

JAIL SUICIDES: DEMOGRAPHIC AND BEHAVIORAL
FACTORS POSTDICTIVE OF THE
COMPLETED ACT

By

ROGER ALLEN LUPEI

∥

Bachelor of Arts
Southern Illinois University-Carbondale
Carbondale, Illinois
1974

Master of Science
Oklahoma State University
Stillwater, Oklahoma
1977

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF PHILOSOPHY
May, 1981



JAIL SUICIDES: DEMOGRAPHIC AND BEHAVIORAL
FACTORS POSTDICTIVE OF THE
COMPLETED ACT

Thesis Approved:

A handwritten signature in cursive script, appearing to read "Bob [unclear]".

Thesis Adviser

A handwritten signature in cursive script, reading "Robert A. Schlotzmann".

A handwritten signature in cursive script, reading "H. Stephen Caldwell".

A handwritten signature in cursive script, reading "Donald A. Turnant".

A handwritten signature in cursive script, reading "Norman D. Burham".

Dean of the Graduate College

ACKNOWLEDGMENTS

Suicides not only represent crises in and of themselves, they create crises. Friends and family alike must endure the loss not to mention residual feelings of doubt and guilt concerning their part in the events leading up to the act. As a practitioner-scientist, I have been struck by a similar kind of uncertainty and remorse concerning our efforts to more clearly conceptualize and prevent this seemingly needless loss of human lives and potential. At this time, I would like to thank the members of my dissertation committee for their encouragement and support to pursue this area of research. These include: Dr. Bob Helm, Dr. Bob Schlottman, Dr. H. Stephen Caldwell, and Dr. Donald Tennent.

I also wish to extend my deepest gratitude to the Jail Inspection Division of the Oklahoma State Department of Health--especially to Mr. George White--for its own need to enhance the conditions of city and county jails. Without these persons' invaluable help, the likelihood of completing and putting to use the results of this dissertation project would have been doubtful.

And for her unwavering emotional support, I wish to thank my wife, Pam Matusek-Lupeil.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION AND STATEMENT OF THE PROBLEM	1
Historical Perspective	1
Statement of the Problem	4
Nature of the Present Investigation	6
II. SUICIDE IN JAIL	10
The Institution of Jail	10
A Closer Look at Jail Facilities	12
Prison Versus Jail Trauma	14
A Final Note	16
The Suicidal Inmate	18
Attributes of the Suicidal Inmate	18
Motives Underlying Suicide	20
The Trauma of Incarceration	22
Operationalizing Suicide Cues	23
Summary	25
III. THE PREDICTION OF SUICIDE	26
Methodological Considerations	26
Verification of Suicide	26
Suicide as an Infrequent Event	27
The Prediction of Infrequent Events	29
Differentiation of Suicidal Subgroups	32
Selective Measurement, Prediction, and Homogeneity	34
Measurement of the Suicidal State	35
A Brief Summary	37
Predicting Suicide	37
Rorschach	38
Rosenzweig Picture-Frustration Test	41
The Thematic Apperception Test	41
Problems with Projective Techniques	42
Minnesota Multiphasic Personality Inventory	45
Suicide Tests	50
Scalar Methods of Predicting Suicide	51
Signs or Predictive Cues	54
II. BASIC HYPOTHESIS AND METHODOLOGY	61
Central Hypothesis	61

Chapter	Page
Subjects	63
Suicidal Group	63
Comparison Group	64
Procedures	64
Preliminary Research	64
Data Collection	65
On-Site Jail Interviews	65
Statistical Analysis	67
Validity Check	68
V. RESULTS AND DISCUSSION	70
Method of Suicide	70
Demographic Data	71
Clinical/Behavioral Features	78
Stepwise Discriminant Function Analysis	80
Simplification of Scale for Actual Use	85
False Positive Validity Check	86
Clinical Cases	87
Case Number One	88
Case Number Two	89
Case Number Three	89
Summary	91
Suicide Prediction Scale for Jails	91
Conclusion	92
REFERENCES	95
APPENDIXES	101
APPENDIX A - DATA COLLECTION SHEET	102
APPENDIX B - OPERATIONALIZATION OF PREDICTIVE FACTORS	105
APPENDIX C - A GUIDE FOR SCREENING AND MANAGEMENT OF THE POTENTIALLY SUICIDAL INMATE	108

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Historical Perspective

Throughout the ages the subject of suicide has been addressed by poets, philosophers, and priests alike. Attitudes toward the taking of one's life have varied across cultures and over time. Influential have been a complex interplay of historical problems, theological outlook and prevailing philosophies of the time. For various reasons, suicide has not always been forbidden nor looked down upon.

Within the Old Testament, there were four suicides recorded (Samson, Saul, Abimelech, and Achitophel), none of which received adverse comment. In fact, suicide appears to have been an "honorable" course of action in the face of shame or failure (Copel, 1967). In the New Testament, the suicide of the "greatest criminal," Judas Iscariot, is recorded in a perfunctory manner. It seems his final act was a measure of his repentance rather than an additional crime (Alvarez, 1970).

Looking elsewhere, suicide has been formulated with varied conviction. During the fourth century certain individuals of the church appointed themselves the apostles of death. Given this authority, they would carry to the highest level the custom of "provoking martyrdom" by challenging and insulting the assemblies of Pagans. In its extreme form, they would gather in great numbers and suicide as a group, imagining this to be a form of holy martyrdom which would secure eternal salvation

(Menninger, 1938). This spread of "suicide mania" was halted only by a decree from the church regarding suicide as blasphemy and illegal (Alvarez, 1970).

Alvarez (1970) points out "the idea of suicide as a crime comes late in Christian doctrine" (p. 51). During the sixth century, partly in response to the martyrs, St. Augustine instigated special legislation against self-destruction. Reinterpreting the Sixth Commandment, "Thou shalt not kill," St. Augustine placed emphasis on the notion that life is a gift of God, to reject this is to "reject Him and to frustrate His will: to kill His image is to kill Him--which means a one-way ticket to eternal damnation" (Alvarez, 1970, p. 52).

Within seventeenth century Christian Europe, we find a prevailing attitude against suicide mixed with superstition, prejudice, official outrage and unofficial despair (Alvarez, 1970). In England, a suicide was regarded a felon. The burial of a suicide was

in the highway, with a stake driven through the body, as though there were no difference between a suicide and a vampire. The chosen site was usually a crossroads, which was also the place of public execution, and a stone was placed over the dead man's face; like the stake, it would prevent him from rising as a ghost to haunt the living. Apparently the terror of suicides lasted longer than the fear of vampires and witches (Alvarez, 1970, p. 46).

Within France, the corpse of a suicide was degraded, his name defamed. Nobles lost their nobility; they were declared commoners, their escutcheons were broken and their castles demolished. Despite the derision of many notable writers such as Voltaire and Montesquieu, laws against suicide persisted into the latter part of the eighteenth century. Within England, laws prescribing confiscation of property from suicide victims were not amended until 1870. The unsuccessful suicide could be sent to prison as late as 1961.

Currently, although all legal penalties and most superstitions have dropped away, suicide remains a mortal sin within the Catholic church. Furthermore, mental health practitioners, more often than not, equate the act with psychopathology. For those who do not think of suicide as a sin or indicative of emotional disturbance, their response to self-destruction is usually one of shock and alarm.

However, there appears to be a new attitudinal trend within the area of suicide and death and dying in general. Recent research has shown us not all people within our present day culture object to an individual suiciding or requesting active euthenasia across all situations (Kastenbaum, 1976). Under specific circumstances, seizing control of one's dying onto death process has been conceptualized as an inalienable right by some (Edgley, 1978). These authors are speaking of a right to controlling one's death just as we have similar rights within our lives. Recent death with dignity (Kubler-Ross, 1969) and right to suicide (Kastenbaum, 1976) movements have pointed out control over one's death is a means by which unnecessary suffering of the dying, as well as family and friends, may be eliminated. In view of recent advancements in the area of medicine concerning life support equipment and prolonged comatose life, these are issues already confronted by the medical practitioner (Barnard, 1978).

The death with dignity and right to suicide movements are certainly controversial. But more than that, they exemplify the abundance of mixed feelings and ambivalence toward the act of suicide and death in general our culture is currently enduring. In turn, this prevailing awareness of death and dying has been paralleled by a prolific scientific literature.

Within the area of suicide, per se, a new and growing scientific movement of suicidology has emerged (Sheindman, 1976). This somewhat esoteric discipline has been instrumental in developing more rigorous and effective methodologies to enhance our conceptualization of the act of suicide. Prediction and control, like other scientific schools, are the major objectives of the suicidologist. Underlying these goals is the notion that suicide, in most instances, is a waste of human potential. It is a terminal act that is frequently precipitated by adverse circumstances which may be ameliorated in most instances, thus allowing the individual to live a more gratifying life.

To be sure, suicide in the twentieth century is a topic of both humanistic ideology and scientific investigation; and it is within this spirit that the present study has attempted to investigate and draw meaningful conclusions about jail suicides.

Statement of the Problem

A recent survey in Oklahoma, conducted by Lupei (1978), has revealed jail suicide rates (the completed act) to be approximately 561.1 per 100,000 per year. As the reader may note in Table I, this rate is far greater than the populace at large as well as state prison populations. These figures testify to a multitude of stressful factors concerning jail incarceration to be discussed at length in Chapter II. Suffice it to say at this time that numerous social, psychological, and circumstantial variables unique to jails and their respective inmates appear responsible for this heightened risk for suicide.

These data also suggest that, on occasion, jail personnel are confronted with the awesome burden of assessing and managing high risk

TABLE I

AVERAGE DAILY POPULATION ESTIMATES, TOTAL SUICIDES, AND SUICIDE RATE PER
100,000, STATE OF OKLAHOMA (1974-1977)

Year	City and County Jails			Prisons			Populace at Large		
	Average Daily Population ¹	Total Suicides	Suicide Rate/ 100,000	Average Daily Population ²	Total Suicides	Suicide Rate/ 100,000	Average Daily Population ³	Total Suicides	Suicide Rate/ 100,000
1974	1871	5	267.2	3230	3	92.8	2,681,000	405	15.1
1975	1871	16	855.1	3135	0	0.0	2,715,000	418	15.3
1976	1871	7	374.1	4099	2	48.8	2,766,000	369	13.3
1977	1871	14	748.2	4267	1	23.4	2,811,000	442	15.7
Average	1871	10.5	561.1	3683	1.5	40.7	2,743,250	409	14.9

¹Estimates from Oklahoma Crime Commission (1978).

²Estimates from The Department of Corrections (1978).

³Estimates from Bureau of Census (1970).

inmates. When such an event occurs, jailers typically must rely upon their own resources. Avoiding the situation or denying responsibility are more often the easiest response, but this can sometimes exacerbate existing suicidal trends (Neuringer, 1974). Indeed, without a preconception of what to look for and how to respond to suicidal intimations and acts, the responsibility can be frightening.

The major goal of the present investigation is to delineate those variables indicative of the presuicidal state which give rise to the completed act within jail. The current environmental, circumstantial, and psychological status of the inmate have been focal. Behavioral and demographic data were collected in an attempt to construct a tentative profile of the suicidal inmate. Once statistically verified, these factors were integrated into a brief lethality check-off list to be used by jail personnel during routine booking procedures. Ideally, the instrument will alert jailers to features indicative of heightened suicide risk.

Nature of the Present Investigation

Before exploring the current status of jails (Chapter II) and the state of the art of predicting suicide (Chapter III), I would first like to outline a number of issues which have, to a large extent, influenced the present endeavor.

The whole notion of assessing and preventing suicide has great intuitive appeal. Acts of self-destruction not only represent a crisis in and of themselves, they create crises. Family and friend alike must live with the loss, not to mention residual feelings of doubt and guilt concerning their part in the act. When suicides occur in jail

facilities, or for that matter any institution outside the home, caretakers will also be impacted. A similar kind of uncertainty and remorse concerning their efforts to intervene will often linger.

To this author's knowledge, very little has been accomplished to screen and prevent suicides within city and county jails (Danto, 1973). No efforts have been made within the State of Oklahoma, outside of one survey conducted by the Office of Charities and Corrections (1977), to even assess the seriousness of the problem.

Many attempts have been made to assess and ameliorate suicidal trends within a wide variety of populations outside of jails, however. These projects have generally relied heavily upon traditional psychometric instruments. The problems in using traditional tests for screening the potential suicide are numerous and complex (see Chapter III). Aside from the questionable reliability and validity of these instruments, a very basic difficulty arises when psychological tests are used within jails: The recalcitrant and/or intoxicated offender would simply not submit to such testing procedures as the TAT or Rorschach. Furthermore, nor can we expect jail personnel to possess or acquire the technical skills required to administer and interpret these psychometric instruments. In all probability, many inmates would come and go whose suicidality classification would never be established.

One solution to this foremost problem of quick and uncomplicated assessment is a brief check-off list of factors previously found to be associated with suicide in jail. The data must be readily observable and easily obtained by jailers during routine booking procedures. Predictive efforts must also take into account level of sophistication of the instrument's users. Techniques using a minimal number of items or

predictive variables have been developed by suicidologists within a variety of subpopulations (see *Scalar Methods of Preventing Suicide*, Chapter III) and have shown promise as effective and efficient predictors of subsequent acts of suicide.

Additionally, past researchers have erred in their attempts to assess heightened risk for suicide by relying upon nebulous concepts such as mental illness, motivation, personality traits, etc. While these concepts are as much a part of the presuicidal state as anything else, they do very little in contributing to a reliable predictive system. The present author concurs with Neuringer (1974) in that

Techniques utilizing behavior . . . in a direct comparison procedure between suicidal and nonsuicidal individuals seems to yield more conclusive results than procedures that derive their starting points from hypothesized mediational concepts (p. 225).

Once again, one solution to this problem is a brief check-off list containing items related to observable behaviors or information which are readily available to jail personnel. Consistent with the notion that suicides are maladaptive responses to current stressful circumstances (McEvoy, 1974), contemporary social, psychological, and circumstantial factors will be explored. Below are several factors to be considered:

1. Demographic Information
 - a. age
 - b. race
 - c. marital status
 - d. sex
2. Jail Record Information
 - a. history of crime
 - b. history of violence
 - c. nature of present crime
3. Current Attributes and Behaviors of Inmate
 - a. agitated

- b. appears or speaks of depression
- c. physically or verbally violent
- d. physical health
- e. threatens, speaks of or attempts suicide
- f. intoxicated
- g. likely extended incarceration
- h. current familial turmoil

All of the above factors have shown, to some extent, to be related to jail suicides (Danto, 1973). In addition, with minimal probing and observation, each piece of information will be available to the booking jailer.

The reader may also note these data points cut across a wide range of sources. The present study is an atheoretical-actuarial approach to prediction. What has shown promise within past research, or what has face validity now will be "grist for the mill." In short, a broad exploratory approach has been pursued to gain as much profile data as possible on jail inmates who suicide.

CHAPTER II

SUICIDE IN JAIL

City and county jail inmates are indeed a high risk for suicide population. Even when compared to state prison inmate populations, annual suicide rates are still exceedingly high within these local correctional facilities. At this time, I would like to examine the conditions of these institutions--comparing and contrasting jails and prisons--in an attempt to uncover what may contribute to the heightened risk for suicide within jails. Several administrative and facility variables will be considered. In addition, a number of studies are cited which focus upon personal attributes of the suicidal inmate. As a whole, these latter data contribute to a tentative profile of the high risk for suicide inmate which lay the groundwork for a predictive instrument.

The Institution of Jail

To the average American our local city and county jails remain an arcane "public service" traditionally ignored. Historically, jails have received very little attention and funding from responsible governmental agencies. In the 1960's, along with record-breaking crime rates, came a growing new awareness of law enforcement. At the national level, in 1965 the Commission on Law Enforcement and Administration of Justice (LEAJ) was established. This was followed in 1968 by the Law Enforcement Assistance Administration (LEAA). That same year the state counterpart

to LEAA, the Oklahoma Crime Commission (OCC) was funded and organized. As never before, the entire criminal justice system became more visible to the public. Simultaneously, jails began to emerge as a real social problem.

Authors of the OCC (1970) Jail Survey have quoted the LEAJ as reporting that "No part of corrections is weaker than the local facilities that handle persons awaiting trial and serving short sentences" (p. 178). In response, OCC initiated a state wide survey to assess the needs of jails. Recently, 1978, there have been additional state level actions focused upon local jail facilities. The 1978 Jail Renovation Program has further amplified the inadequacies identified at the national level by LEAA eight years earlier. It has revealed most city and county jails cannot meet even minimal jail standards as set by the National Institute of Corrections. Quoting from the Commission's (1970) survey:

From every perspective, today's jails are unacceptable to the enlightened public. They are expensive and inefficient, corruptive rather than corrective, sources of community embarrassment and the objects of recurring criticism. Law enforcement operated jails drain precious manhours from already undermanned police forces, when the officers' time could be more profitably employed elsewhere (p. I-3).

The inefficiencies and ineffectiveness of local jails have virtually created as many problems as it has alleviated. Community crime rates, recidivism and jail suicides are presently at a height within our nation. It is this latter phenomenon of jail suicides I would now like to focus upon. In order to do so, a precise definition of jail is called for. According to Danto (1973), jails are:

those penal institutions in which inmates have been charged with a crime and are either being held for investigation or have been bound over for trial. Most of such inmates reside there during their pre-trial period and remain there until sentence has been passed. Their exit occurs either by reason of acquittal, placement on probation, or transfer to state

prison following conviction. Residence at the jail is usually less than six months and rarely does it exceed twelve months (p. xxiii).

We have already found jail suicides to occur at rates far greater than prisons and the populace at large (Table I). These data testify to a multitude of factors (yet to be empirically demonstrated) which contribute to this heightened risk for suicide. What these factors are and how they operate so as to influence suicidal trends within jail inmates is the major focus of the present investigation. Keeping in mind Danto's (1973) definition of the institution of jails, let us now more closely scrutinize city and county jails in an attempt to identify those factors which foster self-destructive acts.

A Closer Look at Jail Facilities

Interning with the Oklahoma Crime Commission this past summer and having worked on the 1978 Jail Renovation Project, I have had the opportunity to inspect many jail facilities and talk with several jail personnel. With this first hand perspective and gut-level feel for local jail facilities, several explanations come to mind for the exceedingly high frequency of jail suicides. First of all, budgets are notoriously low within jails. Very few communities are willing to spend the needed monies to upgrade their facilities. As a result, jails are usually primitive structures. In addition, here in Oklahoma newly built jails have been found to be overcrowded, rundown, and threatened with condemnation by the Commissioner of Charities and Corrections (OCC, 1970). Unfortunately, these conditions permeate into other facets of jails.

Jail operations are greatly affected by layout and physical condition. The jail building may have an overwhelming effect on the successful achievement of community crime control and

humanitarian objectives. Some conscientious jailers do much to overcome the handicap of a debilitating physical plant, but often the entire administration reflects the negative influence of an archaic, poorly designed and poorly utilized or ramshackled facility (OCC, 1970, p. I-2).

Typically there is very little physical comfort within jails. Mental health care, recreation, and rehabilitative programs are virtually unheard of. "Rank idleness is the predominant inmate program in most jails the nation over" (OCC, 1970, p. I-2). The prevailing environment, even within the most modern facility, is cold steel bars and alienation. In a word, the jail milieu is one which strives for maximum security at the expense of human dignity and comfort.

In addition, the caretakers of these facilities are generally the least payed and lowest educated, and lack training in the most basic procedures of inmate care, not to mention crisis intervention strategies. Furthermore, Danto (1973) has pointed out an often overlooked factor which no doubt contributes to inmate distress and degradation. This is the effect of what he calls "institutionalized staff," or persons who think in an institutional manner. Policies, procedures, and rules hold greater priority than human needs. Stemming from this rigid mode of operation comes an insensitivity to obvious inmate depression and cries for help.

Without great effort, several other variables within the realm of administration and facility may be listed which encourage rather than discourage maladaptive behaviors as suicide. However, inadequate physical facilities, programs, and staff are not unique to jail facilities. When compared to prisons, we find these latter institutions as bad if not worse in many respects. In the summer of 1978, state prison facilities continually made the front pages of major newspapers across the

state due to problems concerning lack of security, overcrowding, and exorbitant cell temperatures of 115 degrees plus. To be sure, local jails do not have a monopoly on poor conditions, which reasserts the question implicitly posed earlier: What is it about jails, as compared to prisons, that may account for their substantially high rate of suicide?

Prison Versus Jail Trauma

It would seem jail incarceration is far less traumatic than imprisonment. After all, the turnover of jail inmates is quite rapid; most are in and out of jail within 24 hours while minimum sentence within prison is closer to 12 months. Crimes that generally lead to imprisonment are also far more serious and cause for more distress than the offenses which may result in jail entry. City and county jails do have their dangers, nonetheless, as demonstrated by the annual suicide rates within these institutions.

In contrast to prisons, jail incarceration is generally sudden: One minute on the streets, the next minute an individual is behind bars--more often than not intoxicated and experiencing considerable shame and uncertainty concerning his or her criminal charges and pre-trial status. If drunk, the incoming inmate is traditionally placed in solitary confinement (i.e., the "drunk tank") to sleep it off. People come and go. The strangeness of these individuals and the foreign environment (when isolated and intoxicated) can prompt feelings of depersonalization and derealization. Swift confinement and maximal security prevail, but often times at the expense of inmate dignity and mental health.

Prisons, though presenting many problems of their own, do not appear to foster an environment as conducive to the acute trauma seen in jails. For example, the prison bound individual has considerably more time to accept and adjust to his or her fate. Between the time of being caught, convicted, and eventually locked up, he or she has a better chance of dealing with incarceration in an adaptive manner.

Furthermore, upon entering prison the inmate will become part of a relatively stable subculture which offers a fair amount of instruction on how to conduct oneself. In a very short while, he or she becomes "prison wise" and learns exactly how many months and years and what sort of behavior is required of them to meet parole board criteria for release. In addition, prison life provides an informal network of norms, hierarchies of status and prestige, and a certain degree of cohesion among the prisoner population. When compared to jails, prison life is substantially more structured and offers the prisoner a good deal of security in his or her day-to-day living. This abundance of routine and its effects upon the prison inmate has been revealed by a recent study of over 1,000 Oklahoma State Prison inmates (Ebner, 1978). The author points out:

Once the inmate is incarcerated, the average inmate becomes a more comfortable person. In prison, the inmate knows where and when he is going to eat and sleep and get up in the morning. The structure of prison seems to relieve anxiety in the average inmate (p. 1).

Here, of course, I am not trying to build an argument for the virtues of prisons so much as delineate the salient differences in daily experiences of the prisoner and jail inmates. I believe it is apparent that, when compared to prisons, jails are more conducive to inmate panic,

acute distress, uncertainty, and feelings of helplessness--all of which may precipitate acts of self-destruction.

A Final Note

Up to now, very little has been said about the subpopulation of inmates who are high risk for suicide; and we must realize this is only a small percentage of the great numbers of individuals who enter local city and county jails annually. Despite the fact that jail suicides are at a crisis proportion, by far the majority of inmates live through incarceration. Be this as it may, perhaps we are faced with a small subpopulation of incoming inmates who are predisposed to react with self-destructive measures when confronted by the stresses of incarceration.

Conceptualizing in this manner, it would seem, provides a more comprehensive framework from which to intervene. That is, narrowly focusing upon the blunders of jail facilities and staff, while fertile ground for criticism, has only limited value. Much has been written of the abominable conditions of jails (Danto, 1973) in relation to suicides with little impact in regard to productive change. A more fruitful approach suggests itself when we begin to consider also the attributes which discriminate suiciding from nonsuicidal inmates.

Simply stated, the phenomenon of jail suicides appears to be an interaction of at least two groups of variables: the inherent stresses of jail incarceration, and the emotional predisposition of specific incoming inmates which fosters self-destructive acts. The comprehensive approach to reducing annual rates of jail suicides would involve change at the institutional level in conjunction with a program which focuses upon screening the high risk for suicide offender. The latter function,

to which the social scientist would have much to offer, may be conceptualized as follows:

1. Discover and statistically verify those factors which discriminate suicidal from nonsuicidal jail inmates.
2. Alert police and jail personnel to these suicidal cues so that they may screen incoming offenders.
3. Following identification of a potentially high risk for suicide inmate, proper management may then ensue.

Such procedures would conceivably help reduce annual rates of jail suicides. But equally important, the chances of this approach being endorsed and implemented by the criminal justice system would be enhanced because our focus is upon screening the high risk inmate rather than trying to change time honored philosophies and institutional procedure.

Several authors have followed the above line of reasoning; that it is most productive to ferret out those attributes associated with the high risk inmate rather than to take futile pop shots at the shortcomings of the criminal justice system. While correctional deficiencies can no longer go unnoticed, it is questionable whether the social scientist will do more than alienate the system if they have no more to offer than brash criticism.

Danto (1973) has cited six papers that examine personal attributes which appear to be associated with inmate suicides. Although several methodological problems exist within these studies (e.g., small numbers of subjects, lack of control groups, and poor jail records), taken as a whole, they provide at least a tentative profile of the high risk for suicide inmate. Let us now take a closer look at the basic conclusions of these articles.

The Suicidal Inmate

Attributes of the Suicidal Inmate

As with most behavior, suicide is multidetermined. Based upon 24 cases of suicide from the Los Angeles County and City jail system from the years 1964 and 1971, Heilig (1973) has suggested several hypotheses which may account for the high risk for suicide status of jail inmates.

Heilig has argued that police, probably more often than most caretakers, must assume responsibility for suicidal individuals. As a result, the high risk person is more likely to be found within jail than in any other place aside from mental institutions. Several pieces of data tend to support Heilig's argument. During the course of a suicidal crisis, an individual is more likely to bring himself or herself to the attention of the law. He or she is more likely to drink, commit crimes of violence, act out, or display signs of emotional disturbance when confused, depressed, cognitively constricted or, in a word, suicidal. Behaving in an irregular manner, Heilig asserts, may be a conscious or unconscious attempt to arrange for external control over one's suicidal impulses.

Further, considering jail populations in general, one is struck by the consistency between inmate personality and character traits and attributes that are dynamically aligned with suicide tendencies. "There are social deviants of all kinds, delinquents, violent men, alcoholics, sex offenders, and drug addicts. As a group they act out, are more action oriented and impulsive" (Heilig, 1973, p. 52). Additional similarities between the jail inmate and people who commit suicidal acts exist. Heilig cites a related literature which has compared

is jail. Precise assessment and alternative placement of such individuals might help reduce suicidal impulses.

Motives Underlying Suicide

No doubt there are numerous reasons (motives) for suiciding in jail. Focusing upon these underlying motives, Danto (1973) has listed four broad categories of jail suicide. The first consists of the individual who is emotionally bankrupt. This person has run out of hope and is experiencing a sense of "irrevocable loss" brought on by the separation from friends and family. Within this same category, Danto includes the person who feels an overriding sense of guilt as a result of being incarcerated. In addition, he or she may feel remorse for the antisocial behaviors which led to the arrest.

The second type of suicide stems from what is originally a manipulative ploy on the inmate's part. This type of person will usually choose a non-lethal method (cutting, swallow glass, fake a hanging) in order to acquire secondary gains such as attention, sympathy, hospitalization, etc. Experience has shown "that this person can indeed kill himself if pushed and goaded enough by others around him. However, the event of suicide is unlikely because he attempts suicide to enhance his survival, not to end it" (Danto, 1973, p. 21). Despite the low likelihood of death, such "manipulative gestures" cannot be taken lightly. Accidents and unforeseen events may also intervene. Guards may not make their scheduled rounds in order to rescue the suicide. Shoe laces may prove to be strong enough to hold the weight of a man, and so on. For several reasons, any version of self-destructive behavior, regardless of the degree of apparent lethality, calls for immediate intervention.

Related to the above profile is Danto's third type of suicide. These are individuals who cut their wrists, not for purposes of ending their lives, but to self-mutilate in order to make their lives as painful and miserable as possible. The act may be an attempt to gain atonement for previous acts of homosexuality, masturbation, or crimes leading up to jail admission. Danto argues this type of behavior also

offers the autistic and psychotically withdrawn inmate an opportunity to achieve a sense of feeling. 'I'm in pain, therefore I exist, I am alive.' Such an experience serves as a defense against overwhelming feelings of depersonalization (p. 297).

And finally, the fourth type of suicide act identified by Danto concerns the inmate who cuts or self-mutilates to allow pent up aggressions to leak-out. By unconsciously controlling these feelings which have reached a level conducive to homicide or suicide, Danto argues, the inmate is allowing himself and others to live. This sort of behavior with similar underlying dynamics has been identified by others (Copel, 1967) within hospitalized self-mutilators.

Fawcett and Marrs (1973), studying attempters and completers, have identified two clinical profiles depicting the jail suicide and serious attempter. Group A consists of young, impulsive inmates who show no signs of despondency or depression upon admission. They may have been charged with a violent crime (or have a history of violence) and their suicidal act is usually within the first day or week of incarceration. Fawcett and Marrs argue this impulsive act is "a result of the defense of denial and the acting out of being challenged by the confinement of the jail situation" (p. 104). The authors suggest interviewing all offenders with a history of violence and who show no signs of remorse in a confrontive manner. This approach may lead to uncovering a pervasive feeling of

hopelessness and perturbation beneath a facade of confidence and arrogance.

Group B suicides or attempters were slightly older and completed or attempted suicide later in the course of incarceration. This group displayed obvious signs of clinical depression and often made communications concerning the impending suicide. Group B, as compared to Group A, had the most actual deaths by suicide. Furthermore, these individuals appeared to be more preoccupied with support from loved ones outside the jail; Group B suicides were frequently precipitated by rejection from a significant other. The authors indicated jail personnel would do well to periodically assess inmate support systems outside of the jail. When an inmate appears despondent, or it is known that familial turmoil exists, an extra phone call or special visitation privileges might go a long way in reducing self-destructive impulses within individuals falling into this latter category.

The Trauma of Incarceration

Wilkerson (1973) describes a three-phase process known as Traumatic Reception Dynamics which may contribute to inmate lethality. The first phase involves the initial contact and entanglement with the criminal justice system. For the accused, this is typified by disbelief and denial of the reality of incarceration. Oftentimes, anger, indignation, and a feeling of injustice prevail.

The second phase begins when booking procedures drive home the fact that incarceration is inevitable. The inmate busies himself or herself with assorted legal attempts to gain freedom. When unsuccessful, the inmate may enter the third phase which brings on ideas of illegal means.

Escape, self-mutilation, suicide attempts, and possible completed acts are seriously considered by the desperate inmate in an attempt to find relief from the unbearable circumstances of incarceration.

The highly perturbed inmate may additionally attempt to manipulate his environment through drug usage, homosexual activities, bribing guards, acting out, and intimidating others as well as "vehement letter writing" to various officials in protest of real and/or fabricated stories of guard brutality. Wilkerson (1973) maintains phase three is a high risk for suicide point in the inmate's incarceration experience.

Hoff (1973) and Fawcett and Marrs (1973) all report similar dynamic processes involving incarceration and heightened inmate lethality. These authors identified an initial point of shock following incarceration which is succeeded by a relative period of adjustment. Later (often approximating the time of trial) lethality appears to rise once again. Thus, the probability of suicide appears to be at a peak during two periods, either at the beginning of incarceration in response to the shock of being "caged," or about the time of trial (Danto, 1973).

In conclusion, although tentative, a marked profile for the suicidal inmate does exist. Again, it must be emphasized none of the above reports employed control subjects. In addition, small sample sizes and incomplete jail records further threaten the validity of this profile.

Operationalizing Suicide Cues

For assessment and predictive purposes, techniques which focus upon overt behaviors and events are more effective than those procedures which depend upon hypothesized intervening mediational constructs (Neuringer, 1974). When nebulous concepts such as motivation or personality are

referred to, the reliability of one's techniques may begin to break down. A more reliable starting point would be to focus upon events, circumstances, and behaviors amenable to observation and verification.

Be this as it may, it would be valuable at this time to extract from the above review those attributes and circumstances of the suicide inmate which are consistent with operationalizing procedures. Such factors would thus stand a greater chance of being reliable predictors of suicide.

These would include obvious signs of depression (e.g., stated feelings of hopelessness, helplessness, life being meaningless, crying, not eating, etc.), suicide communications, nature of present crime, and having been rejected by significant others (Fawcett & Marrs, 1974). Further, Heilig (1973) has indicated acting out behavior (i.e., violent toward self or others), obvious signs of extreme anxiety (e.g., agitation, kicking cell doors, etc.), and intoxication are all components to the suicidal syndrome. Danto (1973) reports manipulative behaviors ("suicidal gestures," overly demanding, protesting, etc.), history of crime and violence, and the existence of current familial turmoil may be indicative of suicidal trends. Furthermore, Danto has observed 7 of 10 inmates who subsequently killed themselves could not "see their way clear to leave jail in the foreseeable future" (p. 10) due to excessively high bonds or no bond being granted. According to Danto, such conditions may conceivably escalate feelings of hopelessness or pessimism. Be this as it may, information concerning bond is readily available to jail personnel and would serve well as an index of possible added stress the inmate may presently be enduring.

Several items have been formulated from the above review. These, along with sundry demographic factors believed to be predictive of suicide by other authors, have been compiled into an interview-data collection sheet (Appendix A). This instrument, in turn, was used in the present study to collect information on each case study.

Summary

In contrasting city and county jail annual rates of suicide with prisons and the populace at large, we find the former to be overwhelmingly at highest risk. Focusing upon the jail inmate, per se, we further discover an individual entering a stressful situation where uncertainty and isolation prevail. Given the fact that this person is already enduring the brunt of arrest, possible family turmoil, intoxication, and any other combination of the above mentioned stresses, it is a wonder jail suicides occur as infrequently as they do.

From the available literature, a tentative profile has emerged concerning the high risk suicide inmate. An attempt has been made to focus solely upon the inmate and to operationalize the variables pertinent to screening and predicting self-destruction within jail. It is believed such procedures will be most productive and readily accepted by the criminal justice system.

CHAPTER III

THE PREDICTION OF SUICIDE

Methodological Considerations

The field of suicidology is presently confronted by several formidable methodological issues yet to be fully resolved. Attempts to deal with these obstacles have, on occasion, led to creative and effective methods of research. However, more often than not, additional problems have arisen and the data generated must be considered suspect at best.

Without an awareness of these most basic issues, the reader may fail to comprehend the vast complexities and limitations of suicide research. What follows is a review of the major problems cited by suicidologists attempting to research the act of suicide. While the presented issues are of a general nature and basic to all suicide research, more specific problems pertaining to prediction and scale construction will be elaborated upon when these topics are discussed.

Verification of Suicide

Within the United States during 1974 there were 25,683 "verified" deaths by suicide (U.S. Bureau of Census, 1976). For the reader who is seeing this figure for the first time it may be surprising how many people choose to (and, in fact, do) end their lives each year. It may be even more shocking to realize that, despite the apparent exactitude of this parameter, it is far too low. According to several authors,

there may be from one-fourth to one-third more deaths which are clearly suicide (Choron, 1972). One author has speculated a tenfold increase is a more realistic estimate (Neuringer, 1974).

A major reason for the lack of consensus on "actual" suicide rates stems from existing social, religious, and sometimes legal (in cases of insurance claims) considerations. The stigma of suicide that prevades our culture leads the family to suggest, and even the victim to simulate, a natural cause of death.

In addition, many deaths are less than unequivocal (e.g., single car accidents with one passenger and drug overdoses) leaving the medical examiner with a difficult task of assessment. Alvarez (1970) has stated that "For suicide to be recognized for what it is, there must be an unequivocal note or a setting so unambiguous as to leave the survivors no alternatives" (p. 62).

There are obvious built in biases toward giving the corpse the benefit of the doubt in favor of death by means other than suicide. The end result is a drastic under-reporting and a conservative estimate of the act.

Suicide as an Infrequent Event

Although the annual suicide figure quoted above may appear quite high (25,683 per year), in actuality, relatively few individuals complete the act of suicide. The rate of suicide within the United States is approximately 16.4 per 100,000 of the general populace per year (.00016%). We can conceptualize the national incidence of suicide in everyday terms: Within any U.S. city with a population of 100,000, approximately one or two persons each month commit suicide. That is, in view of all the

everyday stresses, uncertainties, and crises, at most two people from this fairly large metropolitan area suicide. Relatively speaking, when compared to other phenomena (e.g., psychosis is found in at least one in 100), suicide is a very infrequent event.

This presents at least two difficulties for the suicide researcher. First, if traditional statistical methods are to be employed in the analysis, the inclusion of large numbers of subjects is invariably preferred. In an attempt to overcome this problem, researchers have developed diverse methods of research. These methodologies, in turn, have been questioned in regard to basic underlying assumptions.

Neuringer (1974) has conceptualized the range of procedures available to the suicidologist in terms of two broad categories: the method of residuals and the method of substitutions. A word about these techniques would be instructive at this time.

Method of Residuals. This procedure involves studying the residual effects of the deceased as clues pointing to the state of the victim when alive. The memory of friends and relatives, suicide notes, and diaries, as well as psychological tests all become grist for the mill. Neuringer (1974) has pointed out that work with residuals has generated a good deal of interesting and informative material, but investigations employing this technique must be treated with a low level of confidence. The major criticism of this method is that selective and fading memories have unknown validity, while at the same time there is difficulty in instituting controls if one desires to rigorously match suicides with nonsuicides.

Method of Substitution. The second method proposed by Neuringer (1974) is the method of subject substitution. Within this technique, specific populations of subjects (attempters, threateners, and severely depressed individuals) are assumed to be "pale carbon copies" of those people who go on to complete the act.

Carried to its logical extreme, any information pertaining to attempters, threateners, and depressed individuals will have relevancy to individuals who have completed the act of suicide. In view of the difficulty in gathering residual data on completers, the technique has great intuitive appeal.

However, Neuringer has argued that the method of substitution is methodologically unsound in that it rests heavily upon the assumption of a continuity between depression, threatened, attempted, and completed suicide. While this assumption has "superficial face validity," it does not hold up in research (Farberow, 1950; Rosen, Hales, & Simon, 1954). Neuringer concludes that "the method is both logically and empirically unsound and should not be utilized by researchers" (p. 11). In view of Neuringer's convictions, the suicidologist is left with the formidable task of gathering enough cases of completed suicides to make his or her analysis meaningful.

The Prediction of Infrequent Events

The second major issue stemming from suicide being infrequently completed has been discussed by Rosen (1954). Basically, Rosen has argued that a suicide detection instrument, to be effective, must have the capacity to screen a fairly large percentage of suicidal persons (true positives) while at the same time not misclassify a large number

of nonsuicidal patients (false positives) as suicidal. The low frequency of suicide, even within identified high risk populations, is in itself a major limitation in the development of an effective predictor. In any attempt to predict infrequent behaviors, a large number of false positives are obtained (Rosen, 1954).

This becomes a serious problem when screening a very large population as suicide prevention centers or psychiatric wards are required to do. Rosen (1954) notes that among the patients in psychiatric hospitals, the suicide rate is about 40 per 12,000 per year. If we had access to an instrument that could identify 75% of the patients in each category correctly (an instrument with accuracy yet to be obtained), we could identify 30 of the 40 suicides within a population of 12,000. However, Rosen points out in the process we would have misclassified 2,990 of the nonsuicidal patients as suicidal. Such a detection system, Rosen argues, "would have no appreciable value, for it would be impractical to treat as suicidal the prodigious number of misclassified cases" (p. 26).

Rosen further points out that if we raise the cutoff score of the suicide detection instrument, it is possible to reduce the number of false positives, but at the expense of reducing the precision of our tool in detecting suicidal patients. For example, using Rosen's figures, reduction of the number of false positives to only 60 by raising the cutoff score would result in identifying only one of the 40 completed suicides prior to the act.

Rosen suggests the problem of excessive false positives may be reduced by concentrating one's analysis within a restricted population that has an established high rate. For example, suicide within Oklahoma city and county jails has been found to occur at a rate of 561.1 per 100,000

inmates (Lupei, 1978). This rate as pointed out earlier, is several times greater than the populace at large. It may be argued that, given this relatively high rate for suicide, the proportion of inmates identified as high risk, who subsequently do kill themselves if left to do so, will be greater than other populations with rates known to be lower.

However, even with such a circumscribed population, Rosen still sees limitations. The rate of suicide would, for all practical purposes, still remain low; even within jail populations the suicide rate is only .005. Overwhelmingly, most inmates live through the incarceration experience. Excessive numbers of false positives, Rosen maintains, would still be identified.

In addition, Rosen (1954) argues that variables discriminating suicide and nonsuicide groups would be more difficult to obtain within a somewhat homogenous subgroup than within the population at large. This argument seems strange (Lester, 1970) in that it should be easier to obtain differentiating variables using a more homogenous group, and further, the variables identified would be more reliable differentiators (DeVries, 1967).

The problems concerning predicting infrequent events are certainly complex. Since Rosen's (1954) original article, no one to date has adequately dealt with these issues. It might be argued that the whole idea of prediction research is a case of creating more problems than are eliminated. After all, one's percentage of accuracy would be quite high if one simply predicted "nonsuicidal" for each case. Within city and county jails, over 99% of all inmates would be correctly classified as nonsuicidal (i.e., true negatives) while a mere .005% would be

misclassified (i.e., the ones who actually suicide). However, Rosen is quick to point out that it is not appropriate nor meaningful to evaluate a predictive system in terms of identifying correctly nonsuicidals.

What appears to be of greatest import is the extent to which the predictive scores will affect decisions made about the assessed. Given the crude state of the art, the fate of an individual must not be determined solely upon the basis of one predictive instrument. Decisions to be made with persons testing out as high risk cannot be taken lightly. Economical and ethical issues emerge when prolonged forced commitment, extensive repressive measures, or therapeutic intervention result from predictive scores. One author (Murphy, 1974) has argued that for a small portion (about 10%) of the misclassified false positive group hospitalization may be indicated, nonetheless, assuming a small number of these persons are severely disturbed and in need of such care. "For the others, however, the cost of beds, personal expenses and disrupted lives would be unacceptably high" (Murphy, 1974, p. 111).

However, it would seem that if a high risk person is already confined to a hospital or incarcerated in jail, the intervention required would not be ethically nor financially oppressive. In the case of jail, providing a minimal amount of emotional support, allowing a few extra phone calls to relatives and outside support, and placing the inmate in a cell with a "potential rescuer" has been suggested by Danto (1973). In this regard, the issue of excessive false positives is irrelevant to jails.

Differentiation of Suicidal Subgroups

Within research the term suicidal is used to describe individuals

demonstrating a wide range of behaviors. For example, it may convey the idea that a person has taken his own life. However, suicide may also mean an attempt or threatened act. In addition, suicide may refer to exhibited depressive behavior--with or without suicidal intention--or generally manifested self-destructive behavior (i.e., cutting, hitting oneself, etc.).

Upon close scrutiny, the term suicide appears multifaceted. Despite this apparent fact, it has been common practice to pool test data and information from these various subgroups of suicide in order to create one larger suicidal group. The end result of such procedures is a heterogeneous group of subjects in regard to the act committed. The question may then be raised, Can a person who takes his or her own life be sensibly compared and statistically pooled with the person who commits sublethal suicidal acts, including no-risk acts such as suicidal threats? (McEvoy, 1974). Research by Farberow (1950) and Rosen, Hales, and Simon (1954) have raised considerable doubt about such practices.

These two studies have both independently found that suicidal subgroups can be differentiated by means of MMPI test data. Very briefly, the Farberow (1950) and Rosen et al. (1954) investigations demonstrated that, as a group, persons who threaten suicide or verbalize suicide thoughts are much more severely disturbed than either patients who have made a suicide attempt or patients-in-general. Furthermore, patients within the latter two categories are more similar than different from each other. More precise classification of suicidal subjects is clearly indicated by these data.

Rosen (1954) has argued further for greater refinement in the classification of subgroups from a statistical point of view. As elaborated

upon earlier, suicide is a very infrequent event. Even within high risk populations such as persons who threaten or who have previously attempted suicide, very few actually go on to complete the act. Therefore, Rosen contends, data from such persons should not be arbitrarily pooled under the class term suicidal, especially along with completed acts.

Selective Measurement, Prediction, and Homogeneity

Investigations which aim at predicting future suicidal behavior of a general sort will most probably be less efficient and accurate than research which has more focus (Lettieri, 1974). Greater focus in regard to the population of interest will facilitate homogeneity. Greater homogeneity, or lessened heterogeneity of within-group subjects, will in turn promote power and efficiency of one's predictive tool (Lettieri, 1974).

It would seem there are several levels of analysis at which the suicide researcher may gain focus in order to sharpen his or her predictive instrument. As mentioned above, across suicidal subgroups one will probably find more differences than realized in the past. The suicide researcher would do well to circumscribe his or her analysis to one criterion group. That is, in constructing or validating a predictive instrument, suicide subgroups should be considered separately rather than pooled together assuming some common denominator. Rosen (1954) has suggested using at least one criterion group made up exclusively of persons having completed the act.

The more delimited and hence homogenous the group under study, the better the chances are for predicting suicide. This notion applies in a broader sense to the population to which the results are to be generalized. Lettieri (1974) has advised delimiting one's population in terms of several factors such as age, sex, diagnosis, etc. Lettieri has derived special scales for age and sex specific groups from samples of callers to the Los Angeles Suicide Prevention Center. However, the system has yet to be validated.

Others have discussed investigating narrowly defined clinical subgroups (Brown & Sheran, 1972) and specific institutional settings (Motto & Heilborn, 1977). Litman's (1974) work in the area of mathematical models for suicide prediction has raised the issue that suicide is a far too complex and varied phenomena to be dealt with by any one predictive system. Litman has stated that "presumably the best prediction results from using scales consisting of different combinations of signs or cues that are found to be appropriate for each specific setting" (p. 190).

One practical difficulty in limiting subgroups to improve homogeneity and subsequent predictability in the drastic reduction in sample size. This will oftentimes strain the potential to yield statistically useful information (Motto & Heilborn, 1974). It seems clear, Motto and Heilborn point out, that efforts to overcome this problem must accept the burden of gathering a very large initial sample.

Measurement of the Suicidal State

Lettieri (1974) has expressed concern about the actual measuring process of suicidal events. Individuals comprising the experimental group to be used in the construction and validation of predictive

instruments must be measured when they are all sustaining a similiar experience, i.e., a suicidal crisis. This would require the meticulous gathering of data which would accurately reflect the psycho-social state of the individual during this crisis. Rosen (1954) has extended Lettieri's concerns by calling for more precise measurements:

since a patient may undergo marked personality change in the interval between test administration and the act of suicide, it is probably advisable to use data obtained only a relatively short time before the suicide (p. 398).

In almost all instances though, there is a marked time lapse between a suicidal action and the gathering of data (McEvoy, 1974). In the case of suicidal death, the act is rarely predicted and the researcher can use only chance data that may exist in clinical records. Often the time lapse between data collection and death is great and the conditions under which the data were collected are unknown. The time lapse may be of no problem if one assumes critical variables are enduring; that is to say, there are permanent character differences between suicidals and non-suicidals. However, this assumption of endurance is hazardous. Indeed, McEvoy (1974) has pointed out clinical experience would suggest that suicidal disposition is more commonly acute than chronic.

In the case of attempters, persons who threaten suicide and persons who verbalize ideation, the problems are lessened. Within hours of the act or during the suicidal crisis, tests may be applied and data collected. But this method is not without problems. Psychological tests almost always come after the suicidal act. This leaves one with the question of what, if any, effects has the suicidal action had upon the client's disposition. The researcher's major concern should be with the presuicidal state. Because it cannot be known whether an attempted suicide alters critical features that exist prior to the act (e.g.,

discharges tensions and aggression), the question remains whether or not the data represents the state of the individual prior to the act.

A Brief Summary

By now it should be clear that, although difficult to precisely estimate, suicide is a relatively low incident phenomenon. This fact makes prediction a formidable task. In addition, persons who engage in various suicidal acts (threaten, attempt, complete the act) are not necessarily of a typical character, nor are they necessarily motivated by a common denominator. Across subgroups the act of suicide is diverse and classification refinement will be basic to rigorous research in the future.

Homogeneity of samples has been cited as a most important variable in precise research. The reduction of within group variance may be accomplished by: (1) delimiting the population from which the data are drawn and to which results are generalized on the basis of several factors (age, sex, setting or institution, type of suicidal act), and (2) taking measures of pertinent data which represent the psycho-social presuicidal state of the individual. This latter precaution will require data from before and as temporally close to the act as circumstances will permit.

Predicting Suicide

At this time, I would like to review the literature dealing with suicide prediction. In the past, several traditional psychological tests have been used in an attempt to identify cues or signs indicative of the presuicidal state. Stemming from a dissatisfaction with this approach,

others have more recently developed specific suicide tests and lethality scales. The remainder of the chapter is a review of the major projective (Rorschach, Rosenzweig Picture-Frustration, Thematic Apperception) and objective (MMPI) tests traditionally used in suicide assessment. Following this, a number of the recent scalar methods will be examined.

Rorschach

Historically, the most widely used technique to assess suicide is the Rorschach Inkblot Test. This instrument consists of 10 inkblots printed on individual cards, which are presented to the client one at a time. The client is asked to look at each card and tell what is seen or represented there. The client is free to take as much time as required. When the client has responded to all 10 cards, the examiner inquires about each response in order. In this inquiry, the examiner is attempting to determine what part of the inkblot the client was responding to or what portion of the inkblot elicited his or her response.

Several reviews of the Rorschach's capacity to adequately predict suicidal ideation and behavior have not been overly sanguine (Brown & Sheran, 1970; Goldfried, Stricker, & Weiner, 1971; Lester, 1970; Neuringer, 1965, 1974). However, Neuringer (1974) argues that these reviews do not call the Rorschach test, per se, into question. It is the appropriate usage, interpretation of the test, and basic methodologies, rather, that have been found to be lacking.

A great deal of the research using the Rorschach to assess suicidal risk has suffered from many of the methodological pitfalls reviewed in the previous section. For example, many have differed in regard to conditions under which data have been collected. Further, definitions

of suicidal groups have varied from study to study. Most studies were carried out by testing patients following an attempt, or by using patients classified as having suicidal tendencies before the test was administered. These distinctions were made and yet, "before" and "after" protocols were, within single studies, lumped together, ignoring any differences within these data.

In addition, researchers using the Rorschach have typically not attended to the time span between the suicidal event and testing. Obviously these procedures are a threat to the validity and reliability of any predictive instrument. With these methodological flaws in mind, let us now turn to the results of this literature.

Neuringer (1965) classified studies using the Rorschach into four groups: (1) investigations of determinants and ratios, (2) single signs, (3) multiple signs, and (4) content. Research investigating determinants and ratios has been carried out by several authors (Brodia, 1954; Crasilneck, 1954; Fisher, 1951; Pratt, 1951). After considering replication studies, Neuringer (1965) was unable to discover any determinant and ratio criteria which had reliability in demonstrating suicidal tendencies.

Research relating signs and multiple signs to suicidality have shown some predictive value. Applebaum and Holzman (1962), Sakheim (1955), and Sapolsky (1963) all report limited success in detecting suicidal trends using single signs while Hertz (1948), Martin (1951), and more recently, Exner and Wylie (1977) have all found multiple signs to be effective. For example, Martin's (1951) system has been successfully replicated (Boreham, 1967; Daston, 1967); however, these were single case studies.

The Exner and Wylie (1977) study is promising in that several methodological problems were considered in the design. A brief review of this article may be instructive.

The authors collected the Rorschach protocols of 59 completed suicides and 31 attempted suicides, all of which were gathered within 60 days prior to the act. The cases were categorized in terms of method used and then subject to computer analysis. Three control groups were used: inpatient depressive, inpatient schizophrenics, and nonpatients. A constellation of 11 factors were found to be relevant, a composite of eight or nine of these identified 75% of the completed group and 45% of the attempters while including as false positives 20% of the depressives, 12% of the schizophrenics, and none of the nonpatients. The authors point out the accuracy of the system is reduced as the lethality of method used is at a minimum. Further research is needed before the true value of single and multiple sign techniques are established.

In a recent review, Neuringer (1974) has suggested that practitioners rely most heavily upon content in order to assess suicidal trends. If suicidal content appears, it should be taken very seriously since its manifestation could be an indication that self-destructive behavior is close to the surface. The suicidal person may be using the test protocol as a medium of communication to the examiner about his present status and intentions. However, Neuringer warns that the clinician should not make an inference about suicidal behavior based solely upon Rorschach data. Case history material and data from other tests in conjunction with the Rorschach will help maximize the accuracy of one's assessment.

Rosenzweig Picture-Frustration Test

The Rosenzweig Picture-Frustration Test (RP-FT) is another projective technique, though different from the Rorschach in that pictures are used to stimulate the client's responses. Derived from Rosenzweig's theory of frustration and aggression, this test presents a series of cartoons in which one person frustrates another. Client responses are classified with reference to type and direction of aggression, assuming his or her response to the card is a projection of their own aggressive feelings. In view of the relationship between suicide and aggression (McEvoy, 1974), this instrument would seem to have relevancy.

Lester (1970), however, has concluded that the RP-FT appears to have little use in identifying high risk for suicide persons. A review of the studies investigating the use of this instrument revealed that only E (intropunitive) scores were found by more than one study to differentiate groups of patients. Farberow (1950) reported that attempters scored lower than persons threatening suicide, while Winfield and Sparer (1953) reported attempters to score lower than the norm of the test.

However, two studies (Arneson & Feldman, 1978; Fisher & Hinds, 1951) have failed to find E scores capable of differentiating between groups of patients, or for that matter, the scores of any groups to differ from the norms of the test. It is worth noting that all studies involving the RP-FT collected data at times other than just prior to the suicidal act.

The Thematic Apperception Test

The Thematic Apperception Test (TAT) is another projective technique developed by Murray (1943) to assess the drives, emotions, and conflicts of personality. The test consists of 30 pictures, some of which are

primarily for men, women, girls, or boys, and others for everyone. The client is instructed that he will be shown some pictures and is to make up a story for each one. The client is then asked to elaborate in regard to what led up to the event in the picture, what is happening in the picture, what the people in the pictures are feeling and thinking, and what the outcome will be. The basic assumption underlying the TAT is that the stories created by the client will reveal inhibited tendencies that he or she will not or cannot describe.

The literature on the TAT in the area of suicide assessment is sparse and not easily compared for purposes of generalization. McEvoy (1974), upon reviewing all available articles, concluded:

Perhaps the only general conclusion is that the test has not proven to be useful for this purpose (suicide detection). Nor does it likely appear to do so in the near future until after several methodological problems are successfully resolved (p. 102).

If by now the reader is disillusioned with the projective techniques in detecting suicidal trends, it should be only because of the confounding research procedures used within and across investigations. While most of these problems have already received at least brief mention, two additional issues, especially related to projective techniques, deserve attention. One concerns the concept of aggression as related to suicidal trends; the other is the issue of suicidal thoughts and impulses as a common or normal attribute within most everyone.

Problems with Projective Techniques

McEvoy (1974) has expressed concern about suicidal activities and how these behaviors relate to the concept of aggression. Suicide has been associated both theoretically and clinically with depression and

self-directed aggression or intropunitiveness. Particularly aggression, McEvoy points out, has played a prominent role in suicide theory. So it is reasonable that many investigations in the area have focused upon aggressive content of test material.

These studies have been based upon the assumption that suicidal persons handle or express aggression differently than nonsuicidals. Suicidal individuals are disposed to more self-blame or self-punishment which, given enough environmental stress, may ultimately lead to self-destruction. However, McEvoy argues there are at least two reasons for questioning the theory that suicidal behavior is a form of self-directed aggression or hostility.

First, in many instances, especially when one considers suicidal threats or "gestures," it is abundantly clear that the behavior is punitive or manipulative toward others rather than toward oneself. Secondly, it should be noted that suicidal persons are often anything but violent or aggressive. Their behaviors toward themselves are so varied that simple classification such as self-directed aggression is defied. In conclusion, the dynamic relationship between suicide and self-directed aggression still remains empirically unestablished (Neuringer, 1974).

A second issue pertaining to projective tests and suicide detection is the concern of whether one can actually obtain discretely different groups (to test) in terms other than the single behavioral event responsible for classification. That is to say, several investigators cited have failed to discriminate suicidal from nonsuicidal groups. Rappaport (1950) has argued that it is a commonplace that patients who later commit suicide, or patients who exhibit suicide ideation, may give as many and

no more outright suicidal responses to a stimulus implying suicide as any other (normal) person. Rappaport (1950) argues that "the fundamental impulses which underlie suicide are present--though in different constellations and intensities--in us all" (p. 90).

Furthermore, present within us all are the controls prompting the defenses (suppression, repression, denial, and reaction formation) which may distort these impulses. Consequently, we might anticipate similarities between suicidal and nonsuicidal groups (at least as measured by projective tests), and these similarities may be responsible, in part, for the inability of projective techniques to reliably discriminate suicides from nonsuicides. Although an interesting proposition, as yet it has not been empirically explored.

A final concern of McEvoy's (1974), which has application to both the researcher and practitioner, is the fact that unforeseen accidents exert an effect upon the outcome of a suicidal person's actions. Theoretically, the psychologist is most interested in the intentions, rather than outcome, of the suicidal act. Tests typically measure the person's underlying motives, expectancies, and state of mind, or in a word, what are his intentions in regard to ending his or her life. To quote McEvoy:

events are often perverse, and real consequences are not necessarily consistent with intention. In the extreme there are tragic cases of miscalculation or purely accidental death in the person who neither expects or wants to do it. Likewise there are miraculous or freak cases of survival in the face of incredible odds. In between there are less dramatic but numerous instances in which a real discrepancy exists between the expected and the real outcome (p. 96).

Be this as it may, the clinician and researcher alike must, in the final analysis, take into account the very real possibility of accidental outcome.

Conclusion on Projective Techniques. Although the RP-FT and TAT have shown little promise as suicide predictive instruments, the Rorschach continues to demonstrate usefulness. However, to what degree one may rely upon this time honored method of assessment is presently unknown. Neuringer (1974) points out there does not appear to be any specific determinants, signs, or content that is associated with suicide under all conditions; that is, there is no specific pathognomic sign on the Rorschach for suicide which is so robust as to transcend all circumstances and degrees of lethality. He is also quick to point out this is probably as much a product of research methodology as any other factors.

In this regard, the Exner and Wylie (1977) data must be taken seriously; the study has solved many of the problems that have previously threatened the validity of most other investigations. These include: separation of attempters and completers, large number of subjects, protocols collected within a reasonable time period before the act, and elaborate and precise control groups. Of course, these authors have had the advantage of standing on the shoulders of many other sincere researchers; it is hoped that future suicidologists will also use this vantage point to enhance the understanding of the Rorschach and other test instruments in relation to suicide.

Minnesota Multiphasic Personality Inventory

Turning now to the objective tests, we find a vast literature of MMPI-suicide prevention studies which have appeared since the inception of the test. The MMPI is one of the most widely used objective tests which contains 550 statements covering many areas of life experience to

which the client responds "true," "false," or "cannot say." The responses are counted and yield scores on four validity scales and nine clinical scales. The validity scales assess the client's tendency not to respond to items, to give socially acceptable answers, to be defensive, and to misunderstand the items. The clinical scales were designed to discriminate among various types of patients receiving various diagnostic labels from psychiatrists. A thorough description and review of the MMPI has been published by Dahlstrom, Welsh, and Dahlstrom (1972).

Three major reviews of the MMPI-suicide detection literature (Brown & Sheran, 1972; Clopton, 1974; Lester, 1970) have all cast considerable doubt upon the test's efficiency and effectiveness in assessing suicidal trends. Nonetheless, a brief review of the more salient investigations is called for to give the reader a feel for the MMPI's capacity to predict suicide.

Three different approaches have generally been taken in utilizing the MMPI for suicide assessment: the standard scale, profile analysis, and item analysis. The following review will follow this established framework.

Standard Scales. The scale most consistently found elevated within suicidal groups is Scale 2 (D). Dahlstrom et al. (1972) state that Scale 2 of the MMPI is an index of the degree of a person's depression. Further, this mood state is on occasion accompanied by a preoccupation with death and suicide. However, Dahlstrom et al. note that, alone, Scale 2 is not an ideal predictor of suicide. The implications of an elevated Scale 2 depend upon variables outside of the test. For example, when Scale 2 is high and the person's behavior is counterindicative of depression (i.e., he may deny depressive thoughts and feelings) the risk

of suicide is probably much greater. Thus, in and by itself, Scale 2 is not a reliable index of suicide (Dahlstrom et al., 1972).

Others, concentrating upon standard MMPI scales, have reported inconsistent findings. Simon and Hales (1949) found Scales 2 and 7 (Pt) to be elevated within psychiatric patients with suicide preoccupations while Simon (1950), except for a peak on Scale 2, found no predominant trends in psychiatric patients tested after attempting suicide. In this same study, Simon examined the scale scores for various diagnostic classes which revealed no Scale 2 elevation within suicidal patients diagnosed as alcoholic and psychopathic. However, in view of the small sample size used (22 patients total before classification into diagnostic groups) and the fact that no control group was employed, these findings must be considered with caution.

In general, the trend appears to be suicide ideation and threatened groups have elevations on many of the MMPI scales when compared to attempters and nonsuicidal groups (Lester, 1974). Rosen, Hales, and Simon (1954) found suicide ideators to score higher on most scales than either attempted suicides or nonsuicidal controls. As already mentioned, Farberow (1950) found threateners to score higher than controls and attempters on Scales F, 2, 4 (Pd), 7, 6 (Pa), 8 (Sc), and 9 (Ma).

Profile Analysis. Subscales considered in conjunction with one another have been used to predict suicide. Several authors have attempted to develop a suicidal profile based upon MMPI data (Devries & Farberow, 1967; Devries & Schneidman, 1967; Holzberg, Cahen, & Wilk, 1951; Marks & Seeman, 1963).

In an early study using only one subject, Holzberg et al. (1951) found the MMPI profile of an individual tested three days prior to

completing suicide to be within the normal range. A later and more rigorous study by Devries and Schneidman (1967) attempted to correlate MMPI tests taken monthly by five patients with a self-rating score for lethality. No MMPI scale correlated significantly with the lethality scale for more than two of the patients. Devries and Schneidman concluded that changes in patient lethality are not reflected in MMPI profiles. When a person becomes acutely suicidal, MMPI scores will not change along with the person's disposition in the form of a noteworthy profile.

Marks and Seeman (1963) identified 16 common profile codes in general based upon a set of explicit rules and the two or three highest scale scores for that profile. The authors collected a vast amount of information from 1,200 subjects used to devise the profile system. Included within this data was the rate of suicide attempts, thoughts and threats per subject. Later research found profile types 4-8-2 and 4-6-2 to be higher than established base rates for all three suicidal behaviors. Profile types 2-7-8 and 2-8 also showed promise as suicide assessment profiles.

However, when Scale 2 was accompanied by elevations of either Scales 1 and 3 or 7, suicidal behaviors were lower than base rates. Overall, the findings suggest that, with greater refinement, the MMPI profile technique may become a worthwhile approach in predicting suicidal trends.

Item Analysis. Devries and Farberow (1967) attempted to ascertain those items on the MMPI that have assessment value for suicidal acts. Using psychiatric patients who completed the act, threatened suicide, attempted suicide, and nonsuicidal groups of patients, the number of discriminating items found did not exceed chance. In a second study,

Devries (1966) once again found very few items that significantly differentiated any of the suicidal groups. Devries concluded the MMPI could not be used to accurately predict suicide attempts.

Simon and Hales (1949) performed an item analysis of male patients who were judged to be preoccupied with suicide. Seven items in Scale 2, and 10 in Scale 7, were found to be answered in a consistent direction by the groups. However, there was no control group to which these results were compared.

And finally, Simon and Gilberstadt (1958) found 23 of the 550 MMPI items to differentiate completed suicides from nonsuicides. The authors point out, however, that this number of significant differences may be spuriously obtained by chance. Furthermore, inspection of the items revealed a lack of face validity. After failing to cross-validate the items, Simon and Gilberstadt rejected the notion that MMPI items may be useful in predicting suicide.

A Brief Conclusion. To date, neither standard MMPI scales, the profile approach, nor item analysis have demonstrated utility in assessing suicide rate. Many of the inconsistent and nonsignificant results reported are no doubt related to methodological flaws which have plagued this area of research (Lester, 1970). From the three approaches reviewed above, the profile analysis has shown the most promise. However, more extensive work is needed before this technique may be relied upon as a valid index of suicide lethality.

It is interesting to note that little MMPI research has been performed using groups of completed suicide victims; and what little has, the test has poorly discriminated actual suicide victims from non-completed suicidal groups (Simon & Gilberstadt, 1958; Rosen et al., 1954;

Farberow, 1950). This being the case, it must be concluded that the MMPI has yet to be found effective in identifying the most lethal individuals--that is, the actual completer.

Many contemporary suicide researchers would agree that--although there have been scattered successes in using traditional psychological instruments in the area of lethality assessment--for the most part, these tests have not proved to be of great use (Neuringer, 1974). Recently, in conjunction with the new suicidology movement (Schneidman, 1977), several tests and scales have been developed specifically for suicide prediction. These instruments have an advantage over psychological tests of a general sort in that they are more focused in their approach; they have as their specific goal to predict solely suicide, often within a narrowly circumscribed population and setting.

The lethality scales have additional value in that this approach concentrates upon overt behavior and verifiable demographic data. The result of this can be, according to Neuringer (1974), more reliable and conclusive results than if one derives a starting point from hypothesized, mediational constructs.

What follows is a review of two tests designed specifically for suicide prediction; next, several of the newly advanced scales will be considered. Following this, I would like to briefly outline several issues that have arisen since the development and implementation of lethality scales.

Suicide Tests

Efron (1960) devised a sentence completion test and administered it to a group of patients showing suicide ideation, an assaultive group,

and a nonsuicidal group. The protocols were then turned over to four staff psychologists for classification into the three categories. The percentage of correct identification of suicidals varied from 30 to 45%. To gain some idea of the number of false positives the test would identify, Efron gave the raters a sample consisting solely of nonsuicidal patients which resulted in the "assessment" of 33% suicidal. In conclusion, the test has possibilities (one rater correctly classified 79% of the patients); however, mere clinical observation may serve as well, if not better, in identifying suicidals (Lester, 1970).

Devries (1966), using the critical incident technique (Flanagan, 1954), reviewed the suicide literature and collected together salient characteristics of suicidal patients. From this collection, 55 MMPI-like items were written of which 13 were found to have discriminant value in differentiating nonsuicidals from previously suicidal patients. Devries used a cut off score of seven (items) which resulted in identifying 56% of the suicidal patients at a cost of only 37% false positives.

Lester (1967, 1968) found Devries' test could differentiate college students who reported having been suicidal from nonsuicidal students, even when the degree of emotional disturbance between the groups was controlled. Lester (1967) reported mean scores on the Devries test as follows: nonsuicidal group, 2.6; considered suicide group, 3.7, attempted or threatened group, 5.5. Because the attempted and threatened groups were not significantly different (according to the test scores) Lester combined these two groups together.

Scalar Methods of Predicting Suicide

The Suicide Potential Scale first constructed by the Los Angeles

Suicide Prevention Center (Litman & Farberow, 1961) was derived from clinical experience. It was an instrument used by telephone counselors to assess client lethality and with several modifications, became a predictive tool as well. Age, sex, suicide plan, stress, symptoms, prior suicide attempts, resources, life style, and reaction of significant others were the criteria used to classify callers either low, medium, or high in suicide potential.

At least one follow-up report has shown the scale to have validity in differentiating those who committed suicide from those who do not (Litman, 1970).

Miskinnins and Wilson (1969) developed a 16-item Suicide Prediction Scale (16-SPS) to assess the individual who would commit suicide subsequent to psychiatric hospitalization. The 16-SPS items are based upon the following demographic and clinical characteristics: sex, age, diagnosis, times admitted, marital status, education, preoccupation, slowing of thought, language use, anger, depression, apathy, inappropriate behavior, social patterns "against," impaired effectiveness, external precipitating stress, and danger to self.

Braucht and Wilson (1970) found the 16-SPS would correctly classify 68.4% of the nonsuicidal group (6,577 of 9,613) and misclassify 31.6% (3,036 of 9,613) as suicidal. Essentially, the scale would select about one-third of the total hospital population as potentially suicidal. The authors concluded that although practical considerations in some hospitals' settings may not allow such overprediction, this problem may be considerably reduced in services such as a crisis clinic or suicide prevention center where higher suicidal base rates are common.

Tuckman and Youngman (1968) have identified six demographic factors (age, sex, race, marital status, living arrangements, employment status) and four personal-historical variables (physical health, mental condition, medical care within the past six months, and previous attempts) which correlate strongly with subsequent completed suicides of previous attempters. Each of these factors have been found in other studies (Robins et al., 1959; Dopart & Ripley, 1960) to be characteristic of populations of completed suicides. Tuckman et al. (1968) estimate a person found to possess all 10 of the characteristics mentioned would be several hundred times the risk of suicide for the next year than would be true of the population at large.

Buglass and Horton (1974) devised a scale to predict repeater "parasuicidal" (attempted suicides) individuals. Documented was information on patients admitted to the Regional Poisoning Treatment Clinic in Edinburg, England, after an act of parasuicide in three successive years. Patients readmitted to the Clinic for further "parasuicidal" behavior within one year of their initial admission or who completed suicide within the same time period were termed repeaters and compared with non-repeaters.

A simple five-item scale was devised from these data which included: sociopathy, problems in the use of alcohol, previous psychiatric treatment, previous parasuicide behavior, and not living with a relative. The authors reported the instrument to validate reasonably well in terms of predicting repeated suicide acts.

And finally, Motto and Heilborn (1976) obtained a wide spectrum of predictive variables (162 demographic, social, and psychological factors) previously identified by workers within the field as indicative of high

risk for suicide. Next they considered two time periods within the lives of 40 men and 42 women who, after discharge from a hospital, subsequently completed suicide; the first period was status upon admissions and the second reflected circumstances at the time of discharge.

Two separate predictive instruments were developed, one for males and one for females. The authors found several factors capable of discriminating either of the two suicide subpopulations from nonsuicidals. Motto and Heilborn (1976) concluded future development of more accurate measuring instruments for suicide risk appears to lie within the "progressive refinement of subpopulations from which the instruments are generated and to which they are applied" (p. 192).

At this time, I would like to cite and briefly discuss a number of issues which have emerged with the development and use of the scales reviewed above. Though demonstrating effectiveness, these instruments are not without problems.

Signs or Predictive Cues

As the above review has demonstrated, scalar techniques have incorporated various behavioral and historical demographic cues or signs which have been found to discriminate the suicidal (attempters, indicators, or completers) from the nonsuicidal person. All research in the area of suicide prediction may be viewed as an attempt to discover these discriminating signs (Brown & Sheran, 1972).

Be this as it may, a word about the data points from which lethality scales are constructed seems appropriate. I would first like to discuss the notion of generalizability, or, to what extent we may expect cues to high risk for suicide to hold up across different circumstances or

populations. Second, the issue of demographic versus clinical predictors will be explored; and finally, the length and scope of an effective instrument is considered.

Generalizability of Signs. Brown and Sheran (1972) have argued that the tacit goal of the suicidologist has traditionally been thought to be the discovery of highly generalizable signs. Yet it has frequently been demonstrated that signs which predict suicide for one population or institutional setting often prove to be less useful or in direct contradiction within others. For example, Miskimins and Wilson (1967) have reported less outward disturbances among patients who have committed suicide than patients in general. Yet Farberow, Shneidman, and Neuringer (1966) report opposite findings.

Another example of this would be Tuckman and Youngman (1968) in Philadelphia who have reported several attributes characteristic of suicide attempters who subsequently go on to kill themselves. In conflict with these findings, Cohen, Motto, and Seiden (1966) report not finding these same attributes to be significantly related to similar populations in San Francisco. Further, Brown and Sheran cite research by Shneidman and Farberow (1961) in which no relationship was found between social class and suicide in Los Angeles, while Sainsbury (1955) reports such a relationship in his London study.

Any one or all of at least three influences may be operating here to account for these inconsistent findings across different populations. First, basic methodological flaws may render each study uncomparable. Second, inconsistent operational definitions of concepts may also contribute to the problem. And third, and more germane to the present discussion, is a problem with the weak assumption that crucial attributes

of suicide cases in one population will be shared by suicides elsewhere. To insure against being misled by data from sources other than the population and setting with which one is working, one need only perform research delimited to the population of interest. At best, we can use others' research findings as a rough guide to our own if we expect optimal prediction.

Demographic Versus Clinical Predictors. An academic argument seems to be in progress as to which data or signs are more valid, demographic or clinical. Diggory (1974) has identified several inadequacies and weaknesses in the use of demographic information in predicting suicide: "we often speak of demographic data as though they represent for the social sciences something analogous to the speed of light or specific gravity in physics" (p. 61). Diggory goes on to say:

Speaking of these data as though they were eternal verities obscures and disregards the fact that they are quite variable and indeed one of their most stable characteristics may be their variability from year to year (p. 61).

Diggory further argues that in our search for "instant security" we will cite those features of suicide that are most stable and happen to be characteristic of a national profile. The stability of these "facts" on suicide may be more apparent than real, however. That is to say, they remain only because of a mutual cancellation of mere random variations in many of the component subgroups of the populace at large. Generally speaking, the more restricted a population of interest is, "the more likely one will become impressed with the large amount of variability in the demographic data on suicide" (Diggory, 1974, p. 61).

Others see merit in adopting both demographic and clinical signs to predictive systems (Lester, 1974; Tuckman & Youngman, 1968). Lester

(1974) purports that although demographic data say little about the individual and his current lethality, they do help to identify target populations at high risk and facilitate program development. Once the population is identified, clinical knowledge about the individual client can then be put to good use.

For example, Tuckman and Youngman (1963) have shown that nearly 7% of a sample of white males, over 45 years of age, living alone and having made a previous suicide attempt, subsequently killed themselves within one year after the attempt. It would be virtually impossible to label and effectively treat this entire identified high risk subgroup. This would result in being wrong 93 cases out of 100. And 93% of the prevention effort would have been misdirected. However, with clinical information on each individual, in conjunction with the demographic data, one need only attend to clients manifesting given symptomology.

Murphy (1974) has asked the question "Why argue demographic versus clinical prediction? If we are to find which variables are accurate predictors of subsequent suicide, we must use all tools available" (p. 115). Demographic data, as well as clinical signs, cannot stand alone in risk assessment. Demographic information, as mentioned, helps us identify risk populations, yet:

it must be remembered that while the opposite of psychiatric illness (no psychiatric illness) is a virtual guarantee of no suicide, the same is not true for demographic predictors. The opposite of male (female) contributes 25 percent or more to the suicide rate. Persons under 45 comprise about 25 percent of suicides. Most easily overlooked of all is the fact that the majority of suicides are married, not single, widowed, separated or divorced. The limitations of an exclusively demographic approach are thus evident. Clinical diagnosis plus demographic characteristics broaden the scope of risk detection, while sharpening its accuracy (Murphy, 1974, p. 115).

Considering the early stage of development, future predictive systems must strive to discover a broader range of variables if the state of the art of suicide prediction is to be refined appreciably.

Length and Scope of Predictive Instruments. A word of caution may be appropriate at this time. Granted, there must be a set of potent factors which are highly associated with the suicidal act. Further, one of the greatest difficulties with suicide research is a lack of this critical information (Neuringer, 1974). However, depending upon the circumstances, only a limited type of data are of real value to the practitioner in assessing suicide risk. Discretion must be practiced not to overload the assessor with information which is redundant and possibly overly cumbersome.

It has often been assumed that suicide assessment will become accurate when more relevant information is available. However, this idea is not to be confused with the notion that predictive accuracy will rise with increased amounts of information, an idea which appears to be contra-indicated (Goldberg, 1968). There is little reason to believe that vast amounts of information contained within long predictive instruments will be any more efficient in predicting suicide than more concise and germane predictive tools (Lettieri, 1974).

In addition, a good deal of information pertinent to suicide assessment may not be available to the assessor within given circumstances. For example, the telephone counselor at suicide prevention services is hardly in the position to collect extensive historical data from a highly perturbed caller. The chances of missing data and no classification in such instances is great. It would be more realistic to gather the most salient information using a shorter scale addressing areas which are

more accessible. Lettieri (1974) recognized this problem of devising a scale (1) simple enough to be used by phone workers and (2) both empirical and efficient enough to allow for a relatively accurate risk assessment. The author developed a "long" and "short" version. Every effort was made to collect all necessary information to complete the short form. If this was accomplished, the worker would then go on to use the long form which provided a more reliable index of caller perturbation and chances of suicide. In this way, if the call was abruptly terminated or not enough information was available, the chances of the worker gaining enough information to make an assessment was heightened.

A Brief Conclusion. In summary, the prediction of suicide is a formidable task. Several methodological issues need to be considered and ironed out before effective suicide assessment will prevail. There has been a good deal of work in the area with limited success. It appears traditional psychological tests are lacking in ability to pick up the presuicidal state, but we cannot be certain if this is a problem with the instruments, per se, or methodologies used to assess their usefulness. This is especially true for the projective techniques. However, until further research is carried out which is methodologically more sound, the true validity and reliability of these tests is unknown.

A good deal of promise seems to exist within schedules specifically devised for the assessment of suicide. Demographic, behavioral, clinical, and circumstantial data are focal within these systems. Neuringer (1974) has made an argument for this procedure which focuses upon overt behavior rather than hypothesized intervening mediational constructs. With additional research employing circumscribed populations (type of

act, cultural background, institution setting, etc.) and a well operationalized data base, scalar techniques should prove to be of great help in assessing suicide risk (Neuringer, 1974).

CHAPTER IV

BASIC HYPOTHESIS AND METHODOLOGY

Central Hypothesis

The present investigation was an exploratory, empirically-oriented analysis of jail suicides. The main objective was to identify cues or signs associated with inmate suicides. These data, in turn, were used to develop a predictive profile of the high risk for suicide inmate. The investigation was basically atheoretical. However, in reviewing the literature, several ideas emerged that may be combined into a formal and testable hypothesis:

It is this author's belief that inmates who have completed the act of suicide can be postdictively discriminated from inmates who have lived through incarceration based upon one or several of the following demographic-behavioral attributes:

1. Age,
2. Sex,
3. Race,
4. Current familial problems,
5. Intoxicated,
6. Likely extended incarceration,
7. Nature of present crime,
8. History of crime,
9. History of violence,
10. Previous threats and/or attempted suicides in jail,
11. Currently depressed,
12. Overly demanding,
13. Currently violent,
14. Currently agitated,
15. Physical health.

Selection of the above factors has been based upon previous research

within the area of suicide prediction as well as the feasibility of obtaining the data (see Procedures below). These variables are operationalized in greater detail within Appendix B.

A rationale for the above hypothesis lies within the inherent difficulty of discriminating highly suicidal inmates from low risk inmates. Many individuals admitted to city and county jails possess high risk for suicide attributes (e.g., white male, 50 years of age); many also endure the life stresses frequently related to suicide (e.g., recently divorced or separated from one's spouse). In addition, well over half of all processed offenders are involved in drug related crimes which often result in an intoxicated offender. Though it would seem many of these individuals might be high risk for suicide--especially in view of the strong relationship between isolation, alcohol intoxication, and suicide--by far, most inmates live through incarceration.

Be this as it may, the researcher attempting to predict jail suicides would do well to employ as many pertinent and observable factors as possible. That is, accurate prediction of high risk status would seem to lie not within single attributes, but rather, within certain combinations or clusters of variables.

For example, while specific demographic data such as age or sex may say something about one's degree of suicidality, additional knowledge of history of violence or acting out may indicate further how this person copes with stress such as incarceration. Further, current behavioral observations (e.g., agitation, speaking of despondency, etc.) would presumably indicate the inmate's subjective experience and suggest current level of coping or lack of coping.

The extent to which these demographic, historical, and behavioral factors accurately predict suicides, and which variables contribute most to the predictive profile was an empirical question to be addressed in this study.

Subjects

Suicidal Group

Two criteria exist for a case to be included in the suicide group: (1) the individual must have completed suicide, and (2) the act must have occurred in a city or county jail. Threatened and attempted suicides were not included in the present investigation. In regard to criterion two, one subject was first identified as a suicidal group subject but later rejected from the analysis. This particular individual had completed suicide and had died in jail. However, the act was initiated outside of the jail. After ingesting rat poison and wine at home, the victim attempted to drive to the local cemetery to "die next to his mother's grave." Tape recordings were found at the victim's home after his death indicating his motives. In the process of traveling to the cemetery, the victim was stopped by police, arrested, and incarcerated for Driving Under the Influence. Subsequent to the arrest, two days later, the victim died in jail.

Age, sex, and race of the victim were not limiting factors. Nor was the location of the jail facility. All local and county jails within the state in which a suicide occurred between January 1, 1977, through this writing (September 1, 1979) were included in the analysis.

Comparison Group

Selection of the comparison group subjects was performed during the on-site visits (see Procedures section). Within the initial phase of the interview, the jailer was asked to determine the last inmate released on his shift the day before. This usually involved referring to the jail log. If no one was released the day before, the jailer was instructed to go back to the preceding day or until a comparison subject was established. If two or more persons were released together, the flipping of a coin determined who would be included. Once the comparison subject was established, interview procedures began.

Procedures

Preliminary Research

Basic to the present study was a review of several available suicide assessment systems (Braucht & Wilson, 1970; Burlass & Horton, 1974; Litman & Farberow, 1961; Miskimins & Wilson, 1969; Motto & Heilborn, 1976; Tuckman & Youngman, 1968). In addition, eight articles published within Danto's (1973) book, Jail House Blues, were examined. These latter articles specifically deal with the incident of jail suicides as well as "etiological" factors which give rise to such behavior.

From these scales and reports, the author compiled a list of variables believed to be valid (to varying degrees) in assessing suicide risk within various settings. Then, in an explanatory "shotgun" fashion, this list was used in gathering data on each suicide case. Factors that were consistently available within the limits of the data collecting procedures were used in the final analysis.

Data Collection

All data gathering activities were performed through the Office of Charities and Corrections. This office is charged with the responsibility of annually inspecting all city and county jails and investigating all deaths which occur within these facilities.

During the month of April, 1978, permission to enter the Charities and Corrections suicide investigation files was granted by the Commissioner of that office. All pertinent demographic and behavioral information that was available on each case was recorded. Eighteen suicide cases were identified at that time.

In order to gain further information, and for purposes of validating already acquired data, on-site jail visits were scheduled through the Charities and Corrections' office. In addition, comparison group data were collected during these same visits. To this writing, 21 case studies have been examined.

On-Site Jail Interviews

Invariably, the first contact made during the site visits was with the Sheriff (in the case of county jails) or the Chief of Police (in city jails). After establishing a rapport with these individuals, the needs of the project were explained as follows: (1) an interview with a jailer pertaining to someone who had been recently released (comparison subject), (2) an interview with all available persons who had made substantial contact with the victim prior to the act, and (3) access to all records, reports, and notes pertaining to the victim.

In all cases, the Sheriff or Chief were cooperative to the fullest extent. Several called in arresting officers who were off duty at the

time. The interviewer was usually given a room or some facilities to conduct the interview while needed records were retrieved and brought to this area.

In order to minimize a "pathological set" which might be produced by talking about the suicide victim, comparison group subject interviews were performed first. This usually began by telling the jailer that

Although I am interested in jail suicides, right now I am more interested in the behavior of inmates in general. I would like to talk with you right now about someone who has recently been released from your jail.

This usually required some explanation. Depending upon the jailer's apparent sophistication, a brief statement about who was to be discussed and how we might choose this person (comparison subject) followed. Once the jailer appeared comfortable with the procedures, the comparison subject was selected and the rap sheet (criminal record) was accessed.

Name, age, sex, marital status, nature of current crime, criminal record, and history of violence were usually contained within these records. After documenting this information, the jailer was asked "How did the inmate appear to you in regards to his or her physical health?" This question was designed to reduce any concerns of being evaluated within the interview and to focus the jailer's attention upon the subject being discussed.

Following this, the jailer was asked "How was the inmate behaving? When you were around him, what was he like?" The question was left open ended. The jailer was allowed to talk freely. When the jailer stopped talking, he was probed further with, "Tell me more." Once he could be prompted no further, the interview became more structured.

Specific questions relating to inmate behavior were asked (see Appendix A). Every effort was made to couch these queries in concrete,

everyday terms and to substantiate all interviewee descriptions of the inmate subjects. If the inmate was described as intoxicated, the interviewee was asked "What was it that led you to believe he was drunk?"

Once all needed information in regard to control subjects was gathered, the victim interview follows. This involved the jailer used in the comparison interview (if he had interacted with the victim), as well as any other jail personnel making contact with the victim (arresting officers, other jailers, dispatchers, Sheriffs, and Chiefs, as well as secretaries and District Attorneys).

Statistical Analysis

The behavioral/demographic data collected from records and site visit interviews were reduced and computer analyzed using a Stepwise Discriminant Function Analysis (SDFA). This has been the statistic of choice for predicting suicide (Lettieri, 1974). The essential feature of this statistical package is that it affords a means of selecting from a large number of items those which have the most predictive value. Furthermore, the Discriminant Function Analysis clusters these variables making the combination a more powerful predictor than any of the individual items alone. The Stepwise Discriminant Function, an elegant version of multiple regression analysis, systematically and in stepwise fashion, seeks only the most pertinent discriminating items for inclusion in the final scale and discards redundant variables.

The stepwise selection of the most discriminant factors begins by choosing the single most discriminant variable. This initial variable is then paired with each of the other variables, one at a time. Analysis of the pairs is performed using two criteria (discussed below) until

the most discriminating pair (highest criteria value) emerge. This new variable now enters the discriminant equation along with the initial variable. The selection procedure continues until all variables are selected or until no additional variable provides a minimal level of improvement in the function's discriminant power.

The criteria used to control the stepwise selections were minimum Wilk's Lambda and Rao's V (Klecka, 1975). The former is a test using the overall multivariate F ratio for the test of differences among the group centroids (means). Variables which maximize the F ratio are at the same time minimizing the Wilk's Lambda value which indicates heightened group differentiation.

Once a variable is selected on the basis of the above criterion, a test for Rao's V is computed. This is essentially a generalized distance measure or an index of the extent to which the variable selected is the one which increases V most when added to the previous variables. "This amounts to the greatest overall separation of the group (Klecka, 1975, p. 358).

Validity Check

Using the above statistical analysis the results were based upon a limited sample of subjects. To be assured to some degree of the instrument's ability to accurately predict high risk for suicide, these data should be taken into the field and applied to additional inmates entering the city and county jail system. Predictive validity would then be obtained if several hundred incoming offenders were screened by jail personnel using the list of variables found to be significant discriminators of victim and comparison groups. A suicidality or risk index would then

be computed for each inmate. Following this, regardless of the inmate's risk status (be it high, medium, or low), he or she would be left to suicide or live, whichever the case may be.

Of course, for obvious ethical reasons, the above procedures are unrealistic. We cannot knowingly allow people who are seemingly desperate and high risk for suicide to go on to suicide without intervening. There are, however, two other types of validity checks which are more feasible and do contribute a fair degree of certainty to the instrument's potential usefulness. The first is a test of the adequacy of the derived discriminant function or suicidality profile. This is performed by classifying the cases used to derive the function in the first place and comparing predicted group membership with actual group membership. One may then empirically measure the success in discrimination by observing the proportion of correctly classified cases.

The second is a validity check for the scale's tendency to identify excessive false positives. The reader may recall Rosen's (1954) concerns about the infrequency of suicide and how this may lead to an intolerably high rate of identified false positives. Following the statistical analysis, I will randomly select 20 cases of incarcerated offenders who have, like most, lived through incarceration. Next, those subjects will be assessed for suicidality potential using the discriminant function derived from the original data. If the scale tends to identify an excessive number of these nonsuicidal subjects as high risk, the instrument's efficiency must be questioned.

Both methods of validity checks were employed in the present study.

CHAPTER V

RESULTS AND DISCUSSION

Several features of the suicide group, as small as it is, distinguish it from the nonsuicide (comparison) group of inmates. What follows is a review of those demographic-behavioral factors found to have statistical significance in postdictively discriminating the two groups. In addition, a number of other variables believed to be of import in the intervention and management of jail suicides will be discussed which include: method of suicide, timing, and cell placement.

Method of Suicide

The significance of method used to suicide in the present study is limited by the fact that the range of available lethal methods is, in itself, limited within the jail setting.

All but 2 of the 21 suicides were by hanging. As in several of the studies reviewed (Danto, 1973; Heilig, 1973), typically a noose is fashioned from torn sheets, blankets, mattress, or clothing. In 2 of the 19 cases, belts were available and used by the inmates. The makeshift rope, whatever the material made from, was then tied to an overhanging pipe, vent, or cell bar. Because most cells do not have enough vertical space for a grown man to be fully suspended without touching the ground, many of the hangings were accomplished by falling into a sitting or kneeling position. Several of the victims were found hanging in such a way that

they could have straightened their legs and lived. Techniquely, rather than hanging, the method was actually self-strangulation.

Of the other two victims, one, a 73 year old man, purposely set himself and bed clothing on fire, while the second, a 33 year old male, was found near dead from slashes about the wrists. He died one hour later in a local hospital.

Demographic Data

The data within Table II reveals the victim inmate sample was predominantly white, male, and under 40 years of age. The average age was within a range of 14 to 73 years of age. Even in view of Oklahoma's relatively large population of Native Americans (approximately 5%), the victim group contains a disproportionately high number of Indians (19%). However, when compared to the comparison group, negligible differences are found across the factors (age: $t = -0.23$, $p < 0.816$; race: $t = 0.53$; $p < 0.597$; sex: $t = 0.0$, $p < 1.00$).

Physical health (Table III) seems to have some relationships with heightened risk for suicide ($t = 1.79$, $p < 0.081$). Why this factor has relevancy to jail suicide can only be speculated. It is certainly not unreasonable to imagine that poor physical health, in conjunction with being incarcerated and isolated from friend and family, may heighten distress. It is interesting to note two of the five ill victims were believed to be going through acute alcohol withdrawals, a finding which further amplifies the relation between suicide and intoxication (to be discussed below).

Table IV reveals a high risk time period in which 38% of the victims suicided within 6 hours, 50% within 24 hours, while 80% were dead within

TABLE II
 DEMOGRAPHIC FACTORS ASSOCIATED WITH VICTIMS AND CONTROLS

Factors	Victim	Control
<u>Race:</u> ¹		
White	13	14
Black	3	4
Indian	4	3
Other	1	0
<u>Sex:</u> ²		
Male	19	20
Female	2	1
<u>Age:</u> ³		
13-21	7	6
22-29	6	6
30-39	4	5
40-49	2	2
50+	2	2

¹t = 0.53, p < 0.597.

²t = 0.0, p < 1.00.

³t = -0.23, p < 0.816.

3 days. These findings are similar to Heilig's (1973) in which he found 90% of 26 victims in the Los Angeles County Jail system to be dead by suicide in the first 24 hours of incarceration. It would appear jail suicide is an impulsive act which may be precipitated by a multitude of inherent stresses which accompany arrest and the early phases of incarceration.

TABLE III
PHYSICAL HEALTH OF INMATES

Factor	Victim	Control
Fair	16	20
Poor	5	1

$t = 1.79, p = 0.081.$

TABLE IV
AMOUNT OF TIME ELAPSE BETWEEN ADMISSIONS AND SUICIDE

Amount of Time Elapse	Victim
Less than 6 hours	8
6-24 hours	4
1-3 days	5
3-7 days	2
1 week-1 month	2

Because of the known relationship between alcohol intoxication and suicide (Beck & Weissman, 1976), the data were arrayed in such a way that time-elapsed-after-booking-and-intoxication interactions are available (Table V). Inspection of Table V reveals an interplay of early suicide and intoxication. All victims who suicided within the first 12 hours were intoxicated. However, most victims (19 of 21), regardless of the time of death, were intoxicated upon admissions. Not shown here, only 11 of the 21 controls were intoxicated, which is significantly different from the suicide group ($t = 2.35, p < 0.024$).

TABLE V
SUICIDE AS A FUNCTION OF TIME AND INTOXICATION

	Intoxication		Total
	Yes	No	
12 hours or less	10	0	10
More than 12 hours	9	2	11
Total	19	2	21

A more detailed analysis of the data has revealed all victims suiciding within 12 hours were either intoxicated by alcohol ($n = 5$) or alcohol in combination with other drugs ($n = 5$), such as valium or marijuana.

Of the other 11 victims, 5 were alcohol intoxicated upon admissions, though not during the time of the act; 2 of these appeared to be

suffering from delirium tremens. One additional victim was using marijuana (while in jail). The other two intoxicated victims were arrested for inhaling toxic fumes. Of the two non-intoxicated victims, both were awaiting trial for murder.

In summary, 90% of the victims were intoxicated upon admissions as compared to only 52% of the comparison group. In addition, nearly half (47%) of the intoxicated victims suicided within 12 hours, which suggests they were intoxicated and/or hung-over at the time of death. As Heilig (1973) points out, this raises the old question of "whether being drunk or drugged is a criminal or health problem" (p. 53). An argument might be made against incarcerating intoxicated individuals if this is their only crime. Heilig has suggested a more humane setting where the inebriant may be cared for until she or he sobers up and then evaluated for disposition. The data in the present study suggest jail is not a place to hold intoxicated individuals.

As shown in Table VI, solitary confinement is directly related to the act of suicide. While 24% of the comparison subjects were placed in a cell alone, slightly over 90% of the victims died in isolation. While these data suggest the effects of solitary confinement may foster suicidal trends within inmates, an alternative explanation is the tendency of jailers to place the most suicidal inmate (i.e., drunk, agitated, and troublesome, or in a word, the most impulsive and perturbed) into a cell alone.

Jail record data (Table VII) suggest a slight difference in the two groups on the basis of history of crime ($t = 2.11$, $p < 0.041$). History of violence does not appear related to jail suicides ($t = 0.03$, $p < 0.358$). While nature of present crime does not, overall, differentiate

TABLE VI
INMATES PLACED IN ISOLATION

Alone in Cell	Victim	Control
Yes	19	5
No	2	16

TABLE VII
JAIL RECORD DATA

	Victim	Control
<u>History of Crime:</u> ¹		
Yes	16	15
No	5	6
<u>History of Violence:</u> ²		
Yes	10	7
No	11	14
<u>Nature of Present Crime:</u> ³		
Alcohol-Drug Related	15 ⁶	12
Traffic	0	5
Property	4	3
Person	2 ⁴	1 ⁵

¹t = 2.11, p < 0.041.

²t = 0.93, p < 0.358.

³t = 0.75, p < 0.45.

⁴Both victims were charged with murder.

⁵Subject was charged with assault

⁶Six of these were DUIs.

the two groups ($t = 0.75$, $p < 0.45$), the data do suggest, as mentioned above, persons being held for murder and DUI offenses are at higher risk than other classes of charges. It is difficult to say, however, to what degree one may rely upon these two variables; alcohol and drug related charges were prevalent among both groups, while the frequency of charges of murder was too low for statistical analysis to be meaningful.

Of significance to this author, and data which corroborate findings by Danto (1973), is the fact that likely extended incarceration (Table VIII) is significantly related to the act of suicide ($t = 2.25$, $p < 0.03$). For example, two inmates, both charged with murder, were being held without bond set. Another 14 year old black adolescent was arrested and charged with first degree burglary and possibly attempted murder. His bond was set at \$5,000 which, considering his family's social-economical status, was unattainably high. As Danto has argued, when an inmate cannot see his way clear to leave in the foreseeable future, life can seem overwhelmingly hopeless and dismal. Suicide for such inmates may provide the opportunity to escape not only jail incarceration but an unbearable future as well.

Fawcett and Marrs (1973) have shown jail suicides are frequently precipitated by familial turmoil such as rejection by a significant other to whom the inmate was looking for support while in jail. Within the present sample, recent divorce, separation, fights, intra-familial murder, and charges made by relatives were found more often in the victim group as compared to comparison group subjects ($t = 3.70$, $p < 0.001$). These data are presented in Table IX.

TABLE VIII
 LIKELY EXTENDED INCARCERATION

Likely Extended Incarceration	Victim	Control
Yes	8	3
No	11	18
Bond not set	2	0

$t = 2.25, p < 0.03.$

TABLE IX
 CURRENT FAMILY TURMOIL

Current Family Turmoil	Victim	Control
Yes	14	4
No	7	17

$t = 3.70, p < 0.001.$

Clinical/Behavioral Features

The frequency of specific demographic-historical variables may be of help in pointing to the subgroup of jail inmates in need of suicidality evaluation. We have already found several factors which appear indicative of more high-risk populations. Identification of the high-risk individual, however, will rest heavily upon manifest behavior or clinical cues which indicate heightened perturbation, impaired coping

abilities, and the existence of suicidal trends. Five such indices were reviewed in the present study: violence toward others, overly demanding, agitated, appearance of depression, and a history of suicide attempts and/or communications. A brief discussion of these and the present study's findings will follow.

It is generally accepted that suicide attempts or threats in the past will increase the current risk for suicide. If a person has used suicidal behavior to cope with stress, chances are greater he or she may resort to this mode once again. In addition, the relationship between depression and suicide has been well documented, both theoretically as well as empirically (Beck, 1976; Schneidman, 1976). Clinical features of depression such as expressed feelings of hopelessness, helplessness, pessimism, as well as drastic changes in eating and sleeping patterns have been associated with a wish to die (ideation), as well as various suicidal acts (i.e., attempts, threats, and the completed act).

The concepts of aggression (e.g., verbally abusive, physically striking another, and here I am including agitation though this behavior is not visibly directed toward anyone in particular) are less clearly linked with suicide. One of the more pervasive theories is that suicide is a manifestation of self-directed aggression carried out by the individual against himself or herself seemingly because the perceived consequences of directing it appropriately outward are worse. The result may be depression as well as self-destructive acts. Although the validity of this time honored psychoanalytic theory has been questioned (McEvoy, 1974), the existence of violent and/or agitated behavior is a possible cue for current distress within the inmate. Be this as it may, these behavioral indices, along with demanding behavior, which was

believed to be another index of perturbation (Danto, 1973), were investigated for their effectiveness in differentiating suicide from comparison groups.

As is apparent from Tables X and XI, the behavioral cues are especially relevant to subsequent jail suicides: presently agitated ($t = 3.16, p < 0.003$), presently depressed ($t = 3.51, p < 0.001$), and history of suicide ($t = 3.87, p < 0.0004$). Overly-demanding behavior was not found to be significantly more representative of victims than comparison group inmates ($t = -1.24, p < 0.224$).

In all probability, however, the frequency of these clinical signs have been erroneously reported since records are less than ideal and jail personnel are not trained to observe behavioral cues to pathology and/or suicidal trends. This may be especially and unfortunately true for the comparison group since jail personnel and investigating officers may be more inclined to attribute pathological characteristics to suicide victims than to inmates who have lived through incarceration ("halo effect"). Methodologically, every effort was made to reduce this effect (see Methods section).

Stepwise Discriminant Function Analysis

While 9 of the original 15 demographic-behavioral variables have been found to be significant discriminators of the suicide and nonsuicide groups, the Stepwise Discriminant Function Analysis (SDFA) has revealed five factors that, when considered in combination, provide optimal discriminant power (Table XII).

History of suicide entered the function first which indicates this factor to be most powerful of the total 15 variables in discriminating

TABLE X
CURRENT BEHAVIORAL INDICES ASSOCIATED WITH JAIL SUICIDES

Indices	Victim	Control
<u>Violent Toward Others:</u> ¹		
Yes	5	1
No	16	20
<u>Presently Agitated:</u> ²		
Yes	9	1
No	12	20
<u>Presently Depressed:</u> ³		
Yes	11	3
No	10	18
<u>Presently Overly Demanding:</u> ⁴		
Yes	5	3
No	16	18

¹t = -1.79, p < 0.08.

²t = 3.16, p < 0.003.

³t = 3.51, p < 0.001.

⁴t = -1.24, p < 0.224.

TABLE XI
PREVIOUS THREATS OR ATTEMPTS OF SUICIDE

Index	Victim	Control
<u>History of Attempts or Threats:</u>		
Yes	8	0
No	13	21

$t = 3.16, p < 0.003.$

TABLE XII
DISCRIMINANT FUNCTION ANALYSIS SUMMARY TABLE

Step Number	Variables Entered	Wilk's Lambda	Sig. Level	Change in Rao's V	Sig. of Change
1	History of Suicide	0.727	0.000	15.000	0.000
2	Current Familial Problems	0.576	0.000	14.400	0.000
3	Presently Agitated	0.502	0.000	10.259	0.001
4	Presently Depressed	0.466	0.000	6.077	0.014
5	Intoxicated	0.424	0.000	8.555	0.003

suicide from nonsuicide groups. However, with the addition of up to four more factors (current familial problems, presently agitated, presently depressed, and intoxicated), additional precision is gained in discriminating the two groups. This is statistically indicated by the progressive decrease in Wilk's lambda with the addition of each variable, as well as the significance tests for Wilk's lambda and the change in Rao's V. Only five variables are needed to achieve satisfactory discriminability while the remaining 10 items do not contribute to the function's precision.

The discriminant power of these five variables is further substantiated by the validity check presented within Table XIII. Here we see that slightly over 90% of both victim and comparison group subjects are classified correctly using the five discriminant factors.

TABLE XIII
PREDICTION RESULTS USING ORIGINAL SET OF CASES

Actual Group Membership	Number of Cases	Predicted Group Membership	
		Victim Group	Comparison Group
Victim Group	21	n = 18 85.7%	n = 3 14.3%
Comparison Group	21	n = 1 4.8%	n = 20 95.2%

The percentage of "grouped" cases correctly classified: 90.48%.

Table XIV contains the standardized and unstandardized discriminant function coefficients for these variables. The standardized discriminant function coefficients are used to compute the discriminant score for a case in which the original discriminant variable has been converted to standard form (Z scores). The discriminant score (risk index) is computed by multiplying each discriminating variable by its corresponding coefficient and adding together these products.

TABLE XIV
STANDARDIZED AND UNSTANDARDIZED DISCRIMINANT
FUNCTION COEFFICIENTS

Discriminant Factors	Standardized	Unstandardized
History of Suicide	-0.374	-0.901
Current Familial Problems	-0.304	-0.637
Presently Agitated	-0.329	-0.765
Presently Depressed	-0.336	-0.845
Intoxicated	-0.284	-0.587
	Constant	2.610

The standard coefficients are instructive in and of themselves in that when the signs are ignored, each coefficient represents the relative contribution of its associated variable to the function. Within Table XIV it is clear that history of suicide is the most highly predictive variable, followed by presently depressed, and so on.

Since the discriminating variables are most easily coded in unstandardized (raw score) form, unstandardized coefficients will be required to compute the discriminant score. This is arrived at by multiplying the unstandardized coefficients by the raw values of the associated variables, then adding these products. A constant is added which adjusts for the grand mean. This results in a score which is identical to the one computed with standardized coefficients and standardized data. An affirmative answer to the items (e.g., Yes, the inmate was intoxicated) is coded zero while negative answers equal one. With this the coefficient is multiplied to the numerical code.

The highest possible score (highest risk for suicide) is 2.61 while the lowest score (risk for suicide) is -1.125. The centroids or means for the two classified groups are: Victim $M = 0.749$, Comparison $M = -0.749$.

Simplification of Scale for Actual Use

The next step is to translate the above data into a form which may be used by jail personnel on a day-to-day basis. The most simplified procedure would be a brief five-point scale with the five identified factors each having an equal weight. Because the standardized coefficients of these five variables are nearly equal (Table XIV), the transformation seems plausible.

The original data were first recalculated using one (rather than the derived coefficients) as the coefficient for each variable. These new scale scores were then compared to the original discriminant scores by reclassifying both victim and comparison group subjects using the simplified scale weights. As is apparent from the data in Table XV, the

simplified version of the scale does not appear to reduce the instrument's effectiveness in identifying the subjects correctly. These data would suggest a scale of two or more is indicative of heightened risk for suicide.

TABLE XV
RECLASSIFICATION OF SUBJECTS USING SIMPLIFIED
COEFFICIENTS

Scale Score	Subjects		
	Victim Group*	Comparison Group*	Validity Group**
0	0	10	5
1	3	10	10
2	7	0	2
3	6	1	3
4	5	0	0
5	0	0	0
Accuracy of Reclassification	85.8%	95.2%	75.0%

*n = 21.

**n = 20.

False Positive Validity Check

A validity check for the scale's tendency to identify excessive false positives was performed. Twenty subjects were randomly selected

from a local city (n = 5) and county (n = 15) jail. These were inmates who had lived through incarceration. Using the original discriminant function coefficients, 15 of the 20 validity subjects were classified as no risk for suicide while 5 were classified as possibly high risk for suicide. Assuming none of the 20 validity subjects were experiencing suicidal impulses during their stay in jail, the instrument correctly classified 75% while having a 25% false positive identification rate. It is interesting to note 5 (same 5) of the 20 validity subjects were classified as high risk for suicide when using the simplified scale weight while the remaining 15 fell at or under a score of 1 (Table XV).

In conclusion, a five-item scale has been found to be, overall, 90% accurate in postdictively identifying victim and comparison group subjects. When the instrument is applied to an independent sample of inmate subjects, we find the false positive identification rate increases from 14.3% to 25%. And finally, the empirically derived coefficients were rounded to 1 which resulted in a more easy to use system with no apparent loss in the instrument's effectiveness.

Clinical Cases

Up to now, several variables have shown promise as cues or predictive signs for jail suicides. Analyzing their individual frequency of occurrence, however, has left the present overall profile of the high risk inmate somewhat fragmented. A more realistic and better integrated picture may be obtained if we now take a look at a few brief case studies.

Case Number One

A 21 year old single Caucasian male was incarcerated for vandalism and being "under the influence of an intoxicant." The inmate had been sniffing paint and had "maliciously entered" his parents' home where he became unruly, destroying several household items. His mother came home and upon seeing what was happening called the police. The inmate had a long history of crime, psychiatric problems, and had made several attempts at suicide in the past. He was incarcerated for three days when, upon being served a court order by the Sheriff for psychiatric evaluation, he became violently agitated, kicking the cell door, screaming, and cursing indiscriminantly. Approximately 1 hour and 10 minutes following this event, the inmate was found dead hanging by the neck.

This particular case study contains several "flags" for suicide prediction. The known history of suicide, along with current familial turmoil have been identified in the present study as predictive cues. In addition, although this individual was not intoxicated at the time of death, the charges would suggest he may have been upon admission. Further, the news of being ordered to a state hospital for psychiatric evaluation must have had adverse meaning for the victim. At a minimum, it meant further incarceration (another significant predictive cue) and possibly forced commitment to a psychiatric institution. Whatever the case may have been, his behavioral reaction to the news (i.e., agitation) was an additional sign of distress. And finally, although history of psychiatric problems was not systematically evaluated in the present study, because it seemed difficult to reliably obtain, just casually reviewing the data has alerted this author to the predictive value of this information.

Case Number Two

A 30 year old Native American female was incarcerated, along with her husband, for public intoxication. The two of them were sentenced to four days. Jail records indicated the victim had a criminal record consisting of traffic violations and one offense of burglary. While in jail, she began to complain of being ill and in need of medical attention. The jailer noted she had the "shakes" and appeared agitated from time to time. It was believed (by the jailer) she may have been going through the "D.Ts." The inmate was verbally abusive toward her husband when they visited, though her behavior toward everyone else was, overall, favorable. On the third day of incarceration two visitors conveyed to the jailer on duty she was in "bad shape" and had said she was going to kill herself if something was not done real soon. Approximately one hour later, after talking with her visitors, the inmate was found hanging by the neck.

The source of this individual's desperation may never really be known. Although she was to be released the following day, perhaps she was so overwhelmed by her immediate condition (i.e., possibly acute brain syndrome from delirium tremens) she could not go on living. Whatever the case may be, several features of this case fit the present model for predicting suicide: the inmate's stormy relationship with her husband (family turmoil), agitation, poor physical health, intoxicated upon admission and, most important, threats of suicide.

Case Number Three

A 33 year old Caucasian male was arrested and incarcerated on charges of murder. It seems he had killed his brother in a bar in front

of several witnesses. Their relationship was complicated by the fact that the brother to the inmate had married the latter's first wife. The inmate had a long history of violent crimes (assault and possession of deadly weapons) and drug usage. He was also notorious for his "bitter attitude" toward local police. In the past he had been beaten up by police. The officers involved were investigated and action was taken against them. Upon admittance to jail, the inmate was placed in a single cell. He was receiving controlled doses of valium while in jail. He did not appear intoxicated and was cooperative his entire stay. He did, however, refuse all meals. On one occasion, the inmate requested to be moved to the "bigger cell" with others. It seems he was concerned not only about further police brutality, but also that his third brother might revenge his recent actions. His request was denied. The day following the murder, for some unknown reason, the inmate and his present wife worked out a deal whereby she would turn state's evidence against him. Approximately 24 hours following his arrest the inmate was found bleeding profusely from cuts about the wrists. He was rushed to the hospital where he died one hour later. A note was found in his cell indicating he was sorry for what he had done and did not want to face his family.

Here, again, we see recent familial turmoil (murdering his brother no less) and a break with family support. The subjective impact of this was evidenced by the suicide note found in the victim's cell which reflected a great deal of guilt and remorse for the transgression against his family. Further, although the inmate was cooperative and did not appear violent or agitated, he did show one sign of depression (i.e., refusing to eat).

In addition, the possibility of psychiatric problems--though not a statistically verified factor in the present study--was also evidenced by the prescribed valium (something, by the way, the jailer handled quite well in seeing to it the inmate received the medication as prescribed). Overall, features that are relevant to the predictive model are recent family turmoil, extended incarceration, signs of depression, and a history of crime. Speculatively, the inmate's impulsivity and propensity for violent acting out, which landed him in jail in the first place, may have been the same attributes that led to his eventual self-destruction.

Summary

The above case studies are not atypical of the suicide victims examined in the present study. It should be obvious from these that the identified predictive cues are indeed present and discernable, and potentially useful in screening the perturbed inmate.

Suicide Prediction Scale for Jails

Most mental health practitioners are sensitive to presuicidal cues and are prepared to handle abnormal behavior episodes. However, these trained professionals are usually far removed from the actual scene of a crisis. If a suicide attempt occurs it is actually the layperson or gatekeeper (of hotels, bars, jails, etc.) who is typically confronted with the burden of assessing the seriousness of the situation and managing whatever may follow. Within the city and county jail system it is the arresting officer and jail personnel who are called upon to determine the disposition of an inmate. Assessing and managing highly perturbed and suicidal inmates is not an easy task and is rarely part of

the training received by jailers. Appendix C is an attempt to translate the fruits of the present research into guidelines for the arresting officer and jail personnel who must perform this duty.

Conclusion

From the above analysis, what might be said about the high risk for suicide inmate? It might be most useful to first answer this in the negative; and in this regard, we have found that age, sex, and ethnicity tell us little. In fact, very few of the demographic variables lend themselves to discriminating victims from surviving inmates. The exception to this is history of crime; ironically, history of violence was not of use.

The most promising factors appear to be the behavioral and circumstantial variables which say something about the inmate's current life struggles and his or her reaction to these. Suicidal--a composite variable of history of suicidal acts and/or currently acting as such--was the most effective predictor. Six victims had known histories of suicidal behavior while four others were actively suicidal during their stay in jail. The implications seem clear; as Shneidman and Farberow (1961) discovered many years ago, the best predictor of one's future behavior--in regard to suicide--is one's past. Any and all intimations open threats, or attempts of suicide must be taken as serious and acted upon as such with intervention. Knowledge of past attempts must also enter into our assessment of lethality.

Familial difficulties, current agitation, appearance of depression, and intoxication, when considered in conjunction with suicidal, provide the most effective predictive profile. The statistical analysis

demonstrated these to have a fair amount of postdictive validity; furthermore, using a small though independent sample, a more than acceptable rate of false positive identification was demonstrated. The analysis suggests if two or more of the five variables are associated with an inmate, the jail caretaker would do well to manage the inmate as high risk (see Appendix C).

It is important to note charges of murder were represented only within the victim group. Psychotic inmates--those suffering from delirium tremens--were also found exclusively in the victim group. Because of their relative low frequency of occurrence ($n = 2$ for both murder and evidence of psychosis), however, the predictive value of these factors is difficult at this time to estimate. It is clear, nonetheless, that circumstances such as these should alert jail personnel to the possibility of heightened risk for suicide.

From a temporal framework, it is important to note suicides occur within the early phases of incarceration--anywhere from the first few moments to 12 hours for a large percentage of the victims studied. This being the case, assessment procedures must be implemented as soon as possible (ideally during booking) so that the incoming inmate's current level of stress may be assessed.

It has been argued jails are fertile grounds for stress and feelings of isolation and humiliation which conceivably prompt self-destructive impulses. However, more inmates live through incarceration than not, which implies a subpopulation of incoming inmates who are especially prone to self-destructive coping strategies. The data presented in this study suggest these individuals are discernible and that jail personnel are in

the position to screen and properly manage the high risk for suicide inmate if provided adequate information.

Of course, many foreseeable, and no doubt unforeseeable, difficulties will be encountered when we take our research back to the field for implementation. For example, detecting, rather than denying, suicidal impulses within another can be a very subtle and delicate process that requires relatively sophisticated skills. Persons traditionally hired to manage jails, however, are the least educated, lowest paid, and receive no training whatsoever in crisis intervention. Furthermore, we cannot assume all jail personnel have a sympathetic ear for the needs and struggles of the jail inmate.

Nonetheless, it is apparent change will not occur in the time honored system of jail incarceration without external intervention. And this is the point at which the suicidologist may intervene with his or her expertise to assist the caretakers of jails. We are now in the position to educate jailers in suicide screening and management procedures so that highly perturbed inmates may be identified and offered proper treatment. The present investigation has attempted to do just this. The findings (see Appendix C) have been turned over to the Department of Health who have, in turn, published and disseminated this information to all city and county jails within the State of Oklahoma. The responsibility to apply this data now lies in the hands of those persons in the position to do so. It is hoped they share the present author's ideals that no effort is too great to save a life and that scientific findings may be used to accomplish this.

REFERENCES

- Alvarez, A. The savage God. New York: Random House, 1970.
- Applebaum, S. A. & Holzman, P. S. The color-shading response and suicide. Journal of Predictive Techniques, 1962, 26, 115-161.
- Arneson, G. & Feldman, J. Utilization of the Rosenzweig Picture-Frustration Test to distinguish gestures from suicidal attempts. Paper presented at the Annual Meeting of the American Association of Suicidology, Chicago, 1968.
- Barnard, C. In the night season. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1978.
- Beck, A. T. Cognitive therapy and the emotional disorders. New York: International Press, Inc., 1976.
- Beck, A. T., Resnick, H. L. P., & Lettieri, D. T. The prediction of suicide. Bowie, MD: Charles Press Publishers, Inc., 1974.
- Boreham, J. The prediction of suicide. Rorschach Newsletter, 1967, 12, 5-7.
- Braucht, G. N. & Wilson, L. T. Predictive utility of the revised suicide potential scale. Journal of Consulting and Clinical Psychology, 1970, 35(3), 426.
- Brodia, D. C. An investigation of certain psychodiagnostic indications of suicidal tendencies and depression in mental hospital patients. Psychiatric Quarterly, 1954, 28, 453-464.
- Brown, T. R. & Sheran, T. J. Suicide prediction: a review. Life-Threatening Behavior, 1970, 2(2), 67-98.
- Buglass, D. & McCulloch, J. Further suicidal behavior: the development and validation of predictive scales. British Journal of Psychiatry, 1970, 116, 483-489.
- Buglass, D. & Horton, J. A scale for predicting subsequent suicidal behavior. British Journal of Psychology, 1974, 124, 573-578.
- Campbell, D. Reforms as experiments. American Psychologist, 1969, 24, 409-428.
- Choron, J. Suicide. New York: Scribner, 1972.

- Clopton, J. R. Suicide risk assessment via the MMPI. In C. Neuringer (Ed.), The psychological assessment of suicidal risk. Springfield, IL: Charles C. Thomas, 1974.
- Cohen, E., Motto, J. A., & Seiden, R. H. An instrument for evaluating suicide potential: a preliminary study. American Journal of Psychiatry, 1966, 122, 886-891.
- Copel, S. L. Psychodiagnostic study of children and adolescents. Springfield, IL: Charles C. Thomas, Inc., 1967.
- Crasilneck, H. B. An analysis of differences between suicidal and pseudosuicidal patients through the use of projective techniques. Unpublished doctoral dissertation, University of Houston, 1954.
- Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. An MMPI handbook (Vol. I, Rev. ed.). Minneapolis, MN: University of Minnesota Press, 1972.
- Danto, B. L. Jail house blues. Orchard Lake, MI: Epic Publishers, Inc., 1973.
- Daston, G. G. Applicability of a Rorschach sign to British suicide. Journal of Projective Techniques, 1960, 24, 355-361.
- Devries, A. G. A potential suicide personality inventory. Psychological Reports, 1966, 18, 731-738.
- Devries, A. G. Control variables in the identification of suicidal behavior. Psychological Reports, 1967, 20, 1131-1135.
- Devries, A. G. & Farberow, N. L. A multivariate profile analysis of MMPI's of suicidal and nonsuicidal neuropsychiatric patients. Journal of Projective Techniques, 1967, 31(5), 81-84.
- Devries, A. G. & Shneidman, E. S. Multiple MMPI profiles of suicidal persons. Psychological Reports, 1967, 21, 401-405.
- Diggory, F. C. Predicting suicide: will-o-wisp or reasonable challenge? In Beck et al. (Eds.), The prediction of suicide. Bowie, MD: The Charles Press Publishers, Inc., 1974.
- Dopart, T. L. & Ripley, H. S. A study of suicide in the Seattle area. Comprehensive Psychiatry, 1960, 1, 349-359.
- Edgley, C. Personal communication, Oklahoma State University, Stillwater, OK, 1978.
- Eber, H. E. Psychological tests trim escape list. Unpublished report, 1978.
- Efron, H. Y. An attempt to employ a Sentence Completion Test for the detection of psychiatric patients with suicidal ideation. Journal of Consulting Psychology, 1960, 24, 156-160.

- Exner, J. E. & Wylie, J. Some Rorschach data concerning suicide. Journal of Personality Assessment, 1977, 41(4), 339-347.
- Farberow, N. L. Personality patterns of suicidal mental hospital patients. Genetic Psychology Monographs, 1950, 42, 2-79.
- Farberow, N. L., Shneidman, E., & Neuringer, C. Case history and hospitalization factors in suicides of neuropsychiatric hospital patients. Journal of Nervous and Mental Diseases, 1966, 142, 32-44.
- Fawcett, J. & Marrs, B. Suicides at the county jail. In B. L. Danto (Ed.), Jail house blues. Orchard Lake, MI: Epic Publishers, Inc., 1973.
- Fisher, S. & Hinds, E. The organization of hostility controls in various personality structures. Genetic Psychology Monographs, 1951, 44, 3-68.
- Flanagan, J. C. The critical incident technique. Psychological Bulletin, 1954, 51, 327-358.
- Goldberg, L. R. Simple models or simple processes? Some research on clinical judgements. American Psychologist, 1968, 23, 483-496.
- Goldfried, V. R., Stricker, G., & Weiner, I. B. Rorschach handbook of clinical and research application. Englewood Cliffs, NJ: Prentice-Hall, 1971.
- Heilig, S. Suicides in jail. In B. L. Danto (Ed.), Jail house blues. Orchard Lake, MI: Epic Publishers, Inc., 1973.
- Hertz, M. R. Suicidal configurations in Rorschach records. Rorschach Research Exchange, 1948, 12, 3-58.
- Hoff, H. Prevention of suicide among prisoners. In B. L. Danto (Ed.), Jail house blues. Orchard Lake, MI: Epic Publishers, Inc., 1973.
- Holzberg, J. D., Cahen, E. R., & Wilk, E. K. Suicide: a psychological study of self-destruction. Journal of Projective Techniques, 1951, 15, 339-354.
- Kastenbaum, R. Suicide as a preferred way of death. In E. S. Shneidman (Ed.), Suicidology: contemporary developments. New York: Grune and Stratton, Inc., 1976.
- Klecka, W. R. Discriminant analysis. In N. H. Nie, C. H. Null, J. G. Jenkins, K. Steinbrenner, & D. H. Bent (Eds.), Statistical Package for Social Sciences. New York: McGraw-Hill, 1975.
- Kubler-Ross, E. On death and dying. New York: MacMillan Publishing Company, Inc., 1969.

- Lester, D. Attempts to predict suicidal risk using psychological tests. Psychological Bulletin, 1970, 74(1), 1-17.
- Lester, D. Suicide as an aggressive act. Journal of Psychology, 1967, 66, 47-50.
- Lester, D. Suicide as an aggressive act: a replication with a control for neuroticism. Journal of General Psychology, 1968, 79, 83-86.
- Lester, D. Demographic versus clinical predictors of suicidal behavior: a look at some issues. In Beck et al. (Eds.), The prediction of suicide. Bowie, MD: Charles Press Publishers, Inc., 1974.
- Lester, D. & Nehemkis, A. M. A socio-clinical scale for certifying mode of death. In C. Neuringer (Ed.), The psychological assessment of suicidal risk. Springfield, IL: Charles C. Thomas, 1974.
- Lettieri, D. J. Suicidal death prediction scale. In Beck et al. (Eds.), The prediction of suicide. Bowie, MD: Charles Press Publishers, Inc., 1974.
- Litman, R. E. Suicide prevention center patients: a follow-up study. Bulletin of Suicidology, 1970, 6, 12-17.
- Litman, R. Models for predicting suicide. In C. Neuringer (Ed.), The psychological assessment of suicidal risk. Springfield, IL: Charles C. Thomas, 1974.
- Litman, R. E. & Farberow, N. L. Emergency evaluation of self-destructive potentiality. In N. L. Farberow & E. S. Shneidman (Eds.), Cry for help. New York: McGraw-Hill, 1961.
- Lupei, R. A. Prediction of jail suicides: a preliminary report. Paper presented at the Oklahoma Psychological Association, Oklahoma City, 1978.
- Marks, P. A. & Seeman, W. Actuarial description of abnormal personality. Baltimore, MD: Williams and Williams, 1963.
- Martin, H. A. A Rorschach study of suicide. Unpublished doctoral dissertation, University of Kentucky, 1951.
- Menninger, K. Man against himself. New York: Harcourt, Brace and World, Inc., 1938.
- McEvoy, T. L. Suicidal risk via the Thematic Apperception Test. In C. Neuringer (Ed.), The psychological assessment of suicidal risk. Springfield, IL: Charles C. Thomas, 1974.
- Miskimins, R. W. & Wilson, L. T. Revised suicide potential scale. Journal of Consulting and Clinical Psychology, 1969, 33, 258.

- Motto, J. A. & Heilborn, D. C. Development and validation of scales for estimation of suicide risk. In E. S. Shneidman (Ed.), Suicidology: contemporary developments. New York: Grune and Stratton, 1976.
- Murphy, G. E. The clinical identification of suicidal risk. In Beck et al. (Eds.), The prediction of suicide. Bowie, MD: The Charles Press Publishers, Inc., 1974.
- Murray, H. Manual for the TAT. Cambridge, MA: Harbard University Press, 1943.
- Neuringer, C. The psychological assessment of suicidal risk. Springfield, IL: Charles C. Thomas, 1974.
- Neuringer, C. The Rorschach test as a research device for the identification, prediction and understanding of suicidal ideation and behavior. Journal of Projective Techniques, 1965, 29, 71-82.
- Neuringer, C., McEvoy, T. L., & Schlesinger, R. J. The identification of suicidal behavior in females by the use of the Rorschach. Journal of General Psychology, 1965, 72, 127-133.
- Oklahoma Crime Commission. Jail survey. Oklahoma City, OK: Author, 1970.
- Office of Charities and Corrections. Jail suicide survey. Unpublished study, Oklahoma City, 1977.
- Pratt, C. A validation study of intropunitive and extrapunitive signs on the Rorschach test, based upon records given by suicidal and homicidal subjects. Unpublished doctoral dissertation, Purdue University, 1951.
- Rappaport, D. Remarks on Broida's study. Journal of Projective Techniques, 1950, 14, 472.
- Robins, E., Cassner, S., Kayes, J., Wilkinson, R. H., & Murphy, G. The communication of suicidal intent: a study of 134 consecutive cases of successful (completed) suicides. American Journal of Psychiatry, 1959, 115, 724-733.
- Rosen, A. Detection of suicidal patients. Journal of Consulting Psychology, 1954, 18, 397-403.
- Rosen, A., Hales, W. M., & Simon, W. Classification of "suicidal" patients. Journal of Consulting Psychology, 1954, 18, 359-362.
- Sainsbury, P. Suicide in London. London: Chapman-Hall, 1955.
- Shneidman, E. S. Suicidology: contemporary developments. New York: Grune and Stratton, 1976.

- Shneidman, E. S. & Farberow, N. L. (Eds.). The cry for help. New York: McGraw-Hill, 1961.
- Simon, W. Attempted suicides among veterans. Journal of Nervous and Mental Disease, 1950, 111, 451-468.
- Simon, W. & Hales, W. M. Note on a suicide key in the MMPI. American Journal of Psychiatry, 1949, 106, 222-223.
- Simon, W. & Gilberstadt, H. Analysis of the personality structure of 26 actual suicides. Journal of Nervous and Mental Disorder, 1958,
- Sokheim, G. A. Suicidal responses of the Rorschach test: a validity study. Journal of Nervous and Mental Disease, 1955, 122, 332-344.
- Sopolsky, A. An indicator of suicidal ideation on the Rorschach test. Journal of Projective Techniques, 1963, 27, 332-335.
- Tuckman, J. & Youngman, W. F. Identifying suicide risk groups among attempted suicides. Public Health Reports, 1963, 78, 763-766.
- Tuckman, J. & Youngman, W. F. A scale for assessing suicide risk of attempted suicides. Journal of Clinical Psychology, 1968, 2, 17-19.
- U.S. Bureau of Census. Statistical abstract of the U.S. (97th ed.) Washington, DC: Author, 1976.
- Weiner, I. B. Cross-validation of a Rorschach checklist associated with suicidal tendencies. Journal of Consulting Psychology, 1961, 25, 312-315.
- Weiss, C. H. Evaluation research: methods of assessing program effectiveness, II. Englewood Cliffs, NJ: Prentice Hall, 1975.
- Wilkerson, F. Consideration of suicidal trauma in a detention facility. In B. L. Danto (Ed.), Jail house blues. Orchard Lake, MI: Epic Publishers, Inc., 1973.
- Winfield, D. L. & Sparer, P. J. Preliminary report of the Rosenzweig P-F: study in attempted suicides. Journal of Clinical Psychology, 1953, 9, 370-381.

APPENDIXES

APPENDIX A
DATA COLLECTION SHEET

Case No. _____

Date Collected _____

Investigator _____

Demographic Variables:

Sex

Age

Race

Place of birth

Weight

Height

Marital status (single, divorced, married, widowed)

Living arrangements before incarceration

Employed before incarceration

Type of employment

Physical health (fair or poor)

History of crime

History of suicide

History of psychiatric problems

Family history of psychiatric problems

Family history of suicide

Extensive church involvement

History of violence

Immediate Circumstances in Victim's Life:

Type of crime

High bond

Multiple offender

Likely extended incarceration

Current familial turmoil

Immediate Circumstances in Victim's Life (Continued):

Recent loss of a loved one
Recent loss of large amount of money
Recent loss of employment
Recent threatened loss of love one
Time of suicide
Time elapsed after an important event
Alone in cell at time of suicide

Immediate Behavioral Variables:

Intoxicated (any drug)
Acts violent toward officers
Agitated in general
Visibly depressed (reports he/she is or acts depressed)
Suicidal (verbally or action)
Manipulative (requests special attention, "acts" sick, etc.)
Overly demanding

Additional Variables:

Tattoo
Excessive negative attitude toward jail

APPENDIX B

OPERATIONALIZATION OF PREDICTIVE FACTORS

Physical health: The important question here was: Could the inmate be considered at least in fair condition, or was his health poor? Examples of poor health were inmates being substantially hurt in car accidents, going through acute alcohol withdrawals, and serious illness.

Intoxicated: This refers to the incoming inmate who is visibly under the influence of one or several psychotropic agents at the time of incarceration. While alcohol was the major intoxicant, there were many other drugs (e.g., marijuana, glue sniffing, pills) used in conjunction with alcohol or seemingly by themselves.

Current family turmoil: Were officers aware of any recent falling-outs with the subject's family system? For example, was the offender turned in by family members which may be indicative of family alienation? Was the inmate arrested for driving under the influence which stemmed from a family fight? Were there any recent separations, children taken from the family by the courts, divorces, etc.? When no information in this area was available, the item was marked "no."

Likely extended incarceration: This is a difficult, though salient, factor to pin down because the most important dimension would seem to be the inmate's subjective impression of his circumstances. For example, was a serious crime committed for which conviction appeared likely; was she or he a recidivist already on parole; or, was bond exceedingly high or not set so that the inmate must await trial behind bars? Every effort was made to ferret this out as best as possible. That is, the jailer was probed as to what extent did the inmate's circumstances suggest likely extended incarceration.

Nature of present crime: This variable was broken down into the following categories: person, e.g., murder or assault; property, e.g.,

burglary, vandalism, or car theft; alcohol/drug, e.g., DUI's, public intoxication, or possession of marijuana. Multiple offenses were classified under the most serious offense.

History of crime: This was based upon any existing records in the jail visited.

History of violence: This variable was based upon previous crimes being of a violent nature, as well as any personal knowledge jail personnel had of the subject's past behavior in this regard.

Presently violent toward others: The question here was: Was the offender verbally and/or physically abusive toward officers or fellow inmates during his or her stay?

Presently agitated: Was the inmate indiscriminantly violent, shouting out at anyone that came along, kicking his or her cell door, or generally appearing perturbed and agitated?

Suicidal: This factor not only included inmates who were actively suicidal--attempting, threatening, or even intimating ideation--during their present stay, but also any individuals who had a history of suicidal behavior.

Appeared depressed: The inmate must have appeared despondent, possibly refusing to eat, spoke of depression, feelings of hopelessness, helplessness, and/or not being able to cope with the present situation.

Overly demanding: Was the inmate indignant, uncooperative, and demanding excessive liberties beyond what most inmates request?

APPENDIX C

A GUIDE FOR SCREENING AND MANAGEMENT OF THE
POTENTIALLY SUICIDAL INMATE

Introduction

This instrument is designed to help officers and jail personnel identify those inmates entering jail who are currently high risk for suicide. Of course, most offenders who enter jail do not die. The number of annual suicides within city and county jails, however, when compared to the populace at large, is quite high. What follows is a list of several features found to be characteristic of the high risk inmate which may allow you to screen a potential suicide before it occurs. In addition, a number of tips on how to handle such a crisis if it ever occurs are presented.

Instructions

The Prevention Scale is best used by officers who arrest and book the incoming inmate. While dealing with the individual during this time, be careful to observe his behavior and listen to all that he or she might say. Following this, rate the inmate on the five characteristics below. Make certain you are familiar with the complete description of each characteristic before rating the inmate. If two or more of the five are present, the inmate should be considered high risk and treated as such. Refer to the Management Procedures below upon identification of a high risk inmate.

1. History of suicide: To your knowledge, does the individual have any past history of suicidal behavior; or, is he or she currently acting suicidal? That is, the inmate may actually attempt suicide while in custody; he or she may also actively or passively threaten suicide ("I'm going to kill myself if you try to lock me up!" "I wish I were dead!" "I guess there's no use going on with life!"). It is hard to distinguish

a "manipulative gesture" from the real thing. Many apparent suicides begin as desperate attempts to communicate anguish; death results in unforeseeable events (e.g., jailer not coming around when expected, shoes holding the weight of a man, etc.). Therefore, any hint at self-destructive behavior or ideas must be taken seriously.

2. Presently acts depressed: Signs of depression are varied and difficult to perceive unless one is specifically looking for them. These include: loss of appetite, difficulty sleeping, prone to upset easily, speaking of the future as being dim or hopeless, feeling helpless and depressed about one's predicament. Also, depression may be present within the formerly outgoing and jovial inmate who withdraws or suddenly becomes quiet and meek.

3. Presently agitated: Here we are looking for the inmate who is wildly pacing the floor, shouting and cursing indiscriminantly, kicking the cell door and, in general, highly restless.

4. Currently family turmoil: Incoming inmates may speak of or hint at recent family problems such as: recent separation or divorce from spouse, children taken from the family by the welfare department, being turned in by one's family or committing a crime against one's family, news of sickness or death at home, or no news at all over a long period of time.

5. Intoxicated: And finally, is the inmate intoxicated at the time of admission? As most officers and jail personnel well know, many offenders are under the influence of some sort of drug (alcohol, marijuana, pills, etc.) at the time of arrest. However, if any of the above characteristics are present in conjunction with intoxication, the inmate

must be considered high risk for suicide and actions to reduce his or her potential to suicide must be taken.

The above five characteristics have been found to be most important in identifying inmates who may suicide while in jail. As mentioned, if any two are found within an inmate, action must be taken. In addition to these, several other inmate features have been related to jail suicides that are worth mentioning. These include:

Likely extended incarceration: This may be due to an exceedingly high bond or bond being withheld altogether as well as likely conviction and state prison or county jail incarceration.

Poor physical health: Obvious symptoms of illness or requests for medical attention must be attended to. If denied, such actions may communicate rejection and increase the inmate's feelings of despair and hopelessness.

Signs of emotional breakdown: Whenever it appears the inmate has lost touch with reality (psychotic break), seems to be "hearing" or "seeing" things, etc., immediate action must be taken. These apparent sensations can scare or even "instruct" him or her to take their life. Also, symptoms of delirium tremens (D.T.'s or alcohol withdrawals) have been found to present similar dangers.

Management Procedures

Confinement

Most jail suicides occur within the early phase of incarceration (i.e., first 6 to 12 hours). Be this as it may, it is important to note and assess the incoming offender's disposition as soon as possible. Further, nearly all suicides take place in solitary, i.e., in the "drunk

tank," solitary confinement, single occupancy cells, etc. Therefore, placing the seemingly high risk inmate in a cell with a potential "rescuer inmate" may greatly reduce the dangers of a suicide.

Mental Health

If the inmate is blatantly psychotic, shows symptoms of delirium tremens (D.T.'s) or if he is openly threatening and/or attempting suicide, the first line of defense is referring him or her to the proper authorities, i.e., a psychiatrist, psychologist, or physician. Of course, where the officer is in the position to observe an attempt and physically intervene, he should first take steps to eliminate the immediate dangers (e.g., cut the person down, put out fires, stop bleeding, etc.). After things have settled down, one's supervisor should be notified, as well as the officer coming on for the next shift if the identified inmate has remained in jail.

When the inmate is speaking of depression, family problems, or how desperate he or she feels in regard to their stay in jail, just a few minutes of genuine interest and concern can go a long way in helping such inmates. If the inmate has any uncertainty concerning charges, court dates, or bond, a good deal of anguish can be minimized by clarifying these most important issues for the inmate. Of course, unrealistic expectations and half truths should be avoided so as not to set the inmate up for future let-downs.

Nor should guards or deputies offer instant advice or "fool proof" solutions. Unforeseeable events always seem to occur which may destroy the best of plans. Letting the inmate realistically realize how the

slow moving judicial machinery operates, and also indicating one is available (if one is) and willing to help, can provide solace.

Drugs

On occasion inmates will be taking prescribed psychoactive drugs or the jail physician may prescribe tranquilizers for disturbed individuals. A valuable role of the jailer or deputy is to insure these inmates receive their medication, report any odd or unforeseen side effects the drug may produce, and safeguard against any "stockpiling" of pills for later suicide attempts.

Illicit, non-prescription drugs and weapons, which are encountered within many jails, may also pose a difficulty. Danto (1973) has pointed out that during routine searches for concealed weapons or drugs, more than simply confiscating contraband may be required for effective management of the high risk inmate. Danto suggests some inmates may arrange to be caught with methods to suicide as a "cry for help." Thus, merely removing the potential instrument for death does not get at the heart of the problem. Probing the inmate's current distresses will also be required.

Social Relations

And finally, many inmates experience a falling out of contact with friend and family while in jail. In addition, attorneys can prove to be the inmate's only source of encouragement and support. Unfortunately, lawyers are notorious for their minimal and uncompassionate visits. If suicide trends are suspected and the inmate seems overly reliant on outside resources, just a few extra phone calls and visiting priveleges can go a long way in reducing the distresses which lead to suicidal acts.

In conclusion, no effort is too great to save a life. With a minimum amount of knowledge and willingness to do so the officer can save lives if and when the suicide crisis occurs. This manual is designed to alert jail personnel and officers to the cues which signal a potential danger of suicide. The responsibility to apply this information now lies in the hands of these persons in the position to do so.

VITA

Roger Allen Lupei

Candidate for the Degree of

Doctor of Philosophy

Thesis: JAIL SUICIDES: DEMOGRAPHIC AND BEHAVIORAL FACTORS POSTDICTIVE
OF THE COMPLETED ACT

Major Field: Psychology

Biographical:

Personal Data: Born in Aurora, Illinois, December 31, 1948, to Mr.
and Mrs. Earl L. Lupei; married to Pam Matusek, March 10,
1978.

Education: Received the Bachelor of Arts degree in Psychology from
the Southern Illinois University-Carbondale, May, 1974;
received the Master of Science degree in Psychology from Okla-
homa State University, December, 1977; completed requirements
for the Doctor of Philosophy degree at Oklahoma State Univer-
sity in May, 1981, with an emphasis in Clinical Psychology.

Professional Experience: Served as a graduate research assistant
and instructor to Introductory Psychology at Oklahoma State
University, September, 1975-December, 1979; Intern, Oklahoma
Crime Commission, Oklahoma City, Summer, 1978; Psychodiagnosti-
cian, Radar Diagnostic and Evaluation Center, Sand Springs,
Summer, 1979; Diagnostician, Head Start, Pawnee, Fall, 1979.