differed significantly from the norm in the direction of greater neuroticism, introversion
and sensitization. Williams and Nickels (1969) found suicidal patients to demonstrate a high measure of externality on the Rotter Internal-External Control Dimension, indicating that suicidal patients tend to believe that their lives are determined by fate, chance or luck rather than by their own competence and skill.

Farberow, McKilligoth, Cohen and Darbonne (1966) studied suicidal persons who were also suffering from cardiovascular illnesses, finding the suicidal group to be "more dependent, impulsive, alert, anxious, agitated, apprehensive, depressed and distressed over their illnesses." They tended to be "bad patients," since they were hostile and intolerant of pain and demanded special attention from hospital personnel. Litman and Tabachnik (1967) conducted extensive interviews with relatives of fatal suicides, and concluded that the suicide-prone are "masochistic, depressive, dependent, passive, immobilized, constricted and dis-interested in physical activity." They were characterized as passive, impotent, frigid and needy in their sexual relations. A comparative study of suicides and accident victims (Tabachnik, Litman, Osman, Jones, Cohn, Kasper and Moffat, 1966) found suicides to be "dependent, self-critical and self-punishing, but unconcerned with their appearance. Suicides were typically depreciated by their surviving family members, and had often encountered the loss of a loved one or the feeling of failure (or of being unloved) shortly before their deaths. The suicide-prone individual tended to be closely integrated with and unusually dependent upon other individuals. Oscar W. Hill (1969)
found an association between childhood bereavement and suicidal attempts, with a strong relationship between suicidal attempts and paternal death at the age of ten to nineteen in females and a lesser association with the loss of the mother in the first ten years of life for both sexes.

A study by Kochansky (1973) found a "risky shift" to be operative in suicidal patients, with attempters displaying a greater degree of risk-taking on a Choice Dilemmas Test after being exposed to a depressive mood-stimulating film. Keith-Spiegel and Spiegel (1967) studied communications made by fatal suicides in the period of twenty-four hours before their deaths and found that the suicides demonstrated a less agitated psychological state than the communications of a control group of non-suicidal depressives. The word "calm" was used by judges to characterize the suicidal communications to a striking degree, leading the authors to conclude that serious suicidal thoughts are initially accompanied by emotional turmoil, with a period of dread followed by a quiescence which sufficiently lowers anxiety to enable the suicidal person to proceed with his action. In another study, graphologists were discovered to be able to detect suicidal persons from samples of their handwriting obtained shortly before their deaths (Frederick, 1968).

Demographic variables of suicide have been noted ever since Durkheim's pioneering nineteenth century study, and many of his conclusions are still considered valid. The sociological statistics of suicide
vary dramatically throughout the world, with the United States near the median in most variables. In the United States the highest suicidal rates are at the bottom of the socio-economic ladder, with unskilled laborers and agricultural workers having the highest rates (Freedman & Kaplan, 1967). This situation is different from that existing in Europe, where the upper and lower classes share the highest percentages. Although urban suicide rates in America were for many years higher than in rural areas, the difference in rates has recently become negligible. Suicide has a lower frequency among the married, especially those with children, and the rates for Protestants have in the United States been consistently higher than for Catholics and Jews. Predominantly Catholic countries generally have a lower suicide rate (an exception is Austria), presumably because of the Catholic Church's ardent condemnation of the act.

The administration of the Zigler-Phillips scale to suicidal persons by Ravensborg and Foss (1969) demonstrated a low degree of social competence, although suicidal subjects were found to be better educated than other psychiatric patients. A study of the use of humor by suicidal patients (Spiegel, Keith-Spiegel, Abraham & Kranitz, 1969) assumed the psychoanalytic premise that persons identify with the central figure of their jokes. It was found that the content of the favorite jokes of suicidal patients more frequently involved harm to the central figure than those of controls.
Successful suicide is three to four times more likely to occur in men than in women, although the rate for suicide attempts is actually twice as high in women than in men (Freedman and Kaplan, p. 1170). It is therefore supposed that women employ suicide as a manipulative gesture more often than men, and the especially lethal method of shooting is rarely used by women. The factor of age is a greater determinant of serious suicidal intent in men than in women, and the highest rate of suicide is for men over seventy-five years of age. Men over forty years of age are generally considered to be a high-risk group. Inheritance of suicidal potential is generally discounted, and the only new physical factor to be widely discussed in recent years stems from the assertion by Bunney and Fawcett (1965) that they discovered elevated levels of 17-hydroxycorticosterone in urinary samples from fatal suicidal patients. However, a study by Levy and Hanson (1969) failed to detect this condition.

The Search for a Self-Administering Test

Because the typical psychiatric setting is over-populated and understaffed, most researchers have stressed the need for a self-administering test to predict the risk of suicide in individual psychiatric patients. The Rorschach, although instrument of possible usefulness, takes too much time to administer to all but the specially selected patient, while other projective tests like the Thematic Apperception Test not only have the same liability but have not been found to consistently distinguish between
suicidal and non-suicidal persons (Schneidman, Farberow & Litman, 1970, p. 176). The Minnesota Multiphasic Personality Inventory, the most reputable of all self-administering personality tests, has often been studied in hopes of discovering profiles that would detect the suicide-prone individual. Such studies have generally proved disappointing, perhaps because the more or less stable properties of character that are assessed by most MMPI scales measure relatively permanent characteristics while the suicidal mood is typically a transient phenomenon. Broida (1954) has asserted that the MMPI Depression scale is useful in detecting suicidal patients, but Butcher (1969) states that "there is no suicidal profile that has any real clinical ability." Farberow and Schneidman (1955) discovered that patients who threatened suicide evidenced higher scores on almost all scales than those who had actually made attempts, but Farberow and Devries (1967) found greater potential for predictive ability in an item analysis of MMPI records than in actual profiles. A scale developed from the MMPI through their efforts was found by Ravensborg and Foss (1969) to be ineffective in distinguishing between suicidal patients and controls.

Because of the failure of the MMPI to prove of predictive value in suicide research, a number of investigators have devised scales of their own for use in the clinical setting. Such scales have employed variables found in other studies to have been significant in value in the suicidal population. A prime example of the problem to be faced in employing such scales is provided by the Revised Suicidal Potential Scale, developed
by Miskims and Wilson (1969) and further investigated by Braucht and Wilson (1970). Sixteen items were developed, based on the following demographic and psychiatric characteristics: sex, age, diagnosis, times admitted, marital status, education, occupation, language use, anger, depression, apathy, inappropriate behavior, impaired effectiveness, and external precipitating stress. The RSPS was found to correctly predict 44.4 percent of the sixty-three fatal suicides studied, but misclassified so many of the non-suicidal controls as suicidal that its use in any setting other than a suicide prevention service would seem impractical, since one-third of the general population would be classified as suicidal by the scale.

A different task has been attempted by researchers such as Buglass and McCulloch (1970) and Cohen, Motto and Seiden (1968) who have sought to devise scales to predict which persons who have already made one attempt will be likely to attempt suicide again. This research model reduces the thorny problem of the false positive, for the base rate for repeated attempts among suicidal persons is at least one-third (Murray, 1972). Buglass and McCulloch discovered four variables in male patients and eleven in women that distinguished repeaters from non-repeaters. The male items included: 1) a diagnosis of alcoholism, 2) alcohol taken at the time of the act, 3) the presence of violence (use of physical force) in their relationship with their spouse or key individual and, 4) (for the widowed, divorced and separated) recent loss of partner, i.e. within
the preceding three months. Significant variables for women included:
1) previous psychiatric treatment, 2) current psychiatric treatment,
3) previous episode of attempted suicide, 4) diagnosis of psychopathy,
5) diagnosis of drug addiction, 6) four or more dwelling changes in the
past five years, 7) a poor or neutral relationship with children, 8) a
fair, poor or bad work record, 9) separation of six months or more
from father when the patient was under ten years of age, 10) separation
of six months or more from mother when the patient was under ten years
of age and 11) presence of violence in relationships with their spouse or
key individual. The predictive scale devised for men consisted of three
of the significant items, with the loss of partner omitted as being of
limited applicability. Nine of the items, omitting current psychiatric
treatment and relationship with children, were employed in the predictive
scale for women. Those men who qualified on all three items and those
women who qualified on four or more were considered to be high-risks for
a repeated attempt. Low-risk subjects were men with a score of zero and
women qualifying on one variable or less. Employing this high-risk versus
low-risk classification system, impressive results were obtained. Ninety-
two percent of low-risk males did not attempt suicide again within the
next year, while forty-three percent of the high-risk males did make
another attempt. Ninety-four percent of low-risk females were non-
repeaters while thirty-seven percent of the high-risk group repeated
suicidal acts. The Buglass and McCulloch scale thus appears to be of
significant value in identifying the potential repeater, as does a similar scale developed by Cohen, Motto and Seidan, in which high-risk patients were found to have a fifty percent chance of repeating while the odds were twenty-one to one against a repeated act by low-risk patients.

Among the numerous self-administering tests developed to seek to identify potentially suicidal persons in a hospital environment is that of A. G. Devries (1966), whose scale was developed through the "critical incidents" technique, in which statements most frequently used by clinicians to characterize suicidal patients were turned into True-False questionnaire items. Thirteen items were found to significantly discriminate between non-suicidal and suicidal groups, with a cutoff of seven used. All subjects scoring seven or above were classified as suicidal while those below seven were classified as non-suicidal. This resulted in 55.4 percent of the suicidal subjects and 79.5 percent of the non-suicidal subjects being classified correctly. At the same time, 44.5 percent of the suicidal subjects were classified as non-suicidal and 20.4 percent of the non-suicidal subjects were classified as suicidal. The total predictive efficiency of the scale was seventy-two percent. Thirty-one percent were false positives, a rate considered inconveniently high for effective use if the scale is employed alone. The efficiency rate for this test was promising enough, however, and the method of its construction ingenious enough, that it was considered the suicide prediction scale most suitable for inclusion in this study.
The relative success of these scales indicates that suicide prediction scales may play a role in the identification of suicidal persons. Although it seems unlikely that any scale could be developed which would evade the problem of the high false positive rate in the general population, scales can be of great value in identifying potential repeaters or in working within populations where there is a relatively high risk of suicide, such as in a psychiatric population. Scales may in fact be used to identify a high-risk group for which more sensitive measures may be employed, as was the intention of the present study. Devries (1968) has suggested that the most efficient predictive scale will not be of the hit-or-miss variety but will rather assess the probability that a person will show a particular type of suicidal behavior. He has proposed a three-factorial model similar to those constructed by J. P. Guilford and employing the factors of individual psychological characteristics, social relationships and other environmental conditions, and physical determinants. He suggests that a thorough search of the literature of suicide be made in order to identify all possible variables which might be employed in a suicide prediction instrument.

The Rorschach Test in Suicide Prediction

A number of efforts have been made to employ the Rorschach Inkblot Test in suicide prediction. Because the Rorschach is often effective in obtaining a subtle impression of the mood of subjects, it has been thought that it might be particularly effective in registering the highly
unusual and often transitory mood which precedes a suicide attempt. The efforts have met with mixed success. Most methods postulated to be efficient in detecting prospective suicides have yielded either an intolerably high false positive rate or have revealed no relationship at all. The most successful attempts have centered around the standards of judgment developed by Beck (1945) and Hertz (1948), the checklist originated by Martin (Goldfried, Stricker and Weiner, 1971, p. 218), and around the presence of the color-shading response (Applebaum and Holzman, 1962). Five configurations postulated by Beck to be characteristic of suicidal subjects were tested by M. S. Fleischer in an unpublished doctoral dissertation (Goldfried, Stricker & Weiner, p. 230) and found to be quite successful in differentiating between non-suicidal controls and subjects who had a history of suicidal threats or acts when a cutoff of three or more configurations was employed. The configurations devised by Beck involve such a high degree of subjective judgment, however, that their further clinical use is of questionable status. Applebaum and Holzman investigated the frequency with which the color-shading response appeared in the Rorschach protocols of suicidal patients and discovered a strong positive relationship. The color-shading response, typified by such statements as "it's the shape and color of an iris; the insides look velvety because of the shading" is hypothesized to be indicative of an unusual degree of affective sensitivity. The presence of one such response in a protocol was considered to be pathognomic and the investigation revealed highly
significant differences between suicidal patients and controls. Replications of this method have met with mixed results, however, (Lester & Perdue, 1972). Martin's checklist, a system devised in an attempt to correct the questionable interscorer reliability of the Beck and Hertz methods, has also produced significant differences between suicidal and non-suicidal patients (Goldfried, Stricker & Weiner, p. 232), but has been burdened with a high false positive rate. This method, having the apparent merit of greatest objectivity, was employed in this study and the adoption of the Devries scale was hopefully to serve as an easily administered method to be used to reduce the number of patients to which the Rorschach must be administered.

The following seventeen factors compose Martin's checklist:

1) Number of Detail responses is either less than six or more than twenty.

2) The percentage of Detail responses is either less than sixty or more than seventy-nine.

3) The number of Color-Form responses is either one or two.

4) The total number of color responses is greater than one.

5) The weighted sum of color responses is greater than one but less than 3.5.

6) Color and Color-Form responses appear first on Cards VIII, IX or X.
7) Color and/or Color-Form responses appear in the protocol, but the sum of Shading responses and Texture responses is zero.

8) The number of Form-Vista and Vista-Form responses is less than one.

9) The sum of Shading responses is less than one.

10) The sum of Shading responses and Texture responses is less than one.

11) The difference between the number of Movement responses and the sum of Color responses is less than 1.5.

12) The total number of Human and Human-Detail responses is greater than six.

13) The number of content categories is either less than six or more than thirteen.

14) The ratio of responses of VIII, IX and X to the total number of responses is greater than twenty-nine percent.

15) The number of Popular responses is either less than three or more than six.

16) The number of Popular responses is less than three, and the positive form percentage is greater than sixty.

17) The average time of first response to each card is less than twenty-seven seconds.

Promising though some Rorschach studies are, the nature of the test itself imposes limitations on its use which make it unlikely to ever become the most-favored test in suicide prevention. Deficiencies
in the number and the amount of time available to staff personnel at most psychiatric hospitals render its universal application to patients a virtual impossibility, and its usefulness in suicide prediction is likely limited to the individual case or, as postulated in this study, to a population of patients already selected by another test to be more likely suicide prone than the general population. In this limited role the Rorschach may prove a useful instrument in the detection of suicidal trends in patients who might not otherwise betray such trends.

The purpose of this study is to employ the Rorschach, for purposes of improved prediction, with the Devries Suicide Prediction Scale. One of the criterion measures on which these tests are herein measured is an unusual one, being neither the subsequent commission of a suicidal act (requiring a longitudinal study) nor the history of such an act in the past (which is most often an ill-documented phenomenon). Instead we have asked psychiatric patients about their suicidal tendencies, in a manner manipulated to produce the greatest possible frankness. The results are somewhat at variance with the data usually obtained in this area, and are toward a direction tending to encourage those who believe that the identification of suicide-prone persons is a feasible as well as a humanitarian project.
CHAPTER II

METHOD

Subjects

Ninety-two psychiatric patients from Elmwood Hospital and John Peter Smith Hospital in Fort Worth, Texas, were participants in the study. All patients were in units emphasizing short-to-moderate term care and almost all the patients in the study were voluntary admissions. No patients were tested who were being detained in emergency psychiatric wards, although many of the patients had passed through these wards previously. Fifty female and forty-two male patients were employed. Diagnosis for these patients covered a wide spectrum, with the diagnosis of chronic undifferentiated schizophrenia most common. Patients were selected randomly within the hospital setting, however.

Procedures

All patients in the study were administered the Devries Suicide Prevention Scale, consisting of fifty-five True-False items. A total of one hundred copies of this scale were administered, with eight spoiled or returned in an obviously invalid state (such as having all questions answered "True"). The patients were requested to sign their names to their questionnaire and to return this questionnaire to the examiner when
completed. A second questionnaire was included with the Devries and consisted of eighteen True-False items. Among a number of irrelevant items on this questionnaire were the following three: 1) "I have often thought about taking my own life," 2) "I am considering taking my own life at the present time," and 3) "I have tried to take my own life at some time in the past."

The second questionnaire had instructions telling the patient not to sign his name to the questionnaire and to drop it when completed into a shoe box provided for this purpose on the table at which the patient completed the questionnaire. At no time was a patient told that the second questionnaire was anonymous, although the situation of course implied that such was the case. It was our policy to tell any patient who inquired as to whether the questionnaire was anonymous that it was not, and to disqualify him from the study. No patient made any such inquiry, however. Unobtrusive markings on each questionnaire enabled the experimenter to tell which patient had in fact completed it.

Patients filled out the questionnaire in the presence of several other patients in the hospitals' Day Rooms, with all patients dropping the second questionnaire in common into the shoebox. The copies of the Devries scale were collected and graded, and all persons who answered "true" to at least seven of fifteen "critical items" were judged "Positive". These patients were then administered the Rorschach Inkblot Test, which was then graded according to Martin's Checklist. All persons
scoring seven or more on Martin's checklist were classified as "Positive" for the Rorschach. The question of whether the Rorschach improved the predictive efficiency of the Devries alone was then tested against two criteria:

1) Whether or not a patient had in his psychiatric history (examined after the administration and scoring of the tests) a history of suicidal behavior, defined as an overt attempt or chronic suicidal ideation, and

2) Whether or not he responded positively to one of the three suicide-oriented items on the second questionnaire. This questionnaire was not examined by the experimenter until the Rorschach had been administered or it was determined that a patient was "Negative" for the Devries.

The predictive efficiency of the Devries' test taken alone was then computed, followed by the computation of the Devries and Rorschach tests combined. The two obtained predictive efficiencies were then compared in order to determine whether the addition of the Rorschach significantly improved the predictive efficiency obtained when the Devries' test was employed alone. Separate predictive efficiencies were computed for each of the two criterion measures, and within the second measure separate predictive efficiencies were computed according to whether the patients answered one, two, or three of the suicide-oriented questions positively.
CHAPTER III

RESULTS

Thirty persons, or thirty-three percent, of the subjects scored positively on the Devries scale. This percentage is considerably higher than Devries obtained in his original sample, where only about twenty percent were positive. The administration of the Rorschach to these thirty subjects produced seventeen positives and thirteen negatives according to scoring by Martin's Checklist.

Records of the psychiatric histories of seventeen of the ninety-two subjects were judged to be inadequate to reach any conclusion as to the presence or absence of suicidal behavior according to this criterion. Among these seventeen were nine who were judged positive by the Devries and five who scored positive on both the Devries and the Rorschach. When the seventy-five records which were adequate were compared with the judgments of the Devries and the Rorschach, the following results were obtained:

1) Table I shows the results when records were the criterion and the Devries' test was used alone.
TABLE I

RESULTS USING RECORDS AS CRITERION - - DEVRIES ALONE

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<th>Category</th>
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<th>Percentage</th>
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<td>True Positives</td>
<td>14</td>
<td>19%</td>
</tr>
<tr>
<td>False Positives</td>
<td>7</td>
<td>9%</td>
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<tr>
<td>True Negatives</td>
<td>45</td>
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<tr>
<td>False Negatives</td>
<td>9</td>
<td>12%</td>
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Predictive Efficiency: 79%

The Devries test employed alone adjudged fourteen persons positive who indeed had a record of suicidal behavior, ranging from chronic threats to actual attempts. Seven persons were judged positive who had no such record of suicidal behavior. Nine persons who were judged negative by the Devries did have a record of suicidal behavior, while forty-five were scored negatively on the Devries and had no such record. The predictive efficiency of the Devries was thus seventy-nine percent. However, a Chi-Square test for the Devries in this case proved non-significant. A Chi-Square of 2.50 was obtained, indicating that the Devries did not improve predictive ability significantly above chance.

2) Table II shows the results where the Rorschach was employed in conjunction with the Devries and compared with psychiatric records.
TABLE II

PREDICTIVE EFFICIENCY OBTAINED USING RECORDS AS A CRITERION - - RORSCHACH USED WITH DEVRIES

<table>
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<th>Count</th>
<th>Percentage</th>
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<tr>
<td>True Positives</td>
<td>7</td>
<td>9%</td>
</tr>
<tr>
<td>False Positives</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>True Negatives</td>
<td>48</td>
<td>64%</td>
</tr>
<tr>
<td>False Negatives</td>
<td>16</td>
<td>22%</td>
</tr>
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</table>

Predictive Efficiency: 73%

No improvement in predictive efficiency was noted. Seven persons who scored positively on both the Devries and Rorschach did have a history of suicidal behavior, while four who were positive on both tests had no such record. Seven who were positive on the Devries but negative on the Rorschach did have a record of suicidal behavior, while three positive on the Devries but negative on the Rorschach had no such record. The Rorschach thus reduced the number of false positives obtained on the Devries only slightly and increased more significantly the false negative rate, thus producing a decline in predictive efficiency to seventy-three percent.

A total of forty-seven subjects answered positively to at least one of the three suicide-oriented questions on the questionnaire submitted with the Devries. Of these, thirty-eight answered "Yes" to the statement "I have often thought about taking my own life." The second statement,
"I am thinking about taking my life at the present time," was checked affirmatively by eleven persons. An astounding number, thirty-five, answered "Yes" to "I have tried to take my own life at some time in the past." When the answers on the questionnaire were employed as a criterion to judge the efficiency of the Devries and Rorschach, the following results were obtained:

1) Table III shows the results when the Devries was used alone and the criterion was answering at least one of the three suicide-oriented statements "Yes."

<table>
<thead>
<tr>
<th></th>
<th>DEVRIES EMPLOYED ALONE - CRITERION AT LEAST ONE QUESTION ANSWERED &quot;YES&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>True Positives</td>
<td>24 (26%)</td>
</tr>
<tr>
<td>True Negatives</td>
<td>39 (42%)</td>
</tr>
<tr>
<td>False Positives</td>
<td>6 (7%)</td>
</tr>
<tr>
<td>False Negatives</td>
<td>23 (25%)</td>
</tr>
</tbody>
</table>

Predictive Efficiency: 68%

Twenty-four of those who were positive on the Devries answered at least one of the three suicide-oriented statements "Yes." Only six persons who were rated positive by the Devries failed to answer at least one question in the suicidal direction, for a false positive rate of seven percent. However, twenty-three persons, or twenty-five percent, were
rated negative by the Devries yet did answer "Yes" to the suicide-oriented statement. Thirty-nine were judged negative by the Devries and checked no questions affirmatively, and the predictive efficiency is sixty-eight percent. A Chi-Square test for the Devries was non-significant in this case also. A Chi-Square of 2.76 was obtained, indicating that the Devries did not improve predictive ability significantly above chance.

2) Table IV shows the results when the criterion of at least two statements checked affirmatively was used and the Devries was employed alone.

**TABLE IV**

DEVRIES EMPLOYED ALONE - -
CRITERION AT LEAST TWO QUESTIONS ANSWERED "YES"

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>True Positives</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>(19%)</td>
</tr>
<tr>
<td>True Negatives</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>(54%)</td>
</tr>
<tr>
<td>False Positives</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>(14%)</td>
</tr>
<tr>
<td>False Negatives</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>(13%)</td>
</tr>
</tbody>
</table>

Predictive Efficiency: 73%

When the criterion of at least two statements checked affirmatively was used, seventeen persons whom the Devries rated as positive were found to have met the criterion measure. A false positive rate of fourteen percent was found here, for thirteen Devries "Positives" failed to make two statements affirmatively. Twelve, or thirteen percent, of
the persons the Devries rated "Negative" did in fact check two statements "Yes," while fifty persons were negative on both the criterion and the Devries. The predictive efficiency is seventy-three percent. A Chi-Square test for the Devries was significant in this case at the .02 level. A Chi-Square of 5.87 was obtained.

3) Table V shows the results when the criterion of having all three suicide-oriented statements marked affirmatively is employed.

**TABLE V**

**DEVRIES EMPLOYED ALONE -- CRITERION ALL THREE QUESTIONS ANSWERED "YES"**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>True Positives</strong></td>
<td>7 (8%)</td>
</tr>
<tr>
<td><strong>True Negatives</strong></td>
<td>61 (66%)</td>
</tr>
<tr>
<td><strong>False Positives</strong></td>
<td>23 (25%)</td>
</tr>
<tr>
<td><strong>False Negatives</strong></td>
<td>1 (1%)</td>
</tr>
</tbody>
</table>

Predictive Efficiency: 74%

If the criterion of having all three suicide-oriented statements marked affirmatively is employed, the false negative rate drops dramatically. Only one of the ninety-two subjects marked all the three statements affirmatively while obtaining a negative rating on the Devries. The false positive rate rises considerably (to twenty-five percent), for seven persons were positive both on the Devries and the criterion of three statements marked "Yes" while twenty-three Devries "Positives"
failed to meet the criterion. Sixty-one persons were negative on the Devries and negative on the criterion. The predictive efficiency is seventy-four percent. A Chi-Square test for the Devries was significant in this case at the .001 level. A Chi-Square of 57.42 was obtained.

4) The administration of the Rorschach to the Devries' "Positives" produced an actual decline (from sixty-eight to sixty-two percent) in predictive efficiency when one statement checked affirmatively was used as a criterion. Table VI shows these results.

TABLE VI

RORSCHACH USED WITH DEVRIES - - CRITERION AT LEAST ONE QUESTION ANSWERED "YES"

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>True Positives</td>
<td>16 (17%)</td>
<td></td>
</tr>
<tr>
<td>True Negatives</td>
<td>41 (45%)</td>
<td></td>
</tr>
<tr>
<td>False Positives</td>
<td>4 (4%)</td>
<td></td>
</tr>
<tr>
<td>False Negatives</td>
<td>31 (34%)</td>
<td></td>
</tr>
</tbody>
</table>

Predictive Efficiency: 62%

The number of True Positives is affected quite adversely by the addition of the Rorschach, dropping from twenty-four to sixteen. Although the number of False Positives is reduced by two, another adverse trend is obvious in the rise of False Negatives from twenty-three to thirty-one.
5) Table VII shows the results when the Rorschach is used with
the Devries and the criterion is at least two questions answered "Yes."

**TABLE VII**

**RORSCHACH USED WITH DEVRIES - -
CRITERION AT LEAST TWO QUESTIONS ANSWERED "YES"**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>True Positives</strong></td>
<td>17 (19%)</td>
<td></td>
</tr>
<tr>
<td><strong>True Negatives</strong></td>
<td>50 (54%)</td>
<td></td>
</tr>
<tr>
<td><strong>False Positives</strong></td>
<td>13 (14%)</td>
<td></td>
</tr>
<tr>
<td><strong>False Negatives</strong></td>
<td>12 (13%)</td>
<td></td>
</tr>
</tbody>
</table>

Predictive Efficiency: 73%

The number of True Positives does not suffer such a sharp decline,
dropping only from seventeen to thirteen. The number of False Positives
drops from thirteen to six, but False Negatives rises from twelve to
sixteen. Only a slight increase, from seventy-three to seventy-six per-
cent, is noted in predictive efficiency.

6) Table VIII shows the results when the Rorschach was used with
the Devries and all three statements marked affirmatively was used as
the criterion.
TABLE VIII

RORSCHACH USED WITH DEVRIES -- CRITERION ALL THREE QUESTIONS ANSWERED "YES"

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>True Positives</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>True Negatives</td>
<td>71 (77%)</td>
</tr>
<tr>
<td>False Positives</td>
<td>13 (15%)</td>
</tr>
<tr>
<td>False Negatives</td>
<td>4 (4%)</td>
</tr>
</tbody>
</table>

Predictive Efficiency: 81%

The clearest improvement is noted here in predictive efficiency, from seventy-four to eighty-one percent. This is accomplished by lowering the False Positive rate from twenty-five to fifteen percent, but this is accompanied by a discouraging decrease in True Positives and a corresponding increase in False Negatives. As these are obviously the most important categories in suicide prediction, the "improvement" is thus highly dubious.
CHAPTER IV

DISCUSSION

The results obtained in this study were unexpected in several respects. Martin's Checklist proved to be a rather ineffectual method of putting the Rorschach into the service of suicide research, and the standard of objectivity for which it was chosen was not as apparent in practice as it had appeared to be in theory. The Devries scale proved generally effective when our criterion of patients' responses to questionnaires was employed, but not so good when psychiatric records were the criterion. Such results are alternately encouraging and discouraging to the question of the scales' efficacy for routine use in mental hospitals.

Another surprise was the large percentage of persons (fifty-one percent) who admitted to some form of suicide-oriented behavior. No less than thirty-eight percent, however, actually asserted that they had at one time attempted to take their own lives. These figures are leagues above the base rate of twenty percent asserted by Devries to be extant for suicide-oriented behavior in mental hospitals. That these figures are not spurious is supported by the fact that they were predicted so well by the Devries scale itself.
The solution to this discrepancy likely lies in the nature of the criterion we employed, which bears a certain claim to being more honest and objective than others employed in the past. There seems to be little doubt that the persons who filled out the questionnaire enclosed with the Devries thought that they were filling it out anonymously, even though this idea was never expressed to them and would have been denied had it ever been questioned by them. Under such circumstances, where the patient probably felt that his statement of suicidal intentions or past actions would not have any bearing upon his treatment at the hospital (a person identified as suicidal is, of course, in for a more directly supervised and probably prolonged stay than his hospitalized fellows), he seems much more likely to be honest than he would be in a psychiatric interview. In the interview situation, furthermore, some patients might be expected to exaggerate their suicidal tendencies in order to obtain attention and sympathy. There seems to be no reason why a patient should have felt that either confinement or sympathy would be forthcoming from his answers on the questionnaire, and indeed no use whatsoever was made of these questionnaires in determining these patients' course of treatment.

It is conceivable that questions of ethical appropriateness might be raised in opposition to such a method of inquiry, for the procedure does employ a certain degree of deception through implication. The crucial issue in such cases lies in the effect the procedure may have
upon the patients' lives. In this case, there was absolutely none. But were such a procedure employed in a mental hospital precisely to learn from the patients pertinent facts about themselves which they would otherwise be reluctant to reveal (such as homosexuality or the presence of psychotic phenomena) it would be much more questionable and indeed, in the opinion of the experimenter, reprehensible. There seems to be little to quibble about, however, when the goal is research toward a humanitarian end. One should only be sure to draw the line in areas where the goal is more dubious.

The evidence obtained here strongly suggests that the incidence of suicidal ideation is considerably higher in the psychiatric population (and, by inference, in the general population) than has hitherto been thought. The mere fact that thirty-eight percent of the population of assumedly typical short-term hospitals represented themselves as having at some time attempted suicide is itself significant and seems in itself to qualify as suicidal ideation. It should be noted that among the twenty-three patients who answered the statement of past suicide attempts "Yes" and for whom there was adequate documentation in the records, seventeen had a record of at least suicidal ideation. Only two persons were found to have a record of suicidal behavior and an answer of "No" to this question.

The Devries scale was not found to significantly improve prediction when psychiatric history was used as a criterion, but any judgment
concerning this should be qualified. There were sixteen records of patients which did not contain adequate information upon which to make any determination. Generally these records judged inadequate contained no documentation at all of the patients' social history, and as a rule records were judged "Negative" if any social documentation was present but no mention of suicidal behavior was made. Although more thorough documentation would have been helpful, it seems justifiable to state that history of suicidal behavior is a datum which is usually mentioned if anything at all is mentioned, it being a particularly pertinent matter of concern for the patient's therapist. Unfortunately, a disproportionate number of those whose records were incomplete were patients who had been judged "Positive" by the Devries. Thus the Devries' record in reference to this criterion might have been better had all the records been well-documented. The experience incurred in this experiment speaks for the need for better documentation in psychiatric records, especially since the incidence of recidivism in psychiatric hospitals is unfortunately high and the advantages of a good social history for future therapists are clear.

The question of what constitutes a good criterion measure is, of course, as pertinent here as elsewhere. Devries used the designation of patients by psychiatric records as threatened or attempted suicides as the criterion, the same use of records as our own. As he noted, such a measure does not gauge the predictive validity of the test,
for in neither of the two experiments is it possible to learn how many of the patients designated as suicidal actually attempted or committed suicide after the administration of the tests. We are only dealing with concurrent validity in such a study, and indeed a study of predictive validity would require a particularly difficult longitudinal study. In such a study the question of what really constitutes a serious suicide attempt is very important. In determining such an issue our method, that of asking the patient whether he has in the past tried to kill himself, seems to have some claim to consideration, for suicide is usually an intentional action and the substantiality of the intent may well be best known to the person who attempts it. Of course, every patient who fills out a questionnaire such as ours may not carry out a mental debate as to whether or not he was serious when he overdosed several years previously. But in general the method employed has some advantages with regard to accuracy, for it is at least a firsthand account. The employment of psychiatric judgment requires a secondhand interpretation of intent and the disadvantage of knowing only so many facts as the patient or his acquaintance are willing to disclose. The psychiatrist does, of course, have the advantage of being able to judge from experience which attempts are obviously only attention-getting gestures. Even an attention-getting gesture is a matter of importance in a hospital setting, however, for some frivolous attempts have fatal consequences and are all disruptive of the hospital environment.
The Devries was most successful as a predicting agent when the criterion of three questions answered "Yes" was employed, and might thus be assumed to be most sensitive to those who are most seriously suicidal. The number of false negatives obtained in these cases was very small while the number of false positives was not so large as to preclude the scale's routine use in hospital settings. That it was least effective when only one question answered "yes" was used as a criterion seems to indicate that it is least sensitive in regard to persons who have transitory suicidal moods. The Devries employed in a hospital setting will likely miss very few of those whom suicidal ideation is a chronic phenomenon and a real attempt a distinct probability.

The failure of the Rorschach to improve the efficiency of the Devries should not lead one to conclude that the Rorschach is valueless in this area. There was not much room for improvement in those cases where the Devries was an effective predictive agent, and the Martin's Checklist does not in any case appear to be the most promising method of using the Rorschach in suicide research. Although the checklist does in one sense boast a more objective modus than several other well-known methods, it too is vague in many respects and is based on the overly quantifying Beck method of scoring. In this method highly dissimilar kinds of responses are subsumed under a single heading such as "Shading" or "Texture", and this attempt to attain greater simplicity may well make the test not sensitive enough for the subtle
moods which accompany suicidal behavior. The failure of Martin's Checklist does not disqualify the Rorschach from further use in research on suicide prediction, for the room remaining for investigation is still great.
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Schneidman, E. S., Farberow, N., & Litman, R. *The Psychology of Suicide*.

