

DEVELOPMENTAL SET AND CHILD ABUSE

by

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ABSTRACT

Child abuse has been studied for the past twenty years in an attempt to define it, delineate etiology and suggest treatment modalities. Inadequate methodological controls and therapeutic assumptions incestuously shared have resulted in a theory that defines parents as bad, sick or ignorant but definitely as the culprits. More recently, sociological explanations have been written to present a psychosocial model for abuse.

The purpose of this study was to explore whether a relationship exists between child abuse and a mother's knowledge of growth and development. Two groups of single parent, female-headed families were chosen in the community. Twenty-three mothers participated in a thirty card growth and development sort, derived by the author from a developmental profile by Alpern and Boll (1972), indicating their understanding of when a child could first perform the behavior. The mothers were also assigned a number on an abuse continuum. The resulting data and demographic information were correlated using a Spearman Rank Order Correlation Coefficient and Chi-Squared Contingency analysis at the 0.05 level of significance. No significant relationship was found between level of abuse or knowledge of growth and development. Some significant associations were found within the demographic characteristics, with implications for study of variable clusters.

(Thesis Chairman)

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CHAPTER I

INTRODUCTION

Child abuse began to be recognized and researched in the early 1960's after radiologists in the 1950's called attention to radiological evidence of trauma to children's bones of undiagnosed origin. In the twenty years since 'child battering' was coined, a great deal of literature has been written to detail characteristics of parents who abuse, the child-victim and societal norms for violence.

Research has focused on a variety of ways one could approach the problem of definition and explanation of abuse, using a variety of conceptual frameworks based on the researcher's professional orientation. The usual approach has been to label one or more factors as the guilty party or cause of abuse; then to suggest preventive and treatment principles based on the etiologic assumptions.

The most obvious and heavily researched culprit is the parent of the abused child, usually the mother. Reasons for abuse include: the parent has a pathological personality (sick); is malevolent (bad); or ignorant. The bad/sick interpretation has directed professionals with more or less success in treatment planning for the last twenty years.

This author has read many sources that stated as

theoretical and clinical truth that abusive parents expect a child to perform at a behavioral level too mature for the child's real abilities. These unrealistic expectations, it follows, cannot be met by the child and battering is the result. However, it has not been investigated whether growth and development knowledge is known or known differently to abusive and non-abusive parents - indeed, does anyone have innate knowledge of child rearing expectations?

The issue of parental ignorance was addressed in this study. While not discounting larger social problems and the influence a child has in his* own abuse, one could question how abusive parents learned to parent; are they less intelligent (or some other factor) than non-abusive parents, or do abusive parents "know" growth and development cognitively but block emotionally for psychodynamic reasons? Are abusive parents, in effect, more ignorant than non-abusive parents of norms in a child's growth and development?

The issue of which parent is the abuser was constrained by reality in this study as accessible subjects were mothers. It is recognized that significant male figures can enact a role of abuser, condoner or encourager of abuse, or by their absence potentiate environmental stresses. As male involvement is usual, even with single parent female-headed households, data were collected as to presence of a male figure. The significance of such male influence can only be speculated upon in this study.

*It is acknowledged by the author that his refers to male and female children.

There is difficulty in defining child abuse as no consensus has been reached in the literature. The manner in which the term is defined limits who is recognized, treated and studied. A definition would seem to include physical and emotional hurt of a child whether by acts of omission or commission. In this study on abuse, neglect, as a hurtful act of omission, is considered part of the abuse continuum.

PURPOSE

It is the purpose of this research paper to test the theoretical assumption that mothers who abuse, expect unrealistically mature behavior from their child(ren). If, in exploration, one finds parental ignorance can be correlated with abuse in child rearing, remediation is clear, inexpensive, and removes the onus from pathology.

STATEMENT OF THE PROBLEM

The problem to be studied is as follows: Is there a relationship between a mother's developmental set and child abuse? In the conceptual framework for this study, knowledge of growth and development is the mothers' developmental set.

HYPOTHESIS

The null hypothesis for this study is 'There is no significant relationship between a mother's developmental set and abuse of her child(ren)'.

SIGNIFICANCE OF THE STUDY

It is assumed abusive parents expect unrealistically mature behavior from their children. If this basic assumption can be challenged, one could speculate that more of the etiologic explanations are in need of examination and, possibly, refutation.

The question of why abusive parents expect behavior earlier needs clarification to support or refute present treatment rationale and modalities. If one assumes a parent abuses as a learned behavior, one could use cognitive information and behavior therapy to reduce child abuse. (Gilbert, 1976) If one conceptualizes abuse as evidence of societal decay, the intervention focus would be very different. The important factor to note is that researchers and health care workers do not know why, or even if, abusive parents expect mature behavior prematurely. However, treatment is based on such an assumption.

This is one example of how theory guides practice, has wide-teaching effects on families, and has never been empirically validated.

VARIABLES

The variables to be correlated are child abuse and developmental set.

Confounding variables, recognized as significant, were elicited on a data sheet. Mother's age, children's age and sex,

mother's level of education, whether or not a significant male is involved with the mother and children, and whether or not the mother is employed were included.

There are many other variables that may be influential such as quality of parenting, the abused child's developmental history in comparison with siblings, or supports for the family outside the home. This data is difficult to capture, but also beyond the scope of this study.

DEFINITIONS

Definitions of the key terms are as follows:

Developmental Set: as measured by the degree of disarray of scores for developmental set based on mothers sequencing growth and development items in stages perceived as appropriate for mastery by the child.

Child Abuse: as measured on an abuse continuum in the following order:

1. - Non-abusive mother
2. - At-risk of abuse mother
3. - Neglectful mother
4. - Suspected of abuse mother
5. - Known to abuse mother

LIMITATIONS

- 1) The sample was derived from two convenient population clusters.

- 2) Reliability may be limited by item ambiguity in the data collection instrument.
- 3) Measurement of the variable of abuse was limited due to mothers being assigned to an abuse continuum two months before data collection which does not take into account the dynamic nature of abuse.
- 4) The reality of time, energy and patient access (both numbers available and willing to participate) constrained the sample size of this study.

ASSUMPTIONS

- 1) Child abuse is a phenomenon with broad and numerous etiologic origins.
- 2) Child abuse includes emotional as well as physical hurt and deprivation.
- 3) Children and significant male figures have a degree of influence in a child abuse situation.
- 4) Mothers will report growth and development knowledge accurately as there is no gain or loss to self or child by manipulating the data collection instrument.

DESIGN AND METHODOLOGY

This is a correlational study involving nine mothers from a Daycare and fourteen mothers from a Project with measures made on the two variables of developmental set and level of

child abuse. Each mother that participated sorted thirty cards based on developmental items into age groups that they perceived appropriate for mastery by a child.

DATA ANALYSIS

Each of the sorted card decks was compared with an ideal literature sort. The resulting grid was surveyed for significant differences between each mother's sort and that expected for ideal knowledge. A composite number representing the degree of disarray was calculated. This distribution of disarray scores was correlated with the distribution of corresponding mother's positions on an abuse continuum. The results are presented graphically and the original hypothesis challenged using Spearman's Rank Order Correlation test at α level 0.05 and a two-tailed test. Relationships between developmental set and other demographic variables were tested by chi squared contingency analysis at α level 0.05.

DEVELOPMENT OF REMAINING CHAPTERS

The first chapter presented the purpose, the problem and its significance and a correlational hypothesis for this study. It further outlined the design and method of analysis conceptualized for this research.

There are four remaining chapters in this thesis. Chapter II contains a selected critical review of the relevant literature organized to substantiate the significance of this study. Chapter III outlines the research design including

methodology and pilot testing. Chapter IV presents the findings and data analysis including tables and graphs. Finally, the fifth chapter presents the conclusions and discusses the implications of the findings for nursing practice, research and education and outlines recommendations.

CHAPTER II

REVIEW AND CRITIQUE OF THE LITERATURE

Overview

Recent efforts on the part of social scientists, health care workers and educators attempted to define the phenomenon of child abuse, etiology, prevention and treatment. Contemporary authors were critical of the research methodology and the incestuous sharing of therapeutic assumptions in earlier articles. The resulting scope of literary material included documentation and speculation related to how society, the child, and parent interact to produce a phenomenon called 'child abuse'.

Without discounting the issues of society and the child's input, a parent-centered critique of the literature on why parents abuse was presented. The answer to the question of why parents abuse could be one or all of three possibilities: because the parent is sick, bad or ignorant. It was this author's intent to address the issue of possible ignorance on the part of abuse parents of reasonable child-rearing strategies in general and developmental norms in particular.

Definition

The issue of defining abuse has not been resolved. Most

authors choose a narrow definition using physical harm as a criterion and do not include the amorphous criterion of emotional abuse, (as in Elmer, 1967:1; Steinhauer et al., 1977:361).

As definition limits who is labeled, treated and researched, the dilemma continues. As Gelles (undated publication) outlines, there is a rounding error wherein "agencies are going to not only discover cases of child abuse, they are also going to have a number of false positives (cases labeled abuse which are not) and false negatives (cases not labeled abuse which are)." (17) The implications of these errors include wasted resources on families not in need of child abuse services and embarrassment for some other families at being falsely identified.

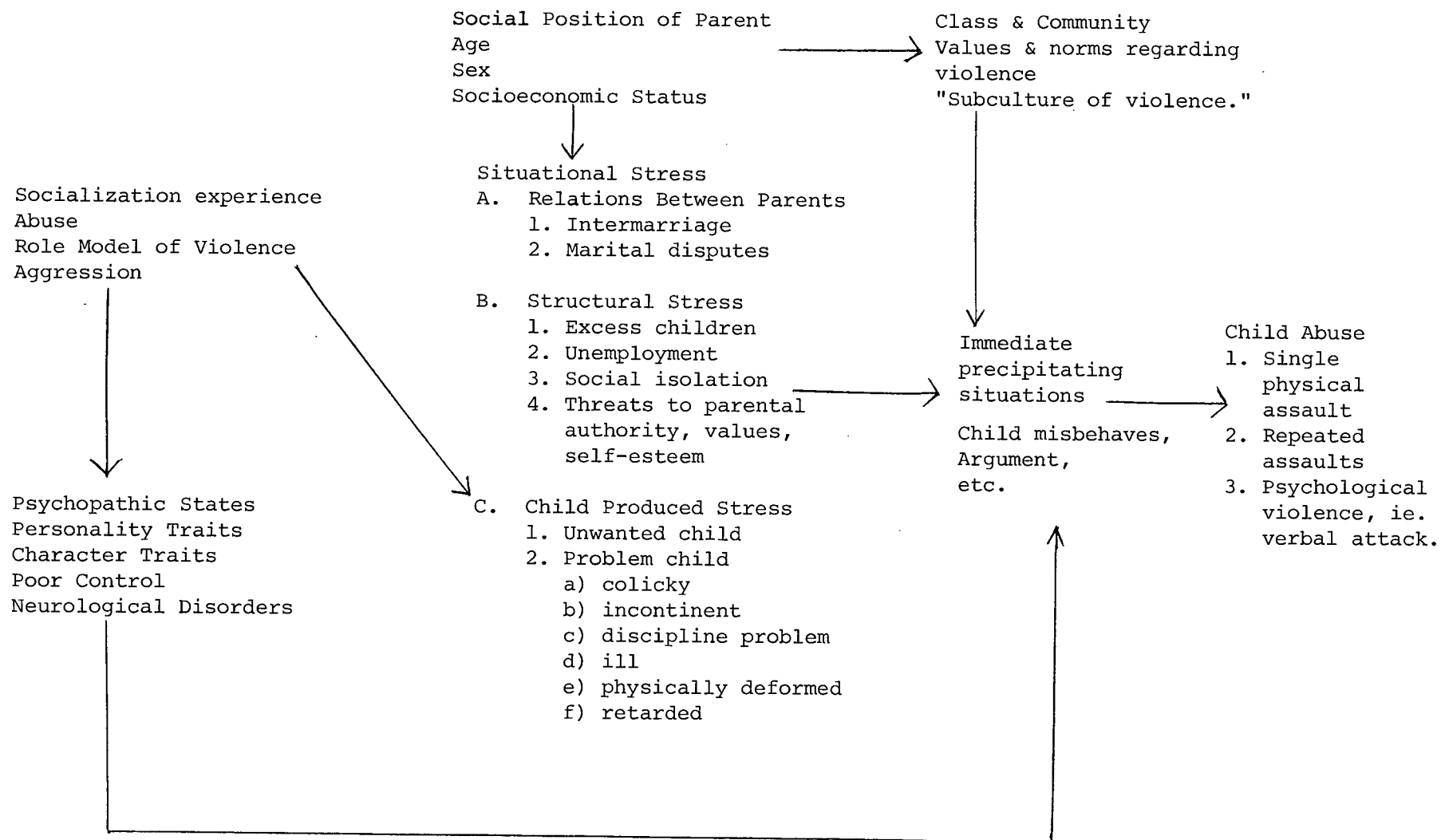
Society

Literature on society as a factor in child abuse will be discussed at this point. Articles vary in content from exhorting people to look at their own potential for violence (Wasserman, 1974) to documenting violence as part of everyday life. ("Indeed, most Americans see a moral obligation for parents to use physical punishment as a means of controlling children." Steinmetz et al., 1974:3.) This latter point was fully developed into sociocultural models to explain the forces involved in abuse. An important feature of these models is that predictions for abuse can be extrapolated with implications for culture, family, treatment agencies and government. Gelles (1973)

has prepared a social psychological model integrating both the intrapersonal and the societal causes of abuse. He is critical of intervention based on band-aids and blaming parents. The framework proposed can be demonstrated graphically. [111]

FIGURE 2.1

A SOCIAL-PSYCHOLOGICAL MODEL OF THE CAUSES OF CHILD ABUSE (Gelles, 1973:619)



David Gil, (1971) used a similar sociocultural perspective to list necessary changes in society as including education to remove physical force as a discipline measure, elimination of poverty, family planning programs including legal abortions, family life education for adolescents, and neighbourhood-based social services. (Gil, 1974:167-169). Gil (1971) used nation-wide surveys on child abuse, case studies and media surveys as data sources. However, these sources do not accurately represent the abusive versus non-abusive population.

The National Institute of Mental Health (1977) speaks to this basic methodological error. Research has tended to overrepresent low socioeconomic groups with low income, unemployment or low-skill jobs, female-headed single-parent households, young at time of marriage and birth of first child. These cohort characteristics tend to be seen as causal factors in abuse. The error occurs in that the research comparison groups are national averages instead of being from the general population of the low socioeconomic group. (131-136)

This error was well documented in a study by Paulson, et al., (1974). Four psychologists studied groups of parents using the M.M.P.I. (Minnesota Multiphasic Personality Inventory) as a tool and concluded there are differences in reference to interpersonal isolation and increased impulse potential between abusive and non-abusive parents. The problem was that the abusive parents were drawn from a Trauma Intervention Center

while the non-abusive were selected from a child psychiatry out-patient department. The groups were not matched socio-economically and are invalid for comparison.

Elanger (1974), researched the different social classes in their use of physical punishment and found that "variation within social classes (taking into account race, sex of the child and parent etc.) is at least as important as difference between classes". (8) This finding directed this investigator to not only have a similar socioeconomic level in a comparison group but also to elicit variables such as age, sex, education and employment of parents.

Gelles (undated publication) cited the fact that community agencies label injured children of middle to high socioeconomic status as "accident victims" while those of lower classes are seen as "abused". (12)

Elizabeth Elmer (1977) compared seventeen abused children with seventeen children who had been in accidents in a follow-up study and found that being in a low socioeconomic group was as damaging as abuse. (273) One could question the distinction between injury and abuse in the study as the children who were "injured" in unsupervised play may be victims of a form of neglect. Another point to consider is that what Elmer also measured was the difference between being hurt by a parenting figure as apposed to an inanimate object. The consequence of that difference was not mentioned or explored.

In examining the cycle of assessment, diagnosis, treatment and evaluation, one can see from the literature on societal

factors how myths of low class, female caused abuse continue. The vast number of variables built into sociocultural models finally make an attempt to declassify abuse and enhance understanding of what large scale changes are necessary.

The Child

Child abuse can be examined from the perspective of how the child invites the abuse. Bakan (1971), Bell (1971), Elmer (1967), Freidrich and Boriskin (1976), Harper (1971), Sameroff and Chandler (1975), Steinhauer and Rae-Grant (1977) each discuss the role of the child in abuse as potentiated if the child was premature, handicapped, or the "wrong" sex or personality type.

Martin (et al, 1974) discussed the vulnerable child as not reinforcing normal parenting or eliciting normal parenting behaviour with smiles, "absence of defects and matching of parents' expectations". (63-64)

Milowe and Lourie (1964) explored the relationships of children who have learned to equate loving with being hurt and are re-battered by foster parents when removed to foster homes.

To maintain perspective on the children being discussed, one should note that Galdston (1965) described the children in his study as "ranging in age from three months to three and one-half years with the largest group between six and eighteen months of age". (440). Steele and Pollack (1974) describe most abuse as occurring between birth and four years of age; older children are usually involved in sexual abuse. (90)

This material presents factors in abuse to be aware of but will not be further explored in this paper.

Parent-Child Interaction

Parent-child interaction is a factor to note when discussing child abuse. Examples of interaction that result in abuse include parents obsessively demanding neatness from an exploring two year old (Smith and Hanson, 1975); sibling rivalry that labels one child as family scapegoat (Rollins et al., 1973); or spouses dealing with conflict by acting out their feelings upon the child (Steele and Pollack, 1974).

Elizabeth Elmer (1967) conceptualized abuse as a process including the abuser, abusee and compliant adult. (27) This would suggest that the child is an integral part of the family triangle (Bowen, 1976) through which feelings and level of differentiation are expressed. (84)

Steinmetz and Straus (1974) document variables including family organization and position, individual family member characteristics, precipitating factors, violence and societal factors as interrelating to produce consequences for the child, family and society. (18-19)

Synthesis of these factors is one model for the etiology of child abuse.

Parent: Sick/Bad

The major factor to be considered in this research is the parents' role in abuse. Research on the parent who abuses

generally concludes or uses as an assumption that such parents are either bad or sick. Smith, et al., (1973) found significant numbers of battering parents had personality abnormalities. These abnormalities were "emotional immaturity and dependence, neurosis and little concept of appropriate child rearing practices". (391) Smith's and related studies assume a causal connection between abuse and any characteristic which differentiates abusive and non-abusive groups. While such preconditions may be necessary, they are far from sufficient. Clearly, all those who can be labeled as neurotic or ignorant of growth and development norms are not abusive.

Merrill, as cited by Spinetta and Rigler (1972), articulated four clusters of characteristics of abusing parents. These were psychodynamic features of hostile, dependent, rigid, unhappy people arranged in a typology to help professionals distinguish "types" of abusive parents. (300) The problem with using Merrill's typology is that it does not distinguish abuser from non-abuser. It has no predictive validity, rather one can slot a known abuser into one of the categories. The value of this beyond the satisfaction in labeling is unapparent. Such a typology is unidimensional in that it does not describe a total person with strengths or positive features and definitely places responsibility for abuse on intrapsychic factors.

Walters (1975) has an improved model in light of the preceding criticisms. (35) It is a list of ten categories of abuse and includes situational or social factors. It includes:

1. Socially and parentally incompetent abusers

2. Frustrated and displaced abusers
3. Situational abusers
4. Neglectful abusers
5. Accidental or unknowing abusers
6. Victim precipitated abuse
7. Subcultural abuser
8. Mentally ill abuser
9. Institutionally prescribed abusers
10. Self-identified abuses.

The first and fifth points allow for parental ignorance as a factor in accounting for abuse. This possibility will be explored in the following sections.

Many articles have been written to explore characteristics of abusers as opposed to non-abusers using psychopathology or malevolence as an underlying assumption.

Melnick and Hurley (1969) "explored hypotheses derived from contemporary child abuse writings" using two groups of ten mothers matched for age, social class, and education. (746) This was one of the few studies that used appropriate control groups for comparison with abusive groups. The results showed that nurturance, empathy and bonding were low in the abusive groups while defenses and rigidity were high. (749) This causal account, rooted in the assumption that abusive mothers lack an ability to relate to their child, encourages the question of why such mothers do not know how to provide adequate care? This issue will be further explored in a discussion of parental ignorance in the next section.

Psychoanalytic theory has been used by many authors to delineate etiology of the "sick" parent. A synthesis of the theory follows:

There are two levels to parenting. One is remembering how one was parented. The other is the memory of oneself as a child (Helfer and Kempe, 1976:14). The parent who was abused as a child has a great deal of confusion and negative feelings attached to such memories. Not being good enough, not being unconditionally cared for, and not being able to look to one's parents for the meeting of basic needs (trust, safety) leave the adult crippled emotionally. Thus, a situation is prepared where this adult's child(ren) will be abused (Ebeling and Hull, 1975; Steele and Pollack, 1974).

Abuse results from the parent projecting his "bad" self onto the child and then punishing the child (in effect, the parent self-abusing) or the parent conceptualizes the child as a need-gratifying object who frustrates and, therefore, deserves the punishment the adult could never give his own parents. (Boszormenyi-Nagy and Spark, 1973; Galdston, 1965; Helfer and Kempe, 1976; Spinetta and Rigler, 1972; Steele and Pollack, 1974).

The child, according to Anna Freud, identifies with the aggression in pre-verbal stages and the aggressor by age two years. The identification meets the need to make sense out of an inconsistent environment but leaves the child angry and guilty. Thus, the child's intrapsychic development is distorted long before the next generation appears to feel the effects. (A. Freud, 1966; Spitz, 1958).

This theory "explains" in terms of intra and interpersonal pathology why abuse occurs in a vicious cycle theory. It does not include or account for the important factors listed earlier in this paper under the headings of society and the child.

Elmer (1971) compared two groups of mothers, matched for socioeconomic factors, and found significantly more "personality problems in the (abusive) mother". (53)

Similarly, Green, et al., (1974) observed and tested sixty families identified as abusive. (882) They were inner-city (ghetto) residents, in the lowest socioeconomic group, receiving public assistance and generally female-headed, single-parent families. On the basis of the interviews, with no control group, no consideration of abuse in other socioeconomic levels, the authors described personality factors of the mothers, explored the role the child played in his abuse, explored parent-child interaction, constructed a psychodynamic framework for abuse and assessed environmental factors associated with abuse. Not surprisingly, the authors reverted to the theory of their profession - a psychodynamic interpretation of etiology with intervention based on psychotherapy.

In summary, the account of the emotionally "sick" parent appears to be based on theories unsupported by research evidence. The alarming aspect of the acceptance of this theory describing abusive parents as bad/sick is that other professions, like nursing and social work, adopt the conceptual framework at face value. (Besharov, 1975; Daniel, 1975; Freidman et al., 1976)

Intervention is planned by individuals and agencies then

implemented with few evaluative techniques. Basically, a situation has arisen where huge amounts of energy, time and money are being spent in doing something that has neither been fully researched nor evaluated.

Parent: Ignorant

Researchers and theorists in the area of child abuse have explored the family triangle in parts, as a whole, and as a segment of society. The etiology of child abuse follows sociological or psychological ideology in a largely self-fulfilling manner, as researchers tend to explore and validate only their own theoretical assumptions in their studies.

The ideas presented thus far have not conclusively defined abuse, nor explained or predicted indicators to separate abusers from non-abusers.

A potential etiological account of child abuse mentioned but not yet delineated is that of parental ignorance. According to this view, it is possible that abusive parents are neither sick or bad, but are ignorant of growth and development norms - a second and significant point questions the source of ignorance and asks whether it is due to emotional or educational factors?

Abusive parents "have typically been found to lack appropriate knowledge of child rearing...parents who were abused as children may have unrealistic expectations which they enforce with inconsistent and poorly chosen parenting techniques. Of particular relevance is the finding of Gregg and Elmer (1969) that abusive mothers were particularly ineffective in their

efforts to provide adequate care when their children were ill." (Sameroff and Chandler, 1975:222) Helfer and Kempe (1976) state "these parents haven't learned the basic skills, so how in the world can they transmit them to their children". (54) Accordingly, these authors have outlined abuse as a learned behavior.

Martin and Beezley (1974) stated that an indicator of improvement in parent-child interaction is that "the parents' expectations of the child are age-appropriate. This marks a shift from the highly unrealistic expectations of most abusive parents". (261)

Van Stolk (1972) presented that "battering parents regard children - even small infants - as capable of adult responses and comprehension. It is this belief that their children are capable of perceiving as adults which allows the peculiar emotional justification of their demands". (21)

Green (1976) stated abusive parents have "inappropriate parental expectations for precocious or unrealistic performance". (425) Margrain (1977) saw one of the causes of battering being "a result of parental ignorance about age-related behavior or how to rear children". (53) Steele (1975) characterized abusive parents as significantly lacking "basic" knowledge. (4) Silver, et al., (1969) concluded that violence breeds violence in their longitudinal study over three generations. Their method was to review case histories of families reported as abusive to hospitals in the District of Columbia. General abusive behavior was noted in parenting despite intervention by

the health care system. At the Conference on Family Violence (March 1977) a workshop on child abuse presented parenting as a learned skill based on the parents' childhood experiences.

The theme to the studies or articles cited was that parenting is learned, one does not "know" how to parent innately. In some way, abusive parents may not know how to raise children.

Is the issue one of a parent needing cognitive knowledge about growth and development? Would an assessment of growth and development knowledge predict a potential abuser? This issue of ignorance, whether cognitive or motivational, needs exploration before it can be accepted as the fact stated in most studies as part of the theory on child abuse.

Most importantly, can one relate this ignorance causally to abuse as is assumed in the literature? In summary, there were no studies found that tested this pervasive assumption of parental ignorance.

Walters (1975) outlined three points of concern with the literature on child abuse:

...researchers in the area of child abuse often fall into the sophomonic mistake of believing that correlation implies causation....

We lack theory in the area of child abuse....

One basic theoretical issue that must be resolved is the lack of discrimination among abusers. (30-33)

The criticisms of earlier studies and the concerns listed by Walters directed this author to test a basic assumption cited in the literature on child abuse that abusive parents expect unrealistically mature behavior from their child(ren).

Only by "means of evaluating such variables (identity and history of child-care taker, patterns and knowledge of child care) will it become possible in practice to separate the abusive from the non-abusive families...predictors can be found only through patient and systematic study". (Elmer, 1974:34).

This chapter presented a comprehensive summary of the literature on child abuse and reviewed critically salient research supporting the conceptualization of this study.

Society, the child and parent-child interaction were briefly explored as to their part in abuse. The parental role, whether due to psychopathology, malevolence or ignorance, was comprehensively described. Parental ignorance was presented to support the significance, and to introduce the methodology of this study.

CHAPTER III

RESEARCH DESIGN

Setting and Sample Selection

The sample for the study was drawn from a Daycare center and Project for parents and children.

The Project, under the Department of Human Resources, was staffed by social workers, child care workers and people with social sciences degrees. The program involved thirty mothers and their children in two milieu centered groups. The Monday-Tuesday section was the "court" group who may have had children removed from their care due to abuse or neglect, while the Wednesday-Thursday group included mothers at risk for abuse or neglect due to environmental stresses.

The author spent time with staff and mothers at the Project to familiarize them with her presence and research interests. On the two days identified for data collection, any mother who agreed to participate became part of the sample, resulting in a sample size of fourteen.

The Daycare served thirty-two families and was staffed by daycare supervisors, School of Mothercraft and social science graduates. The children were divided into 'under-three's' and 'over-three's' - the age range being eighteen months to six years.

The proposed study was presented to the Board of Directors who agreed to the contacting of mothers in the group. A request for single-parent, high-school graduate mothers resulted in several people volunteering. These mothers were later contacted by phone to confirm their interest and set a date for data collection. Nine mothers participated.

Data Gathering Instrument

The Developmental Profile developed by Alpern and Boll (1972) was the basis of the research tool. The profile is divided into physical, self-help, social, academic, and communication sections, each with age-appropriate developmental items.

The reliability and validity of the profile is defended by the authors:

...the five scales of the Developmental Profile are considered to provide a highly valid assessment of the development of children adequately represented by the standardization study population. Specifically, the instrument is considered to be able to correctly determine the developmental ages of black and white urban mid-Americans of all social classes. (60)

The major conclusions from the two reliability studies is that the Developmental Profile generates scores with extremely high scorer, reporter and test-retest reliability. (n=11; t test showed no statistical significance). (68)

Three mothers in this study participated in the pilot test and actual data collection. Their test-retest reliability is illustrated in table 3.1. (Also see Appendix I)

TABLE 3.1

THE C-STATISTIC
(Cicchetti et al., 1971:101-109)
ADAPTED FOR TEST-RETEST RELIABILITY

Mother's Code Number and number on the abuse continuum	C-Statistic reflecting overall agreement (high reliability)
134-4	0.968
120-4	0.936
110-5	0.936

Content validity of the tool was determined by Alpern and Boll (1972) in their use of existing developmental scale items, the literature, and items based on concepts underlying the pretest. (30) The pilot tool was used and evaluated for three years then standardized by testing the mothers on child report while testing the child's real ability to perform the items. Each category derived became a distinct group of items, drawn from a universe of growth and development items, specific to an age range. Content validity was high for the author's data collection instrument and will be demonstrated further in this chapter.

Factors accounting for variance in test performance in this study were controlled by standardizing the testing procedure and through use of the confounding variable data sheet.

Criterion-related validity was difficult to establish

as it is not known whether a parent who cognitively "knows" growth and development knowledge, can apply it to the emotionally loaded situation of raising their own child. It would be interesting to have the mothers with young children do the card sort when their children have matured to determine how experience with a developmental stage alters developmental set.

This author chose an item from each section for five age groups: Infant, 0-12 months; Toddler, 13-24 months; Pre-school, 2-4 years; School-age, 5-10 years; and, Adolescence, 11-16 years. These items were chosen using the following criteria to preserve content validity:

1. Behavior demonstrated within the age range delimited (as opposed to across age ranges).

2. Item stated concisely requiring little change of wording (to maintain item validity).

As well, five comments as to parental expectations were chosen from the literature. (See Appendix II).

These thirty items were reworded into statements from their original form of being questions. Drs. Alpern and Boll kindly gave permission for the adaptation of profile items. (See Appendix III and IV).

Item labels were computer generated and glued to the back of computer cards numbered one to thirty. Envelopes labeled with each age group division (infancy to adolescence) completed the tool. These envelopes were used by the mothers to hold the cards sorted for each age group.

Implementation

Two months before data collection, the author met with Project staff to assign each mother a number on an abuse continuum.

Abuse was defined, for the continuum, as "an abused child is a person, under the age of seventeen years, who has suffered or is suffering from serious physical harm caused by the non-accidental use of force by those responsible for the child's care or others exercising temporary or permanent control over the child". (Porteous 1977) Neglect was defined, as part of the continuum, to be harm suffered by a child due to lack of parental concern for physical or emotional safety and security of the child in his environment. The abuse continuum contains five exclusive levels:

1. Non-abusive - Mothers never identified by social agencies as abusive or neglectful.
2. At Risk of Abuse - Mothers identified by social agencies as having environmental and intrapsychic factors predisposing to abuse of children.
3. Neglect - Mothers identified by social agencies as not having provided adequate physical, safety and security features in their child's life.
4. Suspected Abuse - Mothers identified by social agencies as possible abusers due to reasonable suspicion that abuse has occurred or may occur.
5. Known Abuse - Mothers identified by social agencies and/or themselves as having physically injured their child(ren).

The staff at the Project assigned each mother a number from one to five indicating her appropriate stage in the continuum. Two weeks later the author repeated this step to ensure reliability. All mothers that participated in the study (eleven) had the same number given to them both times by the ten staff members.

Another method for eliciting the appropriate numbers would have been to have each staff member, separately, code each mother, then to have compiled the results. A limitation of this approach was that the mothers were not all known by the total staff.

Also prior to data collection, the author reviewed the face sheets in client files to record the mother's age, number and sex of children, whether or not a significant male was involved with her and her children and the length of time they had been involved with the Project. A code number was applied to the information to ensure confidentiality.

On the day of data collection, each mother was asked if she was employed and the level of education she had attained. The mothers at the Daycare were given a form (see Appendix V) to elicit demographic data.

Two days were spent at the Project, one day with each group of mothers, and one afternoon at the Daycare to collect data.

The Project mothers were aware of the card sort method due to several of them being involved in the pre-test, which will be discussed later.

Each mother, prior to participating, was informed of the study purpose and her rights with regard to consent. (See Appendix VI). This procedure was standardized to increase reliability of findings.

Ethical responsibility was discharged in the mother being informed of her right to refuse, to withdraw, that no personal identifying data would be used, that feedback and debriefing would occur at the completion of the study. (See Appendix VII). If the mother then wished to continue, she signed the consent. One mother did not wish to sign but was willing to participate, so a witness signed verifying her verbal consent. The code numbers were affixed to the card deck at this point, demonstrating confidentiality. The mothers, individually, then sorted the thirty cards into whichever envelope they thought was the appropriate age group for a child to first be able to perform the item written on the card.

The mothers at the Daycare followed a similar process except that they had volunteered previous to the data collection time and came by appointment to the Daycare. These appointments were all at the time the mother usually picked up her child at the end of the day.

Following data collection, a computer card numbered: 1 (infancy), 2 (toddler), 3 (pre-school), 4 (school-age), and 5 (adolescence) replaced the envelopes. Each deck contained a face card keypunched with code numbers, five cards designating the age groups and the thirty cards as the mothers had sorted them.

PILOT TESTING

The purpose of the pre-test was to determine if the growth and development items were understandable, the method clear and operational, and if the subjects were approachable. Five mothers at the Project and one at the Daycare volunteered to do a pre-test of the study's tool. They received instructions and signed a consent as in the actual study.

The items were clearly understood, the method operational and administered in less time than originally planned. Subjects willingly participated and expressed interest in the study results. The consistent question that arose, however, was "Do I sort as my child has done these behaviors or as children generally would do them?" The author's response was uniformly to repeat "Place the cards wherever you think a child can first perform the behavior." Reliability may have been decreased if the mother's interpretation of the items reflected item ambiguity.

Qualitative inspection of the pilot data indicated that the non-abusive mother had the highest degree of disarray while the "at-risk to abuse" mother, the "neglectful" mother and the "suspected of abuse" mother illustrated a pattern of less abusive behavior with more growth and development knowledge.

This chapter reviewed the setting and sample selection for this study. The data-gathering instrument was described with validity and reliability estimates explained. Implementation and pilot testing were detailed including brief discussion of the pre-testing results.

CHAPTER IV

DATA ANALYSIS AND FINDINGS

This chapter presents the data collected and the methods of analysis.

Each of the mother's card sorts were charted as in Appendix VIII. Items one to twenty-five were surveyed to identify those of the mother's sort not in agreement with the ideal literature sort. These different items were identified as plus or minus the number of age groups they were away from the correct group (the Roman type illustrates this difference).

As Ferguson (1976) outlined in his book, Statistical Analysis, the concept of disarray could be applied to the data to obtain a composite growth and development score for each mother. (364-365) The sum of the item scores represents the degree of disarray or "S" for each mother. The minimum degree of disarray would be zero and would represent a mother having sorted each item in agreement with the literature. The larger the S, the greater the discrepancy between the mother's sort and the literature, representing a lack of knowledge of growth and development.

The plus or minus distinction was utilized to maintain

the logical consistency of the concept of disarray, S, as applied to knowledge of growth and development.

TABLE 4.1

PLUS OR MINUS DISTINCTION

For example: Item 12 should be in age group 3
(pre-school age).

Mother #1 put item 12 in group 1] <u>- 2</u>	Both mothers were in error by 2 age groups.
Mother #2 put item 12 in group 5		

$$(X_1 - Y_1)^2 = \text{degree of disarray} = S$$

$$\#1 \quad [3 - (-2)]^2 = (3+2)^2 = 5^2 = \underline{25}$$

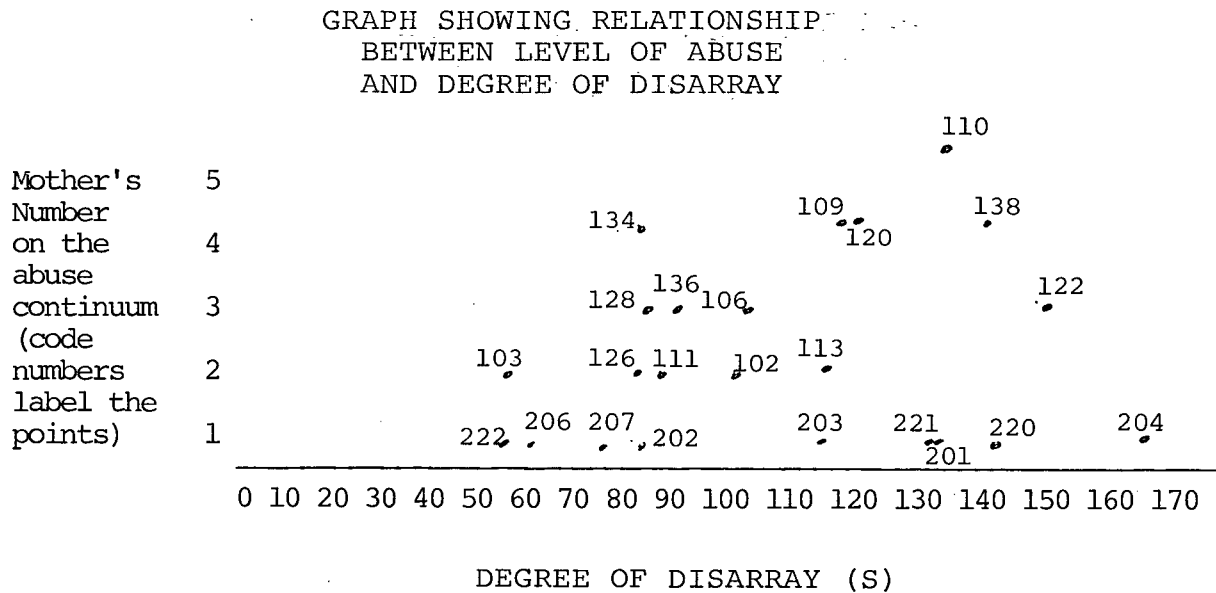
$$\#2 \quad [3 - (2)]^2 = (3-2)^2 = \underline{1}$$

The significance of maintaining the plus or minus distinction is that expecting a behavior earlier than normal results in a higher score.

CHALLENGE TO THE HYPOTHESIS

The hypothesis was: there is no significant relationship between developmental set and child abuse. This was challenged by the Spearman Rank Order Correlation Coefficient and a two-tailed test, at a significance level, $\alpha = 0.05$. The value of "r" computed was found to be approximately zero as graphically evidenced in figure 4.1

FIGURE 4.1



Therefore, the null hypothesis was accepted, namely that there is no significant relationship between developmental set and level of abuse, as defined for this study.

As an interesting exploration, a *t* test was computed to determine if there was a relationship between the abusive mothers' knowledge of growth and development (2,3,4,5 on the continuum) and the non-abusive (1 on the continuum). With twenty-one degrees of freedom, at the $\alpha = 0.05$ level of significance level, there was no significant difference. However, if mothers 201, 204, 220 and 221 are discounted, visual survey of figure 4.1 reveals an apparent regression line of abuse level on disarray.

The disarray scores have a range of $S=55-167$. The non-abusive (Daycare) mothers had scores that ranged from 55-167 while the abusive (Project) mothers' scores spread over 59-154.

The disarray scores have a mean of 106.9 and a standard deviation of 31.1. The standard error of the mean was 6.5, thus

ninety percent of the time, the mean for the population would be between the limits of 93.8 - 120.0.

A mother's score of 106.9 can be meaningful in comparison to the maximum degree of disarray. This maximum of S=420 was calculated based on a mother randomly sorting a card from each age group into each age group. This would suggest that approximately seventy-five percent of the time, the mothers in the sample make a correct growth and development decision in child rearing.

In terms of the demographic variables, data was summarized as shown in table 4.2. Appendix IX illustrates the actual data. The variables of interest included mother's age, number of children, mother's education, involvement of a significant male and mother's employment status.

TABLE 4.2

SUMMARY OF DEMOGRAPHIC DATA

Mother's number on the abuse continuum	Number of mothers in the group (N=23)	Mother's age range (years)	Children's age range (years) and sex	Mother's education		Present full-time involvement of a sig- nificant male		Present full-time employment outside the home	
				less than high school	high school graduation	Yes	No	Yes	No
1 Non-abusive	9	23-45	2-27 7 female 4 male	2	7	4	5	7	2
2 At-risk to abuse	5	17-28	1-10 4 female 5 male	3	2	2	3	0	5
3 Neglect	4	21-29	1-8 5 female 3 male	3	1	1	3	0	4
4 Suspected of abuse	4	20-29	2-5 2 female 5 male	4	0	2	2	1	3
5 Known abuse	1	35	7-12 2 female 1 male	1	0	0	1	1	0

This data was analyzed for associations between variables, particularly the relationship of abuse and developmental set to demographic factors.

The variables of mother's age, number of children, and education were dichotomized using the group median. Thus, mother's age was divided into twenty-five years and under or over twenty-five years. Number of children was represented by one child or more than one child. Education was in two categories of less than high school graduation or high school graduation and other education. The factors of mother's employment and involvement of a significant male were dichotomized into yes or no categories.

The variable of abuse was represented by dividing the continuum into two groups. Non-abusive, at risk to abuse and neglectful mothers (1,2,3) were one category while the suspected or known to abuse (4,5) were the other. Degree of disarray was dichotomized by surveying the range of S and dividing it into two groups. Therefore, mothers with an S of 55-110 formed one group with 111-167 as the second. Following this, simple 2X2 contingency analysis was applied to investigate whether a relationship existed between S, abuse, or demographic data. This was done after the fact as no relationship could be demonstrated between S and abuse and perhaps there were other influential associations. This analysis was applied to variables using chi-squared tables at a significance level of 0.05.

Tables 4.3 and 4.4 summarize the chi-squared values illustrating no significant relationship for the variables shown.

TABLE 4.3

SUMMARY OF CHI-SQUARED ANALYSIS BETWEEN
HIGH OR LOW LEVELS OF ABUSE
AND DEMOGRAPHIC DATA

VARIABLES	CHI-SQUARED VALUE
ABUSE X MOTHERS' AGE	3.72
ABUSE X NUMBER OF CHILDREN	2.25
ABUSE X MOTHERS' EDUCATION	4.62*
ABUSE X INVOLVEMENT OF A MALE	3.14
ABUSE X MOTHERS' EMPLOYMENT	2.34

* $\alpha = 0.05$, critical value $\chi^2 = 3.84$, significant at $P < 0.05$.

TABLE 4.4

SUMMARY OF CHI-SQUARED ANALYSIS BETWEEN
HIGH OR LOW DEGREE OF DISARRAY
AND DEMOGRAPHIC DATA

VARIABLES	CHI-SQUARED VALUE
S X MOTHERS' AGE	2.61
S X NUMBER OF CHILDREN	*3.94
S X MOTHERS' EDUCATION	*4.32
S X INVOLVEMENT OF A MALE	*4.21
S X MOTHERS' EMPLOYMENT	*5.55

* $\alpha = 0.05$, critical value $\chi^2 = 3.84$, significant at $P < 0.05$.

There would appear to be a relationship between abuse and mothers' education; S and number of children, mothers' education, involvement of a male, and employment. Amount of growth and development knowledge seems to be a common significant factor in analyzing the demographic factors for associations.

ANALYSIS OF BEHAVIORAL STATEMENTS

The five items completing the growth and development tool were derived from the literature and do not have an ideal age group sort. These items (26-30) were summarily described and tabulated as shown in frequency tables 4.5 - 4.9. (Raw data in Appendix X).

TABLE 4.5

FREQUENCY TABULATION OF ABUSE LEVEL
VERSUS AGE GROUP FOR ITEM 26:
THE CHILD OBEYS AUTHORITY

		1	2	3	4	5
		Infant	Toddler	Preschool	School Age	Adolescent
ABUSE LEVEL	1 Non-abusive		7	2		
	2 At risk		3	2		
	3 Neglect			1	2	1
	4 Suspected		2	2		
	5 Known			1		

N=23 Numbers within table refer to frequency.

TABLE 4.6

FREQUENCY TABULATION OF ABUSE LEVEL
VERSUS AGE GROUP FOR ITEM 27:
THE CHILD CAN HOLD A GRUDGE

		1	2	3	4	5
		Infant	Toddler	Preschool	School Age	Adolescent
ABUSE LEVEL	1 Non-abusive		2	5	2	
	2 At risk			1	3	1
	3 Neglect		1	1	2	
	4 Suspected		2	1	1	
	5 Known			1		

TABLE 4.7

FREQUENCY TABULATION OF ABUSE LEVEL
VERSUS AGE GROUP FOR ITEM 28:
THE CHILD CAN COMFORT HIS
PARENTS WHEN THEY ARE UPSET

		1	2	3	4	5
		Infant	Toddler	Preschool	School Age	Adolescent
ABUSE LEVEL	1 Non-abusive		1	7	1	
	2 At risk			4	1	
	3 Neglect			1	3	
	4 Suspected	1		2		1
	5 Known				1	

TABLE 4.8

FREQUENCY TABULATION OF ABUSE LEVEL
 VERSUS AGE GROUP FOR ITEM 29:
 THE CHILD UNDERSTANDS HIS
 PARENTS' EXPECTATIONS

		1	2	3	4	5
		Infant	Toddler	Preschool	School Age	Adolescent
ABUSE LEVEL	1 Non-abusive		1	4	3	1
	2 At risk		1	1	3	
	3 Neglect			2	1	1
	4 Suspected			1	3	1
	5 Known			1		

TABLE 4.9

FREQUENCY TABULATION OF ABUSE LEVEL
 VERSUS AGE GROUP FOR ITEM 30:
 THE CHILD KNOWS WHEN HIS PARENT
 IS FRUSTRATED

		1	2	3	4	5
		Infant	Toddler	Preschool	School Age	Adolescent
ABUSE LEVEL	1 Non-abusive	3	1	3	2	
	2 At risk	2	1	1		1
	3 Neglect	1		1	2	
	4 Suspected		4			
	5 Known			1		

There appears to be no clustering of expectations for any of the five item behaviors in terms of level of abuse or developmental age. In other words, developmental level in which a behavior was perceived to be appropriate and a mother's level of abuse, seem to be independent.

This chapter presented the data analysis as conceptualized by the author and adapted from Ferguson (1976). The null hypothesis was tested and accepted demonstrating no significant correlation between developmental set and child abuse. However, consideration of the visual curve in figure 4.1 seen after excluding four of the level one mothers, may mean that given a disarray score one could predict level of abuse of a mother. Demographic data were summarized and analyzed using chi-squared contingency tables. No significant relationship was demonstrated between developmental set, abuse, mother's age, number of children, mother's education, involvement of a male or employment. Behavioral items which completed the tool were tabulated and earlier developmental expectations were not demonstrated as characteristic of high levels of abuse.

CHAPTER V

DISCUSSION OF RESULTS

The data presented did not demonstrate a significant relationship between a mother's developmental set and abuse in child-rearing. It would seem that abusive and non-abusive mothers do not know growth and development norms. Under the circumstances of this study it was clear that the knowledge variable is not a predictor or indicator of abuse.

Factors in this study to account for the results could be item ambiguity in the data collection instrument, assignment of mothers to an abuse continuum previous to the data collection time, or that the participants were obtained from two distinct, convenient population clusters. One could speculate that more growth and development items, within fewer age groups would increase reliability and validity of the tool. The mothers could have been assigned to the abuse continuum concurrent with data collection to account for the dynamic nature of abuse and neglect and if reality allowed, more staff could have independently rated the mothers. A sample drawn from less distinct clusters may have demonstrated a different finding.

The relationship between the demographic data and abuse or growth and development knowledge was also not significant.

The mother's age, the number, age and sex of children,

employment, education, and involvement of a male reflected a homogeneous sample and did not relate to the variables of abuse and developmental set. The demographic data could not be utilized as predictors or indicators of abuse.

Ignorance of growth and development norms in this study could be attributed to lack of cognitive knowledge or to emotional factors. Ignorance does not appear to be a cause of abuse, however, this leaves the problem of the etiology of abuse relatively unresolved. Parenting is learned, why then, does one parent who does not know growth and development abuse, while another with a similar lack of knowledge does not abuse? As with much research involving human beings, the findings of this study have generated more questions than answers. Recommendations arising from this study were based on some of these questions.

SUMMARY

The purpose of the study was to determine if there was a relationship between a mother's developmental set and child abuse. Since the literature assumes abusive parents expect mature behavior unrealistically early from their children, ignorance of growth and development was postulated as an etiological factor in abuse. In the data collected, with a sample size of twenty-three, no significant relationship was established between developmental set and abuse, although replication of the study may show significance based on the regression line of abuse level on disarray as in chapter four. Variables from the participants' lifestyles failed to relate to abuse. There were significant relationships between abuse

and mother's education; and also between degree of disarray and number of children, mother's education, involvement of a male and employment. The original null hypothesis was accepted and the findings discussed in relation to methodological and theoretical contributions to the results.

CONCLUSIONS

The hypothesis that there is no significant relationship between a mother's developmental set and abuse was accepted.

The results can be cautiously generalized to female-headed, single parent families. Due to certain limitations of the study, it was not desirable to generalize beyond the sample of families employed in the study.

IMPLICATIONS

Nursing Research

This study challenged an etiological assumption found in the literature on child abuse. Further study is needed to determine theory and to direct practice. Questions arising from the study include: how is growth and development knowledge a factor in child rearing?; what are the indicators and predictors of abuse? An awareness of the need for careful, critical analysis of non-empirically tested assumptions has been engendered in this author. This perspective helps one see how much of theory is untested and assumed to be true.

Many more of the "truths" need study to validate basing practice on them.

There is a trend in contemporary research to develop tools and skills that would predict parents at risk to abuse (Kennell et al., 1974; Melnick and Hurley, 1969; Smith et al., 1973). This study explored factors that do not relate causally and directed further research to cluster potential predictors or even to question if a clear indicator exists for the complex phenomenon of child abuse. With nursing's assessment skills and involvement in many phases of family life, there are opportunities for the study of individuals and groups in terms of those factors in differentiating abusive from non-abusive parents. For example, development of a high-risk tool for use by obstetrical and neonatal nurses could facilitate preventive intervention, and referral to public health agencies to support identified families so that abuse does not occur.

It would be interesting to administer the growth and development tool to different professional groups, such as, nurses, child care workers and social workers. Since abusive and non-abusive mothers can not be separated according to level of growth and development knowledge, could professionals? Does educational preparation increase such knowledge or is the knowledge even necessary to professional practice (or parenting)? Does anyone know or need to know growth and development norms? It would seem that these basic questions need study to validate the importance given to knowledge of age appropriate norms.

Nursing Education

An important implication for nursing education is the need to teach students to read and practice critically. The student must be able to defend therapeutic intervention based on use of research and literature, both contributing to a knowledge base. Skill and knowledge of research methods and analysis provides the foundation for sophisticated awareness.

If, in further study, it became obvious that teaching growth and development norms could influence abuse, students would need to know and be able to teach such norms.

In teaching the concept of abuse, students need to be taught there is no single cause or explanation and that further research is necessary.

Nursing Practice

It is difficult to separate practice from education and research. Much of the literature reviewed stressed the importance of community-based facilities but the effectiveness of this setting has not been empirically validated nor are all nurses prepared academically to work in the community (Carter et al., 1976; Green, 1977; Zalba, 1971).

The focus of the family as the unit of treatment was the major implication for practice in the treatment of child abuse. This research implies the practitioner should be critical of existing theory and committed to its study. If the etiologic belief is that abuse arises from a complexity of psychosocial issues, the practitioner must be able to

collect data and analyze social and family systems to intervene effectively.

Theoretical assumptions cannot be accepted unless one is willing to risk spurious rationales that support themselves but have little to do with reality. It would seem, that teaching cognitive growth and development skills to parents would enhance their knowledge if their ignorance is educational. For emotionally based ignorance, the practitioner needs skill and knowledge of family systems and an ability to intervene using nursing process with developmental set as a small piece of a complex whole.

RECOMMENDATIONS

With regard to this study's duplication, the author has four recommendations. The first is that the number of growth and development items in the tool be increased and the number of age groups decreased. This would increase reliability and validity of the tool.

The second recommendation is that the mothers at the Project would be assigned a number on the abuse continuum closer to the day of data collection. The dynamic nature of human beings and abuse would be accounted for in coding the mothers as they were at the time they were administered the sort.

A third recommendation would be to increase the sample size to increase statistical significance of the results. A larger n would increase generalizability if the sample were

representative of the target population.

Finally, clustering variables to seek out associations could be attempted. Examining individual variables would seem to be too simplistic given the interplay of psychosocial factors in an individual's life. This would take into account further exploration of the relationship that appeared to exist between degree of disarray and demographic data in this study.

For further study the author would recommend research of the nature of parental ignorance with regard to developmental norms and the part it plays in abuse. The assumption that abusive parents expect unrealistically mature behavior at an early age may be true but not related to knowledge of growth and development. Different factors, such as parentification of a child may account for the expectations and needs study. (Boszormenyi-Nagy et al., 1973:151).

Nursing has a very significant role to play in that growth and development norms are taught to nurses who in turn teach others. Nurses interact with families in the home and hospital, frequently in times of stress. This opportunity to observe and record pertinent data related to child rearing would enable nurses to make significant additions to the theory of abuse. The author would recommend nursing increase its study within this area.

This chapter presented a discussion of the findings, a summary, conclusions, implications and recommendations for nursing research, education and practice. It would appear that there is a need for critique and study of current theory and

literature. Most importantly, it appears that one cannot relate single factors, such as developmental set to abuse, a necessary requirement in the search for causality.

APPENDICES

APPENDIX I

Calculation of the C-Statistic
(Cicchetti et al., 1971:101-109)

To assess test-retest reliability

	Perfect agreement	Agreement within one point	Agreement within two points	Agreement within three points	Agreement within four points	Perfect disagreement
X	1	.8	.6	.4	.2	0
f*134-4	22	2	1	0	0	0
120-4	18	6	1	0	0	0
110-5	17	8	0	0	0	0

* Mother's code number and number on the abuse continuum.

Cicchetti's Calculation:

$$\frac{(X_1 f) + (X_2 f) + (X_3 f)}{25}$$

25

25 is the number of growth and
development items.

134-4 - 0.968

120-4 - 0.936 which indicates high reliability

110-5 - 0.936

APPENDIX II

GROWTH AND DEVELOPMENT ITEMS FROM DEVELOPMENTAL PROFILE

INFANT 0 - 12 MONTHS

1. The child, without help, can roll from his stomach to his back and from his back to his stomach.
2. The child tries to get objects that are near but beyond his reach.
3. The child shows he wants to have attention paid to him.
4. The child reacts, by being more or less active, to such changes as being picked up or having a person come into the room.
5. The child babbles or uses some sounds which show he/she is imitating words or speech.

TODDLER 13 - 24 MONTHS

1. The child walks well enough, without support, that he is able to walk about the house unwatched without bumping into objects.
2. The child knows the difference between food and things which cannot be eaten.
3. When told, the child brings something from or takes something to some place.
4. The child can use pencils or crayons with definite attempts to make marks on a surface.
5. The child knows the names of at least five things, not including the names of people and can say them clearly.

PRE-SCHOOL 2 - 4 YEARS

1. The child usually walks upstairs and downstairs by placing only one foot on each stair.
2. The child cares for his own toilet needs without help except for fastening back buttons or bows.
3. The child likes to help the parents around the house.
4. The child uses size words (large, little, big, small) often and correctly.
5. The child can tell people (by speaking or holding up fingers) how old he/she is now, was last year, and how old next year.

APPENDIX II - (Continued)

SCHOOL-AGE 5 - 10 YEARS

1. The child can catch a tennis ball with one hand when thrown gently from at least six feet away.
2. The child usually decides what to wear.
3. The child has at least one chore he/she has to do weekly such as washing dishes or taking out the garbage.
4. The child knows by memory at least three telephone numbers which he/she is able to use.
5. The child, without help, has written and mailed a letter.

ADOLESCENCE 11 - 16 YEARS

1. The child competes in sports and shows as much skill as most of the same-sexed eleven and twelve year olds.
2. The child manages money well enough so that he plans ahead.
3. The child could do a responsible job of babysitting, during the day, with a three year old child for at least three hours.
4. The child uses the newspaper regularly (at least weekly) for news information.
5. The child has written and addressed, by himself, at least five letters, each at least ten sentences long.

FROM THE LITERATURE

1. The child obeys authority.
2. The child can hold a grudge.
3. The child can comfort his parents when they are upset.
4. The child understands his parents' expectations.
5. The child knows when his parent is frustrated.

APPENDIX V

DEMOGRAPHIC DATA

PLEASE FILL IN THE SPACES AS INDICATED. THANK YOU FOR YOUR ASSISTANCE.

1. Your age in years _____
2. List your children by age and sex.
3. State the level of education attained including any course you may be taking now.
4. Is there a significant male figure involved with you and your children on a regular basis?
YES _____ NO _____
5. Are you employed?
YES _____ NO _____

APPENDIX VI

INTRODUCTION AND INSTRUCTIONS GIVEN MOTHERS PRIOR TO SORTING CARDS.

(Show consent to mother)

Hi! My name is Gail Lindsay and I'm a nurse. I have been working with groups of mothers this year to explore what they know about children's growth and development. There is no personal identifying information such as name or address used. You can stop your participation at any point. The process involves placing each of 30 cards into one of five envelopes indicating where you believe a child can first perform the behavior. It usually takes fifteen minutes for the entire process.

I will make my results and conclusions available to you in April.

(Get consent signed)

INSTRUCTIONS

Please place each card in the envelope representing the age where you think a child can first perform the behavior on the card.

APPENDIX VII

CONSENT LETTER

LETTER OF CONSENT

I UNDERSTAND the purpose of the study is to use an information gathering tool about a child's growth and development.

I UNDERSTAND confidentiality will be respected as no identifying or personal data will be used in the process.

I UNDERSTAND that I can withdraw at any time from the study.

I KNOW the process involves placing thirty cards into one of five envelopes and involves one half hour of my time at Project/Daycare.

I UNDERSTAND the results of the process will be available in written form at Project/Daycare.

I AGREE to participate

Date

Researcher

APPENDIX VIII

RAW DATA AND DEGREE OF DISARRAY

GROWTH AND DEVELOPMENT		Mother's code number and number on abuse continuum					
ITEMS IN AGE GROUP		201-1	202-1	203-1	204-1	206-1	207-1
1		1	1	1	1	1	1
2		1	1	1	1	1	1
3	1 Infant	1	1	1	1	1	1
4		1	1	1	1	1	1
5		1	1	1	1	1	1
6		1	2	3 +I	2	2	2
7		3 +I	1 -I	3 +I	1 -I	3 +I	3 +I
8	2 Toddler	1 -I	2	3 +I	2	3 +I	2
9		2	2	3 +I	1 -I	3 +I	2
10		2	2	2	2	2	2
11		2 -I	3	2 -I	2 -I	3	3
12		3	3	3	2 -I	3	2 -I
13	3 Pre-school	2 -I	3	2 -I	1 -II	2 -I	3
14		3	3	3	2 -I	3	3
15		3	3	3	3	4	3
16		4	3	3 -I	3 -I	4	3 -I
17		3 -I	2 -II	3 -I	2 -II	3 -I	4
18	4 School-age	3 -I	3 -I	4	2 -II	3 -I	4
19		4	4	4	4	4	4
20		4	4	4	4	4	4
21		5	5	5	5	5	4
22		3 -II	4 -I	5	4 -I	5	5
23	5 Adolescent	5	5	5	5	5	5
24		4 -I	5	4 -I	4 -I	5	5
25		4 -I	4 -I	4 -I	4 -I	5	4 -I
26		2	2	3	2	2	2
27		3	4	2	2	3	3
28	Behavioral	3	3	3	2	3	3
29	items	3	3	4	2	3	3
20		1	3	1	1	4	2
DEGREE OF DISARRAY		133	86	116	167	62	79

LEGEND: Arabic numerals represent the age group into which a mother sorted the item.
 Roman numerals represent the number of age groups a mother's sort differed from the ideal literature sort.

Appendix VIII (Continued)

GROWTH AND DEVELOPMENT		Mother's code number and number on abuse continuum					
ITEMS IN AGE GROUP		220-1	221-1	222-1	102-2	103-2	111-2
1		1	1	1	1	1	1
2		1	1	1	1	1	1
3	1 Infant	1	1	1	2 +I	1	1
4		1	1	1	2 +I	1	1
5		1	1	2 +I	1	2 +I	1
6		1 -I	2	2	2	2	2
7		3 +I	2	2	3 +I	3 +I	3 +I
8	2 Toddler	2	2	3 +I	2	2	2
9		2	3 +I	2	3 +I	2	2
10		2	1 -I	2	2	3 +I	2
11		2 -I	2 -I	3	3	3	2 -I
12		2 -I	3	3	3	3	2 -I
13	3 Pre-	3	3	3	3	3	3
14	school	3	3	3	3	4 +I	3
15		3	3	3	3	3	3
16		4	4	4	4	4	5 +I
17		4	3 -I	4	4	4	4
18	4 School-	3 -I	4	4	4	4	4
19	age	4	4	4	3 -I	4	4
20		4	4	4	4	5 +I	4
21		1 -IV	4 -I	5	4 -I	4 -I	4 -I
22		4 -I	4 -I	4 -I	4 -I	5	4 -I
23	5 Adoles-	5	5	5	5	5	5
24	cent	4 -I	4 -I	5	5	5	5
25		4 -I	4 -I	4 -I	4 -I	5	5
26		2	2	3	3	3	2
27		3	3	4	4	3	3
28	Behavioral	3	4	3	4	3	3
29	items	4	4	5	2	4	3
30		3	4	3	3	2	1
DEGREE OF DISARRAY		142	133	55	101	59	88

Appendix VIII (Continued)

GROWTH AND DEVELOPMENT		Mother's code number and number on abuse continuum					
ITEMS IN AGE GROUP		113-2	126-2	106-3	122-3	128-3	136-3
1	1 Infant	1	1	1	1	1	1
2		1	2 +I	1	1	1	1
3		1	1	2 +I	2 +I	1	1
4		2 +I	2 +I	1	1	2 +I	1
5		2 +I	2 +I	1	1	1	1
6	2 Toddler	2	3 +I	3 +I	2	2	2
7		2	3 +I	3 +I	3 +I	2	3 +I
8		3 +I	3 +I	3 +I	2	2	3 +I
9		3 +I	3 +I	4 +II	3 +I	3 +I	2
10		2	3 +I	4 +II	3 +I	3 +I	2
11	3 Pre-school	2 -I	3	3	2 -I	2 -I	3
12		3	3	2 -I	3	3	3
13		3	2 -I	2 -I	3	3	3
14		3	4 +I	2 -I	4 +I	2 -I	3
15		1 -II	4 +I	3	3	3	3
16	4 School-age	4	4	2 -I	4	4	3 -I
17		2 -II	4	3	5 +I	5 +I	3 -I
18		4	4	4 +I	4	4	4
19		4	5 +I	3	3 -I	4	4
20		4	5 +I	4 +I	3 -I	5 +I	4
21	5 Adolescent	5	5	4 -I	4 -I	4 -I	5
22		4 -I	5	5	4 -I	5	5
23		5	5	5	5	5	5
24		4 -I	5	5	5	5	4 -I
25		4 -I	5	5	4 -I	5	4 -I
26	Behavioral items	2	2	4	5	4	3
27		5	4	3	4	4	2
28		3	3	3	4	4	4
29		4	4	3	4	5	3
30		1	5	3	4	4	1
DEGREE OF DISARRAY		119	82	100	154	84	90

Appendix VIII (Continued)

GROWTH AND DEVELOPMENT		Mother's code number and number on abuse continuum				
ITEMS IN AGE GROUP		109-4	120-4	134-4	138-4	110-5
1		1	1	2 +I	1	1
2		1	1	2 +I	1	1
3	1 Infant	1	1	1	2 +I	1
4		1	2 +I	2 +I	2 +I	2 +I
5		1	1	3 +II	2 +I	2 +I
6		2	2	2	2	2
7		3 +I	3 +I	2	4 +II	2
8	2 Toddler	2	3 +I	3 +I	4 +II	3 +I
9		2	2	3 +I	2	2
10		3 +I	2	3 +I	4 +II	2
11		3	3	2 -I	3	2 -I
12		3	3	3	4 +I	3
13	3 Pre-	3	2 -I	3	4 +I	3
14	school	3	3	3	4 +I	4 +I
15		3	3	3	3	3
16		4	4	5 +I	4	4
17		4	3 -I	3 -I	4	3 -I
18	4 School-	4	3 -I	4	5 +I	3 -I
19	age	4	4	4	5 +I	4
20		3 -I	4	4	5 +I	4
21		4 -I	3 -II	5	5	3 -II
22		4 -I	4 -I	5	4 -I	4 -I
23	5 Adoles-	4 -I	4 -I	4 -I	5	5
24	cent	5	5	4 -I	5	5
25		4 -I	5	5	4 -I	4 -I
26		3	2	2	3	3
27		3	2	2	4	3
28	Behavioral	3	1	3	5	4
29	items	4	3	4	5	3
30		2	2	2	2	3
DEGREE OF DISARRAY		124	125	89	140	131

APPENDIX IX

DEMOGRAPHIC DATA OF PARTICIPANTS IN THE STUDY

MOTHERS' CODE NUMBER AND NUMBER ON THE ABUSE CONTINUUM	MOTHERS' AGE IN YEARS	CHILDRENS' SEX AND AGE IN YEARS	MOTHERS' EDUCATION	PRESENT FULL-TIME INVOLVEMENT OF A SIGNIFICANT MALE	PRESENT FULL-TIME EMPLOYMENT OUTSIDE THE HOME
201-1	26	1 female 2½ years	High school graduate	Yes	Yes
202-1	27	1 female 2½ years	Less than high school	Yes	Yes
203-1	26	1 male 2¼ years	High school plus certificate	No	Yes
204-1	29	1 male 3½ years	High school plus accounting course	No	Yes
206-1	28	1 female 2 years	High school plus 3 years college	No	No
207-1	30	1 male 2-3/4, 1 female 5 yrs	High school graduate	No	Yes
220-1	45	1 male 26, 1 female 27 yrs	Less than high school	Yes	Yes
221-1	32	1 female 7 years	High school graduate	No	Yes
222-1	23	1 female 3½ years	High school plus 2 yrs university	Yes	No
102-2	28	4 males; 1 female, 2-10 yrs	Less than high school	Yes	No
103-2	17	1 male; 1 female, 1-2 yrs	Less than high school	No	No

Appendix IX (Continued)

MOTHERS' CODE NUMBER AND NUMBER ON THE ABUSE CONTINUUM	MOTHERS' AGE IN YEARS	CHILDRENS' SEX AND AGE IN YEARS	MOTHERS' EDUCATION	PRESENT FULL-TIME INVOLVEMENT OF A SIGNIFICANT MALE	PRESENT FULL-TIME EMPLOYMENT OUTSIDE THE HOME
111-2	17	2 male, 1 female, 3-5 yrs	High school graduate	No	No
113-2	21	1 male 4 years	Less than high school	Yes	No
126-2	24	1 female 2 years	High school graduate	No	No
106-3	21	2 females 2, 3 years	High school graduate	No	No
122-3	29	3 males, 1 female, 2-8 yrs	Less than high school	Yes	No
128-3	26	1 female 1 year	Less than high school	No	No
136-3	25	2 males, 1 female, 1-8 yrs	Less than high school	No	No
109-4	29	2 males, 4-5 years	Less than high school	No	Yes
120-4	25	2 males, 2-3 years	Less than high school	No	No
134-4	23	1 male, 1 female, 3-5 yrs	Less than high school	Yes	No
138-4	20	1 female 2 years	Less than high school	Yes	No
110-5	35	1 male, 2 females, 7-12 yrs	Less than high school	No	Yes

APPENDIX X

RAW DATA OF FREQUENCY TABULATION OF ABUSE LEVEL
VERSUS AGE GROUP FOR BEHAVIORAL ITEMS

Item 26: The child obeys authority

	1	2	3	4	5
	Infant	Toddler	Preschool	School age	Adolescent
	<hr/>				
1 Non-abusive		201 220	203		
		202 221	222		
		204 206			
		207			
2 At risk		111 113	102		
		126	103		
ABUSE LEVEL					
3 Neglect			136	106 128	122
4 Suspected		120 134	109 138		
5 Known			110		

Item 27: The child can hold a grudge.

	1	2	3	4	5
	Infant	Toddler	Preschool	School age	Adolescent
ABUSE LEVEL	1 Non-abusive	203 204	201 220 206 221 207	202 222	
	2 At risk		111	102 103 126	113
	3 Neglect	136	106	122 128	
	4 Suspected	120 134	109	138	
	5 Known		110		

Item 28: The child can comfort his parents when they are upset.

	1	2	3	4	5
	Infant	Toddler	Preschool	School age	Adolescent
ABUSE LEVEL	1 Non-abusive	204	201 207 202 220 203 222 206	221	
	2 At risk		103 111 113 126	102	
	3 Neglect		106	122 128 136	
	4 Suspected	120	109 134		138
	5 Known			110	

Item 29: The child understand his parents' expectations.

	1 Infant	2 Toddler	3 Preschool	4 School age	5 Adolescent
1 Non-abusive		204	201 202 206 207	203 220 221	222
2 At risk		102	111	103 113 126	
3 Neglect			106 136	122	128
4 Suspected			120	109 134	138
5 Known			110		

Item 30: The child knows when his parent is frustrated.

	1 Infant	2 Toddler	3 Preschool	4 School age	5 Adolescent
1 Non-abusive	201 203 204	207	202 220 222	206 221	
2 At risk	111 113	103	102		126
3 Neglect	136		106	122 128	
4 Suspected			109 138 120 134		
5 Known				110	

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