

DISCRIMINATING IDENTIFIED CHILD ABUSERS FROM
A NON-ABUSING GROUP OF OUTPATIENT
MENTAL HEALTH CENTER CLIENTS

By

DAN ELKINS JONES

Bachelor of Science
Oklahoma State University
Stillwater, Oklahoma
1972

Master of Science
Oklahoma State University
Stillwater, Oklahoma
1979

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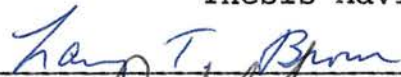
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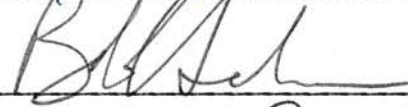
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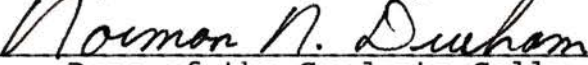


Thesis Adviser









Dean of the Graduate College

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

The phenomenon of child abuse and the perpetrator of that abuse are subjects which are yet to be clearly understood, despite a tremendous surge in awareness of and interest in the problem in recent years. The awareness and interest have increased among mental health, medical, and legal professionals as well as the general public (Wolfe, 1985) with a resultant increase in the amount of research energies invested in the area. It is evident, however, that this research area is still in the early stages of development, because most of the available studies concern themselves with definition and description of the problem and with attempts to identify the distinguishing characteristics of those who have effected the abuse. Continuing efforts to accomplish what superficially might appear to be rather simple tasks are valid, however, because of the dynamic nature of the definition of child abuse and because of the great diversity of people identified as abusers.

Until relatively few years ago, there were no laws designed for the protection of children (Helfer & Pollock,

1968). Although in the United States it has always been against the law to kill a child, methods of child-rearing have been left up to the caretakers of the child, and corporal punishment continues to be a commonly accepted form of discipline (Gelles, 1973). Before any legal or social standards were developed regarding the limitations which were to be imposed on caretakers with respect to the kind or extent of physical discipline that could be used, no individual could legitimately be identified as a child abuser. Even today, the legal and social restrictions are not clearcut and identification of someone as a child abuser can become a tentative and ambiguous proposition.

If we take for granted the fact that we do indeed have individuals who have been identified as child abusers, then we may begin the task of finding out what makes these people different from the larger group of people who have not abused children. Clinical descriptions of the abusing group naturally seem to offer a logical starting point. Indeed, we have little other choice but to start with clinical observations and professional opinions, because even though the literature is replete with descriptions of characteristics of child abusers (Melnick & Hurley, 1969; Shorkey, 1978; Evans, 1980), their environments (Garbarino & Sherman, 1980), and even the abused children themselves (Gelles, 1973; Gil, 1971), there are very few well designed studies with statistically defensible results (Spinetta & Rigler, 1972; Melnick & Hurley, 1969; Gelles, 1973).

Nevertheless, the available descriptions do provide us with a set of variables which can be subjected to a more thorough experimental scrutiny. Steele and Pollock (1968) state that:

Child abusers have been described as "immature," "impulse ridden," "dependent," "sado-masochistic," "egocentric," "narcissistic," and "demanding."

Such adjectives are essentially appropriate when applied to those who abuse children, yet those qualities are so prevalent among people in general that they add little to specific understanding.

(p. 90)

Although that comment was made over 20 years ago, it continues to reflect the current state of the literature.

There are other descriptors which are commonly offered, but which are susceptible to the same criticism. For example, abusive parents are said to be incapable of understanding the needs of their children at particular stages of development, and they treat their children as adults (Galdston, 1965). Blumberg (1964) and Galdston (1965) say that abusive mothers are highly frustrated by the restrictions of the maternal role. Bain (1963), Helfer & Pollock (1968), Johnson & Morse (1968), and Morris & Gould (1963) all report that abusing parents have a high expectation and demand for the infant's or child's performance, and a corresponding disregard for the infant's or child's own needs, limited abilities, and helplessness.

Spinetta and Rigler (1972) assert that there is general agreement among authors that "there is a defect in the abusing parent's personality that allows aggressive impulses to be expressed too freely" (p. 299). Support for that idea is apparent in Kempe et al. (1962), Steele & Pollock (1968), and Wasserman (1967). Green, Gaines, and Sangrund (1974) conclude that the parent's own traumatic childhood leads to the misperception of the child and the consequent abuse of the child as a scapegoat for abuses inflicted on the parent in the past. This hypothesis, that the abusing parent was once an abused or neglected child, is supported by a great number of authors, among whom are: Curtis (1963); Kempe, Silverman, Steele, Droegemueller & Silver (1962); McHenry, Girdany, & Elmer (1963); Melnick & Hurley (1969); Morris, Gould, & Matthews (1964); Paulson & Blake (1969); Silver, Dublin, & Lourie (1969); Steele and Pollock (1968); and Wasserman (1967). A role reversal, in which the parents rely on the child to gratify dependency needs that are unsatisfied in their relationships with their spouses and families, has been postulated and supported by several authors, including Green, Gaines, and Sandgrund (1974); Morris & Gould (1963); Steele & Pollock (1968), and Melnick and Hurley (1969). In general, as expressed by Spinetta & Rigler in their review published in 1972:

The authors seem to agree that abusing parents lack appropriate knowledge of child-rearing, and that their attitudes, expectations, and child-

rearing techniques set them apart from non-abusive parents. The abusing parents implement culturally accepted norms for raising children with an exaggerated intensity and at an inappropriate early age. (p. 299)

Other authors, however, have a different perception of parental characteristics as they relate to child abuse. Jayaratne (1977) contends that studies have almost invariably focused on the child abuser without using any comparison groups to test assumptions. In her opinion, there is "little or no empirical evidence to substantiate the idea that abusing parents follow parenting practices that are significantly different from those of non-abusing parents." She also suggests, as does Kadushin (1974), that there is little valid evidence to support the theory that abusive parents were themselves abused as children. In fact, Gil (1971) reported in a national survey study that only 14.1 percent of the mothers and seven percent of the fathers in the abusing sample had been victims of abuse in their childhood. He believes that most abusing caretakers are "normal" individuals, using socially approved disciplinary methods, who merely go further than they intend and thereby violate some ill-defined standard. Responsibility for child abuse, in his eyes, is society's and involves society's acceptance of physical force and its differential treatment of socially and economically deprived

groups. He de-emphasizes the importance of individual characteristics in the explanation of child abuse.

Gelles (1973) has a similar position, saying that social and cultural influences are more likely to be predictive of child abuse than are "narrow" psychopathological theories. While apparently attempting to discount research as well as theoretically based literature which attempt to explain child abuse in terms of personality factors inherent in the abuser, both Gil and Gelles propose models incorporating demographic variables which fail to provide any means of selectively attending to those persons most likely to abuse. These authors seem to ignore the fact that most people comprising the demographic sets to which they address themselves do not abuse their own nor any other children. Their suggestions for eradicating child abuse include such global concepts as "alleviating the disastrous effects of being poor in an affluent society" (Gelles, p. 620) and establishing "a guaranteed decent annual income for all" (Gil, p. 647).

Spinetta and Rigler (1972) argue that ideas such as these merit praise, but do not address the problem "of why some parents abuse their children, while others under the same stress factors do not" (p. 301). They agree that socioeconomic factors (e.g. poverty, unemployment, crowded living conditions, inadequate health care, etc.) sometimes place added stress on some basic weakness(es) in personality structure, but they suggest that these factors are not of

themselves sufficient or necessary causes of abuse. Such an argument seems to imply that basic weaknesses in personality structure are the necessary factors in child abuse, although abuse may still not occur unless one or more of a variety of conditions is present. If this is true, then a similar set of personality characteristics should be observable regardless of the sociocultural conditions which may serve to activate abusive behaviors, although it is possible that each category of abuse (physical, sexual, emotional, etc.) could involve a distinct set of perpetrator characteristics. This would mean, therefore, that we are back to the point of finding a common description of child abusers. It should be stated, however, that the ultimate goal is not merely an accurate description of who abuses a child under what conditions, nor is it the ability to distinguish abusers post-hoc from non-abusers. It is rather the capacity to identify correctly those persons at risk of abusing and to prevent the abuse by providing the information, training, therapy, or social assistance that is needed.

The identification of a population at risk for becoming child abusers must start with the examination of clinical descriptions of those already determined to have been abusive. Doing so leads to the observation that, although there is some basic agreement on several points, there is also disagreement. Additionally, the descriptors applicable to child abusers, while perhaps accurate, also apply to other clinical and non-clinical populations, and thus are

obviously inadequate as discriminators. Furthermore, the subjective nature of the clinical terminology itself has been observed to be a problem as various investigators have interpreted the same words or phrases in distinctly different ways. Potential solutions to these difficulties could be realized with the formulation of empirically based sets of criteria with standard and specific definitions. Psychological tests offer such possibilities and there have been several attempts at using various tests to provide the desired solutions.

Again, it has been necessary to begin with those people already determined to be abusers in order to describe--now in terms of psychological test correlates--the characteristics which set this group off from other people. As Spinetta (1972) observed, this task in itself can be a useful exercise, as it can assist in "determining after the fact of abuse which families must receive the most attention to assure the further safety of their child(ren)" (p. 302). That is to say that those people with the higher levels of "abusive" characteristics need the most attention. However, the evaluation of measurable psychological traits which are highly correlated with abusive behavior, and the determination of which traits are most descriptive, have not been as easily accomplished as might be expected.

One of the earlier studies using psychological testing was done in 1969 by Melnick and Hurley. They used the Thematic Apperception Test (TAT), the California Test of

Personality (CTP), and the Family Concept Inventory (FCI) to compare abusing mothers with a control group. They found significant differences between the groups on several variables. Abusing mothers were as a group less able to empathize with their children, more severely frustrated with respect to dependency needs, lower on self-esteem measures, and had less need to be nurturant. Unfortunately, these results have been difficult to replicate because of the use of a projective test (the TAT) on which interrater scoring reliability is a complicating factor and because of a small sample size (N=10) which makes generalizability questionable. Additionally, the authors themselves pointed out that their control group (N=10) also differed significantly from other previously reported control groups, albeit in a direction which would have made significance more difficult to attain on the above measures.

Other research using psychological tests began to follow, much of it involving the Minnesota Multiphasic Personality (MMPI). Wright (1970) reported a pattern of MMPI scale scores which he had found to be consistent across another small sample (N=15) of battering parents. He described these parents as significantly disturbed people who are capable of abusing their children while being able to convince others that they are neither disturbed nor capable of abuse, and he named this the "sick but slick" syndrome. The MMPI Profile was characterized by greatly elevated Pd (Psychopathic Deviancy) and Sc (Schizophrenia)

scales, a defensive test-taking approach (high L [lie] and K [defensiveness] scales), and a generally elevated pattern of other clinical scales. The small sample size evidently proved to be problematic, because a later Wright study (1976) using the MMPI and two other personality tests, the Rorschach and the Rosenzweig Picture Frustration Study, failed to replicate the pattern previously described. In the later study, Wright did use a control group which allowed him to observe significant differences in support of his "sick but slick" theory. The L and K scales were significantly higher in the experimental group, and the Pd scale approached significance, although no clinical scale exceeded a T-score of 70 in this study, which itself had only 13 experimental subjects.

Paulson, Afifi, Thomason, and Chaleff (1974) used the MMPI in a more extensive study in which they attempted to identify characteristic MMPI patterns which could differentiate abusive from non-abusive parents. As in Wright's later study, no scale mean for any of the groups under investigation exceeded a T-score of 70. However, Paulson, et al. concluded that they did find characteristic profiles which differentiated not only between abusive and non-abusive parents, but also differentiated within samples of abusing mothers and fathers. Their study had separated the abusing groups into those who had physically abused their children and those who had either neglected their children or who had passively allowed another person to

abuse them. Different MMPI profiles were found for each of these groups and there also were differences between the sexes for each group. The high points on the profiles of both male and female physical abusers were nearly identical, with Pd, Ma (Hypomania), and Pa (Paranoia) being included on each group high-point profile, but not necessarily in that order. Scale D (Depression) was also prominent on the male abusers' profile. On none of the group profiles were the L and K scales as high as those found on Wright studies.

It was noted that the high-point profiles of the physical abusers in the Paulson et al. study are the same as those found commonly among criminal populations. Kaleita and Wise (1976) attempted to use the MMPI to discriminate child abusers from both violent and non-violent criminal offenders. Comparisons of the three groups using twelve of the MMPI scales did not produce statistically different results with the scales being examined in combinations or as single predictors with confidence intervals. The authors did find evidence supportive of Wright's "sick but slick" profile, with high points on scales Pd and Sc on the child abusers' group profile. The Sc scale was higher on the abusers' profile than on either of the two other groups, but did not achieve statistical significance. The Pd, Sc, Ma, Pa, and D scales were high points on the abuser's profile, supporting findings of several previously mentioned studies.

Paulson, Schwemer, and Bendel (1977) took into account several sets of research which found the Pd and Ma MMPI scales consistently among the high points on the profiles of child abusers. They used nine experimental subscales of the Pd scale and eight experimental subscales of the Ma scale in order to derive more specifically discrete clinical information which could help them understand the abusers more fully. They also wanted to be able to better differentiate them from other groups. They found that seven of the nine Pd subscales and seven of the eight Ma subscales could discriminate significantly the abusing group from the non-abusive clinical control group. However, the main Pd and Ma scales also significantly discriminated between the two groups and the breakdown into subscales did not add noticeable discriminative power. Additionally, other groups, such as criminal offenders, who typically have the Pd and Ma scales as high points in their profiles, were not used for comparison with these subscales to provide possible discriminations which would be quite useful. Therefore it seems that the Pd and Ma subscales have little added value when used to distinguish a child abusing population from an outpatient clinical population, and they have yet to be tried in applications where their specific differentiations could be most helpful.

Efforts to discriminate child abusers from other groups of people, using psychological tests, have led more recently to the development of new scales for established tests

(Paulson, Afifi, Chaleff, Liu & Thomason, 1975; and Paulson, Afifi, Chaleff, Thomason, & Liu, 1975) and new test instruments (Milner & Wimberley, 1979 & 1980; Milner & Ayoub, 1980; Ellis & Milner, 1981; Paulson, Schwemer, Afifi, & Bendel, 1977). In constructing a new scale for the MMPI, Paulson, Afifi, Chaleff, Thomason, & Liu (1975) selected 33 experimental subjects from a pool of 60 parents identified as physically abusive. Their responses to the MMPI were compared, item by item, with a group of 100 control subjects who were non-abusive parents being seen at the same outpatient mental health facility. Those items which were endorsed by a distinctly higher percentage of experimental subjects than control subjects, using a chi-square analysis with a value less than .05 and an average error rate of less than 40 percent, were called discriminator responses. These were established separately for males and females and the raw scores for each were transformed into T-scores to conform to standard MMPI scale construction.

In a following study (Paulson, Afifi, Chaleff, Liu & Thomason, 1975) these same items were subjected to a stepwise discriminant function analysis which further refined the set of discriminator responses and established a reference value at which a subject would be classified into the abusive group. Both studies, each with its different method, were quite successful in assigning abusive and non-abusive parents into their proper categories. The first study, using an MMPI T-score of 70 as a cutoff point,

correctly classified 92 percent of the males in their sample population and 98 percent of the females. The second study, using the weighted discriminant function equation to establish reference values, had a 100 percent correct classification rate for males and a 93 percent correct rate for females. Obviously, both methods produced excellent results using the same sample group; however, neither method was utilized in a cross-validation study with different subjects. To their credit, the authors recognized that fact and encouraged further investigation with new subject pools.

Furlong and Leton (1977) undertook that task, using both methods of classification on a group of 19 people identified as child abusers. They found that none of the classification schemes worked as well with their population as they had done with Paulson, et al.'s original sample. Using the item analysis derived scales and a T-score of 70 or above as the classification criterion, Furlong and Leton could correctly classify only 44 percent of the nine males in their group, 42 percent of the combined (male plus female) group, and a disappointing 10 percent of the ten females they studied. As the first two percentages are within the range of random assignment and the third percentage misclassified the large majority of their sample, they concluded that the validities of the scales derived from item analysis are dubious. Better results were obtained using the discriminant functions developed by Paulson, Afifi, Chaleff, Liu & Thomason. For males, Furlong

and Leton found 67 percent correct classification and for females they correctly classified 70 percent of their sample. These results, while more acceptable, are still not in the range that is desirable considering the gravity of the classification (potential child abuser).

An inventory designed to identify child abusers was developed and refined in a series of studies by Milner and several colleagues (Milner & Wimberley, 1979; Milner & Wimberley, 1980; Milner & Ayoub, 1980; Ellis & Milner, 1981). The items on the inventory were written by Milner & Wimberley, administered initially to 19 abusive parents and 19 matched controls and then subjected to an item analysis to empirically determine which items best discriminated one group from another. The selected discriminating items were factor analyzed to investigate dimensionality within the set (Milner & Wimberley, 1979). Later, the 334 item inventory was cut to 160 items, which were administered to 65 abusing and 65 matched non-abusing parents. Again, an item analysis was done and 77 of the most discriminative items were used in a discriminant analysis and a stepwise multiple regression analysis which yielded identical results, correctly classifying 96 percent of the 130 subjects into the appropriate groups. Another factor analysis produced a solution with seven relatively specific dimensions which assisted in the description of important factors leading to child abuse (Milner & Wimberley, 1980). Although these studies did not use an established psychological test, the

design seems well-conceived and the results obtained appear excellent. Milner and Wimberley designated the instrument they developed the Child Abuse Potential (CAP) - Inventory.

The CAP was used in later comparison studies with other instruments. It was found to be much more highly selective than another set of "At Risk" criteria which was being used in a clinical setting. That is, the "At Risk" designation would be applied to a person who met any one of a rather broad set of criteria and who might not achieve a CAP score above the cutoff level. The CAP would thus be expected to produce fewer false positives than the set of "At Risk" criteria to which it was compared in this study (Milner and Ayoub, 1980). The CAP also was found to be related to the Rotter Internal-External Control Scale, with high scores on the CAP being obtained by those persons who are described by Rotter as believing that events in their lives are controlled by external factors rather than under the influence of their own actions and attitudes (Ellis and Milner, 1981). This last study seems to be an attempt at providing some description of the persons selected by an instrument designed to discriminate child abusers from non-abusers.

Statement of the Problem

The problem that is being undertaken in this study is to develop an equation, based on standard scales of commonly used psychological test instruments, that can accurately

discriminate child abusers from other clinical populations. The goal that lies beyond the current problem is the development of an equation or a process which will accurately identify persons at risk of abusive behaviors, so that education and/or therapy designed to prevent abuse could be offered.

Research Questions

1. Can any combination of selected scale scores from the MMPI and the FIRO-B discriminate child abusers from non-abusers?

2. Is the discriminative power of the discriminative function utilizing MMPI and FIRO-B scores greater than that of the CAP?

3. Can any combination of selected scale scores from the MMPI and the FIRO-B and the CAP discriminate child abusers from non-abusers with greater accuracy than the CAP alone or the MMPI and FIRO-B discriminant function?

CHAPTER II

METHODS

Subjects

The experimental subject population consisted of 60 volunteers from a Parents Assistance Center in a metropolitan area in the southwest region of the United States. All of these subjects had been identified as child abusers and referred for parenting skills training by judges or child welfare workers involved with their cases. These subjects were identified either as actual participants in the physical abuse of children or as people who were present in the households in which such abuse occurred and who failed to protect those children.

Control subjects were obtained from a community mental health center in the same vicinity as the above mentioned Parents Assistance Center. These subjects were volunteers who were in the very early stages of counseling and who had presented with difficulties not associated with parent-child problems. No control subject had any known history of child abuse. People who had recently been discharged from an inpatient mental hospital or who were known to have chronic affective disorders were excluded from the study.

Procedures

Each subject was administered a battery of tests consisting of: (1) the Minnesota Multiphasic Personality Inventory-Form R (MMPI); (2) the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B); and (3) the Child Abuse Potential Inventory (CAP). The order of presentation of tests within the battery was counterbalanced across subjects.

Condition I

Scores from 13 scales of the MMPI (three validity scales and ten clinical scales) and the six basic scales of the FIRO-B were subjected to analysis in a stepwise discriminant function procedure. The scale scores came from a set of subjects consisting of half of the controls and half of the experimental subjects. These subjects were selected from their respective groups by the computer, using uniform random numbers tables.

The variables selected by this procedure are identified as the most powerful discriminators between the experimental and control groups. Selection of discriminant variables was discontinued when the level of significance of any variable considered for addition to the group of discriminant variables was greater than $p = .15$. Similarly, any variable was removed when its contribution to the set had a level of

significance that became greater than $p = .15$ with the addition of another variable.

After the primary discriminator variables were selected by the stepwise discriminant function procedure, they were used in a pooled discriminant function procedure. The same randomly selected subjects used in the stepwise discriminant function procedure (30 from the experimental subject pool and 30 from the control subject pool) were used in the development of a discriminant equation by the pooled discriminant function procedure. That discriminant equation was then applied to the remainder of the subjects (30 from each group). Those subjects were classified by the equation as either abusers or non-abusers and a frequency table showing accurate classifications and misclassifications (a "hit rate" table) was developed.

Condition II

The same process was applied using a second set of variables. The discriminator variables included, in addition to scale scores from the MMPI and the FIRO-B, the three validity scale scores from the CAP and the six subscale scores which together constitute the abuse scale score on the CAP. The same initially randomly chosen subjects were used in the stepwise discriminant selection of the variables contributing most greatly to discrimination between groups and then again in the pooled discriminant function procedure. The second half of the subjects were

then assigned to groups using the discriminant equation which had been developed, and a hit rate table was developed.

Condition III

The abuse scale score of the CAP was used to assign subjects to groups. A cutoff score of 215 was utilized. This assignment procedure was applied to both the calibration subjects (the first set of 30 randomly selected subjects from each group) and the test subjects (the 60 remaining subjects). A hit rate table was computed for the calibration set and the test set.

CHAPTER III

RESULTS

The stepwise discriminant function procedure identified eight variables from Condition I as contributors to the discriminant equation at the required level of significance. These were: scales F, D, L, PD, K, PT, and SC from the MMPI, and scale CE from the FIRO-B.

Those eight variables were entered into the pooled discriminant function procedure and a linear discriminant function was developed (Table 1). For the group on which this equation was calibrated, there were 96.67 percent of the non-abusers correctly assigned to the non-abusers group, with 3.33 percent misclassified into the group of abusers. The abusers were correctly classified at a 93.33 percent rate, with 6.67 percent misclassified into the non-abusers category (Table 2).

The second half of the subjects were then classified with the discriminant equation of Condition I. Of the non-abusers in this set of subjects, 86.67 percent were correctly classified, with 13.33 percent misclassified into the abusers group. There were 70.00 percent of the abusers

TABLE 1
DISCRIMINANT EQUATION FOR CONDITION 1

	Non-Abusers	Abusers
Constant	-27.45311193	-22.29985840
F	-0.08096283	0.08948380
D	0.69598969	0.34002183
L	-0.19357286	0.55974664
PD	0.21251823	0.50759165
K	1.01600539	0.72420029
CE	0.98090861	0.55410952
PT	0.90342815	0.56786373
SC	-0.40626331	-0.21263140

TABLE 2
HIT RATE TABLE FOR CALIBRATION SET OF CONDITION I
NUMBER OF OBSERVATIONS AND PERCENTS
CLASSIFIED INTO GROUPS

Actual Group	Assigned Group	
	Non-Abuser	Abuser
Non-Abuser	29 96.67%	1 3.33%
Abuser	2 6.67%	28 93.33%

who were accurately assigned to the abusers category, and 30 percent who were inaccurately placed into the non-abusers group (Table 3).

For Condition II, the stepwise discriminant function analysis identified eleven variables contributing at the required level of significance. These were: scales MF, SC, and MA from the MMPI, scales IE, AE, and CE from the FIRO-B, and the Problems with Self, Problems with Others, Random Response, and Lie scales from the CAP. These eleven variables were subjected to the pooled discriminant function procedure. The linear discriminant function appears in Table 4. For the group on which it was calibrated there were 90 percent of the non-abusers who were accurately assigned to the non-abusers group and 10 percent who were misclassified as abusers. Of the abusers, 3.33 percent were incorrectly placed in the non-abuser group, with 96.67 percent of the abusers in this sample correctly assigned to the abusers group (Table 5). The discriminant equation was tested on the second set of subjects and the hit rate for this set is in Table 6. The non-abusers were classified accurately 80 percent of the time, with a 20 percent error rate of non-abusers placed in the abusers category. Of the abusers, 60 percent were correctly assigned to the abusers category, while 40 percent were misclassified into the non-abusers group.

TABLE 3

HIT RATE TABLE FOR TEST SET OF CONDITION I
 NUMBER OF OBSERVATIONS AND PERCENTS
 CLASSIFIED INTO GROUPS

Actual Group	Assigned Group	
	Non-Abuser	Abuser
Non-Abuser	26 86.67%	4 13.33%
Abuser	9 30.00%	21 70.00%

TABLE 4

DISCRIMINANT EQUATION FOR CONDITION II

	Non-Abusers	Abusers
Constant	-54.74203351	-44.15513530
MF	1.33664080	1.14674820
S	-0.91779105	-0.59669777
D	1.55778763	1.07490170
O	-0.18918384	0.02739482
RR	1.73236724	0.99166102
SC	-1.04023406	-0.74815836
IE	0.76494082	-0.03269543
AE	-1.42704158	-0.35908920
MA	2.63828787	2.35004260
CE	0.83703989	0.28887930
LL	0.21060493	0.72452949

TABLE 5

HIT RATE TABLE FOR CALIBRATION SET OF CONDITION II
 NUMBER OF OBSERVATIONS AND PERCENTS
 CLASSIFIED INTO GROUPS

Actual Group	Assigned Group	
	Non-Abuser	Abuser
Non-Abuser	27 90.00%	3 10.00%
Abuser	1 3.33%	29 96.67%

TABLE 6

HIT RATE FOR TEST SET OF CONDITION II
 NUMBER OF OBSERVATIONS AND PERCENTS
 CLASSIFIED INTO GROUPS

Actual Group	Assigned Group	
	Non-Abuser	Abuser
Non-Abuser	24 80.00%	6 20.00%
Abuser	12 40.00%	29 60.00%

Condition III entailed assignment to group by CAP cutoff score. Since accuracy of assignment was computed separately for the set of subjects used for calibration and that used for testing the equation on Conditions I and II, it was also computed separately for this condition. On the calibration set, the CAP cutoff score of 215 resulted in assignment of non-abusers to the non-abuse group at a 60.00 percent rate of accuracy; 40.00 percent were misclassified as abusers. The abusers were identified correctly 36.67 percent of the time, leaving 63.33 percent of the abusers misclassified as non-abusers (Table 7).

The test set of subjects was also classified by CAP cutoff score. By that method, 63.33 percent of non-abusers were correctly assigned to the non-abusers group; 36.67 percent were incorrectly categorized as abusers. There were 46.67 percent of the abusers who were misclassified as non-abusers, and 53.33 percent who were accurately assigned to the abusers group (Table 8).

Although the sample of non-abusers was not intentionally matched to the sample of abusers, some of the demographic characteristics were compared anyway. Sex, age, marital status, race, number of children, and family income were analyzed for differences between groups. The entire subject samples of 60 abusers and 60 non-abusers were

TABLE 7

HIT RATE FOR CALIBRATION SET OF CONDITION III
 NUMBER OF OBSERVATIONS AND PERCENTS
 CLASSIFIED INTO GROUPS

Actual Group	Assigned Group	
	Non-Abuser	Abuser
Non-Abuser	18 60.00%	12 40.00%
Abuser	19 63.33%	11 36.67%

TABLE 8

HIT RATE FOR TEST SET OF CONDITION III
 NUMBER OF OBSERVATIONS AND PERCENTS
 CLASSIFIED INTO GROUPS

Actual Group	Assigned Group	
	Non-Abuser	Abuser
Non-Abuser	19 63.33%	11 36.67%
Abuser	14 46.67%	16 53.33%

compared. Sex, marital status, and race were found not to be significantly different between groups. Age, number of children, income level, and education were significantly different at high levels. Relevant information on the statistical significance of all these demographic variables is detailed below.

Age was analyzed with a simple t-test. The non-abuser group was found to be significantly older, with a mean age of 33.62 and a standard deviation of 8.55 years as compared to a mean age of 28.78 and a standard deviation of 7.27 years in the abusers group, $t(118) = 3.3366$, $p < .0011$.

Visual inspection indicated that there was a higher number of males in the abusers group, although the .05 level of significance was not attained, $\chi^2(1, N=120) = 2.844$, $p = .092$.

The differences found with respect to marital status were also determined to be not significant. The abusers group had more married people and the non-abusers more divorced people, while the numbers of single and widowed in each group were essentially the same. A Chi-square test of marital status by group observed that $\chi^2(3, N=120) = 4.563$, $p = .207$.

The racial composition of the two groups was not found to be a significant factor. The large majority of each group was white, with a slightly larger number of non-whites in the abusers group, $\chi^2(3, N=120) = 5.236$, $p = .155$.

The number of children in the immediate family did differ at a significant level between the groups. The categories with few children in the family included many more non-abusers and categories with higher number of children contained more abusers, $\chi^2(5, N=120) = 24.648$, $p < .001$.

The level of income also differed between groups. Those in the abusers category were highly represented in the lower income levels, while those in the non-abusers category had many more people in the higher income levels, $\chi^2(4, N=120) = 44.398$, $p < .001$.

Finally, the mean number of years of education was found to be different for each group. The abusers group had less education ($M = 11.17$ years) than the non-abusers group ($M = 14.30$ years), $t(118) = 7.5923$, $p < .0001$.

CHAPTER IV

DISCUSSION

The results of this study seem to provide clear and direct answers to the research questions which were posed. First, it is evident that the discriminant function applied to selected scale scores of the MMPI and the FIRO-B did discriminate, with a reasonable degree of accuracy, between identified child abusers and a non-abusive group of clients from a mental health center. Second, it did so better than did the CAP. Third, and finally, the addition of selected scale scores from the CAP to scale scores of the MMPI and the FIRO-B did not improve the discriminative accuracy of the equation developed from the MMPI and FIRO-B, but was still more effective than the CAP alone.

The fact that the discriminant function was "successful" leads quickly to questions of relevancy. The one that will be addressed first is: Is the discriminative power of any of these schema great enough to allow its use in a practical application with clients in a mental health facility? The fact is that clinicians are often asked to evaluate people with regard to child abuse potential. In child custody disputes, evaluations of both parents are

often conducted in order to determine if one or both are unfit as parents or if one is more fit than another. Evaluations of prospective employees of day care facilities, preschools, and similar establishments are requested. There are indeed many situations where it would be a great boon to be able to administer one or two pencil and paper tests and then state with confidence that this person is safe to hire or that person is at risk for abusing children.

Unfortunately, it appears that one cannot have such confidence here. The test that has been developed to perform such a task--the CAP--did quite poorly under the conditions of this study. It did not accurately identify the abusers and it assigned many non-abusers into the abuse category. Yet, these are the conditions in which a mental health practitioner must operate.

The subjects of the mental health client group were not matched to the subjects of the identified abusers group. They were taken as volunteers, with a few restrictions, much as would happen under real mental health center conditions. Shortly after they had begun working with their assigned counselors, they were asked to participate in the study. It turned out that they were different in many respects from the identified abusers group, but it is expected that they are fairly representative of the outpatient clients seen for counseling in a community mental health center. The differences that were observed between groups included: the mean age and education of the group members, both of which

were higher in the non-abusing group; the number of children in the families of group members, which was higher in the abusers group; and the income of the households of group members, which was higher in the non-abuse group.

These differences, while statistically quite significant, would not seem to explain why it would be difficult to distinguish one group from another using either the CAP cutoff score or any other technique. Logically, quite the reverse would seem to hold true. If there are differences on demographic variables, differences would also be expected on the test variables, and the groups should be easier to separate.

It is when groups have similar characteristics that the individual members of the groups should be hardest to tell apart. That factor, as observed on the test variables rather than the demographic characteristics, is likely responsible for most selection difficulties experienced by any of the discriminative processes, and this seems to apply particularly to the CAP.

It is easily observed that the scores which contribute to the CAP abuse scale are obtained on subscales which are descriptive of the very reasons that clients come into a mental health center for assistance. Distress, rigidity, unhappiness, family problems, problems with child and self, and problems with others are areas which when experienced in great measure might make some people more likely to abuse children and others more likely to seek counseling. Thus

both groups might appear the same when measured by the CAP and a single cutoff score could be useless in distinguishing one group from the other.

The CAP Abuse scale cutoff score which was used was the more restrictive of those suggested. The higher the score, the fewer the false positives it would be expected to yield. On the test sample, where the CAP performed relatively better than on the calibration sample, over one third of the non-abusers were falsely identified as abusers. Using a lower cutoff score could possibly have allowed a higher hit rate to be achieved (in this case the hit rate was essentially at chance level, 53.33 percent), but it surely would have increased the already high false positive rate. In real terms it is hard to say which is worse. Calling people abusers who have not actually abused their children (a false positive) could result in the removal of those children from the home. Placing abusers in the non-abusive group could result in children being abused again.

Stated flatly, the CAP was not an effective discriminator when applied to these samples of mental health clients and identified abusers. On the basis of this limited study, it cannot be recommended for use with a mental health population.

Consider on the other hand the efficacy of the discriminative function equation which was developed on the MMPI and the FIRO-B scale scores. This was the most effective of the discriminative tools used or developed in

this study. If evaluators could use this equation with confidence it would retain the accuracy it displayed on the calibration sample, they could feel quite good. There were few misclassifications of any type and the particular type of misclassification usually considered most important to avoid, the false positive, occurred at only a 3.33 percent rate. Moreover, it identified the abusers with 93.33 percent accuracy in a sample in which the CAP was successful only 36.67 percent of the time.

This accuracy, however, did not hold up when the equation was applied to the test sample. The false positives jumped 10 percent to 13.33 percent, and the hit rate dropped 23.33 percent to 70 percent. These are the figures which must initially be assumed to represent the population if we attempt to apply the discriminant equation beyond the calibration sample. On the surface it may appear as though these numbers are not exceptional, but they are acceptable. However, applying them to a larger sample with the base rate distribution of child abusers taken into account may result in a different impression.

Milner (1980, p. 4) uses an example with a hypothetical base rate for child maltreatment of 5 percent in the general population. If that example is continued on a sample of 1000 subjects, then the hit rate of 70 percent would detect 35 of the 50 expected child abusers (5 percent of 1000 = 50), while there would be 127 non-abusers (13.33% of 950) misclassified into the abuse category. As Milner stated,

misclassifying this high a percentage of people as child abusers "...is unacceptable in most testing situations" (Milner, 1980, p. 4). The classification accuracy looks even worse, however, when the base rates of abuse are lower. No data could be found which gave an estimate of the rate of child abuse in a mental health client population. If one takes the estimated incidence in the general public of one to two percent as reported by King & Davis (1981) and assumes it relates equally well to a mental health client population, then selection rates become even more unacceptable. With a sample of 1000 and an incidence rate of one percent, a person using the developed equation would correctly classify seven of the ten abusers in the group, while falsely assigning 132 non-abusers into the abuse group. In other words, 132 out of 139 classifications as an abuser would be wrong. It is difficult even to think of a situation where such an error rate could be deemed acceptable. Certainly it does not seem practical to use in a mental health center setting even the most accurate of the selection tools developed or employed in this study. Although the discriminative equations worked reasonably well in making correct group assignments in this study, the feasibility of using these selection processes diminished rapidly as the expected incidence rate of child abuse diminished from the 50 percent found in this study to the 5 percent or even 1 percent reported for the general population.

A specific answer may therefore be given to the question posed earlier in this discussion. That is, since neither the least effective selection process, nor the one found most effective in this study can provide an acceptable error rate when applied to a population with an expected incidence of child abuse at a base rate level much lower than that in this study, it must be concluded that not one of the schemas has sufficient discriminative power to be utilized in practical application in a mental health center setting.

Could the discriminative equations that were developed have any useful function? Yes, when the type of error they make is not considered to be such an important factor. As previously discussed, the incorrect identification of a non-abuser as an abuser is extremely negative if it should mean that one's children would be removed from the home. It has less disastrous consequences, however, if for example, an educational program geared toward managing parent-child stress is going to be offered and one is looking for people who might receive the greatest benefits. In that case, one would want to select as many abusers as possible. Even if it would mean at the same time selecting a larger number of non-abusers to whom the program would be offered, the likelihood of harming someone seems small.

Although those people classified as false alarms are by definition non-abusers, it could still be true that they are at more risk of being abusive than those in the correct rejection group (non-abusers classified as non-abusers). If

the desire is to prevent child abuse in the future, then it seems appropriate to use a classification scheme which identifies those at risk as well as those who have already committed an offense. The use to which a selection instrument is to be put, then, is of primary importance.

An associated idea is that a selection instrument must be used in the proper population. This study concerned itself with outpatient mental health center clients. That group has been observed to have many characteristics in common with child abusers. The differences in some cases may be in degree rather than in kind, and the selection process may not generalize to other populations. The nature of the mechanism that allows some people to maintain control even under the same conditions where others abuse children has yet to be discovered. Until that mechanism is revealed, attending to the conditions themselves, both psychological and environmental, and treating them as risk factors, seems justifiable as the best course of action available. Both identified child abusers and non-abusive mental health center clients have many of these risk factors in common, particularly with respect to variables indicating psychological distress. We may continue, therefore, to experience difficulty telling these groups apart as long as we continue to use measures of psychological conditions.

Given that the discriminative equations have both assets and liabilities, what could be done to improve their accuracy?

First, larger sample sizes could prove immensely useful. Although the time investment required to obtain the data in this study was very substantial, the number of subjects is still relatively small considering the number of comparisons made. A small sample size of course calls to question the accuracy of approximation of the population. With more subjects comes a corresponding increase in confidence that the sample is representative of the population being studied.

It also would provide more certainty that the sample would be like other samples in the population. In this study, it appeared that the groups formed by random assignment of the available subjects were fairly dissimilar. There is no way of knowing which of these groups better represented the population under investigation.

It is known that the sample group to which the discriminative function procedures are applied has a direct effect on the results. If a different set of subjects were randomly selected, the stepwise discriminant function procedure would likely identify some different scale scores as contributing more to the variation between groups. Likewise, the pooled discriminant function procedure would have produced a different equation. With larger sample sizes the differences between the randomly selected groups would probably be smaller; if so, confidence in the discriminative accuracy of the developed equation would be increased.

Another way to approach our same data set and yet maximize accuracy and generalizability would be to make multiple random selections of calibration groups. Selection of the scales to be used could be accomplished on the basis of the frequency with which a scale appeared as one of those chosen by the stepwise discriminant function procedure. Those scales thus chosen could then be entered into the pooled discriminant function procedure to develop the discriminant equation.

It had been expected that a third method of increasing the potential accuracy of our discriminators would be to add elements to the pool from which the most powerfully discriminating variables could be chosen. That was attempted by adding scales and subscales of the CAP. As observed, the discriminative equation that was developed was not as effective as that developed on the MMPI and FIRO-B scales alone.

The most readily apparent explanation for the reduction, rather than increase, in discriminative power is that the measurements added were not sufficiently different from information already being used. It is known that the CAP Abuse and Lie scales are significantly correlated with many scales of the MMPI (Milner, 1980, p. 70). The stepwise discriminant function procedure selects elements which account for the greatest amount of variance between groups. When an element is chosen that is not an independent, discrete variable, it may overlap with other variables,

adding information of its own and duplicating information already contributed by other variables. It may also contribute "noise" to the equation by adding information irrelevant to the desired discrimination. When this occurs, it may seem more powerful (account for more variance) and yet preclude the addition of other variables which would have added more unique, and thus more discriminative information to the equation.

The lesson learned from this was that merely adding more variables does not guarantee that discriminative accuracy will be improved. Measurements need to be discrete, unique, and independent if they are to have substantial value.

The findings of this study indicate a great need for caution in the application to a mental health center client population of tests designed to identify child abusers or potential child abusers. If such tests are applied, then a conservative interpretive approach seems imperative. Consideration of the possible impact of assignment to the child abuse category should be a critical factor in the decision to use tests for this purpose with this population.

Further research in this area could prove to be quite beneficial, particularly to those charged with evaluating caretakers for their fitness for the task. Larger subject groups, multiple calibrations on different random selections of subjects, and inclusion of other easily accessible information which is independent of existing measurements

are approaches which could refine the discriminative powers of instruments such as those used in this study and thereby increase the confidence in their accuracy. Beyond being informative, extension of the body of knowledge in the area of measurement of child abuse potential could have immense practical value.

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VITA

Dan Elkins Jones

Candidate for the Degree of

Doctor of Philosophy

Thesis: DISCRIMINATING IDENTIFIED CHILD ABUSERS FROM A
NON-ABUSING GROUP OF OUTPATIENT MENTAL HEALTH
CENTER CLIENTS

Major Field: Psychology

Biographical:

Personal Data: Born in Los Angeles, California,
February 3, 1947, the son of J. M. Virgil and Edna
A. Jones. Married Renee Kauerauf on August 3,
1972.

Education: Graduated from Putnam City High School,
Oklahoma City, Oklahoma, in June, 1965; received
Bachelor of Science Degree in Psychology from
Oklahoma State University in Stillwater, Oklahoma
in July, 1972; received Master of Science Degree
in Psychology from Oklahoma State University in
Stillwater, Oklahoma in December, 1979; completed
requirements for the Doctor of Philosophy Degree
in Psychology at Oklahoma State University in
July, 1989.

Professional Experience: United States Army, August
1966 to August 1970; internship in clinical
psychology, University of Oklahoma Health Science
Center, Department of Psychiatry and Behavioral
Science, Oklahoma City, Oklahoma, September 1975
to August 1976; psychometrist, Children's Memorial
Hospital, Oklahoma City, Oklahoma, September 1976
to December 1976; psychometrist, Oklahoma City
Clinic, Oklahoma City, Oklahoma, January 1977 to
March 1978; substance abuse counselor, Oklahoma
Department of Corrections, Oklahoma City,
Oklahoma, March 1978 to November 1979;
alcoholism/drug abuse program coordinator,
Oklahoma Department of Corrections, Oklahoma City,

Oklahoma, December 1979 to December 1981;
counselor and administrator, Red Rock
Comprehensive Mental Health Center, Oklahoma City,
Oklahoma, January 1982 to July 1989.