RESEARCH INTO VIOLENT BEHAVIOR: DOMESTIC VIOLENCE

HEARINGS

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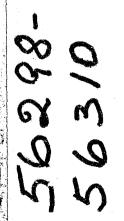
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PHYSICAL ABUSE OF YOUNG CHILDREN:

A PRELIMINARY TYPOLOGY OF CASES

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BACKGROUND

Physical abuse of children by their caretakers has been esti-
mated to occur in one out of every 100 American families
(Light, 1973). In the 1960's, child abuse was recognized as a
major social problem (Kempe, 1962) and has since attracted the
research efforts of professionals in many disciplines. Much of
this research has been directed toward identifying factors
associated with the abuse which could be used to construct an
etiological model. The models which have been proposed can be
roughly grouped into two types--the sociological and the psycho-
logical. The sociological relates the occurrence of abuse to
social and cultural factors. Specific incidents of child abuse
are recognized as interpersonal encounters, but the root problem
and potential solutions are seen in societal terms. The psycho-
logical approach, on the other hand, views the problem primari-
ly in terms of the psychopathology involved in particular parent
child relationships.

The most extensive data on the sociology of abuse was collected
by Gil (1969). He found in a national survey of reported child
abuse cases that the parents as a group resembled a cross-sec-
tion of the nation's poor. There was an over-representation of
non-white persons in the group; they were poorly educated; held
low-paying jobs or were unemployed; and, in general, were dis-
advantaged socially and economically. Gil concluded that child
abuse occurs largely as a by-product of that social and economic
deprivation: parents who abuse their children differ from those
who do not primarily in the degree of social and economic
resources available to them.

In contrast to the sociological model, the psychological model
focuses on factors related to individual personality and be-
havior. The treatment team at the National Center for the Pre-
vention and Treatment of Child Abuse and Neglect (Denver,
Colorado) has accumulated the most extensive clinical data in
this area (Helfer & Kempe, 1968). They have noted a number of
frequently occurring characteristics in their cases. Among
these are: (1) a history of physical abuse or neglect in the
childhood of the abusing parents; (2) inordinately rigid or un-
realistic expectations of children by the parents; (3) a pattern
of social isolation and emotionally unsupportive marital rela-
tionships; and (4) some precipitating event experienced as a
crisis by one or both parents just prior to the abuse.

2.

This "crisis" may consist simply of a child's crying excessively
or failing in some way to satisfy the parent's demands for love
and attention. Often these parents regard infants as a source
of reassurance about personal adequacy and make excessively
high demands for performance from children. The parents are apt
to perceive an infant's crying or disobedience as rejection and
to respond with anger and punishment. The general profile is
of a parent whose inner and outer sources of self-esteem are
quickly depleted under stress. While there is general recog-
nition that both social and psychological factors must be
considered in order to explain the phenomenon of child abuse,
there is little agreement on the relative importance of the
different factors. Sources such as Gil's which find an asso-
ciation between poverty and abuse and conclude that this asso-
ciation has etiological significance have been criticized on
the grounds of sampling bias. Impoverished and medically indi-
gent families are more likely to come into contact with the
major reporting agencies—welfare, police, and hospitals that
serve families who do not have access to private medical care
(Light, 1973; Kent, 1976). Thus, it is likely that this seg-
ment of the population is "over-sampled" relative to other
socioeconomic segments. Studies drawing cases more from the
private sector have found abusing families from all economic
levels (Steele & Pollock, 1968).

On the other hand, families seen at the National Center in
Denver, our richest source of data about the psychology of
abuse, may represent an under-sample from lower socioeconomic
groups. The hospital to which the National Center is attached
is a University Medical Center and not the major hospital for
the medically indigent in Denver. Further, a review of studies
which have attempted to elucidate the psychopathology of child
abuse indicates that there is no particular psychiatric dis-
order that is common to all or most abusive parents (Spinetta
& Rigler, 1972).

One inference that could be made from all of this is that the
importance of various psychological factors relative to various
sociological factors is different from case to case. There may
be not one but several etiologies underlying the phenomenon of
child abuse. If that is so, then what is needed is a multi-
etiologic model which incorporates both psychological and
sociological factors. This paper will present data in support
of such a model.

As a working hypothesis, we assume that there are natural
groupings of abuse cases that are sufficiently different from
one another in etiology to be identified as types. The litera-
ture bears support for this hypothesis, but to date only rudi-
mentary attempts have been made to classify physical abuse
cases.

Merrill (1962), Delsordo (1963), Zalba (1966), and Boisvert
(1972) have each attempted to develop a typology of abusing
families on the basis of the personality characteristics of

the abuser and, to a lesser extent, on the social and economic circumstances of the abusing family. The typologies were constructed from clinical impressions; no statistical methods were employed. The following table summarizes the typologies and shows the high degree of overlap among them.

Gil (1970) made the only other noteworthy attempt to construct a typology. He scored 1,380 cases collected nationwide in 1967 as to the presence or absence of 18 abuse circumstances or causes such as: "Inadequately controlled anger of perpetrator" and "Abuse developing out of a quarrel between caretakers." These binary responses were then subjected to factor analysis yielding seven principal factors which Gil then associated with an abuse typology. The categories as described by Gil are listed below: ...

1. Resentment and rejection of the child (common to both inflicted injury and neglect)
2. Angry and uncontrolled disciplinary response (common only to inflicted injury)
3. Male babysitter abuse (common to inflicted injury and sexual abuse)
4. Personality deviance and reality stress
5. Child-originated abuse
6. Female babysitter abuse
7. Caretaker quarrel

Cattell (1965) cogently discusses the serious ambiguities in factor interpretation in such an application of factor analysis. A different method of analysis was selected for the present study, a method which clusters families rather than variables. Study and analysis methods are described in the next section.

METHODS

Sample

The sample for this study consisted of 99 children who had been adjudicated by the Juvenile Court (Los Angeles County) as having suffered inflicted injuries. These children were a subsample of a larger group (219 children) representing about 25% of the inflicted injury cases under court jurisdiction at the time the sample was drawn (February, 1972). That sample was drawn by selecting every fourth case in each Department of Public Social Services region in Los Angeles County.-

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1. The larger sample was for a study that analyzed differences in families among various kinds of abuse--neglect, sexual abuse, and physical abuse. That study has been reported in another paper (Kent, 1976).

TABLE 1 — TYPOLOGIES OF CHILD ABUSE (Lamar, 1977)

CATEGORY

RESEARCHER	Hostile, aggressive parent	Rigid, compulsive parent	Passive, dependent parent	Physically disabled father
Merrill (1962)	Continuous and uncontrolled anger stems from parent's internal conflicts. Parent has childhood history of severe emotional rejection and deprivation.	Parents defend their right to punish their children whom they perceive responsible for the parents' trouble. Parents lack warmth and protectiveness toward their children and make excessive demands of them.	Parent is dependent, immature, and prone to depression. Within the family unit, the parent competes with the child for the love and attention of the spouse.	Fathers are out of work, frustrated, and responsible for the care of the child while the mothers work. They suffer loss of status as well as loss of physical abilities.

	Overflow abuse	Disciplinary abuse	Battered child	
Delsordo (1963)	Child abuse is rooted in an overflow of the parent's own frustration and irresponsibility. Abuse is repetitive, but not directed to any one child. The mother is most often the abuser and the father usually does not live in the home. Abuse is uncontrollable.	Parents are rigid, controlled, and unfeeling. They defend their right to discipline their child, (usually an adolescent), for failing to comply with their expectations. Often they are upstanding citizens. Abuse is controllable.	Severe abuse of infant is perpetrated by parent with high dependency needs who sees the child as a burden or competitor which has to be destroyed. Often, only one child in the family is abused. Abuse is uncontrollable.	

	Impulsively angry and abusive parent	Cold, compulsive disciplinarian parent	Depressive, passive-aggressive parent	Parent with identity/role crisis
Zalba (1966)	Abuse is an impulsive and unfettered expression of general rage and hostility, which is part of the parent's childhood-determined personality. There is no pattern to the abuse. Most often the mother is the abuser and the father does not live in the home. Abuse is uncontrollable.	Abuse is in reaction to the child's need for closeness and affection, and interest in body and sex. Parents have compulsively clean homes. They defend their right to punish their children. Abuse is controllable.	Abuse represents anger and resentment at having to meet the needs of others, and at inability to meet the role expectations of a caretaker. Often only one child is abused, who is seen as a competitor or burden to the dependent parent. Abuse is uncontrollable.	Abuse represents the father's displaced anger at loss of capability for previous role performance. The father stays with children while the mother works. Abuse is controllable.

	The inadequate personality	Cold, compulsive disciplinarian	The passive-aggressive personality	
Merrill (1972)	Same as Delsordo category, "Overflow abuse" with the added observation that neglect as well as abuse is characteristic of family.	Same as Delsordo category, "Disciplinary abuse"	Same as Delsordo category, "Battered child".	

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RESEARCHER

Merrill
(1962)

Delsordo
(1963)

Misplaced abuse

Abuse is due to misplaced parental hostility which stems from marital conflict. The abuser is usually the father. The child abused is, generally, of illegitimate conception or birth, brain-damaged, or a a pawn in marital conflict. Abuse is controllable.

Mental illness

Abuse is unpredictable, but ritualistic rather than impulsive. No particular psychiatric diagnosis is made. Abuse is uncontrollable.

Zalba
(1967)

Impulsive, but generally otherwise, parent with marital conflict

Abuse is the result of marital conflict displaced onto the child. It is often limited to one child who is a pawn in the marital conflict or is illegitimate, etc. The father usually abuses. Abuse is controllable.

Psychotic parent

Abuse is unpredictable and ritualistic; it has idiosyncratic meaning related to the fantasies of the abuser. Abuse is uncontrollable.

Boisvert
(1972)

The displacement of aggression

Same as Delsordo category, "Misplaced Abuse" with the exception that the abuser is usually the mother.

The psychotic personality

Same as Delsordo category, "Mental Illness".

The sadistic personality

Parent has history of sadistic behavior and shows no anxiety or guilt for abuse. Often there are marital problems and alcoholism in family. Abuse is uncontrollable.

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The 99 children in the present sample represent all the children three years of age or younger. This age range was of particular interest to the investigators because the results of the analysis were to be applied to a hospital-based experimental program which includes mostly younger children. Moreover, a preliminary analysis of the data indicated that families where the abused child was less than three years old differed from families where the child was older on a substantial number of variables. Thus, the findings of this study are not proposed as having any generality beyond the age group studied.

Data Collection

Data was collected with a pre-coded survey questionnaire completed by each Department of Public Social Services (DPSS) worker who had a study family in her caseload. A total of 251 variables were included in the questionnaire. The questionnaires were completed from information gained from DPSS contacts with the family² and records of hospital, police, and court investigators. If the information requested was not available from these sources, the workers were asked to seek it directly from the families. Problems in coding were referred to regional supervisors and resolved at the level by members of the study team. The intensive investment of the DPSS workers in their own cases insured a low rate of "missing data" response and gave us confidence about the reliability of the data.

For each case, values for as many of the 251 variables as possible were obtained. The variables fell into nine broad categories:

1. the immediate circumstances of the incident
2. characteristics of the abused child prior to the incident
3. characteristics of the child's caretakers
4. characteristics of the child's home
5. the family's social and economic circumstances
6. the court disposition of the case
7. the child's placement history
8. the child's behavior and development following the incident
9. the parents' attitudes toward the placement and casework goals

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2. Each child taken under court jurisdiction is assigned a social worker by DPSS. This worker becomes responsible for supervising the welfare of the child in his placement (whether home or foster care) and makes regular visits to both the child and his parents.

With a sample size of only 99, it was clear that some way of
selecting a reduced set of variables was necessary before any
statistical analysis could be undertaken. One approach to the
problem of reducing the number of variables is to form combina-
tions of variables which are strongly related to one another
and to use these combined variables in the analysis. Factor
analysis is the most commonly used technique for this purpose.
The difficulty with such "factors" is that they are often diffi-
cult to interpret. We were interested in developing conceptual
models which might involve complex interconnections among
several variables. To lump together variables which co-varied
into a single bundle would be economical but might obscure these
relationships.

Retaining the variables in their original, more meaningful, form
made it necessary to select a small subset of the total 251.
These were selected on the basis of several criteria. First,
we wanted variables on which our 99 cases showed a small number
of missing values. Second, we wanted variables likely to be of
high reliability. Thus, for example, factual items tended to
be preferred to those requiring subjective judgments. Third,
we wanted variables likely to be of theoretical interest.
"Number of children in the home," for example, has more promise
than "length of residency in Los Angeles." Fourth, we wanted
variables which showed substantial variation in our sample.
Fifth, since we were interested in understanding the etiology
of child abuse, only background variables describing the child
and family's circumstances at the time of the abuse were selec-
ted. The variables were examined on the basis of these criteria,
and a set of 40 selected for the main statistical analysis.

Without theoretical guidelines, we were forced to adopt an
empirical approach to the development of the types. We decided
to let the data itself suggest natural groupings of cases. As
mentioned above, cases sharing a similar causal mechanism could
be expected to have similar values on many of our 40 variables.
Cluster analysis is a statistical technique for dividing a
sample into subgroups or clusters which are themselves rela-
tively homogeneous but which differ from other clusters. That
is, cases in the same cluster would tend to have similar values
on many variables, while those in different clusters would dis-
play different patterns of values.

We decided to select clusters on entirely empirical grounds
and then to look at the values of variables used to form the
clusters and other variables in order to interpret the results.
Such an analysis is exploratory, and we were not particularly
optimistic that clearly interpretable patterns would emerge.
On the other hand, if such patterns did emerge, they would not
be the result of our preconceptions and might at a minimum pro-
vide useful working hypotheses for possible future corrobora-
tion.

We chose a type of cluster analysis known as hierarchical nearest-neighbor clustering. The method can be described in terms of three steps: defining a similarity measure, generating a hierarchical clustering of the cases, and selecting the final number of clusters.

We wanted the "similarity" between any two cases to be a measure of the degree to which the cases tended to have the same values on many of the variables. We selected the product-moment correlation between cases over the 40 variables. That is, we treated the 40 values corresponding to each case as if they were 40 observations of a random variable and calculated the correlation between each pair of these "variables" using the standard formula. This "reverse correlation" (the usual roles of variables and individuals are reversed) is a particularly good measure of similarity when many of the variables are dichotomous or take on a few values at most, which is true of nearly all our variables.

The second step in the analysis involved carrying out the nearest neighbor algorithm. The basic idea of the algorithm is to start with 99 separate cases and successively aggregate to form sets of smaller numbers of larger clusters.

More specifically, starting with 99 separate clusters, the computer finds the two "closest" on the basis of our similarity measure and joins them together to form a cluster of size 2. Thus, at level 2 of the hierarchy of clusters, we have 98 clusters. The next step involves again joining the two nearest "neighbors" unless there is a third case closer to both those in cluster 2 than are any other two cases. Thus, at level 3 we have 98 clusters—either 2 of size 2 and 95 of size 1, or 1 of size 3 and 96 of size 1. The process continues, always combining the nearest two clusters at level k to form one cluster at level k + 1. The similarity of two clusters is defined as the minimum similarity between any case in one cluster and any in the other. This process is called hierarchical clustering because it generates a hierarchy of levels of clusters at any lower level.

Having generated 99 sets of clusters, we are left with the question of which, if any, seems to represent a natural grouping of cases on which to carry out further analysis. Clearly, a small number of large clusters would be more manageable and more suitable for statistical analysis. On the other hand, each amalgamation of clusters into larger ones reduces the homogeneity of the clusters.

Fortunately, the clustering algorithm provides a useful measure to assist us in determining how many clusters to use. As described above, the algorithm always combines clusters in such a way as to maximize the minimum within-cluster similarity. This minimum within-cluster similarity provides a measure of the homogeneity of clusters. While this measure must necessari-

increase more than others. An unusually large jump may be a signal that two basically dissimilar clusters are being forced together. Thus, these increases provide useful information on which levels appear to represent the most natural groupings.

Carrying out the analysis described above on our 99 cases of child abuse resulted in two sets of clusters which appeared promising: one containing three and the other four clusters. For each of these clusters, the mean value (or percentage if appropriate) was calculated for each of the 40 background variables. In the course of attempting to interpret these clusters, it became clear that the four clusters had to be retained.

RESULTS

In this section, we describe in detail the results of the cluster analysis. We begin with the presentation of a set of tables portraying the means (or proportions) on a large number of variables for each of the clusters. These tables include all variables showing substantial differences among clusters, including 21 of the 40 variables used in deriving the clusters. Table 2 presents variables which describe the incident. Table 3 displays characteristics of the abused child just prior to the incident; Tables 4 and 5 characteristics of the mother and father, respectively. Table 6 presents variables describing the family situation. Finally, Table 7 presents data on several outcome variables describing the child and family at the time of follow-up.

Following the tables, we present straightforward verbal descriptions of each of the four clusters. These enable the reader to obtain a feel for the patterns in the data without being overwhelmed by masses of statistics. An attempt has been made not to go beyond the facts in these descriptions, but some interpretation is inevitable, if only through selection and emphasis. This is why we have presented the tables first, allowing the reader to form his own impressions. An interpretation of the results is offered in the discussion section.

TABLE 2   The Incident[1]

Variable	Cluster			
	1	2	3	4
* 1) Length of Hospitalization[2]	6.79	.79	2.87	1.24
* 2) Permanent Impairment[3]	2.21	1.32	1.53	1.35
* 3) Other Victim[4]	.73	.50	.46	.50
4) Previous Victim[5]	.16	.16	.07	.34
* 5) Biological Mother Responsible	.36	.38	.17	.56
* 6) Biological Father Responsible	.43	.38	.50	.13
7) Step Father Responsible	.07	.14	.25	.03
8) Other Resident Responsible	.07	.10	.00	.21
9) Arrest Resulting From Incident	.44	.77	.50	.55
Cluster Size	19	25	15	40

* Variable used in cluster analysis

1. All scores represent proportions of those for whom information was available except for variables 1 and 2.

2. In weeks, with "7 or more" as highest category. Thus, this variable may be an underestimate, particularly for cluster 1.

3. 1 = No permanent impairment
   2 = Uncertain
   3 = Definite permanent impairment

4. Proportion of cases in which another child in the same family was known to be a victim of abuse or neglect.

5. Proportion of cases in which this child had previously been

TABLE 3   Child Prior to Incident[1]

Variable	Cluster			
	1	2	3	4
* 1) Mean age (years)	1.03	1.46	1.30	1.40
2) Sex[2]	.53	.24	.47	.43
3) Full Term	.95	.82	1.00	.88
4) Birth Complications	.28	.20	.15	.11
* 5) Irritable, active[3]	.06	.47	.58	.21
* 6) Disobedient[3]	.06	.20	.36	.14
* 7) Abnormal Growth[3] or Development	.11	.14	.39	.14
8) Feeding Problems	.27	.33	.40	.07
* 9) Passive, unresponsive[3]	.39	.05	.27	.06
10) Youngest in family	.60	.55	.39	.67
Cluster Size	19	25	15	40

* Variable used in cluster analysis

1. All scores represent proportions of those for whom information was available except for variable 1.

2. Proportion female.

3. As reported by a parent.

TABLE 4   Mother Prior to Incident[1,2]

Variable	Cluster			
	1	2	3	4
* 1) Age[3]	22.0	25.6	21.7	21.7
2) Education[4]	10.7	11.5	10.7	9.5
3) White	.21	.72	.47	.50
4) Black	.37	.04	.27	.25
5) Mexican-American	.21	.20	.27	.23
6) Employment Level[5]	.58	.62	.00	.05
7) Occupational Level[6]	.67	.68	.00	.08
8) Length of Residency[7] in Los Angeles (years)	9.00	13.00	1.00	8.00
* 9) Severely Disciplined as a Child	.13	.31	.25	.56
*10) Neglected as a Child	.18	.25	.13	.56
11) Excessive Use of Alcohol and/or Drugs	.05	.38	.13	.45
*12) Arrest Record[8]	1.17	1.81	1.36	1.64
*13) Married	.53	.60	.60	.36
14) Living Alone	.26	.04	.00	.30
Cluster Size	19	25	15	40

* Variable used in cluster analysis

1. All scores represent proportions of those for whom information was available, except for variables 1,2,6,7,8,12.

2. Mother is here defined as the person living with the child and functioning as maternal parent at time of incident.

3. Since age was coded in categories, this represents an

TABLE 4   (Continued)

4. In years, but since education was coded in categories, this
    represents an approximation.

5. 0 = Unemployed
    1 = Part time
    2 = Full time

6. Reversed Hollingshead Scale

7. Since length of residency was coded in categories, this
    represents an approximation.

8. 1 = No arrest
    2 = Arrested as minor only
    3 = Arrested as adult only
    4 = Arrested as minor and adult

<u>TABLE 5</u>   Father Prior to Incident[1,2]

Variable	Cluster			
	1	2	3	4
1) Age[3]	24.7	28.0	26.2	24.8
2) Education[4]	11.3	11.3	9.0	11.0
3) White	.31	.71	.40	.50
4) Black	.38	.08	.27	.23
5) Mexican-American	.19	.17	.33	.20
* 6) Employment Level[5]	1.14	1.41	1.21	.96
* 7) Occupational Level[6]	1.15	1.41	.36	.62
8) Length of Residency in Los Angeles (years)[7]	9.00	15.+	1.00	8.00
9) Severely Disciplined as a Child	.30	.33	.33	.30
10) Neglected as a Child	.27	.29	.50	.50
11) Excessive Use of Alcohol and/or Drugs	.25	.45	.50	.73
*12) Arrest Record[8]	1.83	2.25	1.80	2.55
Cluster Size	19	25	15	40

* Variable used in cluster analysis

1. All scores represent proportions of those for whom information was available, except for variables 1,2,6,7,8,12.

2. Father is here defined as the person living with the child and functioning as paternal parent at time of incident.

3. Since age was coded in categories, this represents an approximation.

4. In years, but since education was coded in categories, this represents an approximation.

TABLE 5   (Continued)

5. 0 = Unemployed
    1 = Part time
    2 = Full time

6. Reversed Hollingshead Scale

7. Since length of residency was coded in categories, this
    represents an approximation.

8. 1 = No arrest
    2 = Arrested as minor only
    3 = Arrested as adult only
    4 = Arrested as minor and adult

TABLE 6   The Family[1]

Variable	Cluster			
	1	2	3	4
* 1) Known to Service Agency	.68	.44	.87	.82
* 2) Number of Children	2.16	1.92	2.13	2.03
3) Biological Father in Home	.47	.68	.67	.38
4) Home Repair/Cleanliness[2]	3.25	2.83	2.83	2.22
* 5) Income per Member per Month ($)	55.00	123.00	38.00	33.00
6) Telephone in Home	.53	.56	.50	.36
7) Own Automobile	.53	.85	.58	.45
Cluster Size	19	25	15	40

* Variable used in cluster analysis

1. All scores represent proportions of those for whom information was available, except for variables 2 and 4.

2. 1 = Far below average
    2 = Slightly below average
    3 = Average
    4 = Above average
    5 = Far above average

TABLE 7   Follow-Up[1]

Variable	Cluster			
	1	2	3	4
Child				
1) Emotional withdrawal	.36	.16	.08	.13
2) Developmental lags--motor skills	.53	.09	.36	.11
3) Developmental lags--language skills	.57	.10	.36	.24
4) Developmental lags--living skills	.54	.00	.30	.05
5) Illness[2]	2.53	1.96	1.80	1.85
6) Back in home	.32	.20	.20	.15
Parents				
7) Initially accepted court decision	.42	.60	.50	.80
8) Now accept court decision	.78	.86	.58	.87
9) Frequency of visits[3] to child (if in foster care)	2.33	2.37	1.30	2.00
Cluster Size	19	25	15	40

1. All scores represent proportions of those for whom information was available, except for variables 5 and 9.

2. 1 = No known illness
   2 = Occasional routine illness
   3 = Frequent illness
   4 = Chronic medical problems

3. 0 = Never
   1 = 1/year
   2 = 2-4/year
   3 = 12/year
   4 = 26/year
   5 = 52/year

Cluster 1

Cluster 1 included all the cases in our sample of the most
severe abuse. The abused child spent an average of seven weeks
in the hospital and, in many cases, suffered permanent impair-
ment.

The biological mother or father most often was responsible for
the incident; this cluster was uniquely low in incidence of
abuse by a stepfather or other resident. Despite the severity
of the abuse, the rate of arrests resulting from the incident
was the lowest for all clusters.

The children in this cluster were 12 months old, on the
average, and were usually the last born in a family with two
children. The cluster had by far the lowest percentage of
reported abuse of another child in the family.

An outstanding characteristic of the children in this cluster
was the fact that many were perceived by their parents as pas-
sive and unresponsive. Almost none of the children, however,
were perceived by the parents to be abnormal in growth and
development.

These children came from families which were free of most of
the problems that are usually associated with child abuse.
There was very little abuse or neglect in the childhood history
of the mother. There was somewhat more in the history of the
father, but still less than for fathers in any of the other
clusters. The family had a low income, but it is the second
highest among the clusters in our sample. The rate of unem-
ployment was relatively low for the fathers, and many mothers
also worked part-time.

The parents had the second highest educational level among the
four clusters: the mothers had a tenth grade education; the
fathers had an eleventh grade education. (On the average,
neither of the parents in any cluster had completed high
school.)

The mothers and fathers in Cluster 1 were on the average 22
and 25 years old, respectively. Most were from Black and
Mexican-American backgrounds. They resided in Los Angeles for
an average of nine years and had a very high incidence of sup-
port from family relatives. The parents kept their homes in
good repair, rarely used drugs or alcohol to excess, and had
little history of arrests.

The description of the families in Cluster 1 would not lead one
to expect child abuse. We are presented with a paradox: Those
families who least fit the stereotype of the abusing family
are the families in which the most severe abuse occurs.

Cluster 2

In Cluster 2 families, child abuse was, by far, the least severe in our sample. The average length of hospitalization was less than six days, and there was almost no evidence of permanent impairment. The child had not often been a previous victim of abuse, but in one-half of the cases, a sibling was known also to have been a victim of abuse or neglect.

The biological mother and father were responsible equally often for the incident of abuse. In 24% of the cases, the stepfather or another resident was the perpetrator. Despite the relatively unsevere nature of the abuse, the rate of arrest resulting from abuse in this cluster was outstandingly high (77%).

Unique to this cluster is the high percentage of male children abused (76%). The average age of the children was 18 months old, which is the highest for all clusters. The parents tended to perceive the abused child as disobedient, irritable, and active.

The age of the parents was the highest for all clusters: the fathers were 28 years old and the mothers 25 years old. Typically, the parents were white, lower middle class, with by far the highest income and highest employment level of all clusters. Often the mothers worked part-time. Almost none of the mothers lived alone with their children.

The parents had been long-time residents of Los Angeles. Both mothers and fathers had an eleventh grade education and also had similar childhood histories of severe discipline and neglect Such experiences were reported in about one-third of these families.

Alcohol or drug abuse was reported for 45% of the fathers and 39% of the mothers. Of the parents in all clusters, the parents in Cluster 2 were the most similar in background, age, and habits.

Cluster 3

Fathers or step-fathers were the predominant abusers in this cluster. In only 17% of the cases was the mother responsible for the abuse, and in no case was another resident in the home responsible. Arrest resulted from the incident in half of the cases.

In Cluster 3, the abuse was relatively severe. The children were hospitalized for an average of nearly three weeks, and in some cases, there was permanent impairment. Very rarely was the abused child a previous victim of abuse. However, in nearly half the cases, another child in the same family was known to be a victim of abuse or neglect.

The average age of the abused children was about 16 months.
The children were perceived by the parents to be troublesome
with regard to every variable. Frequently they were reported
as irritable and active and disobedient. In other cases, the
children were perceived by the parents as passive and unrespon-
sive. Feeding problems were commonly listed. Further, the
children were perceived as abnormal in growth and development,
although they were all born full-term with a low rate of birth
complications.

The families in this cluster were among the poorest economical-
ly in our sample. The fathers were rarely unemployed but worked
at the lowest occupational level. The mothers did not work at
all. The fathers had less than an eighth grade education,
while the mothers had a tenth grade level of education.

The families at the time of the abuse were new to the Los
Angeles area. One-third of them were Mexican-American. Most
of them were known to the local welfare agency.

A very high percentage of the fathers had suffered severe dis-
cipline or neglect in their childhood. By contrast, few of the
mothers had a childhood history of abuse or neglect. The
mothers were about 22 years of age, which was, on the average,
five years younger than the father's age. In none of the cases
did the mothers live alone with the children.

Cluster 4

In Cluster 4 the abuse was the second least severe among the
clusters. The children were hospitalized for eight days, and
there was little evidence of permanent impairment. However,
34% of the children had been previously abused--by far the
highest percentage among all the clusters. In 50% of the
cases, a sibling of the child had also been abused or neglected.

Mothers were responsible for the abuse in the majority of the
cases in Cluster 4. The incidence of abusing mothers was much
higher in this cluster than in any other. This cluster is also
unique in its relatively high incidence (21%) of abuse by a
"non-parent" resident in the home. Biological fathers or step-
fathers were not often responsible for the incident. Arrests
resulted from the incident in 55% of the cases.

The children were not perceived by the parents as very trouble-
some and had by far the lowest proportion of feeding problems.
The average age of the child was 17 months; in two-thirds of
the cases, the child was the youngest in the family.

Cluster 4 includes 40% of our sample, and in many ways fits
the description of the circumstances of child abuse typically
found in the literature. Thirty percent of the mothers lived
alone with their children. Only 36% of the mothers were mar-
ried, a much lower percentage than in other clusters. Also,
families in this cluster had the lowest support due to the

relatives.

Income per family member is extremely low. Only 35% of the
households have telephones. The fathers had a tenth grade
education, were at a low occupational level and often unem-
ployed. The mothers had an eighth grade education and were
unemployed. The families were usually known to a welfare agen-
cy.

The mothers were about 22 years old, on the average, and the
fathers 25 years old. Both mothers and fathers had the highest
incidence of excessive use of alcohol or drugs among all the
clusters. Seventy-three percent of the fathers abused alcohol
or drugs, and their rate of previous arrest was the highest
among the clusters. The mothers had the second highest record
of arrest. Half of the families were white and half were
Black and Mexican-American.

Both parents had a very high incidence of abuse and neglect in
their childhood history. This is the only cluster in which
mothers were more often abused or neglected in their childhood
than were fathers. The percentage of mothers in this cluster
previously abused and/or neglected is more than twice the next
highest percentage for mothers in any other cluster.

DISCUSSION

As mentioned above, the main purpose of the cluster analysis
was to elucidate patterns of family functioning which might be
related to the occurrence of child abuse. It was our view that
if strong patterns existed, they would be reflected by the
values of many variables, but the individual variables would
not be of primary interest. Rather, they would reflect an
underlying gestalt which would characterize the relevant as-
pects of the family situation. In this section we present our
interpretations of the gestalt which characterizes the cases
in each of our clusters.

These interpretations are offered with considerable tentative-
ness at this point in our work. Data from about 40 more
families will soon be available that include results of an
extensive battery of psychological tests and additional infor-
mation obtained from clinical treatment of the families. These
families will then be added to the 99 from this sample, and the
total group will next be reclustered. The additional clinical
and test data available for some of the families will provide
important guidelines for interpretation as well as a partial
test of validation of the original four clusters.

A second caution that must be noted concerns a technical prob-
lem in cluster analysis. Variables which can take on a greater
range of values than other variables may play a disproportionate
role in determining cluster structure. The variables which make
up the clusters described here do vary in the range of values

with this data set that if all the variables are "unitized" to
the same scale and then reclustered that we will arrive at an
array that suggests there are nine rather than four clusters in
the data. These nine clusters are each statistically more
homogeneous than the four cluster array, but they are also less
interpretable from a clinical point of view.

In the trade-off between clinical clarity vs. statistical
clarity, we have opted at this point for clinical clarity. The
gestalts in the four cluster array have proven to be easily
recognizable by people with clinical experience with abusive
families. It is our belief that the nine cluster array repre-
sents more discrete subcategories of a larger set of categories
that is approximated by the four cluster array. Preliminary
examination of the data supports this belief, but the number
of variables and families is too small to support finer dis-
criminations. We expect that the next analysis, with more
families and more information on one-third of the families, will
provide justification for such a classification, i.e., generic
categories with subtypes. For the purposes of the present
paper, we will stay with the larger and more interpretable
generic categories.

Cluster 1: "Flashpoint"

We are at first led to posit the occurrence of an external
precipitating crisis in order to explain the abuse in Cluster 1
families, which appears as an isolated incident of extreme
severity. Except for the high percentage of mothers living
alone with their children, we find no indicators that would
typically lead one to predict abuse in such a family. One
hypothesis, then, is that the abuse is the result of an abrupt
change in the family equilibrium, some event experienced as a
crisis which precipitates an assault on the child.

The severity of abuse, coupled with the young age of the child
(about 12 months is the average), also suggest that the abuser
is a more seriously disturbed person. A serious assault on an
infant would seem to indicate a capacity for elaborate pro-
jection or over-symbolization of experience coupled with
erratic impulse control and a ready reservoir of intense anger.
The fact that there are no other gross signs of maladjustment
in the family suggest that these are families which would
function adequately within a narrowly prescribed routine but
which lack the emotional resources to adapt to changes in that
routine.

There are some clues to the elements of the crises in these
families. One clue is the high percentage of birth complica-
tions and children reported as passive and unresponsive. The
abused child may in fact be atypical in his development and
less adaptable to family routine. He may also cry more and
in general respond unpredictably to parental caretaking efforts.
In any event, the low incidence of those with siblings in this

cluster indicates that the abused child manifested character-
istics experienced as particularly abrasive to the abusing
parent and probably at a time when the parent was most prone
to project special meaning to the behavior (e.g., rejection of
the parent's concerns and efforts).

Another clue to the elements of a crisis is the relatively
large percentage of mothers who were living alone, compared to
Clusters 2 and 3, even though the incidence of marriage in
those clusters is about the same as it is in Cluster 1. This
suggests recent separations as a source of conflict. In that
case the abused child, who is predominately the last born
child, may possibly be viewed as an unwelcome reminder of a
time of emotional turmoil and even possibly as the reason for
the turmoil.

Especially interesting is the fact that although the biological
father was in the home in only 47% of the cases, he was respon-
sible for 43% of the abuse incidents. It appears that he is a
particularly lethal agent in this cluster, and possibly the
person who is suffering from a more serious emotional dis-
ability. That conjecture, however, must be tempered by the
high percentage of abusing biological mothers in the cluster.

We would speculate that both parents are intensely ambivalent
about the abused child and that a family crisis tips the ambi-
valence abruptly. If the father is present in the home, he
will act out the crisis against the child with the covert per-
mission of the mother. If he is not in the home, the mother is
not afforded the safety valve of identifying with his aggres-
sion, and acts out the abuse herself.

Most impressive about the families in Cluster 1 is that in the
absence of obvious problems that would alert one to look for
abuse, the most severe abuse occurs. They maintained their
home in good repair, were long-term residents in the area, did
not abuse alcohol or drugs, in general did not have a history
of abuse or neglect in their own childhoods, and had extended
family support. We speculate from this that one or both of the
parents has a fragile emotional adjustment which is quickly
fractured under the stress of a family or personal crisis. A
child may become the target of an aggressive and panicky attempt
to discharge anxiety and re-establish an equilibrium.

Cluster 2: "Spare the Rod..."

We hypothesize that the abuse characteristic of Cluster 2
families is punitive in nature, intended not to harm the child,
but rather to correct its behavior. It appears that abuse by
parents is an expression of stern, disciplinary style of child-
rearing--a style to which they themselves were subjected in
their youth. The fact that these children at follow-up showed
by far the lowest incidence of developmental delays suggest
that the physical abuse is not an indication of a breakdown in

approach to parenting. Such a mode of childrearing is toward
the extreme of a continuum with respect to the amount of physi-
cal punishment considered necessary and proper.

We explain the high arrest rate for the abuse as resulting from
the parents' open admission of responsibility for the act, based
on feelings of being justified in their behavior. The abuse
incident itself probably stems from a normal act of punishment
which has accidentally resulted in more harm to the child than
the parents anticipated.

Although the parents report the child to be irritable and
active and/or disobedient, the abuse appears to stem not from
the parents' attitudes toward the abused child, but from the
parents' attitudes toward childrearing. There is no evidence
of scapegoating. The abused child was not often previously
abused, and very often the other children in the family were
also abused. We might speculate that the percentage of siblings
abused would be still higher if the parents used physical
punishment with girls as often as they did boys. The low per-
centage of girls abused may be related to a stereotype of male
children as more disobedient and rowdy than girls and, there-
fore, more in need of correction.

The description of Cluster 2 families is characteristic of many
abusing families reported in the literature. In addition, we
find that the parents are very similar to each other in back-
ground and habits. The home appears very stable. In the
absence of intervention, we would expect abuse in such families
to be chronic, but not severe.

Cluster 3: "You Asked for It..."

In Cluster 3 we see a different type of family pattern in which
the stressed father dominates and the mother is unable to inter-
fere to protect the child. We hypothesize that the father has
an exaggerated sense of what is a threat to his authority;
further, he feels both frustrated from his very low work status
and income, and personally threatened that he cannot fulfill
the role of provider to the family.

The abuse could occur, then, as a result of the father's per-
sonal frustrations stemming from his low income and occupational
level. His feelings of inadequacy could be exacerbated by
defiant behavior from the children, who then become the speci-
fic targets for a more generalized frustration.

There is a high percentage of Mexican-American families in this
cluster. These families may have been recent immigrants to the
United States, which would explain the short length of residence
in Los Angeles typical of this cluster. A recent move to a new
city would also account for the relatively low incidence of
support from family relatives. An immigrant father may feel
that by moving to the U.S. he has personally suffered a loss of

relative status in the U.S. than in Mexico.

In Cluster 3 families, the mother is much younger than the father and does not work outside the home. These circumstances might suggest that the father desires to dominate the family. Since many of the families are Mexican-American, this situation may also be related to cultural influences.

Finally, we note the extremely high incidence of reports by a parent of troublesome or irritating behavior by the child. If it is the father whose perceptions are reflected by these reports, we might expect that he rationalizes his anger toward the child by seeing it as deserving of punishment.

Cluster 4: "Who Needs It?"

The abuse in Cluster 4 is perpetrated, for the most part, by a mother whose style of life is unstable in many ways. The child abuse appears to be an extension of the abuse pervasive in the mother's life. The mother suffered abuse or neglect, or both, in her childhood, and has a history of arrests and of drug and alcohol abuse.

Most of the mothers are unmarried and many live alone. We hypothesize that the mother lives temporarily with a succession of men and has difficulty forming stable relationships.

The high rate of child abuse by another resident in the home (who is not the father or step-father) leads us to suspect that the mother lives with abusive men with whom she may herself be at risk of physical abuse. It also suggests that she is willing to engage in relationships which are destructive to her children in return for having some of her own needs met. This desperate and needy approach to relationships is likely to attract exploitive men. It is also likely to create situations in which children are seen as interfering with primary needs for gratification.

The fact that the abused child tends to be the youngest in the family and often a victim of previous abuse indicates that infant nurturance is not an important source of gratification to the mothers. This is not surprising given the high incidence of abuse and neglect in the history of the mothers. The demand to provide for her children what she needed herself and never received is likely to be met with resentment. The dependence of younger children in such circumstances is also more likely to be seen as a hindrance to forming other relationships.

The personal troubles of the fathers in Cluster 4 homes are also tremendous. In terms of childhood history of abuse and neglect, unemployment, record of arrests, and current abuse of alcohol and drugs, the father's stresses appear even greater than those of fathers in Cluster 3. These seem to be men who have failed at meeting the demands of conventional society and,

way is most immediately expedient. They also appear to be men
who need to bolster their confidence by exploiting others.

We hypothesize that child abuse in these families occurs in two
ways: (1) when the mother perpetrates the abuse, it is out of
frustration with the dependency needs of the child which inter-
fere with her own; (2) when another person is the perpetrator,
it is a boyfriend who sees the child as interfering with his
needs for gratification.

The fact that the incidence of neglect and abuse is outstanding-
ly high for parents in this cluster raises frightening implica-
tions for the children they abuse. This cluster, more than any
other, may illustrate the common assertion that children who
are abused are prone to become child-abusing parents.

CONCLUSION

The results of this data analysis support the hypothesis that
child abuse can be viewed as the product of an interaction be-
tween psychological and environmental factors with differential
weighting of these factors across cases. Moreover, cases tend
to sort themselves into clusters or groups which are clinically
coherent, suggesting the need to view child abuse as the common
endpoint of various etiological pathways.

.This view has implications for clinical practice, research,
and social policy. With regard to clinical practice, it would
suggest that an adequate typology of abusing families would
permit earlier and more effective allocation of scarce profes-
sional resources. Our interpretation of Cluster 1, for in-
stance, implies the need for psychotherapy as the primary
intervention. The abuse in that cluster appears to be the
result of severe individual psychopathology and/or interpersonal
conflict. Clinical experience indicates that abusers in this
group tend to be rather rigid, untrusting persons who have
difficulty expressing anger except in erratic and sometimes
violent episodes, and then often toward inappropriate targets.
A crying, "demanding" baby can act as the trigger which re-
leases pent-up anger generated from many other sources.³

Cluster 2 families in our interpretation would benefit most
readily from concrete help in learning to use and trust al-
ternative modes of discipline and socialization. These parents
appear to be less conflicted in their relationship to their

3. Clinical impressions and interpretation of the cluster data
   in this section are based on experiences with child abusing
   parents in the Family Development Project at Childrens
   Hospital of Los Angeles. They are offered here as examples
   which illustrate application of the clusters and not as
   proofs of cluster validity.

children and primarily concerned that they grow up to be responsible, law-abiding citizens. It is mostly from this group that we hear comments about the importance of learning right from wrong, respect for authority, and the supposed connection between permissive (i.e., indulgent) parenting and juvenile crime--all of these as justifications for harsh physical discipline of young children. It is not being suggested here that these parental attitudes are merely incidental overlays on otherwise healthy personality structures, but rather that the act of physical abuse itself can be refashioned into less injurious methods of discipline without major changes in personality.

Cluster 3 parents present a different picture. Here the major problem appears to be lack of economic security which erodes the self-confidence of the father and makes him more sensitive to any challenge to his familial authority. The intervention in this case may require, as in Cluster 2, help in managing the behavior of more assertive and active children without physically abusive methods. There is sometimes a tendency for parents in both groups (Clusters 2 and 3) to over-interpret the behavior of active children as willfully defiant and disruptive when in fact it is often just the expression of a behavioral style or "temperament" that has no particular motive or significant psychological content attached to it.

Cluster 4 parents, along with those in Cluster 1, present probably the greatest difficulties for intervention. As with Cluster 1, some kind of therapy is indicated. With Cluster 1 parents, the problem is to engage in psychotherapy a parent whose lack of trust and rigid personality structure present formidable barriers to an effective therapeutic alliance. In contrast, the parents in the fourth cluster tend to establish a therapeutic alliance rather quickly. They are often emotionally needy, somewhat passive, and ready to respond positively to a therapist who is perceived as supportive and more capable than they. The difficulty is that the response is based on a profound sense of personal inadequacy--possibly part of the heritage from the abuse and neglect they experienced as children. The response is thus an implicit demand that the therapist satisfy their emotional needs and take general responsibility for their lives. Mixed with the parents' feelings of inadequacy are feelings of resentment at always being in a helpless role. Authority figures will tend to elicit this response when perceived as demanding changes in behavior. The message, then, is frequently "Tell me what to do so I can defeat you by ignoring what you tell me."

These parents perhaps more than those in any other cluster need a "lay therapist" or "parent aide" as a critical adjunct to conventional therapy (Helfer & Kempe, 1968). This lay therapist can begin to bridge the gap between the parents' expectations and the kind of help formal therapy can actually provide. This bridge is critical if the parent is to stay motivated for therapy and free enough from fears that their

own needs will not be met to be able to provide nurturance
to their children.

These brief descriptions of differences in intervention pro-
grams implied by differences in cluster characteristics are
clearly oversimplified. They are offered here mainly as exam-
ples of how the development of clusters or "profiles" might
guide overall planning of resource allocation and to aid in
decisions on child placement.

In general, it is recognized that clinical decision making
cannot be based solely on generic categories. Categories
always tend to blur individual differences which are sometimes
vital to successful treatment. On the other hand, the use of
such categories does help to focus thinking and to set initial
treatment priorities.

This data analysis also has implications for research. The
major implication is that the search for differences between
abusive and nonabusive families has obscured important dif-
ferences among abusers. If data presented in this study were
collapsed across clusters into one group and compared to a group
of non-abusers, no doubt several differences would emerge.
Those differences would depend on the particular strategy em-
ployed in selecting a "control" group, but in general one would
expect that the abusing families, as a group, would tend to
look economically poorer, have younger parents (and more
single parents) with a greater incidence of abuse and neglect
in their backgrounds, have a higher incidence of alcohol and
drug abuse, have a higher incidence of birth complications,
etc.

These factors are theoretically interesting and many might
reliably discriminate abusing from non-abusing families. On
the other hand, these factors when listed all together would
also give a rather misleading picture of the "average" abusing
family. That picture would be composed of salient characteris-
tics from each of the clusters and accurately portray only a
tiny fraction of the real families in the sample. Inferences
about etiology based on that composite of factors could also
tend to be misleading in that the "average" abusing family
would be more of a statistical construct than an actual family.

The advantage of the cluster analysis performed on our data is
that it clusters families rather than variables, and differences
between families augment rather than diminish the discrimination
power of the analysis.

As an example, consider a comparison of the fathers in Clusters
3 and 4. By focusing on a cluster of family variables, we are
able to distinguish between fathers who appear similar in poor
employment history, childhood history of abuse and neglect,
and current history of drug and alcohol abuse, but who have
different likelihoods of perpetrating child abuse.

In Cluster 3, such fathers are married to relatively stable mothers. The apparent psychological make-up of the fathers ties them to their families, and they take out their aggressions at home, on the children, in an effort to assert themselves. In Cluster 4, most of the fathers are not married to the mothers, many mothers live alone, and the mothers have an even more abusive history than do the fathers. We expect, then, that mothers, being the more abused of the pair, would more often be the perpetrators of child abuse.

The point of this illustration is that background variables considered singly are not sufficient to explain or predict abuse, but when considered together and along with family interaction patterns, can provide a powerful tool of analysis.

Finally, the clusters also have implications for social policy. The term "battered child syndrome" was coined to dramatize the problem and increase the awareness of the professional and lay communities of its seriousness and prevalence. The term was most successful in doing just that. In the approximately 15 years that it has been in use, we have seen enormous increases in awareness, changes in legislation in all states, an acceleration of reporting rates, and, recently, significant involvement of the federal government in the funding of research and demonstration projects.

The effects of this activity have been for the most part beneficial. However, as reporting statutes have broadened, not only more but also more kinds of abuse are being reported. Most states, for instance, now include "emotional injury" as grounds for reporting, and a revised "model" child abuse reporting law now under review by HEW broadens considerably the categories of abuse that certain professionals would be required to report (including emotional abuse). In short, the "battered child syndrome" will likely represent a much smaller percentage of the total reported cases than was formerly the case.

The term, however, is still commonly used to characterize the entire spectrum of reported child abuse cases. Such a misrepresentation may have serious consequences. The term "battered child syndrome" conjures up the picture of a helpless infant being viciously (and sometimes murderously) assaulted by his caretakers. This picture dictates the need for an emergency mobilization of a full range of protective services, especially the police and courts, and in many areas (including Los Angeles), a heavy reliance on foster care homes to protect the infant from further assaults.

These "four-alarm" emergency procedures are appropriate and necessary in some cases. In many others, however, they may be a drastic overreaction which produces its own set of consequences. They may put the child at risk for deficit emotional development by indiscriminate and prolonged use of foster care

effective therapeutic program for the parents, thus putting
other children under their care at risk.

To differentiate the cases where removal of the child from his
home is indicated from cases where it is not is an enormously
difficult task. It involves clinical prediction from a
(typically) inadequate data base with risks attached to either
decision. The difficulty of the task, however, does not
change the fact that this decision is being made all the time
in juvenile courts all across the country.

It is clear that a greater understanding of the etiology of
child abuse is needed. Diagnosing a problem as child abuse is
only a first step in deciding what to do about it. Perhaps the
time has come to begin viewing child abuse less as a diagnosis
and more as a symptom. The "battered child syndrome" repre-
sents only a fraction of all cases. Other etiological sequences
must be identified, so that protective service responses can
be more precisely calibrated to the specific needs in each
situation.

REFERENCES

Boisvert, M. J. The battered child syndrome. Social Case-
    work, 53(8), 475-480 (1972).

Cattell, R. B. Factor analysis: An introduction to essentials.
    II. The role of factor analysis in research. Biometrics,
    21(2), 405-435 (1965).

Delsordo, J. D. Protective casework for abused children.
    Children, 10, 213-218 (1963).

Gil, D. F. Physical abuse of children: Findings and impli-
    cations of a nationwide survey. Pediatrics, 44(5)
    (Supplement), 857-864 (1969).

Gil, D. F. Violence Against Children, Harvard University
    Press, Cambridge, 1970.

Helfer, R. E., & Kempe, C. H. (Eds.). The Battered Child,
    University of Chicago Press, Chicago, 1968.

Kempe, C. H.; Silverman, F. N.; Steele, B. F.; Droegemueller,
    W.; & Silver, H. K. The battered-child syndrome.
    Journal of the American Medical Association, 181, 17-24
    (1962).

Kent, J. T. Follow-up study of abused children. Unpublished
    study, Department of Pediatrics, School of Medicine,
    University of Southern California, 1972.

Kent, J. T. Follow-up study of abused children. Journal of
    Pediatric Psychology, 4(2), 25-31 (1976).

Lamar, B. Profiles of child-abusing families. Unpublished
    doctoral dissertation, Harvard University, Cambridge,
    Massachusetts, 1977.

Light, R. J. A study of abused and neglected children in
    America: A study of alternative policies. Harvard
    Educational Review, 43(4), 556-559 (1973).

743

Merrill, E. J. Physical abuse of children: An agency study.
In V. DeFrancis (Ed.), Protecting The Battered Child.
American Humane Association, Denver, 1962.

Spinetta, J. J., & Rigler, D. The child-abusing parent: A
psychological review. Psychological Bulletin, 77(4),
296-304 (1972).

Steele, B. F., & Pollock, C. B. A psychiatric study of parents
who abuse infants and small children. In R. E. Helfer,
& C. H. Kempe (Eds.), The Battered Child. University of
Chicago Press, Chicago, 1968.

Zalba, S. R. The abused child: A survey of the problem.
Social Work, 11(4), 3-16 (1966).

END