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DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Edward Warner Davis, B.A., M.S.W.

* * * * *

The Ohio State University
1978

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CHAPTER I

INTRODUCTION

Purpose

The purpose of this research project is to develop a prediction instrument to differentiate at the time of placement those children who will be in foster placement for only a short term and those children who will remain in foster placement for a long term. Using an ex post facto design, data will be collected from a sample composed of children including a group which has been in foster placement for less than one year and a group which has been in placement for more than two years. Using those factors determined to be related to the dependent variable, time in placement, an instrument will be designed by which children can be screened when they are being placed to classify them on the basis of potential long-term or potential short-term care.

There is considerable value in having the capability of making this determination early in a child's placement. While the history of the placement of children outside of their own homes shows varying trends in social focus, there is a current emphasis on providing permanence for the child thus avoiding the detrimental effects on the child of shifting him or her from place to place. The goal is
permanence and stability in the home of the child's biological family or, if this is not possible, permanent placement in another home.

The literature highlights the current practice of allowing the unnecessary drift of children from placement to placement in foster care (Sherman, Neuman and Shyne, 1973; Stone, 1970) while emphasizing the need for early and adequate planning for each child (Chappell, 1975; Festinger, 1975; Wiltse and Gambrill, 1974). The capacity to accurately make an early determination of potential length of placement will facilitate service planning, program planning, and research related to the goal of permanence.

Currently, Franklin County Childrens Service (the locus of this study) has an ongoing caseload of seven to eight thousand children. Of these there is an ongoing population of thirteen to fourteen hundred children placed in various types of foster care outside of their own homes. In January of 1977, of the children so placed, 590 had been in placement for two or more years (herein defined as "long-term"). During the year 1976, 743 children were discharged from placement which had lasted one year or less (herein defined as "short-term"). If these two groups (short-term and long-term) can be differentiated early in placement, this will be a considerable asset to planning and research. By use of a prediction instrument differentiation can be predicted at an 85 to 90 percent level of accuracy. Thereby, program and case planning, as well as specific research, can be based on realistic probabilities.
Relevance to Social Work

Child welfare is one of the major fields of social work practice. Social workers have always been concerned for the well-being of children, both as individuals and as members of intact families. The history of this concern, however, shows changing environmental and cultural contexts surrounding children with consequent change in the focus of concern (Costin, 1972; Encyclopedia of Social Work, 1965, 1970, 1977; Kadushin, 1974). Earliest community provision in the United States was simply to assure food and shelter for homeless and destitute children. They were indentured or placed in almshouses. By the middle of the nineteenth century, there was a marked interest in preventing exploitation and abuse of children. Public and private orphanages developed exclusively for children (Pumphrey and Pumphrey, 1961, pp. 155f.). During the latter part of that century, with the work of Charles Loring Brace, foster placement began to de-emphasize indenture and emphasize more the needs of the child (Langsam, 1964, pp. 6-87). By the beginning of the twentieth century, there was growing interest in maintaining what are now referred to as "dependent" children with their own families.

Beginning acknowledgment of the need of the child for a family (as well as the social desirability of this arrangement, no doubt) came about in the second half of the nineteenth century as states and private charities began to make provision for widows and tried to help families with problems to remain intact. Friendly visitors attempted to help families provide a suitable home for their children.
Resources were provided to families through various charity organizations (Pumphrey and Pumphrey, 1961, pp. 169-91).

The first White House Conference on children in 1909 declared that poverty alone should not be a cause for removing a child from his family. While states and private organizations were providing widely disparate funds and services to the poor, it was not until the great depression of the 1930's when poverty was widespread that federal provision was made for general relief. From the time of that earliest federal legislation, provisions--both money and services--have been expanded. That expansion has been indicative of social concern, changing values and increased resources.

The Children's Bureau was established in 1912 and became a leading force in setting standards and promoting programs. The 1935 Social Security Act provided not only funds for dependent children through Title IV, but also provided some services (Title V, Section 3) through the Children's Bureau, especially to children in rural areas (Pumphrey and Pumphrey, 1961, pp. 436f). The 1962 amendments to Title IV added services to those families receiving ADC and by that time numerous amendments to Title V provisions had broadened them and no longer limited them to rural children. The 1967 amendments again increased these provisions, but the 1969 HEW regulations considerably restricted potential services.

Title XX, enacted in January 1975, provided for a number of changes. Federal-State became a partnership in providing social services.
Services became primarily state and locally planned. Requirements called for a much more accountable system. There was a heavy emphasis on families and children. Eligibility was expanded to include a broader population segment (Public Law 93-647).

It is through this historical development that child welfare has come to its present form. Current programs are conceptualized as falling into three categories, titled according to the manner in which services assist families—supportive, supplemental and substitutive (Costin, 1972, pp. 21-22; Kadushin, 1974). Additional functions are: preventive, regulatory and planning (The Encyclopedia, 1970, p. 168). Foster care falls into the substitutive category because the child is removed from his family's home and the community provides various substitutes for most of those tasks which normally fall to the parents (Kadushin, 1974, pp. 392f).

Up to the 1950's, there was a growing popularity in the use of foster homes. Increased knowledge of human development enhanced the awareness of the importance of the family setting for the proper emotional growth of the child. Psychoanalysis, which strongly influenced social work, contributed greatly to this knowledge. Bowlby's studies on maternal deprivation was influential in this trend (1951). Rene Spitz's works on the influence of institutions supported the development of the belief in the desirability of a family home as the setting for placing dependent children.

An additional factor was the greatly increased cost of providing institutional settings for children. By comparison, foster home care
was less expensive, both socially and economically. Matsushima states that "Few institutions for children, then, were established in the 1920's, 1930's or early 1940's, because foster care appeared to be a more appropriate approach" (The Encyclopedia, 1977, p. 148). During and following World War II, many of the early twentieth century "orphanages" were emptied and abandoned. Others were restyled into treatment centers (The Encyclopedia, 1977, p. 147). Such centers had staffs specialized in working with juvenile delinquents, retarded and/or mentally ill children. These institutions were used primarily for those children whose particular developmental needs or emotional orientation caused them to react negatively to the personal closeness and expectations of the family setting. For these children, the institution was considered emotionally undemanding while providing a setting which could be routine and as controlled as necessary (Kadushin, 1970, pp. 622f).

There continued to be a predominant philosophy that the best place for the child was in his biological home. If this was not possible, then some other form of permanence was considered desirable. Legal adoption was considered for young, healthy Caucasian children. Other children who became public wards remained in some in-between placement which was less than permanent. As Wiltse and Gambrill stated:

Opinion in the child welfare field, at least as reflected by its literature up until the 1960's, seemed to be that restoration to his own family was always the best solution for a child entering foster care; if not, voluntary relinquishment for adoption. Continued care was only for the few forced to remain in "limbo" and served as a reminder of the child welfare system's failure to rehabilitate the family or else to achieve termination of parental rights and subsequent adoption (Wiltse and Gambrill, 1974, p. 13).
As noted, this was professional "opinion." The "conventional wisdom" was that continued care was only for the few. The "few" amounts to about 42 percent of the total children under care at any given time (according to Franklin County Children's Services current rate).

During the 1960's, there were growing counter-influences pushing toward serious questioning of the whole realm of placement of children away from their natural families.

A. Ever since the onset and development of the literature of maternal deprivation, child welfare workers have been made very conscious of the importance to the child of having a constant, stable, stimulating interpersonal environment. Initially, this concern was implemented in the rather superficial change of placement technology from institutions to foster homes. As the knowledge in this field was developed, of course, understanding of the nature of this need has become more profound. Ament, a consulting psychiatrist in foster care, states, quoting Selma Fraiberg:

Among the gravest consequences of placement is the child's inability to form new object relationships following loss. A very large number of children in institutions and foster home care are permanently damaged and may never recover the capacity for making meaningful human ties (Selma Fraiberg; J. Ortho XXXII).

These words are a cogent summary of more than 60 consultations involving foster children that I have done in the last two years (Ament, 1972, p. 104).

While using problem solutions (i.e., foster homes) which were proving much less than ideal in providing stability and consistency in children's lives, social workers in child welfare have lived with the
gnawing awareness from this growing body of knowledge and experience that an unstable environment over a period of time is irreparably damaging to the child (Geiser, 1973; Kadushin, 1970; Ament, 1972).

B. Every worker with children in homes other than their own has repeatedly been faced with the many negative aspects of foster care. These workers regularly experience the unsureness of the child that he will remain in a given placement, repeated moves for many children and the deleterious effects of multiple moves on the child (Geiser, 1973). A most commanding reality is the complex of factors relating to the whole meaning to the child of having to live away from his parents (Trasler, 1960, pp. 229-42). If a child is placed at an older age, he or she is helped to understand by life experiences and in some instances by previously established stability in the family home. But the younger child, especially the one from a disorganized family, has extreme difficulty with this "rejection" (of being moved away from family) and may spend the rest of his life in fear and avoidance of its cause and meaning (Littner, 1956; Arnold, 1967; Bryce, 1971; Maluccio, 1966).

Add to that psychological stress the reality problems of agencies, workers and foster-caring persons in providing stability in the day-to-day life of the child and one begins to understand the extreme and continual insecurity faced by the child in foster care. The potential results of this can be psychologically disastrous for the child (Ginendes, 1974; Katz, 1968). Awareness of theory and daily contact with disturbed children has been a continual pressure on sensitive
persons concerned with children, making them cognizant that foster arrangements are fraught with dangers for the child and should be avoided if at all possible.

C. The cost for any program is a concern. Children have a special appeal and programs for children tend to be given a special consideration. Increasingly, however, since the Social Security provisions of the 1930's, the cost of providing for dependent and neglected children has become a visible public tax responsibility. Overall costs have increased tremendously and the proportion of cost depending on tax funding has grown steadily higher (Kadushin, 1974, p. 463). In addition to increasing numbers of children to be served, services and personnel have become highly specialized and costly. Simply from a point of view of dollars, it is generally less expensive to cover the cost of maintaining a child with his own family than to pay for other kinds of provision. Thus, in providing financial assistance and social services, current federal guidelines indicate the preferred goals are ...

to help people become or remain self-sufficient...to protect children...from abuse, neglect and exploitation

Fanshel and Shinn, in Fig. 1, show the placement history of an "averaged" child in New York City over a five-year period, 1965-70. They indicate per diem care during that period as changing from $8.30 to $20.37 for the child who moves progressively from shelter care to specialized treatment. During the same period, they indicate per diem costs in foster family care changed from $7.61 to $10.08; for agency boarding home care from $11.80 to $15.09 (1972, pp. 4, 8).
and to help families stay together...to prevent and reduce inappropriate institutional care as much as possible by making home and community services available...to arrange for appropriate placement and services in an institution when this is in an individual's best interest" (A Citizen's Handbook, 1975, p. 6). Note: "Remain self-sufficient" is first, "institution" is last.

D. During the late 1950's and 1960's, the thrust into the open of the demand for civil rights brought with it the demand of poor people, on many scores, for welfare rights. One of the claims made, particularly by black poor people, was that the present welfare system does not adequately support family life. In fact, they claimed, the effect is just the opposite. Fathers are driven out of the house, deprived of their family and the dignity of being worthwhile providers. Families are deprived of respect and adequate material provisions (Piliavin, 1968). Children are removed from their families and placed elsewhere, often in environments little more adequate or nurturing than the homes from which they are removed.

E. A part of the social revolution of the 1960's was a widespread criticism of social work. There was abroad a sense that the social work profession somehow had failed...failed to make the poor rich, failed to keep the poor happily poor, failed to provide to the poor what the broader society had believed was being provided, failed to fulfill its professional responsibilities, as undefined as these were. Regardless of the pros and cons of this accusation, social workers were moved to examine certain aspects of theory and practice, to explore new modes and methods, to sharpen up administration and manage-
ment of programs, and respond in some fashion to the social unrest (e.g., Briar, 1968; Miller, 1968; Piliavin, 1968; Turner, 1968).

In child welfare, there was reexamination of philosophies and methods. A new impetus was given to provision of support to families with the goals of prevention, alleviation of crises and assistance in management of chronic problems.

F. Directly related to foster care, as shown previously, until the 1960's children in placement were considered to be the leftover evidence of failure in alternative planning. In 1959, the Maas and Engler study pointed up a startling association. Time was a most important factor in the movement of children out of care in every setting, for staying in care beyond a year and a half greatly increased a child's chance of not being adopted or returned home (Mass and Engler, 1959, p. 351). This finding has been confirmed repeatedly. Phillips et al. indicate this association (Finding #3) (1974, p. 99). Fanshel showed that the proportion of children in foster care two more years after they had already been in care two years was between 67 percent and 74 percent. The study showed that continued time in foster care progressively increased the likelihood of not returning home (1971, p. 80). Festinger showed that 44 percent had moved out of foster child status, but 56 percent remained in care. She indicated that court review thus improved chances of return home though time is still an important variable (1975, p. 243).

The Maas-Engler finding stated the expectation that many children are destined to be in long-term care. The consequence was a change of
viewpoint to begin to see these children as needing planning based on the fact of long-term care.

The historical convergence of these forces has resulted in new emphases in child welfare (Arnold, 1967; Chappell, 1975; Festinger, 1975; Gambrill and Wiltse, Spring 1974, Summer 1974; Wiltse and Gambrill, 1974):

1. There has been a focus on permanent planning for the child.
2. A new impetus has been given to providing support for families with a major goal of maintaining children in the home through prevention, alleviation of crises and management of chronic problems.
3. Where maintenance of the child in its own family is not possible, other permanent solutions such as adoption are sought.
4. Where the child's own family and adoption are both ruled out, thus requiring maintenance in a foster home or other substitute facility, there is an emphasis on securing for the child a sense of stability and permanence.
5. There is a growing focus on earlier determination and planning leading to permanence.

It is in line with these emphases that the present study is made. There are few studies in the literature regarding factors associated with duration in placement (Sherman, Adrift, 1973; Fanshel, 1971; Jenkins, 1967; Festinger, 1975, 1976; Maas and Engler, 1959; Mass, 1969;
Stein, Gambrill, and Wiltse, 1977). A number of studies relate to
decision-making to differentiate those children who should remain in
foster care (Jenkins and Sauber, 1968; Jenkins and Norman, 1972; Mass
and Engler, 1959; Phillips, Shyne, Sherman, and Haring, 1973; Trasler,
1960; Boehm, 1967; Bryce, 1971; Chappell, 1975; Festinger, 1975;
Gambrill and Wiltse, Spring 1974, Summer 1974; Johnson, 1970). There is
also literature concerning what type of services are provided to chil­
dren in their own homes (Polansky, DeSaix, and Sharlin, 1972; Sherman,
Phillips, Haring, and Shyne, 1-73; Shapiro, 1973). A third area of
experiment and study includes various models of providing permanence
through intensive work to return children to their own families or
as an alternative to provide adoptive placement (Sherman, Neuman, and
Shyne, 1973; Chappell, 1975; Festinger, 1975, 1976; Gambrill and
Wiltse, Summer 1974). Among others, the Child Welfare League of
America has recently published specific reports of research in these
areas (Phillips, Shyne, Sherman, and Haring, 1973; Sherman, Phillips,

These studies, however, are uneven in their findings and lack
prescriptive unity in describing and planning for the large number of
children who must remain in foster care until they become adults.
Franklin County Children's Services has such a group of children.
The agency faces a problem in that little is known about these children
as a group. In order to identify who the children are at the time of
placement, the likelihood of their being permanently in foster care,
how large the number is apt to be at any time, what will be their
particular needs, and what kinds of services will provide the greatest
stability—a specific method of predicting short-term or long-term care will be useful.

It is this need on which the present study focuses. It is the expectation that this research will provide the agency with a prediction instrument which will facilitate planning for these children in foster care for whom the agency assumes responsibility.
CHAPTER II

REVIEW OF THE LITERATURE

The literature related to this study is in two sections and is discussed in this order:

Variables Related to the Length of Time in Foster Care
The Configuration Prediction Instrument

Variables Related to the Length of Time in Foster Care

The Operational Definition of the Dependent Variables

In developing a prediction instrument, the first step is to identify factors which will differentiate one criterion outcome (dependent variable) from the other. In this study, the dichotomous outcomes are "short-term" placement and "long-term" placement.

The existing literature is limited regarding the study of variables specifically related to length of placement. One factor repeatedly mentioned, however, is time itself. In 1959, Maas and Engler made a major point of their finding that the longer a child is in placement, the greater are the chances of his growing to maturity in foster care. The significant time span they mentioned was one and a half years, saying that remaining in placement longer than that time greatly increased the likelihood of remaining in placement to adulthood (Maas and Engler, 1959, p. 351). Several writers since then have referred to the 1959 study.
and stated that their own studies have reconfirmed this finding
(Sherman et al., Adrift, 1973; Fanshel, 1971; Fanshel and Shinn, 1978;
Festinger, 1975).

Based on that association, the present study uses time in placement as a working definition of "long" and "short" term. Cases representative of short-term are those in which children have been discharged from placement of less than one year and which was their first placement. Cases representative of long-term are those in which children have been in placement for more than two years and, at the time of data collection, continued to be in placement.

Other literature in the area of child welfare, primarily foster care, provides guidelines for independent variables to be researched. There is a diversity of literature ranging from theoretical and descriptive studies to those utilizing considerable statistical analysis. Based on the literature, this study intends to consider variables which fall under the following specific categories:

- Variables related to duration of placement
- Variables related to the decision to place the child
- Characteristics of the child in placement and his family

Variables Related to Duration of Placement

A few studies identify variables (other than time as discussed above) related to length of time in placement. The findings are inconsistent. The most extensively reported is Maas's 10-year follow-up in 1969 of the Maas-Engler 1959 study. Others specifically relating to
duration of placement are: Jenkins, 1967; Murphy, 1968; Stein, Gambrill and Wiltse, 1977; Fanshel, 1971, 1976; Fanshel and Shinn, 1978; and, indirectly, Boehm, 1958.

Maas and Jenkins both found religion and ethnic group to be variables related to duration of placement. Fanshel found ethnicity and birth status to be associated with duration (1976). Boehm found race to be associated with discharge to adoption. IQ and the child's physical disabilities are additional variables mentioned by Maas as associated to length of placement.

While Jenkins and Fanshel (1976) found the child's age to be an associated factor, Maas found neither age nor sex of the child to be associated. Jenkins found an association with family size; Maas found none.

While Jenkins and Fanshel (1976) found that reasons for placement have a high degree of association to duration, Maas states there is no association at all. Murphy found a changing cycle of association related to mother's age at placement in combination with the reasons for placement.

While Fanshel (1971) and Kadushin (1974) suggest that severe emotional problems of the child and/or parents is apt to lead to long-term placement, Maas found no association.

Other factors mentioned as associated with duration of placement are: family visits, planning by the family, and parental living arrangements (Maas); parent participation in the placement decision,
source of income, and type of housing (Jenkins); use of contracts (Stein, Gambrill, Wiltse); and parental visitation, service provision, and overall assessment.

**Variables Related to the Decision to Place**

The variables related to the decision to place are important in understanding the circumstances of the child in foster care. They are the original basis for separating the child from his family and, according to Sherman, many of these same factors tend to operate in the discharge decision, i.e., those factors tend to be unchanged where children continue in placement. Where the child was returned home, these characteristics were different or less severe (Sherman et al., Adrift, 1973).

The literature on the decision to place the child outside his/her own home identifies three types of variables which are related to the decision:

- **Reasons for placing (presenting problem)**
- **Family situation at time of placement**
- **Characteristics of family members**

**Reason for Placing.** As pointed out by Jenkins and Norman, "The reasons for the placement of children provide important data on which to base preventive programs" (1972, p. 35). Since these factors form the basis for decision, it is implied that the capacity to alter them would provide the potential of removing the child from placement, or even prevent having to place.
Jenkins and Sauber found five specific reasons identified as the presenting problem for placement. They were:

1. Family problems 33%
2. Physical health (21%) or confinement (8%) of mother 29%
3. Child's personal or emotional problems 17%
4. Mental illness of mother 11%
5. Severe neglect or abuse 10%

It should be noted that the sample was from a population of voluntary requests for service (1966, Table 31, p. 64).

Jenkins and Norman identified reasons in the following order (1972, p. 53f):

1. Mother's illness 22%
2. Child's behavior 16%
3. Neglect or abuse 14%
4. Child's physical illness 11%
5. Others—not ranked by percentages were:
   Family dysfunctioning, unable or unwilling to provide child care, abandonment (these included a high proportion of infants indicating mother gave up child at birth)

Festinger also studied a population of voluntary admissions and ranked the following reasons (1975, pp. 221f):

1. Unable or unwilling to continue care 33.0%
2. Inability or disinterest at birth 31.5%
3. Mental illness of caring person 11.5%
4. Neglect/abuse/abandonment 13.6%
5. Death/physical illness/arrest of caring person 10.7%

In more general terms, Maas and Engler, in their 1959 study, identified types of precipitating causes for placement. The major causes were neglect or abandonment, death or illness of the parent, and economic hardship. In Brighton, the community Maas and Engler considered most characteristic, economic hardship had a two to one preponder-
ance as the reason for placement. Most of the placements in this study were voluntary (1959, p. 344).

Phillips et al., in studying factors related to the decision to place, found that reasons for placement varied; however, they tended to be found in clusters; only clusters of considerable deviance in the child, parent and living conditions led to a decision to place the child. These clusters always contained negative factors, not merely a lack of positive factors (1973, p. 87).

Maas and Engler found that the complexity of the community was related to the kinds of reasons for decision to maintain children in placement or return them home. While neglect, abuse, death, illness, and economic hardship were major precipitants of placement, there were less purely physical and more psychological parental problems precipitating separation as complexity of the community increased (1959, pp. 349f).

Family Situation Related to Decision to Place. Several studies have identified general family characteristics that were related to decisions to place children. Phillips et al. found that children who were placed came from families which were smaller, were less advantaged, and tended to have exhausted their own resources more than families of children not placed (1973, p. 86).

Jenkins and Sauber identified many family characteristics related to the decision to place. In 55 percent of the families, there were health problems with one or more members during the year previous to placement (during that year, the percentage of the sample identified as
having good health decreased from 42 to 27 percent). Sources of income reported for the previous year by families from which children were placed were: Contact with public assistance, 50 percent of families; income from work, 58 percent of families.

In the majority of families from which children were placed, the parent had 24-hour responsibility for the children. Families from which children were placed had little extended family nearby (90 percent) (Mass and Engler stated the opposite of this in 1959). Jenkins and Sauber further indicated that families placing children had frequent changes of one of the parents (55 percent). Over 50 percent reported "discipline" problems related to staying out late, fighting, lying and stealing (1966).

Some studies focus more on the family's relationship within the community, or social adjustment. Phillips found that where placement occurred, workers had more contact with the family prior to making the decision to place than when the child was not placed (1973, p. 86). Sherman, who noted that decisions to keep children in placement tended to be based on the same criteria as decisions to place, found that adequacy of parents' housing and economic circumstances were related to keeping children in foster care. In addition, children who returned to placement after having been returned home came from families with less adequate housing and poorer economic circumstances than those not returned to placement (Sherman et al., Adrift, 1973, p. 101).

Maas and Engler found that the value system of the particular community (as compared to other communities) influenced the placement
decisions. Children from families which belonged to well-defined ethnic groups tended to receive a different decision, depending on the value orientation of the community toward that group (1959, p. 344). Another set of variables the authors referred to as "normal social process tendencies" were related to the favoring of either institutional placement or the use of foster home placement (1959, pp. 387f).

Jenkins and Sauber found families of placed children generally did not own homes. Seventy (70) percent lived in apartments, 16 percent in "rooms." These were generally in poor neighborhoods with limited space and high rents (1966, pp. 36f).

Jenkins and Norman found two-thirds of the families who placed were below the poverty level, many living in depressed neighborhoods in poor housing. The authors' conclusion was that environmental and social pressures led to family breakdown and placement. This cause and effect assumption, however, may or may not be valid (1972, p. 40).

Characteristics of Family Members as Related to the Decision to Place. In reviewing the characteristics of the mothers of children who are placed, Phillips found that they were more likely to be mentally ill or emotionally disturbed, they had more difficulty maintaining a job and managing money, they demonstrated a greater lack of concern for their children, and had a greater tendency to be inappropriate in their management of children (1973, p. 86).

Festinger found that court decisions were related to the mother's interest in the child. Where the mother was disinterested, the court recommended 23.6 percent for adoption, legally freed 34.3 percent, and
discharged only 2.9 percent. Where the mother was interested, the court recommended only 18.9 percent for adoption, legally freed only 1.9 percent, and discharged 25.5 percent (1975, Table 4, p. 223).

Sherman et al., in studying the decision to return children from placement, found that contact of children by the mother had a strong association with return home or remaining in placement. Contact was assumed to represent interest (1973, Adrift, p. 100).

Of the four characteristics of the mother that Boehm tested, three were found to be related to the decision to place. The three were: interest/affection for the child; control of impulsiveness, and emotional problems/depression/withdrawn behavior. Acting out behavior of the mother did not show a relationship.

In reviewing the characteristics of fathers, Boehm found that only the variable, interest/affection for the child, was related to placement. Delinquency, impulse control, emotional problems/depression/withdrawn behavior were not related (1967, p. 119).

Apparently to the contrary, Phillips et al. found that if the father was in the home, fathers of children who were placed were more likely to show a wide range of deviant behavior (1973, p. 86).

In reviewing the characteristics of the child, Boehm tested behaviors of the child (neurotic and acting out) and found no relationship to placement (1967, p. 120). Phillips, to the contrary, found that children who were placed were more often "emotionally disturbed." They showed particularly those types of emotional and behavioral difficulties which led to conflict with community and parents. Placed
children were also a little younger and had more siblings in placement (1973, p. 86).

Sherman found that the child's attachment to the parent had a positive relationship with the decision that his own home would be the best placement for the child (1973, p. 100).

In looking at the total family constellation, some studies investigated individual variables of the family. Boehm found two variables which related significantly to placement—household management was less adequate, and insight into problems was lower in families from which children were placed (1967, pp. 188f).

Phillips, in studying factors related to the placement decision, found that both in homes where children were placed, and where they remained at home, there was a substantial proportion of areas of adequate child care. Where children were placed, however, there was a much higher proportion of grossly inadequate care areas (1973, p. 86). On this point, Boehm points out that "adequacy" of child care is not a continuum. An adequate home requires the absence (not a degree) of certain characteristics such as violence and delinquency. Thus, "adequacy" and "inadequacy" may be measured differently (1967, p. 123).

In addition to the above findings, Phillips evaluates the findings at a more complex level. As mentioned previously in discussion of the reasons for placement, Phillips generalized that only considerable deviance in the child, the parent(s) and the living conditions led to the decision to place. In looking at specific characteristics of family members, he found that some factors, in combination, showed an
association with the outcome. In mother-only families, this combination was: Negative factors in the background situation; in the child's traits, and in the mother's general traits. When this occurred, it was strongly predictive.

Overall judgment of the adequacy of parental care and negative factors in the mother's attitude toward the child added little to this. Contrary to this, in intact families where the father was in the home, the background and the child's traits were unimportant, the mother's functioning and relationship with the child were of minor importance. The most important factor was the father's traits (1973, p. 87).

Characteristics of Family Members of Children in Placement

The characteristics of family members of children in placement can be described in four categories:

Whole Family
The Parents
The Child
Clusters

Whole Family. In describing the family income level and economic home situation of children in care, Jenkins and Sauber found that more than half of the families of children in foster care had incomes below poverty level (1966, p. 47). Also, these families generally lived in poor neighborhoods and environments (p. 40). Johnson found that mothers of children who returned to their own home tended to be regularly
employed, while those of children not returning were employed sporadically (1970). Maas and Engler, however, found a more complex relationship in that the families of children who remained in placement tended to have psychosocial problems in addition to economic problems. This also varied with the complexity of the community: more socially complex communities tending toward a higher complexity of psychosocial problems in these families (1959, p. 342).

A second characteristic of families is the relationship with the agency. Johnson found that families of children returned home always had at least a "somewhat open" relationship, while families of children not returned were 60 percent "somewhat open" and 40 percent "not very open" (1970, p. 5). Maas and Engler found that only 20 percent of families of children remaining in placement had an adequate relationship with the agency (1959, pp. 344f). Johnson found a significant difference in the maintaining of contact with the agency by families of children eventually returned and those not returned.

A third area is that of the family's plan for the child. Johnson found a relationship between the family's plan for the child and the outcome. Cases where children were returned home tended to have been voluntary placements on the part of the parents, or instances in which parents had a child care plan which failed. Children not returned had been abandoned (90 percent) or neglected with poor planning or none (1970, p. 4). Maas and Engler said that 94 percent of children returned home had been voluntary placements. The parents of almost 50 percent of those children continuing in placement had no plans for
the child other than long-term care. One out of four planned to terminate for adoption. Only one out of seven expected the child to return home (1959, p. 344). It is implied that "return home" planning by the parents is predictive of outcome of return home. While it is clear that a high proportion of parents of children who did not return home did not have a plan, it is not clear whether having a plan was highly correlated with return home.

Phillips oriented the question somewhat differently. He did not relate to outcomes (return home), but to the decision to place the child or not. Placement had been requested by the caretaking parent for the large majority of those children who were placed. For those children who received services in their own homes, a substantial proportion of parents had requested that there be no placement or other service provided. That is, their plan was for the child to remain home with no agency involvement. Here again, planning by the parent is a key issue; however, where placement occurred, the plan was that parents wanted the agency to take responsibility. In other cases where children were not placed, the agency intervened even though the parents desired no agency involvement. The parents' plan in these instances was to manage by themselves (1973, p. 86).

The Parents. Studies of the characteristics of parents separate those of the mother and father except as indicated above. Current trends in one-parent families and parenting might indicate that concern probably should be with a "caretaking person" if there were only one parent (especially for an older child) rather than "the mother" or "the father." Festinger, for instance, says that the New York court identified
the same indicators of fathers' interest as of mothers' interest (1975, pp. 224f).

The "stability" of the mother is the specific descriptive term used in Festinger for one variable, but applies to other studies. Festinger found three characteristics indicators of a mother's stability—drug use, education, and financial source. There was a significant difference in stability of mothers of children discharged by the court and those placed for adoption or continued in foster care (1975, pp. 226f).

The scales developed by the University of Georgia Child Research Field Station focus on two characteristics which would indicate the mother's emotional stability in child care—apathy/futility and impulsivity (1972). In studying placement decisions, Boehm found that the impulsivity as well as specific emotional states of the mother were significant. Acting out behavior of the mother was not significantly related to placement of the child. None of these three variables in the father significantly related to placement (1967, p. 119).

A second characteristic of the parent is interest and affection for the child. It was of importance in both the mother and father in the Boehm study. Festinger found that the variable most strongly related to the court disposition was the mother's expressed interest as reported by the caseworker of the voluntary agency. Where there was none or minimal interest, the court ordered 23.6 percent placed for adoption and 34.3 percent legally freed from the mother, as compared with 18.9 percent and 1.9 percent, respectively, when mothers were interested. Of the cases where mothers were seen as interested,
25.5 percent were discharged from placement as compared to 2.9 percent when mothers were not interested (1975, p. 222).

Festinger identified a cluster of factors related to "interest." All of these related significantly to the mother's expressed interest and to court disposition. Among them were location of the child at the time of application for placement (home or elsewhere), parent's location a year later, and parent's location at time of court review (1975, pp. 222f). Of the fathers, only one-fifth were available at the time of court review. Only one of eight showed "some/much" interest in the child (p. 225).

Another indicator of interest in the child is contact and visitation. Maas and Engler commented that contact apparently indicates interest and summarized that those children most likely to grow up in foster care were those who were unvisited by parents (in combination with "no feeling" for the child and "no plans" other than long-term care) (1959, pp. 356f). Wiltse and Gambrill identify visitation as one essential item that must be a part of a contract between the agency and parents at the time of placement. Festinger identifies the importance not only of visitation (as an indicator of interest) but also the time since the last contact. Court disposition was related to contact by the mother (1975, p. 224). Only one-tenth of the fathers kept moderate/regular contact with their children in placement (1975, p. 225). Fanshel and Shinn (1978) found parental visitation to be one of three major factors related to duration of placement (Chapter 4).
A third variable describing characteristics of the parent is the availability of the parent, both physically and emotionally. The previous discussion of "stability" is relevant here in that the less stable parent is likely to be less available both physically and emotionally. As mentioned above, Festinger found that only one-fifth of fathers' whereabouts were known at the time of court review.

In Jenkins and Norman's sample, 50 percent of mothers moved following placements (1972, p. 250). Wiltse and Gambrill suggest the contract with parents require keeping the agency informed of changes in address and phone, implying thereby that they found this to be a general problem (Winter, 1974, p. 41). Polansky's (University of Georgia) scales include verbal accessibility of the mother as indicative of potential outcome (1972, p. 86). All of these reports suggest that availability of the parent is an area of importance.

A fourth characteristic of the parent is "parenting ability." Johnson found in his sample that mothers of children returned home were able to provide "some of the child's needs." Mothers of children not returned were able to provide "very little" of the child's needs and were very limited in parenting ability. A related finding was that of mothers of not returned children, 70 percent treated the child as an object or extension of self. Of mothers of returned children, only 50 percent treated the child as an object or extension of self (1970, o, 5).

The University of Georgia (Polansky) scales focus on two groupings of factors in child care. The Childhood Level of Living scales are
grouped into "Physical Care" and "Emotional/Cognitive Care" (1972, pp. 74, 78). These identify the level of care the particular child is receiving, the implication being that care is an important consideration in assessment.

The Child. The characteristics of the child identified specifically as in "long-term" foster care have not been studied very extensively. However, there is much literature on children in foster care in general which would give guidance to possible services needed for children in long-term care.

Festinger and Maas and Engler did report findings on the age of children remaining in placement, i.e., long-term. Festinger reported that age of children remaining in placement was not related to the interest or stability of the parent. Age was, however, related to the disposition of the court. The younger the child, the more likely was adoption, or freeing the child from legal ties to parent. Adoption was more likely than legally freeing the child. However, when infants were omitted from this analysis, there was no significant difference (1975, pp. 228f). Maas and Engler found children returning home (in Brighton, the most "typical" community) averaged two years younger than those remaining in care (1959, p. 344). This finding may be related to other considerations than simply the adequacy of the parental home. For instance, community pressure to have adoptable infants and the greater ease in finding adoptive homes for infants than older children may have been a factor motivating parents, especially at that earlier period (1959).
There is a considerable amount of literature regarding emotional factors in children in foster care. Maas and Engler found in their sample that psychological symptoms accrued in children after intake. Twenty-five (25) percent of the children had psychological symptoms at intake, 42 percent had symptoms at the time of the study (sample: at least two years in foster care), 61 percent had confused identity at the time of the study.) Symptoms were less likely in those returned home and were non-existent in those placed for adoption (1959, p. 344). This means a higher proportion of children with symptoms remained in long-term foster care. Boehm studied symptomatic behavior in children, but only in relation to the placement decision in which it did play a role (1967, p. 120).

Other studies describe frequent, even usual, emotional reactions of children in foster care. For instance, Maluccio (1966) found that children in foster care experience an identity crisis and a sense of loss and helplessness. These lead to negative behavior, which causes potential stress on the foster family. Katz (1968) found that in foster children guilt, anger and depression are prominent. These lead to unusual testing behavior. Some foster children become unable to respond to the affection of foster families, thus avoiding the pain of potential separation. Littner focused on Some Traumatic Effects of Separation and Placement (1956) and is quoted elsewhere as having said, "It would be better to move the Wrigley Building a foot than to move a child."
Psychiatrist Aaron Ament quotes Selma Fraiberg to the effect that the gravest consequence of placement is the child's inability to form new object relationships following loss. He indicates this accurately described more than 60 consultations he had done on foster children (1972, p. 104). Walker devoted a doctoral dissertation to a study of the relationship between the maturity of foster mothers and the persistence of mourning in foster children (1971).

Relating to a somewhat different issue, school performance, Ginendes, in an article proposing an experimental technique for facilitating learning in foster children, states,

That the children of disadvantaged populations manifest difficulty in cognitive and verbal abilities upon school entry, with progressive difficulties in successive grades, is recognized by many investigators. There is also increasing evidence that these learning disabilities, plus other school dysfunctions, are frequent in foster children despite placement in an approved home providing parenting figures and adequate food, shelter, clothing, medical care and toys (1973, p. 75).

However, Fanshel and Shinn, in their five-year longitudinal study, have demonstrated that intellectual and academic performance in foster children is not damaged and in some instances may be improved (1978).

Clusters. When analyzed as clusters, family member characteristics significantly related to placement showed interesting combinations. Maas and Engler found that varying combinations of parents' visitation of the child, feelings for the child, and parents' plan related to the likelihood of remaining in placement. Children who were "unvisited," where there were no parental feelings and no plan, only long-term
placement, were "likely to grow up in foster care," as were children who were "relinquished" with no parental feelings and only plans for long-term care or adoption. Those less likely to grow up in foster care were "visited"; there were some genuine parental caring and emotion; there may have been no plan (1959, pp. 356f).

Phillips (1973) found an interesting relationship in clusters as mentioned previously. In one-parent homes (mother), the placement decision was related to the general background in combination with the general traits of the child and general traits of the mother. In two-parent homes where the father was present, primarily the general traits of the father were related to the placement decision, and this was not altered by background, child's traits, or mother's traits (p. 87).

Festinger found that 20 variables were related to the court's disposition. These were not independent entities, but tended to fall into three clusters of interrelated characteristics: family interest, mother's stability, and child's age (1975, p. 222).

**Summary and Selection of Variables**

In summary, it is clear from all studies that there are no absolutes. The disposition as to placement of children is based on decisions, all of which require judgments. As Maas and Engler pointed out, placement and return home decisions are based to a great extent on values in the particular community. An additional consideration is that the cited studies represent variance in combinations of voluntary and non-voluntary placements.
Although there is variation in outcomes between studies, there do appear to be some common findings. The study data generally do not have common definitions and terms, thus impeding direct comparison from one study to another. Length of time in placement has shown such consistent and repeated association to continuing length of care that time duration is used as the working definition of the dependent variables "short-term" and "long-term" care.

Thirty-four other variables have been identified from these studies in the area of demographic data, health data, economic data, living condition data, emotional/psychological data, reason for referral data, behavioral data, and parent-child functioning data. These identified variables will be studied for potential relationship to the outcomes "short-term" or "long-term" placement. (See List of Variables in the Appendix.) The prediction instrument will be constructed with these findings.

Additional variables identified in the literature, but omitted for use herein, are as follows:

- The use of contracts is not agency practice.
- Family contacts and visits, insight, parental living arrangements are or may be determined post-placement and would not, therefore, be available for prediction at time of placement.
- "Background" situation, "deviance," "discipline," economic level and neighborhood, parents' concern, ability and management of the children, impulse control, child's attachment to parent,
adequacy of housing and economic circumstances, emotional/cognitive care, apathy/futility, all are considered judgments for which no adequate standard definitions or criteria could be established to utilize case record data.

Parents' planning for the child, housing, education, drug use, mother's employment, 24-hour responsibility of parent, exhaustion of own family resources, ability to hold a job are data which are not consistently evaluated and recorded in agency's records in a usable form.

**The Configuration Prediction Instrument**

In 1956, Robert Stuckert developed a method for designing an instrument to predict by configuration, a variation of prediction by classification, as compared to the usual method of prediction by measurement. Stuckert identified four formal properties distinguishing the two basic approaches of prediction by classification and prediction by measurement:

1. Classification can use qualitative variables as predictors, while measurement requires quantified variables.

2. Classification emphasizes homogeneous sub-samples, rather than single sets of predictors, or "best" factor weights for all cases.

3. Classification provides for the nonadditive, nonlinear interaction of factors. Measurement assumes the evaluation of each
factor while holding other factors constant and valuing each factor independent of the values of other factors in the system.

4. Classification does not require or assume the universality of predictive factors throughout the population.

In addition, Stuckert demonstrated, as did Livingston and Behling, that there can be greater accuracy through use of prediction by classification (1958, p. 18).

In 1966, Terry Lundgren was interested in redesigning the configurational technique for computerization. Lundgren points out that the "configurational method points to the ordering of factors as the primary problem in its development... Hand calculation in the derivation of factor order is not feasible due to the large number of possible configurations. Such an approach necessitates the use of a high-speed computer" (p. 60).

In redesigning the method for computer, Lundgren made a number of improvements due to the characteristics of the computer: speed, efficiency in use of data, capacity to sort factors by predictive strength, and capacity to combine categories as predictors (Chapter 11). The computerized program will be used in this study.

The prediction configuration method has been applied effectively to predict academic success (Stuckert, 1956), to predict chronicity among welfare recipients (Livingston-Behling, 1959), to measure the effectiveness of casework services (Behling, 1960), to predict academic achievement (Van Duesen, 1961), to predict success in juvenile parole (Kim, 1965), to predict charitable giving (Yadava, 1965), and
to predict duration of employment in public assistance (Duellman, 1968). The method is used herein for the purpose of predicting the long-term placement of children in foster care.
CHAPTER III

Research Design

The purpose of this study is to develop a prediction instrument. The function of the instrument will be to make possible the prediction at the time of initial placement of a child, whether the outcome will be short-term or long-term placement in foster care.

From a list of children in foster placement during the years 1972-76, two groupings of cases were selected. One group was a random sample of 150 children selected from a population of children who have been in placement less than one year ("short-term"). The other group was a total population of 150 children who have been in placement for more than two years ("long-term"). Data were collected from the cases in these groups.

Using 100 cases from each of these two groups, the data will be analyzed to identify those variables which show the highest level of association to the outcomes "short-term" and "long-term." Based on these data, two prediction instruments will be developed (using the Stuckert-Lundgren classification model) to predict the length of placement time for a child going into foster care. Using the data from the remaining 50 cases from each of the two original groups, the prediction instruments will be tested and compared for accuracy, efficiency and stability.
An additional evaluation of the prediction instruments will be made by comparing their efficiency with that of the judgments of two professional social workers. Using the 100 test cases as two samples of 50 cases each, judgments will be made as to potential outcome by two MSW social workers who are familiar with the agency from which data was drawn. Their predictions will be compared with that of the prediction instruments for accuracy and efficiency.

The Sample Groupings

From a listing of children who were placed outside their own home by Franklin County Children's Services for less than a year and returned home during 1976, a random sample of 150 cases was drawn. This group was limited to children who were in their first placement. A comparison group of 150 cases was selected of children who had been in placement for more than two years as of January 1977. These were children who were placed in 1972, 1973, and 1974 in order to have a population from comparable placement years of the "short-term" sample.

Schedule for Data Collecting

Using those variables identified in the literature as related to placement, a schedule was used to review case records and gather data regarding each of these variables. Several sources of data are available in the case records of Franklin County Children's Services:
1. Basic face sheet data and family history material
2. Intake work-up materials
3. The initial social history
4. Title XX case management documents—eligibility determination data, the service request plan, record of activity

At Franklin County Children’s Services, these written materials are prepared for each case in a systematic and planful manner. Case material is written by bachelor level social workers under the direct supervision and case management responsibility of master’s degree social workers. Franklin County Children’s Services is a public agency which has a long-standing reputation for a high quality of service delivery and record keeping. It is expected the above materials adequately identify in each case what characteristics and problems were present at the time of placement.

The data was taken from the time of placement. If placement occurred at the time of case opening, the social summary which is not completed until a month after opening was included as a data source.

**Predictive Configuration Instrument Design**

Using the data collected, two prediction instruments will be designed using the techniques described by Stuckert (1956) and re-designed for computer processing by Lundgren (1966). The steps are as follows:
1. The first step is statistical analysis of each nominal variable (independent variables) to determine association with the outcome criterion (dependent variables).
2. In the manual method (Stuckert), six to eight of the variables with the highest level of association are used.

3. A Critical Value is arbitrarily chosen. For example, a perfect prediction instrument would predict at the probability level of 1.00. Probability could range from .00 to 1.00. If the acceptable level of prediction is .80, then .80 would be chosen as the Critical Value.

4. Any variable with one category showing case distribution at or above the Critical Value can be used as the first factor, i.e., if out of 10 cases in the category there is a distribution of 8 and 2 in the criterion outcomes, the category is considered predictive since this produces a probability of .80.

5. Other categories in that factor (distributed at less than .80) are screened into sub-samples by categories of the next factor.

6. Four general rules are defined by Stuckert for choice of the next and subsequent factors (1958, p. 3):
   a. Select factors having high probability values and add in order of highest probabilities.
   b. Add a factor only if its category with the highest probability contains at least 20 percent of remaining samples.
   c. Add factors containing high degree of heterogeneity of the desired outcome.
   d. After consideration of the above criteria, favor factors with smallest number of categories.

(For a schematic diagram of this procedure, see Appendix, Figure 2.)
The need for faster and more systematic choice in the addition of subsequent factors is the major reason stated by Lundgren for redesigning the configuration methodology for computer processing (1966, p. 60). When programmed for computer, the principle is the same, but the factors structure out somewhat differently in the final instrument. Because the computer designs, evaluates, and compares alternative configurations without printing them out, the manually done configurations are not required, e.g., the screening of sample cases through each analysis is processed by computer rather than manually.

The computer program used herein has been redesigned by Robert Foulk, Research Assistant at the School of Social Work, The Ohio State University. Foulk's design utilizes the current technological advances and more sophisticated language of the computer. Using this design the computer produces alternative configurations which meet the designated criteria. From these alternatives a decision is made as to which is the most accurate and effective configuration, both internally and when applied to test samples of known outcome (dependent variable). For a more extensive description of the Foulk process and criteria, see Figure 4 (Appendix).

Depending on the particular data and the criteria put into the program, the computer may produce hundreds of alternative configurations. The output configuration is simulated in Figure 5 (see Appendix).
Testing the Prediction Instruments

Following the design and selection of the two alternative prediction configurations, they will be tested using two test sets of data. Each test set will consist of 25 cases randomly selected from each of the two criterion outcome groups. Cases will be screened using the prediction configurations to determine what outcomes the instruments will predict. The predicted outcomes and the actual outcomes will be used to evaluate the instruments and compare them for accuracy, efficiency, and stability.

The accuracy of the instrument is the number of correct predictions divided by the total number of cases. The formula for accuracy is:

\[
\text{ACCURACY} = \frac{P}{N}
\]

where \( P \) = number of cases correctly predicted.

The relative efficiency of the instrument is a function of the proportional reduction of incorrect predictions achieved by its use. In 100 cases where outcome A is 60 cases and outcome B is 40 cases, the most likely prediction for any case drawn at random (not using an instrument) would be outcome A. Then 60 cases would be predicted correctly and 40 cases would be predicted incorrectly. Using the instrument, if it were 80 percent accurate, the prediction would be 80 cases correct and 20 incorrect, a decrease of 20 in incorrect predictions. Hence, the instrument would have a coefficient of
efficiency of 20/40 = .500. The formula for coefficient of efficiency is:

\[
\text{EFFICIENCY} = \frac{P-C}{N-C}
\]

where \( C \) = number of cases in largest category of outcome characteristic.

**Stability** is the ability to predict as efficiently in subsequent samples as in the samples used in its construction. The stability formula is:

\[
\text{STABILITY} = \frac{E'}{E}
\]

where \( E' \) = efficiency of subsequent samples and \( E \) = efficiency of initial sample.

Since efficiency is a function of accuracy, it is suggested by Lundgren that a better formula for the stability of an instrument is:

\[
\text{STABILITY} = \frac{A'}{A}
\]

where \( A' \) = accuracy of subsequent samples and \( A \) = accuracy of initial sample.

These three evaluative measures are important because they test the validity and reliability of the instrument. Their function and significance are described in detail by Lundgren (1966, pp. 13f).

Evaluation in the Fouk computer process is based on the number of "correct" predictions. The configuration makes one-way predictions and the residual is considered predicted in the alternative direction. This means there are two sets of predicted cases--those picked by
configuration and the residual. To the extent these may be incorrect, there is the possibility for two sets of "incorrect" predictions. Those that are, in fact, correct are used as measures of accuracy and effectiveness. For a diagrammatic explanation of "correct" and "not correct" see Figure 6 in the Appendix.

The usefulness of a prediction instrument in any instance is having a dependable prediction method. In the instance of an agency case, it is possible that experienced social workers could predict outcomes with a high degree of accuracy. A prediction instrument would have the greatest value only if its prediction strength matched or exceeded the accuracy of staff persons' potential.

For this reason, the two test samples of 50 cases each will be submitted to two experienced MSW social workers from the agency to predict "long-term" or "short-term" outcome. These findings will be analyzed for accuracy \( \frac{P}{N} \) and efficiency \( \frac{P-C}{N-C} \). They will be compared with each other and with the instrument for relative accuracy \( RA = \frac{A \text{ (instrument)}}{A \text{ (worker)}} \) and relative efficiency \( RE = \frac{E \text{ (instrument)}}{E \text{ (worker)}} \). The outcomes, RA and RE, will indicate the extent to which there is any advantage of instrument prediction over experienced worker prediction.

**Limitations of the Study**

It is recognized that an instrument developed in a study such as this where the locus is a single agency may be limited in utility only to that agency. Much of the decision-making in such an agency
is dependent on the unique characteristics of that agency. Even as that agency changes over time, the validity of the instrument will be altered. A further limitation is that the validity of the instrument is dependent on the accuracy of the data as recorded in case records. Most of the variables considered are factual rather than requiring judgments. It is expected that facts are accurately recorded. The testing of the instrument for accuracy, efficiency, stability and effectiveness is precisely to assure its validity and reliability.
CHAPTER IV
DATA COLLECTION AND COMPUTER PROGRAMMING

Data Collection

The sample of cases was compiled by a random selection of cases from a January 1977 print-out of the agency caseload. Therein was indicated the most recent date in which a child had come into placement. Also indicated was the subsequent discharge if it had occurred. It was decided the sample would omit children in the category of "Services to Youth" (so-called "unruly adolescents") since this was a relatively new program which was in transition, adding a new category of children to the caseload. In principle, it was hoped by the agency to maintain these children out of placement and those that were placed tended to be in placement for short periods. Placement practice for this group was not yet very well stabilized during the period from which the sample was selected.

Determination of first placement and specific length of placement had to be made elsewhere than the January 1977 print-out. First placement data came from agency placement files. Actual length of placement was determined from the case record. When it was determined a case did not fit the sample criteria (i.e., child's first placement, and less than one year or more than two years), the following case on the January print-out was substituted. It turned out that
many of the original selections were not first placements and therefore had to be replaced. The short-term sample was more difficult to compile because those cases frequently turned out not to be first-time placements. It appears many children in the overall caseload have multiple short-term placements.

The final sample totaled 148 long-term and 127 short-term cases. This meant that for purposes of the data for development of the prediction instrument there would be 100 cases of each type. The balance was 48 long-term and 27 short-term. In order to have the complete complement of 50 of each for the test cases, it was necessary to randomly select two long-term and 23 short-term cases from the 100 of each type used for the prediction instrument and add them to the test cohort.

A cut in the sample occurred when it became evident that a number of the children in selected cases had been adopted. While some of these were, by definition, short-term placements, the case characteristics were, very likely, of the long-term type since they required permanent planning. These cases were removed from the sample at a later point, reducing the development sample to 95 short-term and 98 long-term. The test group was reduced to 45 short-term and 50 long-term cases.

In order to meet the time criteria for sample cases ("short": less than one year; "long": more than two years), it was necessary for cases to be selected from appropriate time periods. "Short-term" cases were selected from placement in 1975 and 1976, dates which
allowed for return home in less than one year (prior to January 1977). In order to select "long-term" cases from placement as close to this same time span as possible, it was the expectation to find cases where placement occurred prior to January 1975 (allowing two years placement to January 1977) but no earlier than 1973. As case finding progressed it was necessary to go back an additional year into 1972 in order to find the required number of cases. It is an assumption of the study, however, that essentially the same circumstances prevailed throughout this time period, e.g., the same decision-making criteria affected the judgments throughout the agency regarding placement and discharge for all of these cases.

It was the expectation that case records would be up-to-date with adequate information to collect the data required herein. For the most part this proved to be a valid assumption as the records most generally provided adequate facts and descriptive material to extract the needed information. This was especially true because the information needed referred to the time of placement which required that the record be up-to-date only to a period somewhat earlier than the time at which this study was conducted.

In finding and extracting data some decisions and judgments had to be made although it was the intention of the research design to take data directly from case material and the worker's stated judgments as much as possible. In all questions it was assumed that the record tended to identify those characteristics which appeared most
significant to the particular situation. Where there was no mention of a characteristic, it was assumed that this characteristic did not exist in a manner that was important. Inasmuch as the variables examined are fairly factual, requiring normal observation rather than being highly technical or requiring very specialized evaluation, this assumption seems reasonable. In some instances, of course, the particular characteristic was not applicable, e.g., it is not possible to evaluate the expressed interest of a parent who has been absent for a period of time.

To the extent possible, all data were transcribed as they appeared in the case record with as little interpretation as possible. Again, the assumption was that if it was important to the placement decision it appeared in some form in the case recording at the time of placement.

Some explanation and definition of variables are as follows (numbers refer to the number of the variable as listed on the Data Collection Schedule. See Appendix): "Home" (6) is defined as the parental home where the child resides just prior to placement. Therefore, if parents are separated, "home" is that of the parent having custody of the child and the other parent is in "other home." (Sometimes the child was out-of-home at the time immediately prior to placement (with friend, relatives).

"Family size" (7) indicates number of minor children in the home, while "Others" are those in the same house, any adults whether parents, relatives, friends, adult children, etc. (8).
"Number of sibs in placement" (9) is sibs to the child in this particular case.

"Placed at case opening" (11) indicates whether child was placed as the case was opened or remained at home for a period before placement. This includes possible previous openings without placement.

"Reason for Placement" (17): "Parent unwilling to provide" also includes unable for some reason other than those stated, that is, this is a close combination of unwilling/unable. In some instances the reason for placement appeared multiple and the researcher selected the reason most closely connected to the placement. An example would be a case in which the mother died and the stepfather said he was unable to care for the child. The reason selected would be the latter.

"Parent participation in placement decision" (18): a "yes" indicates the parent was available and was involved in the placement planning with the agency whether that involvement was active or passive on the part of the parent.

"Estimated intelligence" (19, 20, 21) is not always noted in the record and if it is, it is usually not a very exact judgment but was assumed to have some significance in the decision-making in the particular case. In many instances the "estimate" was a casework judgment rather than by psychological test, although the latter was sometimes the source of data.

"Frequent change of one parent" (30) refers to the case record reference to the present parent having a frequent change of boyfriend (or girlfriend) or multiple consecutive marriages. This was rarely noted in case records.
"Relationship of parent to agency" (31) is an overall evaluation of the parents' general attitude toward work with the agency and participation with the caseworker. While this was often referred to in the case record, the specific category was an interpretation by the researcher.

**Prediction Instrument Development and Testing**

**Computer Programming**

In 1966 Terry Lundgren programmed the configuration method of prediction for computer processing. In the ensuing twelve years there has been considerable refinement of computer technology including the development of much more sophisticated language. For this reason Robert Foulk, Research Assistant, School of Social Work of The Ohio State University, agreed to re-program the process for present use.

Foulk has made three basic changes in the theoretical base for the method in keeping with the potential of current computer technology. These will be discussed as follows: (a) The search for predictive potency, (b) the directional nature of the prediction, and (c) the use of the Critical Value.

**The Search for Potency.** In examination of Figures 2, 3, and 4 (see Appendix) there is some clarification of the comparison of methodological design from Stuckert, Lundgren, and Foulk. Figure 2 shows the manual sorting which seeks out a category of one variable which meets or surpasses the percentage criteria of the critical value, an arbitrarily chosen minimum probability. They also meet some
other criteria defined by Stuckert (1956). Cases falling into this
category are considered predicted in one direction. The remainder of
the cases are regrouped and sorted into the categories of the remain­
ing variables in a search for another category which meets the
requirement of the critical value. When this category is found, it is
considered the second predictive category; cases in that category are
removed (considered predicted), the remainder is again regrouped, and
the search continues until all cases are predicted or the small residual
remains unpredicted.

Figure 3 shows the configuration resulting from computer processing
as designed by Lundgren. This computer program followed the same
process as Stuckert and resulted in a more extensive configuration
which included bi-directional predictions and the possibility of some
multi-category predictors.

In contrast to these two search methods, Foulk has developed a
process as described in Figure 4. The first step in the search is
that, using percentages as the statistical method, the computer
systematically examines the potency of every category of data in
every possible combination with three other categories of data. While
this amounts to thousands of combinations, the computer stores the
information, then orders the first three predictors on the basis of
the greatest potency in combination. From the fourth predictor on,
predicting categories are added on the basis of their own potency
standing alone. This method has the theoretical advantage of ordering
predictors on the basis of combined potency rather than on individual
categorical potency from the outset. With the particular data set herein, however, every configuration containing the same set of predictive categories showed the same predictive potency regardless of order.

The Directional Nature of the Prediction. While the Stuckert and Lundgren methodologies produced bi-directional predictions from one configuration, Foulk's design produces one-directional predictions from each configuration. Because the residual is considered predicted in the opposite direction, however, the resulting prediction is considered bi-directional. Outcomes can thus be evaluated for accuracy of prediction in both directions.

The Use of the Critical Value. As originally conceptualized by Stuckert, the "Critical Value" is an essential element of the method in order to determine which categories contain adequate quantities of the outcome cases as to be predictive without introducing a high percentage of cases in the alternative outcome. The Critical Value, thereby, indicates the minimum percentage level at which the instrument is accurate. In the manual processing the Critical Value is an arbitrary level which is established at the outset.

The computer is capable of calculating the percentages at every level of the configurational search process. Consequently, the Critical Value is easily manipulated to the highest potential probability and alternatives are easily obtained and compared. In practice, the lower the percentage level set as limit, the more configurations the
computer produces. Foulk's approach is to start with a high limit and move it down to the point where a workable number of configurations are produced.

There is an additional consideration, however. With any given set of variables, there is some multiple which the computer will produce unless there are programmed limits. In addition to the Critical Value, two other limits are used in the program. One is the level of accuracy of prediction required. The other is the percent of the total sample which the category represents.

The limiting requirements of the program is an interaction of these three elements. The change of any one alters the material produced. The configuration print-out is simulated in Figure 5 (Appendix).

**Ordering and Processing of Data**

The computer processing was accomplished with 193 sample cases and 95 test cases. The 193 cases consisted of 95 "short-term" outcome cases and 98 "long-term" outcome cases. The 95 test cases consisted of 45 "short-term" and 50 "long-term."

The design was programmed to print-out configurations based on two types of search. The first is a Stuckert type search which simply finds the first categories that meet the minimum criteria designated. The second is the Foulk type search in which the computer searches all possible combinations for the highest predictive potency for the first four variables. It then adds variables by their individual potency until the criteria are met.
CHAPTER V
ANALYSIS OF COMPUTER DATA AND COMPARISON WITH PROFESSIONAL JUDGMENTS

Descriptions and Analysis of Configurations Produced

When the building sample was processed by computer program, two general groupings of configurations were produced. The first grouping is configurations which utilize "long-term" predictors. The second is configurations which utilize "short-term" predictors. In each grouping there is a Stuckert configuration, based on the Stuckert methodology, and Foulk configurations, based on the Foulk search method.

Table 1 compares the two types of configurations predicting long-term outcome. Tabulation for each type shows the number of configurations produced, the range of accuracy, the range of efficiency, and the number of predictive variables used.

The computer process described by Table 1 is processed with the lower limits set at the following levels: included categories, 05 percent of total building sample; predicted outcome, 66 percent of the dependent variable; accuracy, 72.5 percent. Two search types are shown: Stuckert and Foulk, both described previously. Using the data presented herein for prediction instrument building this search produced 1 configuration for Stuckert, 271 Foulk. The Foulk
Table 1. Accuracy and Efficiency of Configurations by Search Type (Long-term)
Lower limits: Category - .05 of building sample
Outcome - .666 of category
Accuracy - .725

<table>
<thead>
<tr>
<th>Search Type</th>
<th>Number of Configs.</th>
<th>Range of Accur.</th>
<th>Range of Effic.</th>
<th>Number of Config. Types</th>
<th>Pred. Categs.</th>
<th>Var. with Multiple Categs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stuckert</td>
<td>1</td>
<td>(0.762)</td>
<td>(0.678)</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Foulk</td>
<td>0.271</td>
<td>0.767 to 0.725</td>
<td>0.526 to 0.442</td>
<td>65</td>
<td>21</td>
<td>5</td>
</tr>
</tbody>
</table>

The Stuckert configuration uses only 6 predictive categories, the 65 Foulk sets are various combinations using 21 predictive categories. The Stuckert configuration has no variable with multiple categories used. The Foulk configurations include five variables which use more than one category as predictive.

From this it would appear that the Stuckert configuration is only slightly less accurate and is more efficient than the most accurate and efficient of the 271 configurations. As will be seen later, however, this is not consistent in application to a test group.
Table 2 shows the same information for the prediction toward short-term outcome as Table 1 does for long-term. There is one variation. At the .725 level of accuracy there are no configurations presented for this data sample. Table 2 indicates short-term configurations produced at the .700 accuracy level.

Table 2. Accuracy and Efficiency of Configurations by Search Type (Short-term)

<table>
<thead>
<tr>
<th>Search Type</th>
<th>Number of Configs.</th>
<th>Range of Accur.</th>
<th>Range of Effic.</th>
<th>Number of Config. Types</th>
<th>Pred. Categs.</th>
<th>Var. with Multiple Categs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stuckert</td>
<td>.1</td>
<td>(0.684)</td>
<td>(0.573)</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Foulk</td>
<td>55</td>
<td>0.705 to 0.710</td>
<td>0.400 to 0.411</td>
<td>6</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2 shows 1 configuration for the Stuckert search type. It is accurate at the 0.684 level with 0.573 efficiency. In contrast, the Foulk search produced 55 configurations with an accuracy of 0.705 to 0.710. The related efficiency ranges from 0.411 to 0.400. There is 1 Stuckert type configuration and 6 discrete Foulk types. While the Stuckert configuration uses 3 predictive categories, the Foulk configurations use 8 predictive categories of which none occur in the same variable.
A more extensive comparison of configuration types is shown in Table 3 and Table 4. Table 3 compares some characteristic configuration types which utilize predictive categories for long-term outcome. The program limit is .725 for accuracy.

The 7 configuration types in Table 3 show 6 Foulk types at various levels of accuracy and efficiency plus the Stuckert configuration for comparison. The reasons for inclusion of these 6 Foulk types (selected from 65 types) is to demonstrate the range of accuracy and efficiency from highest to lowest for the building sample and for the test cohort. Type A achieves the highest level of accuracy for the building sample, Type B for the test cohort, Type C the second highest for the sample, Type D the second highest for the cohort. Type E produces the lowest accuracy for the building sample and Type F the lowest for the test cohort.

One interesting observation regarding the 271 total configurations is that all of those falling within a particular type produce the same accuracy and efficiency. Therefore, the order of the predictive categories within the configuration does not alter its potency.

The configuration which produces the highest accuracy and efficiency for the building sample is Type A, the percentages being 0.767 and 0.536, respectively. Type B produced lower accuracy (0.731) and efficiency (0.453) for the sample, but produced the highest accuracy (0.747) and efficiency (0.467) for the test group. This same unevenness occurred at the low level at which Type E is low
Table 3. Configuration Types (Long-term) at .725 by Reason Included, Building Sample Accuracy, Building Sample Efficiency, Test Accuracy, Test Efficiency, Stability, Variables Utilized

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Accuracy</td>
<td>0.767</td>
<td>0.731</td>
<td>0.762</td>
<td>0.741</td>
<td>0.725</td>
<td>0.731</td>
<td>0.762</td>
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<tr>
<td>Building Efficiency</td>
<td>0.526</td>
<td>0.453</td>
<td>0.516</td>
<td>0.474</td>
<td>0.442</td>
<td>0.453</td>
<td>0.678</td>
</tr>
<tr>
<td>Test Accuracy</td>
<td>0.695</td>
<td>0.747</td>
<td>0.674</td>
<td>0.726</td>
<td>0.621</td>
<td>0.600</td>
<td>0.642</td>
</tr>
<tr>
<td>Test Efficiency</td>
<td>0.356</td>
<td>0.467</td>
<td>0.311</td>
<td>0.422</td>
<td>0.200</td>
<td>0.156</td>
<td>0.244</td>
</tr>
<tr>
<td>Stability</td>
<td>0.676</td>
<td>1.031</td>
<td>0.603</td>
<td>0.891</td>
<td>0.452</td>
<td>0.344</td>
<td>0.360</td>
</tr>
<tr>
<td>Variables Utilized Var./Cat.</td>
<td>6/4</td>
<td>6/3</td>
<td>6/4</td>
<td>4/4</td>
<td>3/3</td>
<td>6/4</td>
<td>6/4</td>
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<td>14/3</td>
<td>6/4</td>
<td>16/2</td>
<td>14/3</td>
<td>14/3</td>
</tr>
<tr>
<td></td>
<td>16/2</td>
<td>19/1</td>
<td>16/2</td>
<td>19/1</td>
<td>19/1</td>
<td>16/2</td>
<td>16/2</td>
</tr>
<tr>
<td></td>
<td>19/1</td>
<td>20/1</td>
<td>19/1</td>
<td>19/2</td>
<td>33/2</td>
<td>19/2</td>
<td>19/1</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
for the building sample with accuracy (0.725) and efficiency (0.442), while Type F is lowest for the test cohort at accuracy (0.600) and efficiency (0.156). The range of stability for the six types is from 1.031 to 0.344.

By way of comparison the Stuckert type configuration produces for the building sample an accuracy of 0.762 and efficiency of 0.678. But for the test sample the accuracy drops to 0.642 and efficiency to 0.244 with a stability factor of 0.360. Therefore, while the accuracy for this configuration is relatively high for the building sample, it falls almost to the lowest level (Type F) for the test sample. As the factor 0.360 implies, the Stuckert configuration is more unstable in application than any of the others and offers no alternative types for comparison or choice.

A final descriptive characteristic of types in Table 3 is the predictive categories utilized by each type. These will be discussed in detail in the next section.

Table 4 compares some characteristics of the configuration types which utilize predictive categories for short-term outcome. The computer program is limited to the .700 accuracy level for this processing because no configurations were produced at the .725 level.

The 7 configuration types in Table 4 show 6 Foulk types producing various levels of accuracy and efficiency plus the Stuckert type for comparison. All types in the short-term outcome are included. Type A is the highest in both building sample and test cohort: accuracy
Table 4. Configuration Types (Short-term) at .700 by Reason Included, Building Sample Accuracy, Building Sample Efficiency, Test Accuracy, Test Efficiency, Stability, Variables Utilized

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Stuckert</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Highest Accuracy Build/Test</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>Compare</td>
</tr>
<tr>
<td>Building Accuracy</td>
<td>0.710</td>
<td>0.710</td>
<td>0.705</td>
<td>0.705</td>
<td>0.705</td>
<td>0.205</td>
<td>0.684</td>
</tr>
<tr>
<td>Building Efficiency</td>
<td>0.411</td>
<td>0.411</td>
<td>0.400</td>
<td>0.400</td>
<td>0.400</td>
<td>0.400</td>
<td>0.573</td>
</tr>
<tr>
<td>Test Accuracy</td>
<td>0.663</td>
<td>0.632</td>
<td>0.663</td>
<td>0.642</td>
<td>0.632</td>
<td>0.632</td>
<td>0.663</td>
</tr>
<tr>
<td>Test Efficiency</td>
<td>0.289</td>
<td>0.222</td>
<td>0.289</td>
<td>0.244</td>
<td>0.222</td>
<td>0.222</td>
<td>0.289</td>
</tr>
<tr>
<td>Stability</td>
<td>0.704</td>
<td>0.541</td>
<td>0.722</td>
<td>0.611</td>
<td>0.556</td>
<td>0.556</td>
<td>0.504</td>
</tr>
<tr>
<td>Var./Cat.</td>
<td>4/1</td>
<td>4/1</td>
<td>4/1</td>
<td>4/1</td>
<td>4/1</td>
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<td>13/3</td>
<td>27/2</td>
<td>29/2</td>
<td>27/2</td>
<td>29/2</td>
</tr>
</tbody>
</table>
(0.710) and efficiency (0.411) for the building sample; accuracy (0.663) and efficiency (0.289) for the test cohort. Type F produces the lowest in both: building sample, accuracy (0.705), efficiency (0.400); and test cohort, accuracy (0.632), efficiency (0.222). However, these same percentages occur in the other types also. The range of stability is: 0.704 to 0.541. The lowest stability occurs in Type B because B contains the highest accuracy factor for the building sample and the lowest for the test cohort.

By contrast, the Stuckert type produces building sample accuracy at 0.684 and efficiency at 0.573; test cohort accuracy at 0.663 and efficiency at 0.289. The stability is at 0.504, the lowest of all types in the short-term configurations.

It is evident that even at the lowered accuracy limit the computer produces markedly less configurations utilizing short-term predictive categories. This suggests that short-term predictive categories are more scarce and have less predictive potency than long-term predictive categories. In those that do occur the stability is very uneven which suggests that there is considerable unevenness in the comparative characteristics of the two populations, the building sample and the test sample. This same observation is true for the long-term configurations (Table 3).

The final descriptive characteristic in Table 4 is a list of predictive categories utilized by each type. Since these are all the types, all categories utilized are listed and will be discussed in more detail in the next section.
Analysis and Discussion of the Predictive Values

Table 5 and Table 6 show some characteristics of the predictive variables which contribute to the outcome predictions by the long-term configurations and short-term configurations, respectively. The variables which are tabulated are those used by the computer in building the configurations as listed under configuration types in Table 3 and Table 4.

Some general characteristics apply to all variables in both tables. The number of appearances refers to the number of times the variable appears in configurational types but does not account for the number of actual configurations which may accrue to that type. The potency of the variable seems to depend on the percentage of directionality it shows and the percentage of the total sample that it represents. This is interesting in that while the ordering of variables within a configuration alters the percentage of directionality (because cases are drawn off at previous levels) the order of variables does not alter the predictive potency for that configurational type.

Table 5 shows the variables utilized by the long-term outcome configurations. There are 21 categories. Five of the variables have multiple categories used, sometimes together. The largest number of appearances is number 19/1 (intelligence of the child, low) which appears 58 times. Considering there are 65 configurational types, 19/1 appears in all except 7 types. The smallest number of appearances
Table 5. Variables Appearing in Configurations (Long-term) by Number of Appearances, Percent of Dependent Variable, Percent of Total Sample

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>3/3</th>
<th>4/4</th>
<th>6/3*</th>
<th>6/4*</th>
<th>9/3</th>
<th>13/2</th>
<th>14/3*</th>
<th>14/4</th>
<th>14/5</th>
<th>16/2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Appearances</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>38</td>
<td>4</td>
<td>11</td>
<td>25</td>
<td>3</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Percent in Dep. Var. 1**</td>
<td>31.7</td>
<td>38.7</td>
<td>38.5</td>
<td>23.1</td>
<td>28.9</td>
<td>18.8</td>
<td>18.8</td>
<td>42.9</td>
<td>35.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Percent in Dep. Var. 2</td>
<td>68.3</td>
<td>61.3</td>
<td>61.5</td>
<td>76.9</td>
<td>71.1</td>
<td>81.3</td>
<td>81.3</td>
<td>57.1</td>
<td>64.7</td>
<td>92.3</td>
</tr>
<tr>
<td>Percent in Total Sample</td>
<td>31.1</td>
<td>16.1</td>
<td>6.7</td>
<td>13.5</td>
<td>19.7</td>
<td>8.3</td>
<td>8.3</td>
<td>7.3</td>
<td>8.8</td>
<td>6.7</td>
</tr>
</tbody>
</table>

(continued)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>19/1*</th>
<th>19/2*</th>
<th>20/1*</th>
<th>23/2</th>
<th>25/2*</th>
<th>31/3*</th>
<th>31/4</th>
<th>32/3</th>
<th>33/2</th>
<th>33/3*</th>
<th>34/2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Appearances</td>
<td>58</td>
<td>20</td>
<td>16</td>
<td>1</td>
<td>28</td>
<td>15</td>
<td>3</td>
<td>6</td>
<td>30</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>Percent in Dep. Var. 1**</td>
<td>18.2</td>
<td>26.3</td>
<td>33.3</td>
<td>33.3</td>
<td>0.0</td>
<td>22.6</td>
<td>38.1</td>
<td>29.4</td>
<td>15.01</td>
<td>39.5</td>
<td>23.1</td>
</tr>
<tr>
<td>Percent in Dep. Var. 2</td>
<td>81.8</td>
<td>73.3</td>
<td>66.7</td>
<td>66.7</td>
<td>100.0</td>
<td>77.4</td>
<td>61.9</td>
<td>70.6</td>
<td>85.0</td>
<td>60.5</td>
<td>76.9</td>
</tr>
<tr>
<td>Percent in Total Sample</td>
<td>11.4</td>
<td>9.8</td>
<td>10.9</td>
<td>6.2</td>
<td>5.2</td>
<td>16.1</td>
<td>10.9</td>
<td>8.8</td>
<td>10.4</td>
<td>10.4</td>
<td>6.7</td>
</tr>
</tbody>
</table>

*Category is utilized in configurations with the highest accuracy.
**Dependent variable is length of time in placement: Category 1 is "short-term" Category 2 is "long-term"
is made by variables 14/5 (Mother, deceased) and 23/2 (Mother, depressed or withdrawn), each of which appears only once.

The asterick (*) indicates that a particular category is utilized by the configurational type which demonstrates the highest accuracy for either the building sample or the test cohort. It is not surprising that these categories, which appear in high accuracy configuration types, tend to show strength in a number of ways. Most of them show a relatively high number of appearances. They tend to represent the highest percentages of the dependent variable. They represent the highest percentage shares of the total sample.

There are some notable exceptions, however. Category 9/3 is 71.1 percent long-term and occupies 19.7 percent of the total sample but does not appear in the highest predictor types. Likewise, 13/2 is 81.3 percent long-term and 8.3 percent of total, and does not appear in the highest predictor types. Category 6/3, on the other hand, is only 61.5 percent long-term and 6.7 percent of the total, and is utilized by the high accuracy configurations. The most obvious exception is category 33/2 (Mother's expressed interest in the child, low) which is 85.0 percent directional, 10.4 percent of the total sample, and appears 30 times but is not utilized by the highest accuracy configurations.

In terms of the percentage of directionality represented by most of these categories, it is relatively low. Only two categories are above the 90 level and those both represent a low percentage of the total sample at 6.7 percent and 5.2 percent. There are only four
other categories above the 80 percent level. Six categories actually occur in absolute frequency below the .666 designated lower limit. This means that they are utilized by the configurations late in the ordering of categories after enough cases have been drawn off to adequately alter the applicable percentages. This would also account for their limited number of appearances.

Almost all of these categories appear quite low in their percentage share in the total sample. The computer program limit was 05 percent minimum. Surprisingly, those with high percentages, 3/4 and 9/3 with 31.1 percent and 19.7 percent, respectively, do not show a high frequency of use or appear in the high accuracy configurations. As mentioned previously, they are weakened by the low directional percentage distribution of the category.

The variables and categories which appear in Table 5 are as follows:

<table>
<thead>
<tr>
<th>Var./Cat.</th>
<th>Variable</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/3</td>
<td>Age of child</td>
<td>9-13 years</td>
</tr>
<tr>
<td>4/4</td>
<td>Age of mother</td>
<td>35-41 years</td>
</tr>
<tr>
<td>6/3*</td>
<td>Parent(s) in home</td>
<td>Father only</td>
</tr>
<tr>
<td>6/4*</td>
<td>Parent(s) in home</td>
<td>Parent and step-parent</td>
</tr>
<tr>
<td>9/3</td>
<td>Number of sibs in placement</td>
<td>3-4</td>
</tr>
<tr>
<td>13/2</td>
<td>Whereabouts of child at placement</td>
<td>Relative home</td>
</tr>
<tr>
<td>14/3*</td>
<td>Whereabouts of mother at placement</td>
<td>Other home</td>
</tr>
<tr>
<td>14/4</td>
<td>Whereabouts of mother at placement</td>
<td>Unknown</td>
</tr>
<tr>
<td>14/5</td>
<td>Whereabouts of mother at placement</td>
<td>Deceased</td>
</tr>
<tr>
<td>16/2*</td>
<td>Whereabouts of sibs at placement</td>
<td>Relative home</td>
</tr>
<tr>
<td>19/1*</td>
<td>Intelligence of child</td>
<td>Low</td>
</tr>
<tr>
<td>19/2*</td>
<td>Intelligence of child</td>
<td>Average/above</td>
</tr>
<tr>
<td>20/1*</td>
<td>Intelligence of mother</td>
<td>Low</td>
</tr>
<tr>
<td>23/2</td>
<td>Mother</td>
<td>Depressed/withdrawn</td>
</tr>
<tr>
<td>25/2*</td>
<td>Child-phys/medical handicap</td>
<td>Not remediable</td>
</tr>
<tr>
<td>31/3*</td>
<td>Relationship parent to agency</td>
<td>Passive</td>
</tr>
<tr>
<td>Var./Cat.</td>
<td>Variable</td>
<td>Category</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>31/4</td>
<td>Relationship parent to agency</td>
<td>NM/NA</td>
</tr>
<tr>
<td>32/3</td>
<td>Supervision of child by parents</td>
<td>NM/NA</td>
</tr>
<tr>
<td>33/2</td>
<td>Mother's expressed interest in child</td>
<td>Low</td>
</tr>
<tr>
<td>33/3*</td>
<td>Mother's expressed interest in child</td>
<td>Low</td>
</tr>
<tr>
<td>34/2*</td>
<td>Father's expressed interest in child</td>
<td>NM/NA</td>
</tr>
</tbody>
</table>

*indicates utilized in highest accuracy configurations

Several of these categories relate to who is in the home at the time. Father only in the home or mother in another home are strongly predictive that the child will remain in long-term care. The category, parent and step-parent in the home, appears 38 times and in the highest accuracy configurations. If siblings are already out of the home with 3-4 in placement or at relatives homes, this appears indicative that the family is not able to maintain children in the home and long-term placement will result. The mother, deceased, as a predictive category only appears once.

The only category of child's age which is utilized in prediction is the age 9-13 years. Why these particular years? It may be that older children are moving toward independence and have more alternatives to long-term placement. Placement for these children may be temporary stays until home problems or alternative arrangements can be worked out. Children younger than nine years still seem to be more desirable to adults and consequently more alternatives to foster care are available. While this category represents 31.1 percent of the sample, the directional percentage is weak at 69.3 percent.
The mother's age of 35-41 years is another relatively weak predictor at 61.3 percent directional outcome toward long-term. The Canadian psychiatrist, H. B. Murphy (1968), who has studied the cyclical nature of mother's age in relationship to child placement, has speculated that as women get older they begin to have more medical and personal problems and are less willing to assume responsibility for children.

Of these categories related to intelligence, mother's low intelligence would certainly have bearing on her ability to be responsible for the growth and development of children. The fact of the level of mother's intelligence being noted in the case record means it was of importance to the circumstances of that particular case. It may be in other instances a mother's intelligence would be low, but not of concern to herself or community authorities who were aware of the family or child.

It is of interest that where the child's intelligence was noted, regardless of the level, it was an important predictive factor. In fact, low intelligence (19/1) appeared with the highest frequency of all categories. When "average/above" (19/2) appears in configurations, it always appears in conjunction with 19/1 and both appear together in the highest accuracy configurations. Again, it is speculated that where some assessment of the child's intelligence was worth noting it was an important consideration. Generally, if a child is obviously of low intelligence, it is a consideration in the kind of placement to be obtained and finding a suitable setting for the particular needs
of the child. For this reason, some assessment of intelligence (even "average/above") becomes a necessity when it looks at the outset as though a child may be headed for a long period of placement. To some extent, then, the importance of this variable as it appears in this study may be an indication of some of the casework evaluation that goes into the placement process.

The relationship of the parent to the agency is another variable which appears in several of its categories. Apparently, where the parent is either cooperative or resistant there is more involvement than when the parent is passive or so uninvolved that the quality of the relationship is not notable. This is in keeping with the finding of Johnson (1970) and others that the quality of the relationship between parent and agency or worker is of importance in the return of the child to the home.

Finally, the mother's or father's expressed interest in the child appears in several categories as a predictive factor--Mother's "low" interest appeared 30 times but was not utilized by the highest accuracy configurations. In contrast Mother's interest, "NM/NA" appeared only 3 times but was included in the high accuracy configurations. Father's "low" interest appeared 23 times and was utilized in high accuracy configurations. It is almost self-evident that parental interest in a child would have something to do with placement history. The process by which interest gets elicited and entered into case records is probably more significant in considering their importance as predictors. The low interest of both mother and father made many
more appearances than did NM/NA. It is quite feasible that that assessment and its entry in the record can go hand in hand with a decision (by both the parents and the agency) for long-term care.

Table 6. Variables Appearing in Configurations (short-term) by Number of Appearances, Percent of Dependent Variable, Percent of Total Sample

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Variable/CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3/4* 4/1* 6/1* 12/3 13/3 16/9 27/2 29/2*</td>
</tr>
<tr>
<td>Number of Appearances</td>
<td>6 6 6 2 3 1 2 4</td>
</tr>
<tr>
<td>Percent in Dep. Var. 1**</td>
<td>78.8 69.2 85.0 71.4 70.0 58.1 64.3 81.8</td>
</tr>
<tr>
<td>Percent in Dep. Var. 2</td>
<td>21.2 30.8 15.0 28.6 30.0 41.9 35.7 18.2</td>
</tr>
<tr>
<td>Percent in Total Sample</td>
<td>17.1 6.7 10.4 7.3 5.2 22.3 7.3 5.7</td>
</tr>
</tbody>
</table>

*Category is used in configurations with the highest accuracy.

**Dependent variable is length of time in placement

Category 1 is "short-term."
Category 2 is "long-term."

Table 6 shows the categories appearing in the configurations predicted by association with short-term outcomes. These configurations are relatively weaker than those relating to long-term. The accuracy level is at .700 as compared to .725. Only 55 configurations (6 types) result as compared to 271 configurations (65 types) for long-term prediction. Lastly, only 8 predictive categories are used and they appear generally lower in percentages in outcome direction and
proportion of sample totals than the long-term predictors.

None of the variables has more than one category represented. Four of the 8 categories are utilized by the highest accuracy configuration type. (High accuracy in the building sample and in the test cohort both occur in the same type.) Of the 4 categories utilized by the highest accuracy types, 3 appear 6 times each, the remaining 1 only appears 4 times. The other four categories appear only 1, 2, or 3 times.

Percentages of the short-term directional outcome (dependent variable) range from 85.0 to 58.1, the latter category (16/9) appearing only once. The range of percentage that these categories represent of the total sample is 22.3 to 5.2.

The variables and categories which appear in Table 6 are as follows, by number and name:

<table>
<thead>
<tr>
<th>Var./Cat.</th>
<th>Variable</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4*</td>
<td>Child's age</td>
<td>14-17 years</td>
</tr>
<tr>
<td>4/1*</td>
<td>Mother's age</td>
<td>14-20 years</td>
</tr>
<tr>
<td>6/1*</td>
<td>Parents in home</td>
<td>Both</td>
</tr>
<tr>
<td>12/3</td>
<td>Source of income</td>
<td>Other</td>
</tr>
<tr>
<td>13/3</td>
<td>Whereabouts of child at placement</td>
<td>Non-relative</td>
</tr>
<tr>
<td>16/9</td>
<td>Whereabouts of sibs at placement</td>
<td>None</td>
</tr>
<tr>
<td>27/2</td>
<td>Med/health/dental management problems</td>
<td>No</td>
</tr>
<tr>
<td>29/2*</td>
<td>Inadequate housing</td>
<td>No</td>
</tr>
</tbody>
</table>

As noted previously, older adolescent children are moving toward independence so that the need for placement may speed up that process either by providing temporary respite while adjustments can be made in the home or by helping the child to find alternatives which are viable until majority is reached. In any case, it is difficult to find
foster care for children coming into placement in mid-adolescence.

It is not surprising that mother's age, 14-20 years, is associated with short-term placement. Social attitudes regarding young and even unmarried motherhood have relaxed considerably in recent years. Child welfare agencies have made extensive efforts to develop the kind of services which will help young mothers keep their children rather than place or surrender them. Consequently, this age level of mother receives considerable social and community support when problems interfere with normal child care. Temporary out-of-home care is one of these kinds of supports.

The category of both parents in the home, of all those in the parent-in-home variable, is the one which most reasonably is associated with short-term placement. Percentage-wise the directional outcome of this category is 0.85 toward short-term, although only 10.4 percent of the total sample fall in this category. Both parents in home implies an intact family, although serious problems may still exist.

The fact that a home does not have medical management problems or inadequacy in housing would logically be associated with return of the child. The surprising characteristic is that these particular facts are mentioned in the case record. That a family is managing satisfactorily in these areas implies a certain kind of social ability with the inference that it has the know-how and resources to adequately provide for children at home.

The "whereabouts of sibs at placement, none" means that the child of concern is the only child in which case return home is
more manageable than where there are several children. This implication is also supported by the fact that "Number of sibs in placement, 3-4" is a long-term predictor.

Two variables bear further investigation for adequate speculation as to their relationship to short-term placement. "Source of income, other" is a category indicating the child's current support is not provided by public assistance or by family income. If he is at relatives or non-relatives, the source would be their source whatever it is. If he were on the street, the source might be voluntary agencies. As the data indicates, however, there is some relationship between this status and short-term placement, then return home.

"Whereabouts of child at placement, non-relative" indicates that a child is staying with friends or neighbors when placed. In the sample approximately 10 children were in this status and of those 7 had a short-term placement.

As noted, a number of these variables seem to be indicative of basic family health rather than social pathology of the family. Further exploration as to the exact circumstances requiring temporary placement for these children would be valuable in terms of planning for preventive or restitutive services. Related to this is the general need in child welfare for a better understanding of what constitutes the optimal/minimal limits of environment for child-rearing. The field is yet on the threshold of understanding this phenomena as it varies from culture to culture.
Professional Judgments

Selection of Professional Experts

In order to test the efficiency of the prediction instrument one method used was to measure its ability to predict against the judgments of two experienced professionals. Two test cohorts of approximately 50 cases each were predicted by two experts.

The two expert judges that were chosen are experienced child welfare workers. Both have MSW degrees and have worked for an extended period of time at the agency from which data was collected. Consequently, it is expected that both judges are familiar with child welfare practice and the implications of varying characteristics of case material. Having worked in practice areas of Franklin County Children's Services, they know the agency policy and practices which would influence decision-making regarding placement and discharge of children. It was assumed that their judgments would be based on the current practice of the agency in determining whether given sets of case circumstances should lead to a short or long stay in foster care.

The preferred method in obtaining judgments from these two professionals would have been to present them with the appropriate case material directly from the case records (from the time of original placement). Because of the dispersion of records and research management complexities this was not feasible. The case material as it was extracted onto the collection schedule was presented as an alternative
method. This had the disadvantage of offering the judges somewhat less than the total picture of the case record without interpretation or extraction. It did have the advantage, on the other hand, of giving the judges exactly the same data as the prediction instrument received.

The Judgments

Table 7 and Table 8 show the dispersion of the judgments made on Test Sample A and Test Sample B. At the left is shown the outcomes, long and short. At the top is shown the predictions as made by

Table 7. Judgments by MSW Judges on Test Sample A Indicating Number of Correct Predictions, Incorrect Predictions, and Cannot Predict

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Judge I</th>
<th>Judge II</th>
<th>Not Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>C NC CP C</td>
<td>C NC CR</td>
<td>Agree Dis One</td>
<td></td>
</tr>
<tr>
<td>Long</td>
<td>17 8 4 19 6 1</td>
<td>3 2 4</td>
<td></td>
</tr>
<tr>
<td>Short</td>
<td>13 9 5 13 9 1</td>
<td>3 3 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 17 9 32 15 2</td>
<td>6 5 10</td>
<td></td>
</tr>
</tbody>
</table>

Note: The not correct predictions shows judges agreement and disagreement in judgments, and one judge only incorrect.
the judges, Judge I (JI) and Judge II (JII). "Correct" (C) indicates cases correctly predicted. "Not correct" (NC) indicates cases not correctly predicted. "Cannot predict" (CP) indicates that the information, in the judge's opinion, was not adequate to make a decision in the direction of either outcome. CP was scored as an incorrect prediction since all sample cases have a known outcome. CP scores are therefore included as part of the NC score.

Table 7 shows that Judge I made 30 correct predictions and 17 incorrect predictions (including 9 cannot predict). Judge II on that same test sample made 32 correct predictions, 15 incorrect predictions (including 2 cannot predict). For those cases that were not predicted correctly, the two judges both agreed on 6 cases. They disagreed on 5 cases (one predicted incorrectly, one chose "cannot predict:.). In 10 cases, one predicted correctly, the other either predicted incorrectly or chose cannot predict.

In Table 8 Judge I correctly predicted 21 cases and incorrectly predicted 27 cases (including "cannot predict" for 12 cases). Judge II correctly predicted 32 cases, incorrectly predicted 16 cases, and indicated "cannot predict" for 0 cases. By comparison the two judges agreed on 11 cases predicted incorrectly, they disagreed on 3 cases predicted incorrectly, and on 13 cases only one judge or the other predicted incorrectly.

These two groupings of cases are somewhat superficial since they were all presented to the judges as one randomly assorted group.
Table 8. Judgments by MSW Judges on Test Sample B indicating Number of Correct Predictions, Incorrect Predictions and Cannot Predict.

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Judge I</th>
<th>Judge II</th>
<th>Not Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>NC</td>
<td>CP</td>
</tr>
<tr>
<td>Long</td>
<td>14</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Short</td>
<td>7</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>27</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: Of the incorrect predictions shows judges agreement and disagreement in judgments, and one judge only incorrect.

The A and B groupings are an arbitrary division into the first half and the second half of the whole. The lack of evenness between groups and between judges raises a number of questions.

In overall judgments Judge II scored considerably higher in correct prediction than did Judge I. In Group A, however, they were very close in the number of correct and not correct scores. There was marked variance in the "cannot predict" category. In Group B Judge I made a considerable drop in correct cases and an increase in not correct cases while Judge II remained close to the same scores as in the first group. Judge I increased slightly the number of "cannot predicts" while Judge II decreased from 1 "cannot predict" to 0. While there were considerably more "not predict" cases in Group B, there was more agreement between judges on these cases and there were more cases on which only one judge was not correct.
The question might well be raised as to why there was such a marked difference between the two judges. On the Group A judgments the "cannot predict" category constituted a large part of the difference in the numbers predicted by the two judges. Of the 4 "long-term" cases designated "cannot predict" by Judge I, only one was incorrectly predicted by Judge II. Of the 5 "short-term" cases Judge I placed in the "cannot predict" category, 3 were incorrectly predicted by Judge II.

In Group B, "cannot predict" is still designated by Judge I for 12 cases while Judge II designated 0 "cannot predict" cases. Of 6 "long-term" cases so categorized by Judge I, 1 is incorrectly predicted by Judge II. Of 6 "short-term" cases so categorized by Judge I, 2 are incorrectly predicted by Judge II. One importance of the "cannot predict" category and the marked differential in use is that if a judge determined not to use that category but rather to make a directional "decision" on each case, with an even distribution of cases there is a 50/50 chance of being correct. In Group A Judge I's 9 "cannot predict" cases break-out by Judge II as 5 correct and 4 not correct. In Group B Judge I's 12 "cannot predict" cases break-out by Judge II as 9 correct, 3 not correct.

Another interesting differential occurs between the "long-term" cases and the "short-term" cases. Consistently throughout both Group A and Group B and for both judges, there is a larger number of incorrect predictions for short-term than for long-term cases.
Apparently, the short-term cases are more difficult to accurately predict. It may be "long-term" is a more likely probability in cases of uncertainty.

Further analysis which is beyond the scope of this study would be an assessment of the decision-making process of the judges in terms of the variables which were most influential in their evaluation. Also, one would want to ask the question as to the rationale for the use of the "cannot predict" category.

**Comparison of the Predictive Potency of Judges and Configurations**

While it was originally the plan of this study to evaluate the prediction configurations against professional judgments on the basis of two separate test groups of cases, this grouping of cases has become somewhat artificial even though the preceding analysis utilized the two group format. The cases were, however, submitted to the judges as one grouping of 95 cases for judgments. In addition, as programmed, the computer evaluated the test cohort as one group. Therefore, for purposes of comparison between the prediction configurations and the judges, the following discussion considers the test cohort as a single group.

Table 9 shows the correct and not correct predictions on the combined test samples. These are the same cases as discussed and tabulated in Table 7 and Table 8.
Table 9. Judgments by MSW Judges on Combined Test Samples A and B Showing Correct Predictions and Incorrect Predictions

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Judge I</th>
<th></th>
<th>Judge II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>NC</td>
<td>C</td>
<td>NC</td>
</tr>
<tr>
<td>Long</td>
<td>17</td>
<td>8</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Short</td>
<td>13</td>
<td>19</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Long</td>
<td>14</td>
<td>11</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Short</td>
<td>7</td>
<td>16</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>44</td>
<td>64</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 10. Comparison of Predictors, Judge I, Judge II, Configuration B (long), Configuration D (long), Configuration A (short), Configuration C (short)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>JI</th>
<th>JII</th>
<th>CB_L</th>
<th>CD_L</th>
<th>CA_S</th>
<th>CC_S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct</td>
<td>51</td>
<td>64</td>
<td>78</td>
<td>69</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Not correct</td>
<td>44</td>
<td>31</td>
<td>24</td>
<td>26</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Percent Accuracy</td>
<td>0.536</td>
<td>0.673</td>
<td>0.747</td>
<td>0.726</td>
<td>0.663</td>
<td>0.663</td>
</tr>
<tr>
<td>Percent Efficiency</td>
<td>0.022</td>
<td>0.311</td>
<td>0.467</td>
<td>0.422</td>
<td>0.289</td>
<td>0.289</td>
</tr>
</tbody>
</table>
Of the 95 cases, Judge I correctly predicted 51 and incorrectly predicted 44 cases. The accuracy is 0.536 with an efficiency of 0.022. Judge II correctly predicted 64 cases and incorrectly predicted 31 cases. The accuracy is 0.673 and the efficiency is 0.311.

Configuration \( B_L \) (\( CB_L \)) and Configuration \( D_L \) (\( CD_L \)) are the two types utilizing long-term predictors and producing the highest accuracy for the test cohort. \( CB_L \) correctly predicted 78 cases and incorrectly predicted 24 cases, resulting in an accuracy of 0.747 and efficiency of 0.467. \( CD_L \) correctly predicted 69 cases and incorrectly predicted 26 cases, resulting in an accuracy of 0.726 and efficiency of 0.422.

Configuration \( A_S \) (\( CA_S \)) and configuration \( C_S \) (\( CC_S \)) are the two types utilizing short-term predictors and producing the highest accuracy for the test cohort. \( CA_S \) and \( CC_S \) both predicted at the same level. They correctly predicted 63 cases and incorrectly predicted 32, resulting in an accuracy of 0.663 and efficiency of 0.289.

Based on the theoretical efficiencies (prediction at the same as "guess" level would be 0.000; accurate prediction of all cases would be an efficiency of 1.000) it can be seen that Judge I predicted slightly better than "guess," at 0.022 and Judge II predicted considerably better than "guess" at 0.311. \( CB_L \) predicted considerably more accurately than either judge at 0.467, although still falling far short of a perfect prediction at 1.000. \( CD_L \) at 0.422 was superior to JII's 0.311.
In discussing these four sources of predictions, it is clear that the configurations based on short-term predictors are weaker in several ways. First, they were derived from a lower accuracy limit (.700) than the configurations based on long-term predictors (at a limit of .725). A second consideration is that even with the advantage of lower limit only 6 basic types were derived utilizing 8 categories as compared to 65 long-term types utilizing 21 categories. Thirdly, the actual efficiency of the prediction of the short-term predictors falls 0.178 below the highest long-term configuration type.

If one were to make a choice of configurations, on the basis of potency, the choice would be type CB which performs at a higher level than both judges and the short-term configurational types. Described in more accurate detail than previously, Configuration Type B (Long) is as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Variable/Category</th>
<th>Name</th>
<th>Percent Long</th>
<th>Percent Short</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20/1</td>
<td>Est. Mother's Intell., low</td>
<td>66.67</td>
<td>33.33</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>31/3</td>
<td>Parent Rel.-Agency, passive</td>
<td>76.92</td>
<td>23.08</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>6/4</td>
<td>Parents in home, parent &amp; step.</td>
<td>73.91</td>
<td>26.09</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>19/1</td>
<td>Est. Child's Intell., low</td>
<td>80.00</td>
<td>20.00</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>6/3</td>
<td>Parents in Home, father only</td>
<td>70.00</td>
<td>30.00</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>33/3</td>
<td>Mother's Expr. Interest, NM/NA</td>
<td>66.67</td>
<td>33.33</td>
<td>12</td>
</tr>
</tbody>
</table>

Building sample: accuracy: 0.731  efficiency: 0.453
Test Sample: accuracy: 0.747  efficiency: 0.467
Test/Building:  stability: 1.031
Any case which falls into one of the above categories is predicted as a long-term outcome. Any case which does not fall into one of the above categories (and is, therefore, residual) is predicted as a short-term outcome.
CHAPTER VI
SUMMARY AND DISCUSSION OF SOME ISSUES

Summary

Based on the need to have a better understanding of the variables related to the length of placement of children in foster care and the usefulness of being able to predict the length of placement of a child, it has been the purpose of this study to demonstrate the development of a prediction instrument. Using case data from foster care case records, Franklin County Children's Services, Franklin County, Ohio, a prediction configuration has been developed.

The theoretical basis for the configuration is that of the Prediction Configuration using prediction-by-classification as developed by Robert Stuckert in 1956. The method was revised and programmed for processing by computer in 1966 by Terry Lundgren. For the purpose of this study, the program for computer processing has again been revised by Robert Foulk.

Based on the literature on foster care regarding variables related to the placement of children and the length of care, a schedule was created to collect data from case records. The source of data was case records of children who had been in first placements in foster care during the years 1972 through 1976. By definition two
time durations described the two outcome categories—"short-term" (less than one year in placement) and "long-term" (more than two years in placement). These were the dependent variables.

Data from one hundred ninety-three cases (ninety-five "short-term" and ninety-eight "long-term") were used to generate predictive configurations through the computer program designed by Foulk. From three hundred and twenty-six configurations one was selected to comprise the prediction instrument. This instrument predicted at a level well above the probability of "guess" and predicts slightly higher than professional judgments on a test sample.

The selected configuration demonstrates accuracy at the level of 0.767 and efficiency at the level of 0.526 relative to the development sample of cases. When evaluated with a test group of cases consisting of 50 "long-term" and 45 "short-term cases, the configuration predicted outcomes with an over-all accuracy of 0.747, an efficiency of 0.462, with a stability of 1.031 (when compared to efficiency when used with the development sample).

By comparison with the predictions of the most accurate of two expert judges using these 95 test cases, the configuration demonstrated a relative accuracy (RA) of 1.101 and a relative efficiency (RE) of 1.501. Since equal accuracy and efficiency would result in an RA = 1.000 and RE = 1.000, the above results do not show a great superiority on the part of the prediction configurations. It does have the advantage, however, of being standardized as a basis for judgments. It can be used by persons who may not have professional
training and experience. And it will be useful as a means of monitoring professional judgments. In addition, the building methodology has produced a considerable amount of data regarding variables which show a relationship to the dependent variable outcomes, short-term placement and long-term placement.

The study has, therefore, achieved its purpose of demonstrating the possibility of development of an instrument to predict short-term and long-term outcomes of foster placement of children. The study has demonstrated some superiority in use of the prediction configuration in preference to subjective case by case judgments in the agency whose cases were used as data source.

**Discussion of Some Related Issues**

These findings have relevance to the current state of the art in child welfare. Indicative of widespread public concern regarding the state of foster care of children were extensive Congressional hearings in 1976 on the "Problems and Issues" in foster care and adoptions. The focus was on family retention of children and providing services close to home.

Another indicator is the rapidly growing phenomena of state laws requiring court review or citizens' review committees for cases of children in foster care (see Festinger; Chappell; Wiltse, Gambrill, and Stein). As David Fanshel has stated:

---

There is growing public concern about children who seem fated to spend all of their childhood in foster care. The failure of agencies to move more vigorously toward termination of parental rights when children remain in care and many are being unvisited is being viewed as unacceptable (Fanshel, 1976, p. 160).

One critical issue is that foster care is no longer a short-term service, if it ever was. While in principle the placement of children was considered to be a temporary help to the family in order to bridge a crisis or remove some current stress, the evidence is that a high proportion of children so placed remain in placement and never return to their natural family. Fanshel and Shinn's most recent finding from a five-year study of 624 cases is that after five years 36.4 percent of the children still remain in placement. Of these, 57 percent receive no visitation by parents. An additional 2.9 percent were admitted to mental hospitals or training schools rather than being discharged to home (1978, pp. 89, 115). Trudy Festinger reports in a follow-up study of court reviews in New York that of 235 children placed in 1970, in June of 1975 44.7 percent were still in foster homes (1976).

Foster care services need to be planning seriously for differential services to those children who will return home and those children who will not. For children who do return home, follow-up services are essential for continuing maintenance at home (Sherman, Adrift, 1973, p. 104). Pleasant, informal multi-service family centers need to be close to home and available to all family members (Shyne and Neumann, 1976). Child-care services should be innovative and truly provide temporary support to families in crisis through such programs as "5-day foster care," while not removing full
responsibility and contact from the family (Loew and Hanrahan, 1975).

In the other direction, children who are going to remain in placement need equally careful and consistent planning from the outset of placement. Changes in traditional social work attitudes are necessary with an eye to innovation and the flexibility to provide problem-solving for today's problems. Foster care has both short-term and long-term components. "Permanent and Long-term Foster Care as a Planned Service" has been explored (Madison and Shapiro, 1970). Various innovations in planning for the use of foster parents as adoptees have been presented (Neely, 1969; Hegarty, 1973; Gill, 1975). Varying payment plans for foster parents as incentives to recruit and maintain more quality foster homes are being tried, such as in the Oregon project (Peterson, 1974).

To the extent it is possible to predict at intake the outcome of a child's stay in placement, the possibility of early planning is a reality.

Another kind of issue is the question: What kind of control or manipulation of relevant variables will alter the outcomes... if any! This study has shown that a number of variables known at intake have some relationship to outcome. David Fanshel has indicated that age, ethnic background, in or out of wedlock birth status, and reason for placement are all related to outcome (1976).

To some extent the answer to how much manipulation is possible is self-evident in examination of the uncontrollable nature of some variables. Ethnic background cannot be controlled or changed. Birth
status is concretized at the point of birth. Certain variables of this type may, however, be complemented, compensated for, or counteracted if their effect is known. The evidence of association is a beginning to the kind of understanding which may eventually lead to effective manipulation.

Related to that question is the very intriguing problem of the interrelationship between variables which have been identified as co-variant with the outcomes of placement. Those just referred to tend to be status characteristics. Other studies, including this one, have also shown the co-variance with outcome of personal relationship type of variables. Maas and Engler in 1959 discussed the significance of the three variables: visits, interest, and parents' plan (p. 324). Sherman (Adrift, 1973) identified the child's emotional attachment to the mother and frequency of mother's contacts as related to discharge. Festinger recently found mother's adjustment, expressed interest in the child, family contact, and casework service as related to outcome (1976). Fanshel indicated that factors predictive of discharge include: frequency of parent visits, investment of casework services, and the overall casework assessment of the parental performance of the mother (1976). For the most part these are behaviors or assessments which have to be made following placement. And for the most part, there is implied, if not stated, the expectation that enhancement of these behaviors will lead to a change in the outcome—presumably toward a more desirable status (e.g., Fanshel, 1975—"Parental Visiting of
Children in Foster Care: Key to Discharge?"). The present study has identified similar types of variables which are known at the time of placement--e.g., the missing mother as childcare resource (father only home, or mother in other home), the level of intelligence of mother and of child, interest and apparent motivation of parents.

There, then, is the apparent enigma: if it is possible at the time of placement to make some prediction of outcome, can manipulations leading to a change of postplacement behaviors lead to an alteration of the outcomes? One of the findings in the study, Adrift in Foster Care, as stated by Sherman et al. is that the longer the child remained in placement, the less likely he was to return home and intervention was unable to counteract this relationship (1973, p. 99). Early intervention might facilitate shorter placement, but this still does not answer the question of whether intervention following placement will alter the predicted outcome.

What is the relationship between the placement and post-placement predicting variables? Are they such that the variables at placement also in some way predict the potential for change or feasibility for intervention of those behaviors which occur after placement? Can the absence of a childcare person be compensated for in some way such as extended homemaker service or some specialized kind of daycare programs? Does an indifferent relationship to the agency mean a person who is unmotivatatable, or does it flag some other kind of condition or deficit which can be turned around? If a parent expresses disinterest in his/her child, is that an unchangeable attitude or can appropriate
services restore a productive parent-child relationship? Is it, in fact, possible to provide services which will enhance or alter post-placement behaviors? Or are those behaviors tied to the placement-time variables in such a way that they are not subject to planned change?

Another kind of issue is the question whether or not it may be possible to "push" the length of placement time closer toward keeping the child in his/her own home. This is one way of shortening placement time as well as others previously mentioned. Fanshel has classified in order the likelihood of discharge on the basis of "Reason for Placement," being (in descending order): mental hospitalization of the care-taking person, child's behavior, physical illness of the caretaker, unwillingness to assume care, unwillingness to continue care, abuse/neglect, abandonment/desertion, family dysfunction, and death of the parent (1976). This seems to imply a hierarchy of difficulty in problem-solving. This study has associated some variables indicating family stability (both parents in home, adequate home, no medical management problems) with short-term care. Is it possible to differentially provide brief, crisis services to counteract those problems requiring short placements, to "bridge" the need, so to speak? It would be worth inquiry as to whether such services were not both economically and socially less costly than the placement of children in foster care.
Regarding the Prediction Instrument and the Field of Child Welfare

There would be considerable value in having an instrument by which to accurately predict future outcomes, specifically herein, whether children in foster care will return home or remain as a public charge for a long period of time. One value is within an agency operation, at the level of service delivery, at the level of management, and at the level of research.

At the service delivery level knowing the outcome would facilitate realistic planning at the outset of a child's placement. If the need is for family restoration, then planning and resources can be utilized appropriately. If the need is for long-term, or permanent planning, this process can be initiated without a waste of resources and undue expenditure of time in trying to return a child home. Thus, differential diagnosis of outcome and needs would be a guide to goals and planning in keeping with the specific case rather than a philosophical ideal or socially unrealistic expectation.

A second value is that being able to predict would provide a scientific approach to planning with clients and remove decision-making from the subjective realm which often permeates casework planning. Indeed, our findings have demonstrated that potentially an instrument has an objective edge on professional intuition.

An additional plus is that knowing the probability of outcomes of caseloads would facilitate timely planning for the services which are required both within the agency and within the community. The
result would be improved efficiency in use of agency resources and mobilization of needed services in the community.

At the management level early needs identification would enhance administrative functions. To know the future disposition of present caseloads means the possibility of improved planning in program, budget, staffing, and evaluation. Agencies and communities which are concerned about children are planning and expanding services both for families where children are in their own homes and for those children who need permanent and continuing care outside their own homes. Guidelines for the variety and quantity of services which will be required are invaluable.

By use of an instrument which efficiently relates case characteristics with outcomes, managers would be able to develop policy utilizing significant variables as procedural guidelines. Also, from an administrative point of view, having a basis for prediction of dichotomous outcomes provides a research base for the evaluation of alternative and innovative services with an eye toward improvement of overall program effectiveness and efficiency. Admittedly, it should be recognized that as there begins to be understanding and utilization of those variables which are predictors, the new variable of manipulation will be introduced and alter the relationships—hopefully in favor of more desirable outcomes. This means there needs to be constant re-evaluation. Variables which are the more powerful predictors may lose their potency over time.

There is a risk in developing such an instrument as this. The risk is that it would be used mechanically with insensitivity to human
needs. The result could be exactly the opposite of those envisioned for the improvement of human services. While service systems may become efficient in a money and accountability sense, they may become less valuable in the enhancement of human relationships and personal meaningfulness. This is a danger in the development and implementation of any technology whether it is automobiles, household gadgetry, or computers. Values are not in inanimate things or even in technologies. Values are a property of people and groups of people. The many cultural accouteraments and the way they are used merely reflect the values persons hold.

In the case of predictions of outcomes from foster care, the literature over the past twenty years vividly describes the failure of the foster care system to even begin to meet the expectations of the many well-meaning persons who are a part of it. The current emphasis is on realistic evaluation of what the system is. What are its assumptions? What are its goals? What are its costs? And how does it meet the needs of children? While the literature of a few years ago is highly descriptive, critical, and prescriptive, it is generally lacking in a research base. Increasingly, the writing is documenting, through research methods, the need for better management, for greater accountability, for focus on long-range goals, and for emphasis on permanency and continuity for the child. The prediction instrument method and implementation demonstrated herein is a methodological contribution toward those goals.
Suggested Future Research

There is a notable weakness in the methodology used herein. At the time cases data was collected the final number of cases was short 25 cases. As this worked out, this amounted to a 25-case deficit in the test group. In order to balance out short and long groupings, 25 cases were randomly selected from the building sample and used both in the building sample and the test sample. Admittedly, this may distort the final comparison of the test and building samples, although this would not affect the building part of the methodology. Future research might well re-evaluate by testing the configurations with a new, totally unrelated sample of known outcome cases from the agency.

Several directions are suggested for follow-up research. One direction is refinement of this particular instrument. The results herein are not spectacular. Additional in-depth understanding of the nature of the data and the computer results could be obtained through exploration of the relationship between particular variables and specific configuration types. Using each type with a data sample, which specific cases become residual? Which variables are most predominant in residual cases? How do these compare with the cases the judges judged correctly? Incorrectly?

Another area of exploration is other data sources. While the instrument herein refers to one particular agency, similar instruments may be developed for other agencies. It is my opinion at this point, that practice is not standardized enough to simply employ an instrument
developed for one agency to use in another. Judgments vary and decision-making is based on varying criteria. The effectiveness of such a transfer would be an interesting and valuable study in itself. However, using the method and computer program used herein to develop similar instruments for other agencies would allow for comparison of a variety of agencies—public, voluntary, from varying localities and circumstances.

Similarly, case categories can be more highly differentiated. For instance, using the method herein, it would be possible to explore with more specificity potential outcomes according to "Reason for Placement" categories of dependency, neglect/abuse, and various kinds of parental problems.

A second type of future research can utilize the dichotomous outcome to study a variety of questions. Is it possible to manipulate or control the independent variables in such a way as to influence the outcome? Does differential service, based on predicted outcome, influence the actual outcome? Is there a gain from providing differential service to those children who are predicted to be most at risk? Is it possible to provide a preventive service which moves the entire range of placement time more toward keeping children in their own homes, e.g., longer periods of "crisis services" to maintain children in their own home?

A further question which needs to be answered is: What is the relationship between the predictors identified at time of placement and
those after-placement variables identified by various studies as having a high level of association with return home? In their five-year longitudinal study, Fanshal and Shinn identified parental visiting and social service provided to parents as significantly co-variant with the child's return home and also co-variant with each other. How are these characteristics related to the predictors herein which are known at the time of the child's placement? Further knowledge of that relationship may shed considerable light on the whole phenomena of lengths of placements and the personal relationships therein. Again, knowledge can be the source of further control and consequent movement toward the achievement of social goals.
APPENDIX A

VARIABLES AND CATEGORIES
### VARIABLES AND CATEGORIES

1. **Sex:** (1) M  (2) F  
2. **Race:** (1) C  (2) N  (3) M  (4) Bi  
3. **Age of child:** (1) 0-2 years (2) 3-8 (3) 9-13 (40) 14-17  
4. **Age of mother:** (1) 14-20 years (2) 21-27 (3) 28-34 (4) 35-41  
   (5) 42-51 (6) 52-60 (7) unkn.  
5. **Parent's marital status:** (1) married (2) sep (3) div  
   (4) single (5) wid  
6. **Parents in home:** (1) both (2) mo only (3) fa only (4) parent & step-parent (5) neither  
7. **Family size:** number of children: (1) 1 (2) 2-3 (3) 4-5 (4) 6+  
8. **Family size:** number of adults: (1) (2) 2 (3) 3+  
9. **Number of sibs in placement:** (1) 0 (2) 1-2 (3) 3-4 (4) 5+  
10. ** Relatives in Franklin County:** (1) 0 (2) 1-2 (3) 3+  
11. **Placed at case opening (1st opening):** (1) yes (2) no  
12. **Source of income:** (1) PA (2) employment (3) other  
   Whereabouts at time of placement of:  
13. **Child** (1) home (2) relative (3) non-rel. (4) placement (5) other home  
14. **Nat. mother** (6) unknown (7) deceased (8) various places (10) none  
15. **Nat. father**  
16. **Siblings**  
17. **Reason for placement:**  
   (1) Abandonment/death  
   (2) arrest of caretaker  
   (3) Parent's physical illness  
   (4) Mother's confinement  
   (5) Parent's mental illness  
   (6) Severe neglect/abuse  
   (7) Parent unwilling/unable to provide  
   (8) Unusual physical care required  
   (9) Child's behavior
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Options</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Parent participation in placement decision:</td>
<td>(1) yes (2) no</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Estimated intelligence of child:</td>
<td>(1) low (2) aver./above (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Estimated intelligence of mother:</td>
<td>(1) low (2) aver./above (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Estimated intelligence of father:</td>
<td>(1) low (2) aver./above (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Child:</td>
<td>(1) mental illn. (2) depr/withdrawn (3) act/out in conflict (4) other: describe (5) NM/NA</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Mother:</td>
<td>(1) mental illn. (2) depr/withdrawn (3) act/out in conflict (4) other: describe (5) NM/NA</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Father:</td>
<td>(1) mental illn. (2) depr/withdrawn (3) act/out in conflict (4) other: describe (5) NM/NA</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Child: physical/medical handicap;</td>
<td>(1) remediable (2) not remediable (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Known to multiple community social service agencies:</td>
<td>(1) yes (2) no (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Medical/health/dental management problems:</td>
<td>(1) yes (2) (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Money management problems:</td>
<td>(1) yes (2) no (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Inadequate housing:</td>
<td>(1) yes (2) no (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Frequent change of one parent:</td>
<td>(1) yes (2) no (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Relationship of parent to agency:</td>
<td>(1) coop (2) resistant (3) passive (4) NM/NA</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Supervision of child by parent:</td>
<td>(1) adeq (2) inadeq (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Mother's expressed interest for child:</td>
<td>(1) high (2) low (3) NM/NA</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Father's expressed interest for child:</td>
<td>(1) high (2) low (3) NM/NA</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

STUDY DESIGN AND COMPARISON OF CONFIGURATION METHODOLOGIES
Hypothesis: Using an ex post facto design a predictive instrument can be developed to determine at the time of placement whether a child's placement will result in short-term or long-term care.

Purpose:
1. To determine appropriate diagnosis and case planning early in placement history.
2. To facilitate administrative planning for expected service needs.
3. To provide knowledge regarding factors related to short-term and long-term placement.
4. To facilitate research by having a scientific method of predicting the placement outcome.

Figure 1
Schematic Design
The configuration is designed to predict long-term or short-term placement. Probability figures represent probability of long-term placement. The converse percentage \((100 - PR)\) would be the probability for short-term placement. The squares represent a completed sub-sample (or category). Circles represent incompleted sub-samples. The Critical Value used is \(.90\). Numbers represent cases in that category.

Factors

A. Reason for Placement
1. Abandonment/Parent death
2. Severe neglect/Abuse
3. Mother's illness
4. Severe family problems

B. Mother's Age (at placement)
1. To 22
2. 22 thru 27
3. 28 thru 32
4. 33 and above

C. Child's Estimated IQ
1. Low
2. Average and above

D. Child's Physical Disability
1. Irremediable
2. Remediable/None

(This configuration is hypothetical, provided for illustration only. These factors and figures are not accurate.)

Figure 2

A Prediction Configuration - Illustrating Manual
Sorting and Configuration Development (Stuckert)
Predictive Categories:
1. Reason: Abandonment/Parent death ........................................................... LT
2. Mother's age, 22 thru 27 ........................................................................... LT
3. Child's estimated IQ, low .......................................................................... LT
4. Reason: Severe neglect/Abuse ................................................................. ST
5. Reason: Mother's illness and Mo's age, 33+ ............................................. LT
6. Child's physical disability, irremediable ................................................ LT
7. Child's estimated IQ, aver. and above ..................................................... ST

Factors
A. Reason for Placement
1. Abandonment/Parent death
2. Severe neglect/Abuse
3. Mother's illness
4. Severe family problems
B. Mother's Age (at placement)
1. To 22
2. 22 thru 27
3. 28 thru 32
4. 33 and above
C. Child's estimated IQ
1. Low
2. Average and above
D. Child's Physical Disability
1. Irremediable
2. Remediable/None

(This configuration is provided for illustration only. These factors and figures are not accurate.)
Assuming the following data:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>1 2 3 4 . x</td>
</tr>
<tr>
<td>B.</td>
<td>1 2 3 4 . x</td>
</tr>
<tr>
<td>C.</td>
<td>1 2 3 4 . x</td>
</tr>
<tr>
<td>D.</td>
<td>1 2 3 4 . x</td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
<tr>
<td>Y.</td>
<td>1 2 3 4 . x</td>
</tr>
</tbody>
</table>

In order to find the most potent prediction configurations:

The computer process compared:

configuration with and and and etc.

through every combination of the variables and their categories. The objective is:

1. To search for categories with highest percent of outcome cases
2. To search out highest number of outcome cases in a configuration
3. To search the combination which will meet criteria and attain greatest accuracy in prediction

Three criteria are specified by the programmer:

1. Minimum percent of category in the predicted outcome.
2. Minimum level of accuracy
3. Minimum percent of total sample in the category

Following the choice of the most potent combination of the first four variables by this method, the computer adds the 5th, 6th...Xth variables by the potency of the individual variable till all outcome cases in the sample have been identified (or the minimum specified percentage has been met). Residual cases are considered predicted in the opposite direction.

Figure 4

Explanation of Foulk Computer Process
## Predicting for Category 2

<table>
<thead>
<tr>
<th>Level</th>
<th>Variable Label</th>
<th>Category</th>
<th>Number</th>
<th>Passed Percent</th>
<th>Fail Percent</th>
<th>Pred. Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>16 Whereabouts sibs</td>
<td>2</td>
<td>13</td>
<td>92.31</td>
<td>7.69</td>
<td>6.74</td>
</tr>
<tr>
<td>2.</td>
<td>31 Par-agency relation</td>
<td>3</td>
<td>24</td>
<td>70.83</td>
<td>29.17</td>
<td>19.17</td>
</tr>
<tr>
<td>3.</td>
<td>14 Whereabouts mother</td>
<td>3</td>
<td>11</td>
<td>72.73</td>
<td>27.27</td>
<td>24.87</td>
</tr>
<tr>
<td>4.</td>
<td>19 Child's intell.</td>
<td>1</td>
<td>20</td>
<td>85.00</td>
<td>15.00</td>
<td>35.23</td>
</tr>
<tr>
<td>5.</td>
<td>6 Parents in home</td>
<td>4</td>
<td>13</td>
<td>76.92</td>
<td>23.08</td>
<td>41.97</td>
</tr>
</tbody>
</table>

Accuracy = 0.736  
Efficiency = 0.463

---

**Figure 5**

Simulation of Foulk Configuration  
Computer Print-out
Predicted

In the configuration

Predicted (CORRECT)

Residual (NOT CORRECT)

Actual Outcome

Alternate (NOT CORRECT)

(CORRECT)

Accuracy = \frac{\text{Correct N}}{\text{Total N}}

Efficiency = \frac{\text{Correct N} - C}{\text{Total N} - C}

where C = N in the largest category

Figure 6

The Calculation of "Correct" Predictions
BIBLIOGRAPHY
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Books

An Act. Public Law 93-647, 93rd Congress HR 17045, January 4, 1975 ("Title XX - Grants to States for Services").


Behling, John, An Experimental Study to Measure the Effectiveness of Casework Service in a Public Assistance Agency. Unpublished dissertation, The Ohio State University, Columbus, Ohio, 1960.


Livingston, Farrand, and John Behling. *A Study of Chronicity Among General Relief Recipients in Franklin County, Ohio, 1959*. School of Social Administration, The Ohio State University, Columbus, Ohio, 1959.


Articles


Congressional Hearings. 94th Congress—1st Session, House Subcommittee on Children and Youth, Hearings on "Foster Care Problems and Issues." 1976.


Shyne, Anne, and Renee Neumann, "Commitment to People: An Evaluation of the Family Reception Center (Brooklyn, New York) in Congressional Hearing, 94th Congress--1st Session, House Subcommittee on Children and Youth, "Foster Care Problems and Issues." 1976


