

VERBAL ABUSE BY PARENTS WHO MALTREAT OR ARE AT-RISK FOR

MALTREATMENT OF CHILDREN:

PREDICTORS AND INTERVENTIONS.

By

RICHARD THEODORE LANGE

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Dr. Judith Baer

and approved by

Dr. Michael LaSala

Dr. Cassandra Simmel

Dr. Elaine Herzog (UMDNJ)

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ABSTRACT OF THE DISSERTATION

Verbal Abuse by Parents Who Maltreat or Are At-Risk for Maltreatment of Children:

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by RICHARD THEODORE LANGE

Dissertation Director:

Dr. Judith Baer

Excessive verbal abuse by parents is psychologically and emotionally damaging to children. Studies of the effects of verbal abuse on children have found that children exposed to parental verbal abuse develop internalized problems including anxiety, depression, delayed mental development, and general health problems; and externalized behaviors, mainly aggression. These behaviors continue into adulthood. Verbal abuse is an especially acute problem in the population of families at risk of losing their child(ren) because of maltreatment or neglect. Despite the fact that the best way to stop or prevent verbal abuse is to understand its causes, verbal abuse in these families is virtually unstudied; even in the general population, the number of studies is small. This thesis is one of the first studies of the predictors of verbal abuse in at-risk populations.

A secondary analysis of the LONGSCAN longitudinal baseline data (visits at ages 4, 6, and 8) was undertaken to measure the influence of the factors identified in studies of the general population on the likelihood of verbal abuse in a sample of low income, African American, White, and Hispanic mothers (N=862), mostly drawn from an at-risk

population. The Conflicts Tactic Scale was used to categorize mothers as verbally abusive or not, and determine the frequency of verbal abuse. Logistic regression was used to measure the predictive value of the factors identified in studies of the general population. Changes in the rates of verbal abuse from visit 4 to visit 6 and from visit 6 to visit 8 were used to measure the efficacy of interventions.

The results indicate that the demographics of the verbally abusive population were indistinguishable from those of the non-abusive population. The predictors of verbal abuse identified from studies of the general population were found not to be good predictors of abuse in the at-risk group. Anger, manifested by throwing, grabbing, or pushing, however, was found to be highly correlated with verbal abuse. No interventions significantly reduced abuse.

Implications for practice and future research are discussed.

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DEDICATION

To the memory of Edwin Colon Jr., (1981-2004)

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CHAPTER I

INTRODUCTION

Statement of the problem and demographic information

Parents' excessive use of verbal abuse is psychologically and emotionally damaging to children. As such this type of abuse requires prevention and when occurring needs to be stopped (Adams, 2001; Howard, 1996; Lamper, 2003; McKay, Fanning, Paley, & Landis, 1996; Walker, 2003). Research on verbal abuse is scant and only recently have scholars begun to examine the effects, frequency, and predictors of verbal abuse (Johnson et al., 2001; M. H. Teicher, Samson, Polcari, & McGreenerly, 2006).

Data on the effects of verbal abuse on children indicate that children exposed to parental verbal abuse develop internalized problems such as low self-esteem, negative world views (Ney, 1987) and poor self-image (Solomon & Serres, 1999). Moreover, verbally abused children also develop problematic externalizing behaviors such as: being non-compliant (Bousha & Twentyman, 1984; Egeland, Sroufe, & Erickson, 1983), being aggressive towards their parents (Bousha & Twentyman, 1984; Spillane-Grieco, 2000), and displaying behavioral problems (Brenner & Fox, 1998; Vissing & Baily, 1996). As adults, they tend to develop anxiety and depression (Kent & Waller, 1998; Rich, Gidycz, Warkentin, Loh, & Weiland, 2005), personality disorders (Johnson et al., 2001; M. H. Teicher et al., 2006), language processing problems (Khamsi, 2006; M. H. Teicher, Samson, Tomoda, Ashy, & Andersen, 2007), and have poor health habits (Hillis,

Felitti, & Marchbanks, 2001; Williamson, Thompson, Anda, Dietz, & Felitti, 2002).

Intervention studies have primarily focused on parent education interventions and have shown good results (Fetsh, Schultz, & Wahler, 1999; Fox, Fox, & Anderson, 1991), however, there appears to be no research on other forms of intervention such as mental health counseling, support groups for parents, or home visitation.

Little is known about how frequently verbal abuse is actually occurring (Johnson et al., 2001). Available data from national randomized surveys found that 40% to 50% of parents surveyed reported “yelling at children,” three to four times a year (Halfon, McLearn, & Schuster, 2002; Jackson et al., 1999). The more harmful forms of verbal abuse (swearing, cursing, calling the child stupid, etc.) are reported less frequently. However, observers in homes of maltreating families find higher rates of verbal abuse than reported in national samples (Bousha & Twentyman, 1984).

Uncovering the factors that that predict when a parent will be verbally abusive is an emerging research area. Jackson et al. (1999) found seven predictors culled from a national sample. These are: parents with older children, parents who use physical aggression, parents who have anger management problems, parents who have strong religious beliefs and parents who have parental histories of childhood physical and sexual abuse.

Vissing and Baily (1996) in *Family Violence from a Communication Perspective*, argue the need for child-abuse research specifically addressing verbal

abuse. The authors suggest that the traditional methods of researching child abuse, such as measures of physical injury and use of child protective service reports, do not capture family dynamics and verbal interactions.

An adequate research agenda encompasses the larger issues of child abuse prevention and treatment. As defined by The National Clearinghouse on Child Abuse and Neglect Information (2003), child abuse prevention is designed “to stop child abuse and neglect from happening in the first place.” Efforts to prevent child abuse include helping “parents develop their parenting skills, understand the benefits of non-violent discipline techniques, and understand (and meet) their child’s emotional, physical, and developmental needs.” (The National Clearing House on Child Abuse and Neglect Information, 2003)

Preventing child abuse is within the mandate of the field of social work. The National Association of Social Workers (2004) encourages social workers to work “toward cultivating and promoting non-abusive behaviors.” This is an important mission since half of the positions held by social workers are in the areas of child and family social work (N= 274,000) (U.S. Department of Labor, 2005)

The current study adds to the knowledge of the risk factors for verbal aggression and possible interventions especially for families who are involved with the child welfare system, adding to best practice knowledge in preventing and treating a complex behavior. From a broader perspective, this project defines verbal abuse, and its consequences, as an issue of social justice. Programs exist to help adults in intimate relationships reduce verbal aggressive behavior, yet there

few interventions to stop the verbal attacks on children (Vissing, Straus, Gelles, & Harrop, 1991). Children are the voiceless members of society who need advocates for their rights. Social workers invested in providing social justice should not ignore the rights of children (Bojer, 2000).

Defining Verbal Abuse

The term “verbal abuse” is difficult to define; there is no well-established operational definition (Johnson et al., 2001). Throughout the literature there are overlapping descriptions and definitions which vary between psychological-emotional abuse and verbal abuse. However, with careful reading, a pattern emerges that appears to distinguish between the two terms. Psychological-emotional abusive statements are statements made to cause psychological-emotional harm without any *connection* to the child’s *behavior* (Schaefer, 1997). Examples of psychological-emotional abuse are: conveying to children that they are worthless or unloved, inadequate, or valued only insofar as they meet the needs of another person (Department of Health Home Office and Department for Education and Employment, 1999). Psychological-emotional abuse tends to include other non-verbal behaviors such as: creating fear that the child’s life is threatened or in danger, purposely ignoring a child, inappropriate or inconsistent interactions with a child, failure to recognize or acknowledge a child’s individuality and psychological boundaries, and failing to promote a child’s social adaptation (Garbarino, Guttman, & Seeley, 1986; Glaser, 2002).

Verbal abuse, in comparison, tends to be inappropriate statements made when a parent is trying to stop a child's behavior, to control a child, or discipline a child. There is a *connection* to the child's behavior. Richard Gelles, a prominent researcher on family violence, defines verbally abusive statements as "inflicted as a means to some end, (e.g. a parent who attempts to end) some objectionable behavior such as exclaiming, 'Stop it, you dummy'" (Gelles, 1979).

To operationalize this behavior, researchers have used the verbal-abuse definition, (or variations) from the Conflict Tactics Scales Parent-Child (CTS-PC) (Straus, 1988).

It should also be noted that the verbal abuse literature uses the terms "verbal aggression" and "verbal abuse." Again, careful reading shows they are interchangeable, that is, verbal aggression is measuring the same variable as verbal abuse. For this project "verbal abuse" will be used for consistency and its interconnectivity to the term "child abuse."

Research Questions

The study variables were generated from a review of the literature which identified a number of variables from a random general population sample that predicted verbal abuse by a mother. These predictors are: use of physical discipline (Vissing et al., 1991), a history of physical and/or sexual abuse during the mother's childhood, belief in the importance of religion, the child's age, the mother's age (Jackson et al., 1999), the mother's family's income (Black, Smith-Slep, & Heyman, 2001), the mother's physical health, and symptoms of

depression (Lenik-Oberstein, Koers, & Cohen, 1995). As a matter of general interest, although not supported in the literature, the mother's level of education and its predictive value are also examined in this study. This study addresses these variables in a population of families with a history of, or known to be at risk of, child abuse.

Using data from a longitudinal study of families with a history of, or at risk of, child maltreatment, LONGSCAN Studies of Child Abuse and Neglect (Longitudinal Studies of Child Abuse and Neglect, 2001), this research explores the predictive value of the factors listed above in a population of mothers who are considered high risk for maltreatment.

The theoretical background for the study is the proposition that verbal abuse is a result of intergenerational abuse, that is, parents who grew up in families where there was child abuse (physical or sexual) would in turn be abusive toward their children. Verbal abuse was postulated as a learned behavior (Crittenden & Ainsworth, 1989; Kaufman & Zigler, 1989; Rohner & Rohner, 1980; Sedlak, 1997; Sweet & Resick, 1979; Winton & Mara, 2001), or as behavior learned from family role models (Bandura, 1965). Thus the hypothesis that the mothers with a history of childhood physical and/or sexual abuse are at greater risk to verbally abuse than are comparison mothers (mothers not-at-risk).

This research also examines the effectiveness of specific interventions in reducing the frequency of abusive behaviors. This is exploratory research, as up until now, there has not been a study that examined the effectiveness of any intervention, except parenting educational groups, in reducing verbal abuse.

Specifically, this study examines the effectiveness of various intervention in reducing rates of verbal abuse in the two-year spans between the first parental interview (child age 0-4) and the second interview (child age 6), and from the second to the third visit (child age 8). Since the theoretical approach views verbal abuse as possibly intergenerational, it was hypothesized that mothers who sought services for a “personal and emotional problem” and those who “saw a mental health counselor,” might have the largest reduction in verbal abuse since there was the possibility that the intervention would address the parent’s emotions and trauma related to past histories.

Verbal Abuse Prediction Hypotheses

Hypothesis 1: Mothers with a history of childhood physical abuse are more likely to use verbal abuse toward her child than mothers with no childhood history of physical abuse. Mothers from high-risk families will show stronger correlations than mothers from a comparison group.

Hypothesis 2: Mothers with a childhood history of sexual abuse will be more likely to verbally abuse their children than mothers with no childhood history of sexual abuse. Mothers from high-risk families will show stronger correlations than mothers from a comparison group.

Hypothesis 3: Mothers who believe that religion is important are more likely to verbally abuse their children than mothers who do not believe that religion is important. Mothers from high-risk families will show stronger correlations than mothers from a comparison group.

Hypothesis 4: A younger mother is more likely to verbally abuse her child than an older mother. Mothers from high-risk families will show stronger correlations than mothers from a comparison group.

Hypothesis 5: Physically ill mothers more likely to verbally abuse their children than physically healthy mothers. Mothers from high-risk families will show stronger correlations than mothers from a comparison group.

Hypothesis 6: Mothers with depressive symptoms are more likely to verbally abuse their children than parents without symptoms of depression. Mothers from high-risk families will show stronger correlations than mothers from not-high-risk families or not involved in CPS comparison group.

Hypothesis 7: Mothers of older children are more likely to verbally abuse their children than mothers of younger children. Mothers from high-risk families will show stronger correlations than mothers from a comparison group.

Hypothesis 8: Mothers with less education are more likely to verbally abuse their children than mothers with more education. Mothers from high-risk groups will show stronger correlations than mothers from a comparison group.

Interventions to Reduce Verbal Abuse Hypotheses

Hypothesis 1: Mothers in the high-risk category, CPS, not-high-risk category, or not involved in CPS, who reported having services for a “personal or emotional problem” between data collection points at child age 4 and child age 6, and between data collection points 6 and 8, will have a reduction in their verbal abuse scores measured at subsequent data collection child points.

Hypothesis 2: Mental health counseling will reduce verbal abuse more than other interventions, regardless of the number of visits.

CHAPTER II

LITERATURE REVIEW

The Effects on a Child's Self-Esteem

Rohner and Rohner (1980) proposed that parental verbal abuse could lower a child's self-esteem. They observed parents who physically discipline their children tend to "say thoughtless, unkind, and cruel things to or about their children, curse them, (and are) sarcastic towards them" (p.190-191). They surmised that a child subjected to this form of abuse would be "anxious, emotionally unstable, and (one who) devalues his feeling of self-worth and self-adequacy," internalizing "his/her experience of rejection and emotional abuse and generalize these feeling onto the nature of the world as being unfriendly, hostile and an unpleasant place in which to live" (p. 193).

Ney, Moore, McPhee, and Thought (1986) examined the effects of verbal abuse on children. The authors interviewed, using a structured questionnaire, psychiatrically hospitalized children between the ages of five and twelve (N=65). Each child was asked to report on his or her history of abuse; physical (hitting, shakes, burns), verbal (criticism, blaming, humiliating), neglect (insufficient food, clothing, shelter), emotional neglect (avoidance, lack of education) and sexual abuse (exposure, incest). Children were also asked about views of family, self-worth feelings, and their view of the world in general. The children's abuse recollections were verified by interviews with the parents and hospital staff (p. 512).

Ney, et al. (1986) found that children who reported being verbally abused, tended to "strongly blame themselves (for the abuse) when the criticizing or humiliation was

severe” (p. 516-517). These children appear to be “angry at himself and pessimistic about the world” (p. 518). They also found a significant association between verbal abuse and the child’s expectation there will be a nuclear war and also that (the child) will be killed in it (p. 515). Other types of abuse, i.e., physical, neglect, sexual were not significantly associated with this expectation. This work supports Rohner and Rohner’s (1980) idea that children exposed to verbal aggression develop negative world views.

Ney’s et al. research is interesting because they asked the children directly about their views; however, this resulted in several methodological concerns. The sample consisted of children (ages 5-12) admitted to a psychiatric unit for a “variety” of problems (p. 512). While the research demonstrates correlations between childhood abuse, self-blame, and negative world view; a mediating factor could be the mental health of the children. Did the experience of verbal abuse create the poor self-esteem and negative world view or is the poor self-esteem and negative world view a result of a mental illness?

Egeland, Sroufe, and Erickson (1983) also explored the effects of verbal abuse on children. The authors secured a sample of women who were receiving prenatal care (N=104) at a public assistance center in Minneapolis. The women selected were considered at high risk for abusive behaviors due to poverty, limited education, being young (40% were teenagers) and having a substantiated abuse or neglect case with Child Protective Services. Following the birth of their children, at three sampling times, when children were between 3 and 6 months, 12 and 18 months, and then at 24 months, home observations were made of the mothers feeding and playing with their children. From these observations the mothers were divided into four groups of maltreating parents:

physically abusive (N=24), psychologically unavailable (N=19), neglectful (N=24) and hostile/verbally abusive (N= 19). Since physical abuse often accompanies these forms of maltreatment, the authors subdivided the group into those “with physical abuse” and “without physical abuse.” However, the verbally abusive mothers were not subdivided because there were only four mothers in the category “verbally abusive without physical abuse.” Mothers placed into the hostile/verbally abusive group chronically found fault with their children and criticized them in an extremely harsh fashion (p. 462). Eighteen mothers with no abusive behaviors served as a control group.

The authors developed a creative way of measuring a child’s ability to deal with frustration, the “barrier box” task. Children (older than 42 months) were observed playing in a room filled with attractive toys and unattractive toys. In the center of the room was a large Plexiglas box latched so that a young child could not open it, but filled with attractive toys. After a few minutes of play, the assistant removed the attractive toys from the room telling the child they belonged in another room, but that the child was free to take the toys in the box or to play with the other (unattractive) toys. The researchers then watched the child to see what he or she chose to do: make attempts to open the box or passively continue to play with the less attractive toys.

The observers of the barrier-box experiment rated the child’s response on a scale of how much effort was put into getting the attractive toys, the higher the score, the more effort. The results were that children whose mothers were hostile and verbally abusive rated lower on the barrier box task than were children in the other groups (p. 466).

The same children were also observed in a teaching task designed to be difficult, thus requiring the child to ask the mother for help. In these situations, the

hostile/verbally abused children were “less persistent and displayed less enthusiasm for the task (and) the children (during the teaching task) were negative, noncompliant, lacked affection and highly avoidant of the mother” (p. 466) compared to the other groups in the experiment.

This research overcomes the methodological concern of reporting behaviors; however, there are some limitations. The first limitation is the use of home observers. Although this method is better than self-report, there could be possible rater biases. There is a tendency for observers to over-estimate the extent of a behavior, that is, when an observer is asked to identify a behavior, they tend to be over-sensitive and over-report (Rubin & Babbie, 1989). Also the researchers do not report if the raters were blind to the experimental hypotheses, so it is possible that the raters were over sensitive to the parenting behaviors

Another issue is how behaviors change in the presence of an observer. A great deal of research has shown that humans act differently when observed (for an excellent review see the chapter “The mere presence of others” in David Meyer’s *Exploring Social Psychology* (Meyers, 2000)). Egeland et al. (1983) relied on home observations, barrier box observations, and teaching task observations: in each of these situations the family was aware of the observer and may have behaved somewhat differently than if they had not been observed. Also during the barrier box and teaching tasks, the families were in an unfamiliar place, the research center, which might also influence their behavior (Meyers, 2000).

Another concern of Egeland et al. (1983) is that the authors were interested in the effects of all forms of child maltreatment, not just verbal aggression. Even if the authors

were able to find parents who were only verbally abusive, other mediating factors such as poor economic conditions, stressful households, poor health care, and education levels could contribute to a reduction in the child's ability to perform the assigned task effectively. For example, if the child was not in good health, or was feeling stressed, the child would be less prone to be excited about learning a new skill. Another mediating factor contributing to the child's passivity would be the way the family approaches a new skill, if a parent is not interested in learning new skills the child might be similarly predisposed. Despite the limitations of this study, it does provide some evidence that verbal abuse lowers a child's self-esteem and consequently reduces a child's motivation to learn or to follow through on tasks.

A fundamental problem in this area of research is the difficulty in separating the effects of verbal abuse from physical abuse (Briere & Runtz, 1990; Claussen & Crittenden, 1991; Vissing & Baily, 1996). Solomon and Serres (1999), aware of this concern, tried to specifically study children who were *only* verbally abused, to understand whether verbal abuse, on its own, affected self-esteem.

The authors had 144 French Canadian school children, boys and girls ranging from 9 to 11 years, complete a questionnaire asking them to rate their parent's verbal aggression and physical aggression. To measure verbal aggression the children were the following question: *Some kids have a mother or father who...* "yells at them often," "is often rude or impolite to them," "who often says mean things to them like 'get out of my sight' or 'you're a pain in the neck' or 'I can't stand you,'" "who often swears at them," "who often says things to them that make them feel stupid, who says things like 'you're never amount to anything', or 'you'll grow up to be a bum,'" and "who says things like

you're a dummy.'” The children rated the questions on a scale of one to five; one being “almost true” and five “rarely true.”

The researchers selected children who reported experiencing only verbal attacks, without physical abuse (N=94). To measure self-esteem, the children were given the Harter Self-perception Profile for Children (SPPC) (Harter & Brassard, 1990).

The results showed that children, who were verbally attacked, had significant negative correlations with six components of self-esteem: social, physical, scholastic, athletic, behavioral, and global. The authors noted that verbally abuse children harbored the most doubts about their peers accepting them (p. 344). Verbally abused children also did significantly less well in French class (their native language) as indicated by lower grades than their classmates.

Solomon and Serres' (1999) work is significant because they separate verbally abused children from children experiencing multiple types of abuse, making it possible to isolate the effects of verbal abuse on self-esteem. The research is methodologically sound. *The Harter Self-perception Profile for Children* (HSPC) is widely used (there were 77 published studies found using this instrument at that time). Solomon and Seeres reported good reliability (between .77 and .80) on their own scales to measure verbal abuse. The shortcoming of this research was that the statistical effects were numerically small and the sample size was small. Nevertheless, Solomon and Serres have provided support for the proposition that verbal abuse, independent of other types of abuse, has an effect on self-esteem.

The Effects of Parental Verbal Abuse on Children's Anger and Aggression.

Social-learning theory postulates that children learn behaviors from role models (Dietz, 2000; Patterson, DeBaryshe, & Ramsey, 1989; Sweet & Resick, 1979). If a parent behaves aggressively, a child observes this behavior and imitates it. Research has shown that parents, who use corporal punishment, tend to have more aggressive children (Straus, Sugarman, & Giles-Sims, 1997) and families with long histories of intergenerational abuse tend to have children who are aggressive (McMillen & Rideout, 1996). Few studies have examined the relationship between the parents' use of verbal abuse and the child's subsequent aggressive behavior. The following review will focus on literature which uses verbal abuse as an independent variable for childhood aggression.

Bousha and Twentyman (1984) examined mother-child interactions using in-home trained observers. The authors hypothesized that mothers who used more verbal and physical aggression will have children who were more non-compliant and more aggressive when compared to controls.

Mothers were recruited from the New York Department of Social Services. For controls, mothers were recruited from local day care and social service centers. Attempts were made to match demographics (race, social class, and number of children). After observations, three groups, consisting of twelve mothers, were labeled abusive, neglectful, and controlling. Each group was observed in their homes by two trained observers for three consecutive days for 90 minutes. The mothers were told that the researchers were interested in learning what a family does on a typical afternoon.

The observers used a coding system called *interaction language*. Detailed descriptions of each interaction were provided. When the mother or child "threatened,

swore at, yelled at, criticized, called a name, or screamed at another person,” this interaction was coded as verbal aggression. After the authors reviewed the observations, they found that the rate of verbal aggression for abusive mothers was a mean of 12.42 verbal aggressive acts per visit; for neglectful mothers, a mean of 4.58 verbal aggressive acts per visit; and for control mothers, only .08.

What is interesting is the children’s responses appear to mirror the mothers’ behavior. Children in the abusive category responded to their mother with a mean of 4.33 verbal aggressive remarks and cried/whined a mean of 11.42 times. Neglected children had fewer verbal aggressive remarks $M=2.58$ and less crying $M=2.96$. The control group had almost no verbal aggression $M=.013$ and cried or whined only twice per home visit $M=1.92$. In sum, the children in the abusive group were verbally aggressive and cried and whined more than the neglected or control children.

The authors also reported the frequency of non-compliance (not following through on directions). In abusive families the child was observed with a mean of 5.88 non-compliant acts. The neglected children had a mean of .071 non-compliance acts and the control group had a mean of .058.

Bousha and Twentyman (1984) concluded that the effects of both physical and verbal abuse, *but not the neglect*, appear to affect a child’s response to his or her mother by increased vocal-negative behaviors and non-compliance. They suggest social-learning occurs, that is, parents were the model of the behavior.

Questions raised about this research focus on how people change their behavior when observed (Meyers, 2000): Did the mothers behave less physically aggressively because of observations? And if so, did the mothers use more verbal aggression? What

was the reliability of the observers? Did the observers define “screaming” one way with one family and differently with another family? The authors, aware of these reliability issues, checked reports between observers and reported a high correlation (.74 to .98). This study provides some support to the connection between childhood abuse and aggressive behavior.

Vissing, Straus, Gelles, and Harrop (1991) explored the impact of verbal aggression and the probability of a child having behavioral problems. They hypothesized that “the more verbal/symbolic aggression used by parents, the greater the probability that children would manifest psycho-social problems” (p. 229).

The researchers used data from the Second National Family Violence Survey to test their hypothesis. The survey was a thirty-five minute random digit dialing phone interview conducted during the summer of 1985. Households were included if they had at least one child living at home, age 18 or younger, and a parent (coupled, previously coupled, or single). If more than one adult was in the home, a random procedure selected the interviewee. Of the 3,346 parents selected, 37% were fathers and 63% were mothers. When more than one child was in the home, the “referent” child was randomly selected.

To measure verbal interactions, the *Conflict Tactics Scale* (CTS) (Straus, 1988) was used: To measure what the authors believed to be childhood psycho-social problems, the authors defined three areas: *Physical Aggression*: physical fights with another child at home, with non-family children, with adults in family, and with non-family adults. *Delinquency*: vandalism, stealing, drinking, using drugs, or getting arrested. *Interpersonal problems*: trouble making friends, having temper tantrums, failing grades in school, having misbehavior or discipline problems at home or school.

A logistic regression was used to test the hypothesis and an ANOVA analysis to confirm the finding. When the authors examined the logistic regression they found that verbal aggression by parents is more closely associated with aggression by the child than it is with delinquency or interpersonal problems. Moreover, the authors found that this relationship was not affected by the level of physical aggression used by the parent (p. 233).

The results of Vissing et al. (1991) are significant as they are the first findings which suggest that verbal aggression is more strongly related to a child's aggression and interpersonal problems than physical aggression (p.234). However, the authors do concede that the combination of physical and verbal abuse puts children at the highest risk of developing psycho-social problems. Another finding is that gender of the child and socio-economic status of the family did not matter, a variable so far not taken into consideration.

The Vissing et al. (1991) research is complex; it uses the largest sample in the reported literature and appears to be methodologically sound; however some limitation can be noted, starting with the CTS-PC. The original *Conflicts Tactics Scale* was designed to measure conflict between dating, cohabiting, or marital partners. When adapted to measure parenting behaviors, the main modification made was to change the term "your partner" to a "your child." This caused problems, since some of the questions were inappropriate for parenting, but this did not stop its use (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). Straus et al. (1998) reports that the adapted CTS was used in 132 published studies measuring child maltreatment. Because of this high volume, researchers were able to make a good estimate of its validity, and discovered a problem:

the modified CTS found more violence compared to Child Protective Services reports. It appears that the CTS over-measured violence. On the positive side, the other validity tests found that the CTS did fairly accurately capture parent-child conflicts (Straus et al., 1998).

In 1998, Straus and his colleagues revised the CTS. The new version, the *Parent-Child Conflict Tactics Scales* (CTS-PC), had improved measures of child abuse. To test the new CTS-PC, it was administered in telephone interviews conducted by the Gallup Organization on 1000 randomly selected parents and children. Straus et al. (1998) found that the CTS-PC had surprisingly low internal consistency reliability. For validity, the CTS-PC results were compared to other studies using similar measures. The CTSPC results showed similar trends with other research, and the authors concluded that the test was valid.

Brenner and Fox (1998) did a research study on the problems of younger children (five and under). While not specifically interested in verbal abuse, per se, but the effects of poor discipline, the authors found results similar to Vissing et al. (1991). Using a sample of 1056 mothers of children (ages one to five) from 57 day-care centers in a large Midwestern urban population in a middle and upper income range, the mothers were asked to complete the *Parent Behavior Checklist*, to measure the parent's discipline methods and an adapted version of the *Behavioral Screening Questionnaire*, to measure the child's behavior. Correlations were run between the two tests. Controlling for marital status, number of siblings, social class (upper/lower), parents' age, and parents' education, the results showed that the parents' use of *verbal and corporal punishment*

contributed a more unique variance to predicting problem-behavior ratings than all demographic predictors combined.

Brenner and Fox's (1998) study used a sample of middle and upper income parents, a sample that other studies have not used. The test used were validated by Peters and Fox (1993). Some interesting results can be drawn from this study. First, the effects of abuse can be seen in children as young as ages one to five. This could mean that the effects of abuse are almost immediate. Second, the authors found the effects of verbal abuse were independent of demographic variables in the sample (although the demographic variables in this study did not vary widely), confirming the findings of Vissing et al. (1991).

Teenagers are vulnerable to the effects of verbal abuse as well. Spillane-Grieco (2000) tested the hypothesis that aggressive behavior was influenced by the familial environment (p. 414). (Again, returning the idea of social learning.) Twenty-five teenagers (fourteen males and eleven females) in a detention center and twenty-five teenagers (thirteen males and twelve females) in a high school were interviewed about their lives. Using the *Aggression Questionnaire* (Buss & Perry, 1992) and the *Conflict Tactics Scales* (Straus et al., 1998) the author measured aggressive behaviors and perceptions of parenting. Race was evenly split between Caucasian and African-American.

Not surprisingly, Spillane-Grieco (2000) found significantly more aggression (physical and verbal) in the group of teenagers from the detention center than the high school group. However, the difference between the detention group and the control group on *verbal* aggression was "decisive." Spillane-Grieco found that the mothers of the

teenage offenders were verbally aggressive toward the teens, and the teens were verbally aggressive toward their mothers (p.420). Twenty-one detention teens reported being verbally aggressive toward their mother, while only twelve high-school teens reported being verbal aggression. As for physical aggression, the teens were much more aggressive toward their mothers than the mothers were toward them.

The qualitative section of the study found teenagers in the detention center reported being constantly “put down” by both parents, especially their mothers. They were often told they would never amount to anything, often being compared to their fathers or another family member who did not achieve. These teens never remembered their fathers or mothers saying anything positive about them (p.422).

Some limitations of this study were a small sample size, and face-to-face interviews possibly allowing teenagers to try to present themselves as better behaving. Yet, limitations aside, Spillane-Greico’s findings support that verbally abused teens are more verbally aggressive towards their mothers.

Parental Verbal Abuse and the Effects on Adults.

Briere and Runtz (1990) hypothesized that psychological maltreatment selectively impacts on self-esteem (p. 358). To test their hypothesis, the authors randomly selected female undergraduate college students (N=277) from a university level *Introduction to Psychology* and asked them to complete the *Family Experiences Questionnaire*, a tool designed to measure a subject’s recall of past childhood abuse including physical, sexual and psychological abuse. The measure used for psychological abuse asked the participants to recall how frequently their parents or family members:

yelled at them, insulted them, criticized them, tried to make them feel guilty, ridiculed or humiliated them, embarrassed them in front of others, or made them feel like they were a bad person. The authors then asked the participants to complete a questionnaire on current levels of self-esteem, anger/aggression, and sexual behavior.

Using canonical correlation analysis between types of child maltreatment and self-esteem, anger/aggression, and sexual dysfunction, the authors found that psychological attacks and criticism by one's parents appear to be specifically associated with subsequent low self-evaluation, "probably as a result of the child's internalization of parental statements as a basis for self-perception" (p. 361).

The authors used canonical correlation analysis for the data analysis which is an appropriate test for small sample sizes (StatSoft, 2003), however they found only a "moderate internal consistency" for self-esteem ($\alpha=6.4$), dysfunctional sexual behavior ($\alpha=6.6$), and aggression/anger ($\alpha=6.1$). This suggests there might be other factors which could have an effect on self-esteem other than psychological maltreatment (Briere & Runtz, 1990).

Another critical concern is the use of retrospective recall. Retrospective studies (when subjects are asked to recall experiences) are subject to narrative bias, that is, subjects filter their memories through the lens of their present circumstances or emotions. For example, a depressed person might recall his/her past experiences as negative when depressed, but when feeling better might recall the same incident as pleasant (Bem & McConnel, 1970; Holmberg & Holmes, 1994; Markus, 1986).

A minor criticism is that the subjects might have been involved in *hypothesis-guessing* (Cook & Campbell, 1979). Hypothesis-guessing is a phenomenon where the

participant figures out what the researchers are trying to measure and provides answers along those lines. Assuming this is an educated sample, they might try to uncover the motives behind the research, thus damaging the study's construct validity. However, this seems unlikely since hypothesis guessing appears to occur more frequently in face to face interviews than on written surveys (Cook & Campbell, 1979).

Kent and Waller (1998) explored the connection between verbal abuse and anxiety/depression using variables similar to Briere and Runtz (1990), but clarifies the specific role of verbal interactions. Randomly-selected female undergraduate students (N=236) from one nursing college and two universities (psychology students) completed two standardized measurement tools. The first is the *Child Abuse and Trauma Scale* (CATS), a 38-item self-report questionnaire that yields three distinct subscales as a general measure of child abuse and neglect: sexual abuse, punishment, and negative home environments (Sanders & Becker-Lausen, 1995). The authors added to the CATS their own subscales to measure what they labeled as "emotional abuse." The added questions were: Did your parents ridicule you? Did your parents insult you or call you names? Did you feel disliked by either of your parents? How often did your parents get really angry with you? Did your parents ever verbally lash out at you when you did not expect it? Did your parents yell at you? Did your parents blame you for things you did not do? Response choices were 0= never to 4= always. The second measure used, to measure anxiety and depression, was the *Hospital Anxiety and Depression Scale* (HADS) (Zigmond & Snaith, 1983).

Kent and Waller found the added subscale had a high level of internal consistency ($\alpha = .88$). When the authors ran correlations between CATS and HADS scores they

found positive correlations but the association was only moderate. Multiple regressions were used to determine if the CATS scores could predict either anxiety or depression. The results showed that the emotional abuse subscales were “the most consistent predictor of psychopathology (anxiety and depression) among this sample (p. 397).”

The CATS is not a widely used instrument. Tests of reliability and validity were conducted by Sanders and Becker-Lausen (1995) with good results. Later construct validity was measured by Rankin (1999) who compared the CATS to structured interviews and found strong support. The CATS, although not used widely appears to be valid.

Kent and Waller (1998), however, used the *Hospital Anxiety and Depression Scale* (HADS) to measure levels of depression and anxiety. Berard and Ahmend (1995) compared the HADS to two other measurements of depression: the *Beck Depression Scale* and the *Hamilton Rating Scale for Depression*. Using a sample of 121 patients with major depression (aged 17-25 yrs), Berard and Ahmend found the HADS was *not* a useful screening instrument, and its reliability was poor (p.157). Kent and Waller (1998) found only moderate correlations between CATS and HADS measures, which are further evidence that the HADS is probably not a reliable test for depression in this age group (17 to 25 year olds). The relationship that Kent and Waller (1998) found might have been stronger if the anxiety/depression instrument was better, such as the *Beck Depression Inventory*, or if the authors had used multiple tests.

The second methodological concern is similar to the first reviewed article (Ney, 1987). Is it possible that recall bias is taking place? That is, did the emotional abuse

cause the anxiety and depression or did the emotional disturbance cause the subjects to recall their childhood as abusive?

Rich, Gidycz, Warkentin, Loh, and Weiland (2005) found in a college sample of 551 women, enrolled in a psychology class, correlations between those who were verbally abused by their parents, and those who later experienced sexual victimization. To measure childhood abuse and childhood verbal abuse the authors used the *Conflict Tactics Scale*, *The Child Sexual Victimization Questionnaire*, and the *Sexual Experiences Survey* was used to measure past and current sexual victimization. Psychological functioning was measured with the *Impact of Events Scale*, *The Beck Depression Inventory*, and the *Inventory of Personal Problems*. These tests were administered at the start of a 10 week psychology class and again two months later.

Using path analysis the authors found that early verbal abuse (alone) by the parents (compared to early physical or sexual abuse) may be more predictive of greater psychological symptoms (dating violence and depression). The authors write, "It is possible that the psychological abuse by one's parents might be more damaging than physical abuse as it might be more consistent and more indicative of the quality of the relationship between the parents and child" (p. 1392). The authors suggest that emotional abuse thwarts the need for love, belonging, and self-esteem and in turn women were more likely to be involved in dating relationships where violence is present.

One of the study's limitation is the age of the sample as, most likely these women have not have had long-term romantic relationship and the time measured might not be indication of long-term commitments (the measured dating time was only two months). There is also the problem of retrospective recall of their parent's abusive behaviors.

However, this study appears to be well designed and adds support to the idea that one of the damaging effects of childhood verbal abuse is subsequently on the adult's self-esteem.

There appears to be some evidence the verbal abuse might be a factor in the development of borderline personality disorder (Zanarini et al., 1997). Four hundred and sixty seven (467) in-patients at the McLean Hospital in Belmont, Massachusetts were clinically interviewed to determine DSM-III-R status. They were also given the *Revised Childhood Experience Questionnaire* to assess possible childhood abuse. The results found that 91% of the patients with borderline personality disorder also reported some type of children abuse. Of these, the high percentage of cases (75%) reported being emotionally or verbally abused.

Although the number of borderline patients who reported being verbally abuse as a child was high, it is not clear that it is the only cause as the study did not control for other forms of childhood abuse. Also, there are many methodological issues including the accuracy of diagnosing borderline personality disorder in structured interviews (Zimmerman & Mattia, 1999). In addition, there is the problem of retrospective recall, which in this research could be influenced by the patient's personality disorder.

In a study to assess possible causes of the develop of personality disorders (Johnson et al., 2001) the authors used data from community-based longitudinal study to assess if verbal abuse increased the risk for personality disorders. Psychiatric and psychosocial interviews were administered to 715 mothers and their children from two New York counties in 1975, 1983, 1985, 1986, and 1991 to 1993 (children mean ages were 5, 14, 16, and 22). To measure verbal abuse the mothers were asked in 1975, 1983,

and 1985 to 1986 the following questions: Did you scream at your child during the past month? Did you say things like “I’ll send you away or “I don’t love you.” The parents’ response was yes, no. In 1983 and 1985 to 1986, the question; “I tell my child I will hit or smack him/her, if he/she does something I do not like”. The authors considered the parent verbally abusive if two of the questions were answered in the affirmative. To measure personality disorders the study used the *Diagnostic Interview Schedule for Children*, the *Personality Diagnostic Questionnaire* and the *Disorganization Poverty Interviews*. The authors also collected and controlled for physical abuse, sexual abuse, temperament, parental education, parental psychopathology, child age and gender.

The study found 78 children, out of 715 children interviewed, experience verbal abuse. Using logistic regression the authors found that childhood verbal abuse as associated with increased risk for borderline, narcissistic, obsessive-compulsive and paranoid personality disorders.

This research is community based and longitudinal, providing an interesting picture of families who are verbally abusive. It is also important work because the sample is families who are involved in Child Protective Services. Although the study does not provide a good measure of how much verbal abuse is occurring (once a month the child is yelled at and threaten), it could be assumed that these verbal abusive behaviors are occurring much more frequently, especially since there is the clear development of serious personality disorder developing in the children. From this study, there is support of the idea that parental verbal abuse can be very damaging to young adults.

Teicher, Samson, Polcari and McGreeney (2006) provide further support for much of the research reviewed. Five hundred and fifty four (554) subjects between the

ages of 18-22 (68% were female) responded to an advertisement for a research project. The authors asked them to complete the *Verbal Abuse Questionnaire* that consists of 15 items that cover key components of verbal abuse—scolding, yelling, swearing, blaming, insulting, threatening, demeaning, ridiculing, criticizing, and belittling. The subjects were asked if they experience any physical or sexual abuse from a husband, parent or family member and if they had witnessed any domestic violence. To measure psychological problems, the authors used *The Dissociative Experience* and the *Kellner Symptom Questionnaire* which was used to elicit rating of depression, anxiety, anger-hostility and somatic complaints. To measure brain dysfunction, the authors used the *Limbic System Checklist*, which measures symptoms of somatic, sensory, behavioral, and memory symptoms suggestive of temporal lobe epilepsy. The authors then measured the strength of the association between maltreatment history and self-reported symptom scores by calculating the effect sizes and 95% confidence intervals for the subjects that had no maltreatment and subjects exposed to maltreatment (p. 994).

The results showed that childhood exposure to parental verbal abuse was associated with moderate to large effects on the subject measures of dissociation, limbic irritability, depression, and anger-hostility. The authors suggest that exposure to verbal abuse may affect the development of certain brain regions in susceptible individual (p. 997)

The results of this research seem to support the other literature. The findings of subjects who have been verbally abuse as depressed, and angry has been seen in other research (Kent & Waller, 1998; Rich et al., 2005). An important aspect of this study is

that the researchers were able to separate out verbal abuse from other form of childhood abuse.

In follow up research, Martin Teicher (2007) used an exhaustive questionnaire to select 17 people who had suffered severe verbal abuse in childhood but not other forms of abuse. Using brain scans his research team found that subjects exposed to verbal abuse as children had a 10% reduction in the size of a brain region known as the right superior temporal gyrus, the area of the brain that seems to monitor incoming auditory information, compared with those who had not been exposed.

Other Possible Effects of Verbal Abuse

Gilmartin (1985) was interested in the dynamics of “love-shy” men, that is, men who never had any sexual relationships with women, rarely dated, but desired a relationship. The author recruited, for this exploratory study, 200 “love-shy” university students and 100 “love-shy” non-university men between the ages of 35 to 50. Also recruited, as comparison groups, were 200 single not “love-shy” men. The instrument used to assess the men’s interactions with women and to screen out any homosexual tendencies was the *Survey of Heterosexual Interactions*.

The interesting finding is that the love-shy’s parents were remembered as being especially “fast to display their tempers” (p. 435). For example, 53% of the older love-shy, and 47% of the younger “love-shy,” agreed with the statement “my mother was always easily angered and very prone to outbursts of temper” (p.436). Compared with “non-love-shy” whose response rate was only 21%, Gilmartin wrote: “this ego deflating hollering and screaming was an everyday occurrence in the homes of most of the love-

shy. From the time that the love-shys were very small children, the hollering, screaming, belittling and highly critical labels were something which each (love-shy) had always had to live with—until they finally moved out of their parents’ home, usually to attend University” (p. 436).

Williamson, Thompson, Anda, Dietz, and Felitti (2002) explored childhood factors and adult obesity. Patients in a California health maintenance organization (ages 19 to 92) were mailed surveys about their childhood experiences before the age of eighteen (N=13,177). Measures of childhood abuse were adapted from the *Conflict Tactics Scale* (Straus et al., 1998). To measure verbal abuse the survey asked: “How often did a parent, step-parent, or adult living in your home swear at you, insult you, or put you down” (p.1076). Body weight was obtained from the patient’s medical examination.

The authors found physical and verbal abuse strongly associated with body weight and obesity. Using a regression analyses, the authors assessed the risk for being overweight (a Body Mass Index of 40 or greater) and found that the “risk of BMI >40 was more strongly related to childhood abuse than the risk of BMI >30. Being *often verbally abused* (italics mine) had the largest increase, in risk, of 88%. Being often hit and injured increased the risk by 71%, while childhood intercourse and attempted intercourse increased the risk by 42% and 37%” (p.1079).

Williamson et al. (2002) use of a large sample and a dependent variable (Body Mass Index, which did not rely on self-report) is methodologically sound. Their independent variable, past childhood experience, could be subject to recall bias. Plus, and importantly, the authors found results distinguishable from physical and sexual abuse.

Thus, when the authors report that the variable has the largest increase in risk, this measure appears to measure verbal abuse alone.

Hillis, Felitti, and Marchbanks (2001) conducted research on the connection between childhood abuse and later sexual behavior. The authors mailed questionnaires to members of an HMO in San Diego, California, who had a medical exam from August to November 1995 and January to March 1996. Data was collected from 9,508 females. The authors asked about childhood experiences with physical, sexual, and verbal abuse. For verbal abuse two questions from the *Conflict Tactics Scale* (Straus, 1988) were used; “how often did a parent, stepparent, or adult living in your home swear to you, insult you or put you down,” and “how often did a parent, stepparent, or adult living in your home threaten to hit you or throw something at you, but didn’t do it?”

The authors used the Mantel-Haneszel chi-square test for linear trends in proportions to evaluate whether the prevalence of risky sexual behavior increased as the number of categories of children’s adverse experiences increased. Specifically examining verbal abuse, the authors found that increases in the frequency of verbal abuse were consistently associated with increases in believing oneself to be at risk of AIDS, in having 30 or more partners, and in initiating intercourse at an early age (p. 207).

The Hillis et al. (2001) research is based on mailed questionnaires and could be subject to recall bias and honesty of personal details. Yet, the results seem to suggest an increase in risky sexual behavior if there was childhood verbal abuse. As in other research, the authors note a larger increase when both verbal and physical abuses are present.

Separating Out the Effects of Verbal Abuse and the Combination of Verbal and Physical Abuse On Children

The literature review lends supports to the concept that verbal abuse is damaging to children, however it is difficult to understand if the damaging effects are associated with just verbal abuse (*alone*) or the *combination* of physical abuse and verbal abuse (Briere & Runtz, 1990; Claussen & Crittenden, 1991; Vissing & Baily, 1996). To clarify this issue, the reviewed research was sorted by those who controlled for physical abuse and those who did not (Table 1)

The studies which controlled for physical abuse found that verbal abuse *only* was damaging to the self-esteem and appear to create psychological problems in children and adults. Studies that did not control (or could not control) found increased aggressive behavior in children (with one exception). The results seem to follow Rohner and Rohner's (1980) observation that abused children would be "anxious, emotionally unstable, and (one who) devalues his feeling of self-worth and self-adequacy" (p. 193). Thus, the effects of verbal abuse alone could be seen as attacks on the child's ego (negative statements made towards and about the child), resulting in a deflated self-esteem.

As for aggression, researchers have suggested that aggressive behavior is strongly associated with parents who are aggressive (Straus et al., 1997). Thus, it is likely that the combination of physical abuse and verbal abuse might cause aggression in children. It should be noted that when Vissing et al. (1991), controlled for physical abuse, the authors found verbal abuse more strongly related to aggression than physical abuse. Their result

Table 1
Study Comparison for Control of Physical Abuse

Study	Control for physical abuse		Examining the effects on	Results
	Yes	No		
Briere & Runtz (1990)	X		Self-esteem	Adults low self-esteem
Kent & Waller (1998)	X		Self-esteem	Most consistent predictor of depression
Ney (1987)	X		Self-esteem	Negative world view.
Solomon & Serres, (1999)	X		Self-esteem	Children's low self-esteem
Williamson, Thompson, Anda, Dietz, & Felitti, (2002)	X		Body weight (Self-esteem)	Verbal had the largest increase on increase body weight
Egeland, Sroufe, & Erickson (1983)	X		Self-esteem	Children not-compliant (small sample)
Vissing, Straus, Gelles, & Harrop (1991)	X		Aggression	Verbal more than physical relates to child's aggression
Spillane-Grieco, (2000)		X	Aggression	Teens are verbally aggressive toward their mothers.
Bousha & Twentyman, (1984)		X	Aggression	Both physical and verbal affects aggression.
Brenner & Fox (1998)		X	Aggression	Both physical and verbal cause aggression in younger children.
Hillis, Felitti, & Marchbanks, (2001)		X	Sexual behavior	Physical and verbal abuse increase likelihood of unsafe sexual behavior
Johnson et al.,(2001)		X	Personality disorders	Longitudinal study: verbal abuse creates personality disorders.
Rich, Gidycz, Warkentin, Loh, and Weiland (2005)	X		Depression in adults	Verbally abused children had more depression and dating violence as adults
Teicher, Samson, Polcari and McGreeney (2006)	X		Depression	Children verbally abused as children have more depression

suggests that more research is clearly needed to understand the correlations between different types of child abuse and childhood aggressive behaviors.

The Frequency of Verbal Abuse

The previous literature review focused on the effects of verbal abuse on children. A question raised by the review is: what is the frequency? An accurate measurement of verbal abuse is difficult to determine because few studies measure verbal abuse only (Johnson et al., 2001). However, some research exists which can provide a general understanding.

Briere and Runtz (1990) reported the rates of recalled psychological maltreatment in a sample of undergraduate college women. The most recalled maltreatment, more than 20 times a year, as “yelled at,” (38%). Followed by “ridiculed or humiliated” (20%) and “criticized” (19%). It appears that the subjects mainly recall parents being angry (yelling) and less frequently recall personal attacks (ridicule or humiliate you).

The Commonwealth Fund conducted *The Survey of Parents with Young Children* to measure American health and social conditions. The telephone survey, conducted between July 1995 and January 1996, used a stratified random digit dialing program. The sample included 13,020 mothers and 697 fathers with children between the ages of zero and three (African-American and Hispanic parents were over-sampled). One question asked parents to respond “yes” or “no” to statements about disciplining their children. Halfon, McLearn, and Schuster (2002) reported that forty percent (40%) of the parents answered “yes” to the question “yelled at child sometimes or often.” The authors noted that “yelling” was the *highest* rated disciplinary behavior used by parents. (The second

most employed disciplinary practice was, “spanked child sometimes or often” reported by 17% of the parents, and, “hit, slap or shook child sometimes or rarely” also reported by 17% of the parents). Although this research used a large randomized sample, which is statistically sound, the results are limited because the question “yelled at child sometimes or often,” is poorly defined; how much is “sometimes” and “often”: once a day, once a week, or even once a month?

Hemenway, Solnick, and Carter (1994) analyzed data from a survey conducted by the Gordon S. Black Corporation. The survey, conducted February 1988, used a randomly generated telephone number sampling methodology. The sample included 801 adult men and women with children under the age of 18 living in the home. Individuals were asked to recall how often they yelled, spanked, or physically disciplined their children. Response choices were: every day, about once a week, about once a month, less

than once a month, never, or whenever needed. The results for verbal discipline are listed in Table 2.

Table 2

Survey question: How Often Do You Yell At Your Children?

Response	Percentage
Daily	19%
Weekly	36%
At most monthly	25%
Never	9%
Whenever needed	2%
Refused	10%

The data show that about half of the parents (55%) report using verbal discipline daily or at least weekly, with children up to the

age of 18, which roughly agrees with Halfon et al.'s (2002) forty percent.

Bartkowski & Wilcox (2000) also analyzed a national sample. They used *The National Survey of Families and Households Wave One*, a cross-sectional national probability sample of 13,017 adult men and women living in the United States in 1987-88. Minority families were over-sampled, along with single-parent families, and families with step-children. In face-to-face interviews and through self-administered questions, parents of children between the ages of one and eighteen were asked how they interacted with their children. One item asked how often parents “yelled at (their) child.” Response categories include: 1= never, 2= seldom, 3= sometimes, and 4= very often (p. 268). The results showed that the mean reported frequency for parents of children aged one to five was 2.39 (SD=0.85), and for parents of children aged five to eighteen, the mean was 2.67 (SD=0.80). This study has the same methodological problem as that in other studies, an unclear definition of frequency.

Bartkowski & Wilcox (2000) also analyzed a national sample. They used *The National Survey of Families and Households Wave One*, a cross-sectional national probability sample of 13,017 adult men and women living in the United States in 1987-88. Minority families were over-sampled, along with single-parent families, and families with step-children. In face-to-face interviews and through self-administered questions, parents of children between the ages of one and eighteen were asked how they interacted with their children. One item asked how often parents “yelled at (their) child.” Response categories include: 1= never, 2= seldom, 3= sometimes, and 4= very often (p. 268). The results showed that the mean reported frequency for parents of children aged one to five was 2.39 (SD=0.85), and for parents of children aged five to eighteen, the mean was 2.67

(SD=0.80). This study has the same methodological problem as that in other studies, an unclear definition of frequency.

Straus et al. (1998) and Jackson et al. (1999) have the most in-depth review of verbal aggression frequencies. Both studies used data from the 1995 Gallup Poll. The Gallup Poll was conducted using a random digit telephone dialing stratified design covering 94% of all households in the United States with a response rate of 81%, and a total of 1,000 interviews. Forty-nine percent (49%) were minority women: 12% Black and 7% Hispanic. The mean age of the parents interviewed was 36.8, with 52% were married, 15% were remarried, 20% were divorced, 8% never married, and 4% were co-habiting.

Parents of children, from birth to seventeen years old, were asked the complete *Parent Conflict Tactics Scale-PC*, including the twenty-two forms of discipline which the parent might have used in past year. Parents were asked to rate their frequency of using discipline on a seven point scale: 0= never happened, 1= not in the past year, but it happened before, 2= once in the past year, 3= twice in the past year, 4 = 3-5 times in the past year, 5 = 6-10 times in the past year, 6 = 11-20 times in the past year, and 7= more than 20 times in the past year.

Table 3 presents the results of both studies side by side for comparison. Straus et al.'s (1998) results are reported as *prevalence*: “the annual rate of the number per thousand parents who engaged in each CTSPC item during the previous year;” *prevalence lifetime*: “the lifetime rate is the number per thousand who had ever engaged in each CTSPC item with the referent child” (p.254); and *year chronicity*: “applies to the subset of parents who engaged in at least one of the acts in the scale, it indicates how

often those acts occurred in the previous year” (p. 254). Jackson et al. (1999) reports the percentage of parents answering “never happened,” along with the means, standard deviations, and score ranges.

Table 3

Descriptive Statistics For Verbal Abuse Variables

Psychological Aggression	Straus et al. (1998)			Jackson et al. (1999)				
	Prevalence Year	Prevalence Lifetime	Year Chronicity	Never happened N (%)	M	SD	Mdn	Range
Shouted, yelled or screamed at	847	867	12.8	133 (13)	3.70	2.11	4	0-6
Threatened to spank or hit but did not actually do it	536	618	10.5	381 (38)	2.20	2.18	2	0-6
Swore or cursed at	243	260	6.5	738 (74)	.79	1.51	.00	0-6
Called him/her dumb or lazy or some other name like that	163	175	5.7	822 (82)	.52	1.24	.00	0-4
Said you would send him/her away or kicked him/her out of the house.	60	7	3.9	933 (93)	.16	.68	.00	0-6

The most frequent mode of verbal aggression was shouting, yelling, or screaming at the child, this agrees with the findings of other reviewed research. Threatening to spank or hit was second, while swearing or cursing at a child was third. Straus et al. (1998) reports that the swearing at children was still occurring at a “very high rate—243 per thousand” (p. 255).

Jackson's et al. (1999) analysis of the data shows that on *average* a parent will shout, yell, at their children, three to four times a year, a much lower rate than reported in other studies. Parents reported that they threatened to spank at least once in the past year but cursed at their child less than once per year. As these numbers are measures from a general population, they are low. The frequency might be higher for parents who are known to have other abuse behaviors (Egeland et al., 1983).

Predictors of Verbal Abuse.

The literature provides insight into the type of parent who might use verbal abuse. Jackson et al. (1999) continued to analyze data from the 1995 Gallup Poll, developing three categories, *nonphysical discipline* (time-out, explained, grounded, gave the child something else to do), *physical discipline*, (hit child, spanked, threatened to spank, slapped), and *verbal abuse*. Using factor analysis, verbal abuse loaded only on "called child dumb or lazy" (.791) and "swore, cursed at child." (.716). It did not load strongly on "shouted, yelled at child" (.422), so only the two variables were used in the multiple regression. When all 15 variables were entered into the regression, the equations accounted for 21% of the adjusted variance $F(15,984) = 18.36, p < .0001$). Table 4 presents the results for verbal abuse.

From these data, Jackson, et al., drew seven non-redundant variables which they report predict parent verbal abuse: 1) The older the child, the more likely parents were to verbally abuse their child 2) Parents who used physical discipline with their children were more likely to verbally abuse their children. 3) Parents who had difficulty managing their anger were more likely to verbally abuse their children 4) The more important

Table 4

Significant Predictors of Parental Verbal Abuse (Jackson, 1999)

	Multiple R	Adjusted R ²	Beta ^{a,b}
Child Age	0.26	0.07	0.26
Physical Discipline	0.38	0.14	0.29
Anger Mismanagement	0.42	0.17	0.18
Importance of religion	0.43	0.18	0.11
History of Childhood physical abuse	0.45	0.20	0.13
History of childhood sexual abuse	0.46	0.20	0.07
Gender of Parent	0.46	0.21	-0.06

Note. ^a For all betas, $p < .05$ ^b df range from 1,998 to 7,922, in ascending order

religion was to parents the more likely parents were to verbally abuse their children. 5) Parents with a history of childhood physical abuses were more likely to verbally abuse their children 6) Parents with a history of sexual abuse were more likely to verbally abuse their children. 7) Males were more likely than females to verbally abuse their children.

Each prediction will be examined using additional research to either support or refute it. Starting with the first prediction; parents are more likely to be verbally abusive toward an older child than a younger one. Bartkowski & Wilcox (2000) found that parents of preschool children reported yelling *less* than parents of school-age children. Bartkowski & Wilcox's differences are small, the mean reported frequency for parents of

children aged one to five was 2.39 (SD=0.85), and for parents of children aged five to eighteen, the mean was 2.67 (SD=0.80), so support for this prediction is tentative.

Prediction two, physical abuse is likely to increase the use of verbal abuse, has support in the literature (Briere & Runtz, 1990; Claussen & Crittenden, 1991; Egeland et al., 1983; Vissing et al., 1991). There clearly is some indication that verbal abuse and physical abuse are interconnected.

The third predictor is more difficult to confirm: parents who are unable to manage their anger are more likely to verbally abuse their children. Few studies have addressed the psychological causes of verbal abuse. Thompson et al. (1999), analyzed responses from a nationally representative sample of 1000 parents (18-27 years old) on attitudes towards discipline practice and found that those parents who reported the largest amount of physical abuse, verbal abuse, and neglect also reported being unable to control their anger. However, they also reported high levels of childhood abuse, domestic violence, and marital difficulties, so it is almost impossible to determine the role of anger with all these factors.

Assuming that anger is a predictor of verbal abuse, then programs which reduce anger in parents should see a reduction in verbal abuse, which appears to be the case. Fetsh, Schultz, and Wahler (1999) did a preliminary program evaluation of the parenting program RETHINK developed by the Institute for Mental Health Initiatives (1988). Families, seven groups of parents (the authors do not give the group sizes) (N=99), were recruited in Colorado through newsletters, newspapers, radio and television, along with referrals from therapists, physicians, clergy, guidance counselors, attorneys, and other parents. The sample was primarily young, well-educated married white females living in

an urban setting. The results showed the parents, in general, reported better parenting skills after participation, and 88% reported that they “improved their attitude about anger management.” When the authors measured family conflicts they found that overall anger levels fell, reasoning levels rose, and verbal aggression levels fell, along with physical aggression (p. 358).

Nicholson, Anderson, Fox, and Brenner (2002) tested another parenting program, the STAR. The authors recruited parents in a similar manner to Fetsh et al. (1999) but focused on recruiting low-income families from urban areas. The sample of parents of children ages 1-5 years old was small (N=26). The authors tested the STAR parenting program developed by Fox, Fox, and Anderson (1991). Using an *Interview Observational Report*, the facilitator separately rated the parent and child using a 10 point frequency scale on positive and negative behaviors. The authors found a significant increase in parent positive behaviors (physical positive and verbal positive) between pre and post-test and a significant decrease in negative parent behaviors (physical and verbal). Also, on measures of the Brief Anger-Aggression Questionnaire, the parents reported to have significantly reduced their level of anger between pre-test and post.

Some of the concerns when applying these results to verbal abuse would be separating out the connection between anger management and verbal abuse. While the parenting program’s main focus appears to be anger management, other skills are taught. Could other skills, such as developmental expectation and the practical parenting tips, made the difference? For example, if a parent has tools to manage her children better, the children might behave better, thus she get less angry. It is not clear if only the anger management was the cause of the reduction in verbal abuse. On the positive side, this

study does provide us with some direction for understanding the role of anger in controlling verbal abuse. Anger management might be a critical key in developing intervention strategies to reduce the use of verbal abuse.

The fourth predictor is interesting; parents who find religion important are more likely to verbally abuse their children. Why would a parent who holds strong religious views be more likely to verbally abuse a child? Could it be that they hold the children to higher standards, or they feel that they have more of a “right” to correct their children? Bartkowski and Wilcox’s (2000) study complicates this relationship between religion and verbal abuse as they found an opposite result. After analyzing the data from *the National Survey of Families and Households Wave One* they found parents who identify themselves as *conservative* Christians reported *less* yelling than other religious groups. They noted that there was no difference between non-conservative religious families and conservative religious families on the use of physical punishment. Having no explanation for this behavior, the authors reviewed conservative Christian parenting manuals. The authors found that in general “a conservative Protestant parenting specialist (is one) who enthusiastically endorsed the corporal punishment of youngsters, (and) actually opposed the use of yelling as a means of disciplining children (p. 283).” Could there be a difference in verbal abuse and different types of religion? More research is needed in this area.

There is some controversy surrounding the predictors six and seven, which is, parents with a history of childhood physical abuse and sexual abuse were more likely to verbally abuse their child than a parent with a non-abusive childhood. Hemenway et al. (1994), reviewed the Gordon Black Survey (N=810) and found “significant correlations

between being yelled at as a child and yelling as a parent with 20% of the families who reported a history of being yelled at as children, now yelling daily at their children” (p.1016). Lenik-Oberstein et al.(1995) recruited mothers in Amsterdam whose children hospitalized for a medical complaint. Mothers complete surveys on their parenting behaviors and family histories (N=172). The authors found that mothers who reported emotionally abusive behaviors toward their children reported their own parents as less caring and more over-controlling than did the comparison group.

Some of the research presented in the effects of verbal abuse suggests that some form of social learning is occurring. Children raised by verbally abusive parents tend to be verbally abusive towards their mothers (Egeland et al., 1983; Spillane-Grieco, 2000)

The final predictor indicates that male parents are more likely to be verbally abusive than a female parents. Bartkowski & Wilcox (2000) finds the opposite. In their review they found that mothers were more likely to yell than fathers.

Additional Predictors of Verbal Abuse Reported In the Literature

Lyons-Ruth, Wolfe, Lyubchin, & Steingard (2002) analyzed data from the Commonwealth Fund Survey of Parents with Young Children (age 1 to 36 months, N= 2017), and found yelling increased as parental depression increased. The authors noted that symptoms of depression were “the most consistent predictor of parents’ negative behaviors toward their young children. The odds of mothers yelling, spanking, feeling aggravated, and composite negative behavior rise by 31 to 38 percent with each additional depressive symptom (p. 248).” It is possible that the intergenerational parenting is not the cause of the tendency toward using verbal abuse, but the depression

which results from being raised in an abusive household. Other research shows that *as* adults these children are depressed, anxious (Bousha & Twentyman, 1984; Egeland et al., 1983) which could lead to the parent having more abusive behavior.

Black, Smith-Slep, and Heyman, (2001) concluded from a meta-analysis of the psychological-abuse literature that low income families were at greater risk for verbal abuse. Sedlak (1997) reported the same finding after reviewing data of maltreating families. These studies are suggestive enough of a link between socio-economic status and child abuse.

Bartkowski & Wilcox, (2000) found parents were *less* likely to yell if they are older, thus age might be a predicting factor.

Lenik-Oberstein et al.'s (1995) study of mothers in Amsterdam found that mothers who reported emotionally abusive parenting behaviors also reported more physical illness in the past year than did controls.

Literature Review Summary

Children who experience some form of verbal abuse appear to develop negative world views (Ney, 1987) and lower self-esteem (Solomon & Serres, 1999). They were observed to be less compliant (Bousha & Twentyman, 1984; Egeland et al., 1983) and tended to do poorer in school (Solomon & Serres, 1999). Verbally abused children tended to be more aggressive toward their parents (Bousha & Twentyman, 1984; Spillane-Grieco, 2000) and display more observable problem behaviors (Brenner & Fox, 1998; Vissing & Baily, 1996). As adults they develop psychological and possible personality disorders (Johnson et al., 2001; M. H. Teicher et al., 2006; Zimmerman & Mattia, 1999)

and poor health habits (Hillis et al., 2001; Williamson et al., 2002). These effects appear to occur regardless of demographics (Brenner & Fox, 1998; Vissing et al., 1991). Studies which controlled for the combination of physical and verbal abuse found that verbal abuse alone mainly affected the child's self-esteem.

What the literature does not tell us is which has more of a profound effect on a child, physical abuse or verbal abuse? There is some slight evidence from Williamson et al. (2002), and Solomon and Serres (1999) that verbal abuse produces more of an effect on a child's self-esteem than physical abuse. However, it is difficult to sort out the effects in all these studies. Plus, it is difficult to find homes where parents use only verbal abuse (see Vissing & Baily, 1996).

Another question is what type of verbal abuse has more of a profound effect on children? There is some evidence that "insulted or swore at the child," "called child dumb or lazy" and "said something to spite the child" might have greater negative effects as evidenced by higher correlations between these variables and childhood problems (Vissing, et al., 1991)

The literature provides only a slight understanding of how frequently and how much verbal abuse is used. We can conclude that about 40% to 50% of parents use "yelling" as a disciplinary technique (Halfon et al., 2002) at least somewhere between "sometimes and often" (Bartkowski & Wilcox, 2000). But "sometimes and often" could mean at least once per week (Hemenway et al., 1994) or at least on the average of three to four times a year (Jackson et al., 1999). The more abusive styles of verbal abuse including "swore or cursed at," "called him/her dumb or lazy or some other name like that," and "said you would send him/her away or kicked him/her out of the house,"

appear less frequently within random samples of parents. Such parent samples report engaging in these behaviors at just barely once a year or never. However, Bousha and Twentyman (1984) found, using home visits of abusive families, 12.42 verbal aggressive statements per visit. Gilmartin (1985) found in his sample the clients recalled verbal abuse in the home “everyday.” It appears that the frequency of verbal abuse increase as the parent is more prone to abusive behaviors, and these surveys did not collect data from these parents.

The literature presents a picture that the type of parent who uses verbal abuse tends to be a female with children over the age of five, who uses physical discipline and most likely grew up in an abusive home (Jackson et al., 1999). The roles of religion and anger are not as conclusive (Bartkowski & Wilcox, 2000).

CHAPTER III

METHODOLOGY

Sample

LONGSCAN studies were initiated at five different sites, Baltimore (EA), Chicago (MW), San Diego (SW), Seattle (NW), and North Carolina (SO). All sites were primarily urban except for North Carolina (SO). Each site's cohort of children were enrolled when the identified child was four-years-old. LONGSCAN plans to follow each child until they are twenty-years old. Data collection points are planned for ages 3, 4, 6, 8, 12, 16, 18, and 20. Currently only 4, 6, and 8 are available for analysis.

Sample of Biological Mothers

The sample consists of mothers (non-biological mothers were not included) who completed the Conflict Tactics Scale (CTS) (Straus et al., 1998), at three collection times (visits 4, 6, and 8). Data collection began when the children were four-years-old from four sites (EA, MW, NW, and SO). Nine hundred and thirty (930) caregivers completed the Conflict Tactics Scale (CTS). The number and percentage of biological mothers were, EA (N=212) (90%), MW (N=211) (96 %), NW (N=179) (72%), and SO (N=196) (88%), for a total of 798 biological mothers. During the age six data collection, an additional site was added (SW). At visit 6, 1,225 caregivers completed the CTS. The number and percentage of biological mothers completing the CTS were EA (N= 214) (84%), MW (N= 206) (93%), NW (N= 159) (68%), SO (N=183) (83%), and SW (N=100) (33%); a total of 862 biological mothers. When the child was eight years old (visit 8), 1131

completed the CTS, of these, the biological mothers were EA, (N=197) (83%), MW (N=201) (94%), NW (N= 143) (64%), SO (N=147) (80%), SW (N=84) (30%); a total of 772 biological mothers.

LONGSCAN Site Description and Sample

To achieve statistical power and to “ensure that findings were not specific to a unique sample or intervening agency” studies sites were varied in their selection criteria (2001). The following describes each site and sample composition.

—The EA (Baltimore) cohort was selected from a pre-existing sample of 282 children who receive medical services from three pediatric clinics serving low-income inner-city children. The clinic staff identified two risk factors for inclusion in the study: failure to thrive (children under 25 months of age who had a weight-for-age that was below the 5th percentile of the Health Statistics growth chart, ruling out pre-mature birth or illness as a cause (N=103)), or if the mother was HIV infected or had pre-natal drug use (N=68). The not-at-risk group had no identified risk factors with the exception of being low-income (N=111).

The mothers who completed the CTS when their child was age four (both high-risk and not-at-risk) were mainly African-American (93%). Most mothers were single (73%) and only 14% were married. The income range was from \$5,000 to \$9,999 per year. Most of the mothers (32%) report having four other people dependent on the family income. Income for many of the mothers was Aid for Families for Dependent Children (AFDC) (78%), Medicaid (74%) and food stamps (85%). At the EA site, 53% of the

parents completed high school (or equivalent), 47% did not graduate from high school and 39% completed a post-high-school vocational certification (see Table 5).

At age 6, the demographics (Medicaid and food stamp data was not collected at visit 6) hardly change, but there is a slight increase (73%) in the percentage of mothers who by this point completed high school or its equivalent and the proportion of married mothers increases slightly to 19% (see Table 6). At age 8, the demographics remain the same except that the number of members dependent on the family's income increases from 4 to 5 (57%). The incomes of these mothers remain low (Table 7).

The EA site (Baltimore) differs from the other sites in that it includes a larger proportion of African-American families. Also, few of the mothers were married at the start of the data collection and more than two-thirds have never been married.

—The MW (Chicago) site collected data from mothers with infants averaging about 10 months of age (at the time of recruitment) up to age four. To control for geography and social economical status, all the mothers were located within the Northern District boundaries of Chicago (the CPS North District office) and all the mothers had household incomes below the federal poverty threshold. If the household had at least one report of substantiated child abuse or neglect within twelve months of the target child's recruitment, the household was considered "maltreating." The control families had no substantiated reports of maltreatment within twelve months of recruitment.

In the maltreating sample, eighty-two mother-child (82) dyads were indentified through social service agencies after the family had been referred for long-term (3 to 18 months) clinical interventions such as support counseling or psychotherapy. One hundred (100) addition mother-child maltreating samples were referred through the State

Table 5

Demographics of All Mothers at All Sites Visit 4

Respondent Race	FIELD CENTER				
	EA	MW	NW	SO	Total
White	10 (5%)	49 (23%)	117 (65%)	75 (38%)	251 (32%)
Black	197 (93%)	117 (56%)	33 (18%)	119 (61%)	466 (59%)
Hispanic	1 (1%)	33 (16%)	4 (2%)	1 (1%)	39 (5%)
Native American		3 (1%)	4 (2%)		7 (1%)
Asian			3 (2%)		3 (2%)
Mixed	1 (1%)	6 (3%)	15 (8%)	1 (1%)	23 (3%)
Other	2 (1%)	2 (1%)	3 (2%)		7 (1%)
Total	211	210	179	196	796

Table 5 Continued

Demographics of All Mothers at All Sites Visit 4

Marital status	FIELD CENTER				
	EA	MW	NW	SO	Total
Married	30 (14%)	49 (23%)	40 (22%)	70 (36%)	189 (24%)
Single	154 (73%)	136 (65%)	82 (46%)	96 (49%)	468 (59%)
Separated	15 (7%)	7 (3%)	18 (10%)	17 (9%)	57 (7%)
Divorced	11 (5%)	17 (8%)	38 (21%)	13 (7%)	79 (10%)
Widowed	1 (1%)	1 (1%)	1 (1%)		3 (3%)
Total	211	210	179	196	796

Table 5 Continued

Demographics of All Mothers at All Sites Visit 4

Total family income	FIELD CENTER				
	EA	MW	NW	SO	Total
Less than \$5,000	55 (26%)	25 (12%)	5 (3%)	52 (27%)	137 (17%)
\$5,000 to \$9,999	75 (36%)	68 (32%)	75 (42%)	42 (22%)	260 (33%)
\$10,000 to \$14,999	26 (12%)	45 (21%)	38 (22%)	29 (15%)	138 (18%)
\$14,000 to \$19,999	21 (10%)	27 (13%)	22 (12%)	23 (12%)	93 (12%)
\$20,000 to \$24,999	11 (5%)	21 (10%)	10 (6%)	20 (11%)	62 (8%)
\$25,000 to \$29,999	8 (4%)	8 (4%)	13 (7%)	9 (5%)	38 (5%)
\$30,000 to \$34,999	4 (2%)	5 (2%)	9 (5%)	5 (3%)	23 (3%)
\$35,000 to \$39,999	4 (2%)	2 (1%)	1 (1%)	3 (2%)	10 (1%)
\$40,000 to \$44,999	1 (1%)	2 (1%)	1 (1%)	2 (1%)	6 (1%)
\$45,000 to \$49,999	2 (1%)	1 (1%)	1 (1%)	1 (1%)	5 (1%)
\$50,000 or more	3 (1%)	6 (3%)	2 (1%)	5 (3%)	16 (2%)
Total	210	210	177	191	788

Table 5 Continued

Demographics of All Mothers at All Sites Visit 4

# dependent on family income	FIELD CENTER				
	EA	MW	NW	SO	Total
1	1 (1%)	1 (1%)		1 (1%)	3 (0.4%)
2	26 (12%)	17 (8%)	21 (12%)	14 (7%)	78 (10%)
3	54 (26%)	44 (21%)	54 (30%)	55 (28%)	207 (26%)
4	67 (32%)	45 (21%)	48 (27%)	61 (31%)	221 (28%)
5	40 (19%)	50 (24%)	29 (16%)	27 (14%)	146 (18%)
6	14 (7%)	21 (10%)	16 (9%)	21 (11%)	72 (9%)
7	4 (2%)	14 (7%)	5 (3%)	10 (5%)	33 (4%)
8		8 (4%)	3 (2%)	2 (1%)	13 (2%)
9	1 (1%)	7 (3%)	1 (1%)	2 (1%)	11 (1%)
10	2 (1%)	1 (1%)	1 (1%)	1 (1%)	5 (1%)
11	1 (1%)	1 (1%)			2 (0.3%)
12		1 (1%)			1 (0.1%)
Total	210	210	178	194	792

Table 5 Continued

Demographics of All Mothers at All Sites Visit 4

Income Source	FIELD CENTER				
AFDC	EA	MW	NW	SO	Total
No	46 (22%)	68 (32%)	54 (30%)	99 (51%)	267 (34%)
Yes	166 (78%)	142 (68%)	125 (70%)	97 (50%)	530 (67%)
Total	212	210	179	196	797
Receives Medicaid	FIELD CENTER				
	EA	MW	NW	SO	Total
No	56 (26%)	55 (26%)	45 (25%)	62 (32%)	218 (27%)
Yes	156 (74%)	155 (74%)	134 (75%)	134 (68%)	579 (73%)
Total	212	210	179	196	797
Receives food stamps	FIELD CENTER				
	EA	MW	NW	SO	Total
No	31 (15%)	51 (24%)	45 (25%)	86 (44%)	213 (27%)
Yes	181 (85%)	159 (76%)	134 (75%)	110 (56%)	584 (73%)
Total	212	210	179	196	797

Table 5 Continued

Demographics of All Mothers at All Sites Visit 4

High school education	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
Did not graduate High School	94 (53%)	80 (51%)	31 (34%)	71 (46%)	24 (39%)	300 (47%)
High School	66 (37%)	47 (30%)	25 (28%)	66 (43%)	28 (46%)	232 (36%)
GED	18 (10%)	29 (19%)	35 (39%)	18 (12%)	9 (15%)	109 (17%)
Total	178	156	91	155	61	641

Post High school education	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
None	128 (60%)	117 (57%)	72 (46%)	133 (73%)	55 (55%)	505 (59%)
Vocation degree	77 (36%)	75 (37%)	62 (39%)	37 (20%)	33 (33%)	284 (33%)
Associate Degree	7 (3%)	7 (3%)	14 (9%)	9 (5%)	7 (7%)	44 (5%)
Bachelor's		4 (2%)	10 (6%)	2 (1%)	2 (2%)	18 (2%)
Master's		1 (1%)		1 (1%)	3 (3%)	5 (1%)
Total	212	204	158	182	100	856

Table 6

Demographics of All Mothers at All Sites Visit 6

Race-respondent	FIELD CENTER						Total
	EA	MW	NW	SO	SW		
White	10 (5%)	40 (20%)	107 (67%)	63 (34%)	34 (34%)	254 (30%)	
Black	201 (95%)	122 (60%)	30 (19%)	120 (66%)	35 (35%)	508 (59%)	
Hispanic		32 (16%)	4 (3%)		18 (18%)	54 (6%)	
Native American		1 (1%)	1 (1%)		2 (2%)	4 (1%)	
Asian			1 (1%)			1 (0.1%)	
Mixed	1 (1%)	6 (3%)	11 (7%)		6 (6%)	24 (3%)	
Other		3 (2%)	5 (3%)		5 (5%)	13 (2%)	
Total	212	204	159	183	100	858	

Table 6 Continued

Demographics of All Mothers at All Sites Visit 6

Marital status-respondent	FIELD CENTER						Total
	EA	MW	NW	SO	SW		
Married	38 (18%)	45 (22%)	60 (38%)	73 (40%)	35 (35%)	251 (29%)	
Single	141 (67%)	124 (61%)	49 (31%)	78 (43%)	24 (24%)	416 (49%)	
Separated	18 (9%)	13 (6%)	6 (4%)	16 (9%)	14 (14%)	67 (8%)	
Divorced	10 (5%)	18 (9%)	44 (28%)	12 (7%)	23 (23%)	107 (13%)	
Widowed	5 (2%)	4 (2%)		4 (2%)	4 (4%)	17 (2%)	
Total	212	204	159	183	100	858	

Table 6 Continued

Demographics of All Mothers at All Sites Visit 6

Total family income	FIELD CENTER						Total
	EA	MW	NW	SO	SW		
Less than \$5,000	52 (25%)	29 (14%)	5 (3%)	40 (22%)	3 (3%)	129 (15%)	
\$5,000to \$9,999	64 (31%)	48 (24%)	35 (22%)	40 (22%)	10 (10%)	197 (23%)	
\$10,000 to\$14,999	30 (14%)	41 (20%)	24 (15%)	40 (22%)	26 (27%)	161 (19%)	
\$14,000 to \$19,999	24 (12%)	19 (9%)	22 (14%)	20 (11%)	15 (16%)	100 (12%)	
\$20,000 to \$24,999	15 (7%)	19 (9%)	14 (9%)	14 (8%)	9 (9%)	71 (8%)	
\$25,000 to \$29,999	6 (3%)	17 (8%)	7 (5%)	10 (6%)	4 (4%)	44 (5%)	
\$30,000 to \$34,999	3 (1%)	7 (3%)	16 (10%)	6 (3%)	4 (4%)	36 (4%)	
\$35,000 to \$39,999	6 (3%)	6 (3%)	2 (1%)	4 (2%)	10 (10%)	28 (3%)	
\$40,000 to \$44,999	4 (2%)	6 (3%)	12 (8%)	1 (1%)	6 (6%)	29 (3%)	
\$45,000 to \$49,999	3 (1%)	5 (3%)	5 (3%)	2 (1%)	4 (4%)	19 (2%)	
\$50,000 or more	2 (1%)	6 (3%)	14 (9%)	4 (2%)	6 (6%)	32 (4%)	
Total	209	203	156	181	97	846	

Table 6 Continued

Demographics of All Mothers at All Sites Visit 6

# dependent on family income	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
1	4 (2%)	5 (3%)	1 (1%)	4 (2%)	1 (1%)	15 (2%)
2	28 (13%)	14 (7%)	12 (8%)	13 (7%)	10 (10%)	77 (9%)
3	58 (27%)	37 (18%)	30 (19%)	49 (27%)	17 (17%)	191 (22%)
4	64 (30%)	50 (25%)	44 (28%)	60 (33%)	18 (18%)	236 (28%)
5	36 (17%)	44 (22%)	43 (27%)	28 (15%)	16 (16%)	167 (20%)
6	13 (6%)	18 (9%)	15 (10%)	19 (10%)	22 (22%)	87 (10%)
7	6 (3%)	20 (10%)	8 (5%)	5 (3%)	8 (8%)	47 (6%)
8		7 (3%)	4 (3%)	1 (1%)	4 (4%)	16 (2%)
9	1 (1%)	2 (1%)	1 (1%)	2 (1%)	1 (1%)	7 (1%)
10		4 (2%)		1 (1%)	1 (1%)	6 (1%)
11	1 (1%)	3 (2%)			1 (1%)	5 (1%)
13	1 (1%)					1 (0.1%)
Total	212	204	158	182	99	855

Table 6 Continued

Demographics of All Mothers at All Sites Visit 6

Income Source	FIELD CENTER					
AFDC	EA	MW	NW	SO	SW	Total
No	77 (36%)	97 (48%)	84 (53%)	94 (51%)	39 (39%)	391 (46%)
Yes	135 (64%)	107 (53%)	74 (47%)	89 (49%)	61 (61%)	466 (54%)
Total	212	204	158	183	100	857

Table 7

Demographics of All Mothers at All Sites Visit 8

Race-respondent	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
White	10 (5%)	40 (20%)	107 (67%)	63 (34%)	34 (34%)	254 (30%)
Black	201 (95%)	122 (60%)	30 (19%)	120 (66%)	35 (35%)	508 (59%)
Hispanic		32 (16%)	4 (3%)		18 (18%)	54 (6%)
Native American	1 (1%)	1 (1%)		2 (2%)	4 (1%)	8 (1%)
Asian			1 (1%)			1 (0.1%)
Mixed	1 (1%)	6 (3%)	11 (7%)		6 (6%)	24 (3%)
Other		3 (2%)	5 (3%)		5 (5%)	13 (2%)
Total	212	204	159	183	100	858

Table 7 Continued

Demographics of All Mothers at All Sites Visit 8

Marital status- respondent	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
Married	46 (19%)	59 (28%)	90 (41%)	68 (37%)	138 (51%)	401 (36%)
Single	144 (61%)	123 (58%)	74 (33%)	72 (39%)	52 (19%)	465 (41%)
Separated	21 (9%)	16 (8%)	12 (5%)	27 (15%)	21 (8%)	97 (9%)
Divorced	19 (8%)	14 (7%)	43 (19%)	11 (6%)	46 (17%)	133 (12%)
Widowed	7 (3%)	2 (1%)	3 (1%)	6 (3%)	15 (6%)	33 (3%)
Total	237	214	222	184	272	1129

Table 7 Continued

Demographics Of All Mothers At All Sites Visit 8

Total family income	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
Less than \$5,000	30 (13%)	39 (18%)	14 (6%)	29 (16%)	6 (2%)	118 (11%)
\$5,000to \$9,999	51 (22%)	47 (22%)	27 (12%)	43 (24%)	12 (5%)	180 (16%)
\$10,000 to\$14,999	50 (22%)	28 (13%)	36 (16%)	40 (22%)	48 (18%)	202 (18%)
\$14,000 to \$19,999	30 (13%)	25 (12%)	23 (11%)	23 (13%)	38 (15%)	139 (13%)
\$20,000 to \$24,999	21 (9%)	17 (8%)	21 (10%)	13 (7%)	23 (9%)	95 (9%)
\$25,000 to \$29,999	18 (8%)	12 (6%)	25 (11%)	16 (9%)	18 (7%)	89 (8%)
\$30,000 to \$34,999	11 (5%)	13 (6%)	15 (7%)	8 (4%)	22 (8%)	69 (6%)
\$35,000 to \$39,999	9 (4%)	10 (5%)	14 (6%)	2 (1%)	23 (9%)	58 (5%)
\$40,000 to \$44,999	4 (2%)	7 (3%)	8 (4%)	5 (3%)	13 (5%)	37 (3%)
\$45,000 to \$49,999	6 (3%)	2 (1%)	12 (6%)		19 (7%)	39 (4%)
\$50,000 or more	3 (1%)	13 (6%)	25 (11%)	3 (2%)	40 (15%)	84 (8%)
Total	233	213	220	182	262	1110

Table 7 Continued

Demographics of All Mothers at All Sites Visit 8

# dependent on family income	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
1	4 (2%)	5 (3%)	1 (1%)	4 (2%)	1 (1%)	15 (2%)
2	28 (13%)	14 (7%)	12 (8%)	13 (7%)	10 (10%)	77 (9%)
3	58 (27%)	37 (18%)	30 (19%)	49 (27%)	17 (17%)	191 (22%)
4	64 (30%)	50 (25%)	44 (28%)	60 (33%)	18 (18%)	236 (28%)
5	36 (17%)	44 (22%)	43 (27%)	28 (15%)	16 (16%)	167 (20%)
6	13 (6%)	18 (9%)	15 (10%)	19 (10%)	22 (22%)	87 (10%)
7	6 (3%)	20 (10%)	8 (5%)	5 (3%)	8 (8%)	47 (6%)
8		7 (3%)	4 (3%)	1 (1%)	4 (4%)	16 (2%)
9	1 (1%)	2 (1%)	1 (1%)	2 (1%)	1 (1%)	7 (1%)
10		4 (2%)		1 (1%)	1 (1%)	6 (1%)
11	1 (1%)	3 (2%)			1 (1%)	5 (1%)
13	1 (1%)					1 (0.1%)
Total	212	204	158	182	99	855

Table 7 Continued

Demographics of All Mothers at All Sites Visit 8

Income source:		FIELD CENTER					
AFDC	EA	MW	NW	SO	SW	Total	
No	77 (36%)	97 (48%)	84 (53%)	94 (51%)	39 (39%)	391 (46%)	
Yes	135 (64%)	107 (53%)	74 (47%)	89 (49%)	61 (61%)	466 (54%)	
Total	212	204	158	183	100	857	
Receives Medicaid		FIELD CENTER					
Receives Medicaid	EA	MW	NW	SO	SW	Total	
No	122 (52%)	84 (39%)	111 (50%)	68 (37%)	92 (34%)	477 (42%)	
Yes	115 (49%)	130 (61%)	111 (50%)	116 (63%)	177 (66%)	649 (58%)	
Total	237	214	222	184	269	1126	
Receives food stamps		FIELD CENTER					
Receives food stamps	EA	MW	NW	SO	SW	Total	
No	97 (41%)	90 (42%)	150 (68%)	98 (53%)	198 (73%)	633 (56%)	
Yes	140 (59%)	123 (58%)	72 (32%)	86 (47%)	73 (27%)	494 (44%)	
Total	237	213	222	184	271	1127	

Table 7 Continued

Demographics of All Mothers at All Sites Visit 8

Education	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
Did not graduate High School	79 (48%)	64 (47%)	28 (33%)	46 (40%)	20 (44%)	237 (43%)
High School	68 (42%)	41 (30%)	33 (39%)	53 (46%)	18 (39%)	213 (39%)
GED	17 (10%)	31 (23%)	23 (27%)	17 (15%)	8 (17%)	96 (18%)
Total	164	136	84	116	46	546

Post High School	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
None	117 (59%)	105 (53%)	70 (50%)	100 (69%)	33 (41%)	425 (56%)
Vocation degree	69 (35%)	75 (38%)	56 (40%)	32 (22%)	35 (43%)	267 (35%)
Associate Degree	10 (5%)	13 (7%)	9 (6%)	12 (8%)	11 (14%)	55 (7%)
Bachelor's		6 (3%)	5 (4%)	1 (1%)		12 (2%)
Master's	1 (1%)		1 (1%)	1 (1%)	2 (3%)	5 (1%)
Total	197	199	141	146	81	764

CPS workers. The non-maltreating sample was identified by community health and social-service agencies.

Of the mothers completing the CTS when their child four-years-old, both maltreating and non-maltreating, a majority, (56%), are African-American and only 23% are white. Most (65%) mothers are single and 23% are married. The income range is from \$5,000 to \$9,999 per year for 32% of the mothers. Twenty-four percent (24%) report having five other people dependent on the family income. Other sources of income are AFCD (68%), Medicaid (74%), and food stamps (76%). No data on Medicaid or food stamps was collected for visit 6. There was a slight drop in mothers receiving benefits by the time of visit 8, AFCD dropped to 53%, Medicaid dropped to 61%, and food stamps dropped to 58% (see Table 6 and Table 7).

At the MW sites, 49% of the parents completed high school (or equivalent) and 51% did not graduate from high school. This proportion remained fairly constant throughout the period of data collection (see Table 6 and Table 7).

The MW sample, while mainly African-American families, does include a significant number of Hispanic mothers (15%). The data were collected using face to face interviews because many of the mothers did not have phones.

—The NW (Seattle) sample were children who were reported to CPS for maltreatment and assessed to be “likely to be re-referred” in the absence of an intervention. Maltreatment was documented in 144 cases. The not-at-risk sample were reported to CPS but not substantiated (no maltreatment was discovered) (N=110).

The NW sample had a higher number of white mothers completing the CTS (65%); African-Americans were the next largest (18%). Forty-six percent (46%) of the

mothers were not married, and twenty-two percent (22%) were married. The income range was within the range of \$5,000 to \$9,999 per year (42%) which increased slightly with each visit. The number dependent on the family income was three (30%). Similar to the other sites, 70% of the mothers receive AFDC, 75% Medicaid, and 75% food stamps. By visit 8, there is a reduction in the number of mother receiving AFDC (47%), Medicaid (50%), and food stamps (32%). Most (67%) of the mothers completed high school; the percentage remained constant for subsequent visits (Table 5, Table 6, and Table 7).

—The SW sample (San Diego) was drawn from a cohort of children residing in the central and southern regions of San Diego County who were removed from their homes between April 1900 and October 1991 when the child was younger than 3.5 years of age. This site only provides information on at-risk mothers because it does not include a “not-at-risk” group.

The majority of mothers completing the CTS are either white (34%) or African-American (35%); there are a small number of Hispanic mothers (18%). The percentage of single mothers was smaller (24%) than at the other sites. The income range was slightly higher than at the other sites, the largest number (27%) falling within the range of \$10,000 to \$20,000. Forty percent of the mothers receive ADFC, 57% receive Medicaid, and 46% receive food stamps. The number of people dependent on the family income was slightly more than the other sites with six dependent members (22%). Sixty-one percent (61%) completed high school by visit 8 (Table 5, Table 6, and Table 7).

The SW sample provides a sample of parents who have a history of maltreatment so severe it was cause enough to remove the child from the home.

—The SO (North Carolina) is a sample of children who were not originally selected because of maltreatment. Between 1985 and 1987, 788 newborns were identified as “high risk” by the state public-health-tracking program. Mothers of the newborns were recruited from hospitals and health departments in 37 diverse North Carolina counties. At age 3, 751 of the study’s original children were included in LONGSCAN. Since the initial study, 74 children who were identified as high risk at birth were reported to CPS. The other families were considered high risk at birth but *not* reported to CPS (N=147). There was a small sample of children who were not high risk and not reported to CPS (N=15).

The mothers completing the CTS were either African-American (66%) or Caucasian (34%). Forty-nine (49%) of the mothers were single at the first visit, but this dropped slightly by visit 8 (39%). The income range was low, mainly in the range from less than \$5,000 a year for 27% of the mothers, which improved slightly for each visit. The number of people dependent of this income was four (31%) and remained this way for the three visits. Fifty percent (50%) were on AFDC, 68% on Medicaid and 56% for food stamps, however by visit 8 all the mothers receiving benefits had reduced by about 10%. Fifty-five percent (55%) completed high school, 45% did not (Table 5, Table 6, and Table 7).

It should be noted that the caregivers in this sample were older than in the other sites as the sample had been part of another study which was already in process.

Survey

At the request of the National Center on Child Abuse, the LONGSCAN Consortium was formed in 1989 to investigate the antecedents and consequences of child maltreatment. Funding for the LONGSCAN research was provided by the Office on Child Abuse and Neglect, a division of the Children's Bureau, and the U.S. Department of Health and Human Services. Planning grants were awarded to the University of North Carolina and the Juvenile Protection Association of Chicago. In turn, the planning committee enlisted leaders in the field of child maltreatment research for guidance and oversight. The committee "designed a series of independent but overlapping" longitudinal studies focusing on different high-risk populations for child maltreatment (Longitudinal Studies of Child Abuse and Neglect, 2001). The project took nine months to design, and implementation began in 1991. The LONGSCAN data are licensed by the National Data Archive on Child Abuse and Neglect and Cornell University, Ithaca.

The goals of the data collection were to increase the understanding of: 1) the factors that increase the risk of maltreatment in its different forms, 2) the relationship between the consequence of maltreatment and its nature, timing, duration, severity, and child-age environment, 3) the factors that affect the severity of the harm caused by the different forms of maltreatment, 4) the factors that increase the probability of positive outcomes and contribute to the child's well-being despite maltreatment and other adverse life circumstances, and 5) the strength and weaknesses of various societal interventions including child welfare programs, foster care, mental health services, and criminal justice interventions (Longitudinal Studies of Child Abuse and Neglect, 2001).

Parent/caregiver interviews were conducted when the children were 4 years old. Both mother and child were interviewed when the child was 6 years old. These interviews took place, whenever possible, within a familiar environment (home or school), with the exception of the EA site, where the interviews were conducted in a clinical setting. Questionnaires were administered orally to control for literacy levels. The length of the interview ranged from 90 to 150 minutes with an average of 120 minutes. Mothers received \$25 in compensation. Periodical contact was made with the parent between data collection point to ensure adherence to the project and to reduce attrition.

Sites are linked at the University of North Carolina at Chapel Hill, where an infrastructure was created to share data, measurements, definitions, and collection strategies, as well as provide training, data entry, and data management. Some sites are supplementing the LONGSCAN research with additional measures.

The LONGSCAN Consortium designed the data collection within the framework of the ecological-development theory, a theory whose tenet is that childhood development is “embedded within a series of nested social systems” where parents, family, neighborhood, and culture all play a role (Longitudinal Studies of Child Abuse and Neglect, 2001). The LONGSCAN Consortium attempts to characterize the ecology of the subjects by including multiple indicators of constructs and external sources of data such as census data to describe the environment in which children are being raised.

To provide uniformity across sites, the LONGSCAN Consortium has set up a Coordinating Center to provide ongoing training, documentation, coordination of data, and oversight of measurements. Training is centralized for each data collection point. Technical assistance is provided for all sites with emphasis on the more complex data

collecting instruments. Raw data is sent to the Coordinating Center, which conducts double-entry verification and assessments of inter-observer reliability. Errors in data are sent back to the sites for correction.

Variables

At risk: The data were coded for high-risk, not-high-risk, CPS, and non-CPS.

Table 8 shows how the data are organized.

Table 8

Organization Of Risk Factors: LONGSCAN Data

Site	High risk	Not High risk
SO	At risk CPS reported Not high risk, but reported to CPS At risk: but not CPS reported	Not high risk, not reported to CPS
EA	Failure to thrive Parent's drug use or HIV exposed in utero	Clinic comparison
MW	CPS six months of family therapy treatment CPS, regular services	Neighborhood control
NW	CPS reported, substantiated	Not substantiated CPS report
SW	Reported in foster care but reunified with biological parent at age 4	No control group

Table 9 lists the number of mothers in each group. For most of the sites the high-risk group had about twenty more mothers than the not-at-risk group: EA, N=117 high-risk, N=95 not-at-risk; MW, N=125 high-risk, N=86 not high risk; and NW, N=100 high-risk,

Table 9

High-Risk and Not-High-Risk Mothers All Sites At All Visits

Visit	Field Center	High risk (%)		Not high risk (%)		Total
4	EA	117	(55%)	95	(45%)	212
	MW	125	(59%)	86	(41%)	211
	NW	100	(56%)	79	(44%)	179
	SO	181	(92%)	15	(8%)	196
6	EA	117	(55%)	97	(45%)	214
	MW	125	(61%)	81	(39%)	206
	NW	88	(55%)	71	(45%)	159
	SO	164	(90%)	19	(10%)	183
	SW	97	(97%)			100
8	EA	99	(50%)	98	(50%)	197
	MW	136	(68%)	63	(32%)	199
	NW	89	(63%)	52	(37%)	141
	SO	101	(69%)	46	(31%)	147
	SW	81	(100%)			81

Note: Three mother's status were unknown and removed from data

N=79 not-at-risk. The SO group has lowest number of not-at-risk mothers (N=19) in contrast to their high-risk group (N=181). The numbers remain fairly consistent for following visits except the SO which increased the not-at-risk group to N=46 at visit 8.

Physical abuse: LONGSCAN interviewers determine the extent of physical abuse by asking mothers at visit 4 and visit 6, “How many times in the past year, when you have had a problem with child did you threaten to spank, throw smash or kick

something (not child), throw something at him/ her, grab him/ her, shake him/ her, push or shove him/ her you spank him/ her, and slap him/ her? Parent responses were coded as 0 = Never, 1 = Once, 2 = Twice, 3 = 3–5 times, and 4 = More than 5 times.

At visit 4, the highest means were for spanking children, SO (M=3.22), EA (M=2.25) and MW (M= 2.08). High-risk mothers at the same visit, spanking the child continued to be the highest means SO (M=3.19) and EA (M=2.75). There was little change in the not-at-risk group for spanking SO (M= 3.6), EA (M= 2.98) and MW (M 2.14).

At visit 6, the trend continued with spanking the child as the highest mean scores for all mothers SO (M= 3.03), EA (M=2.28) and MW (M= 1.80). High-risk mothers spanked their children at a mean of 3.01 in the SO, a mean of 2.14 in the EA and mean of 1.74 in the MW site. Spanking is the most frequent behavior for the not-high-risk mothers: SO (M=3.16), EA (M= 2.44), and MW (M= 1.89).

At visit 8, more variables were added to the CTS. The parents were asked if in the last six months they “threw, smash, hit, or kicked something (not the child),push, grabbed or shove him/ her, spanked him/her, slapped him/her, kicked, or bit child, hit him/her with a fist or a switch or a belt or a hairbrush, beat him/her up.” Note: the questions “Did you, burn him or her, or scald him or her with hot water, threaten him/ her with a knife or gun, use a knife or a gun on him / her?” did not have any responses and were dropped. Mother responses were coded as 0=no or 1=yes.

Spanking the child continued to be the most frequently applied discipline for all the mothers MW (M=0.74), NW (M=0.60), and EA (M=0.54) at visit 8. High-risk mothers spanked at a slightly higher rate MW (M=0.82), NW (M=0.69). Not-at-risk

mothers also reported spanking as the most frequently used method of discipline, MW (M=0.72), EA (M= 0.61), and NW (M=0.41) (Table 10).

Mother's history of victimization: The LONGSCAN interview asks the mothers several questions about their history of victimization: "If you don't mind, now I'd like to ask you some more specific questions about experiences you may or may not have had when you were growing up. When you were a child or teenager: Were you ever physically hurt by a parent or someone else like hit, slapped, beaten, shaken, burned, or anything like that? When you were a child or teenager: Were you ever punished or disciplined by someone in such a way that you were bruised or physically injured? Before you were age 13? Did anyone older than you ever try or succeed in touching your breasts or genitals? Before you were age 13? Did anyone older than you ever try or succeed in touching your breasts or genitals? Before you were age 13: Did anyone ever try or succeed in having any kind of sexual intercourse? Before you were age 13: Did anyone ever try or succeed in having any kind of sexual intercourse? When you were a teen: Did anyone ever force you to touch their genitals, against your wishes? When you were a teen: Did anyone ever force you to have sexual intercourse against your wishes? Since you've been an adult: Have you ever been hit, slapped, beaten, or pushed around by someone? Since you've been an adult have you been physically hurt or physically threatened by someone in any other way? Since you've been an adult: Has anyone ever sexually assaulted or raped you?" The responses were coded 0 = no and 1 = yes.

Table 10
Physical Abuse Means Visit 4

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Grab child	Shake child	Push or shove child	Spank child	Slap child
EA	Not high risk	μ	2.96	0.33	0.13	1.94	0.69	0.43	2.98	0.44
		N	95	95	95	95	95	95	95	95
		σ	1.406	0.904	0.588	1.57	1.221	1.048	1.139	0.997
	High risk	μ	3.1	0.44	0.06	1.69	0.5	0.19	2.75	0.31
		N	117	117	117	117	117	117	117	117
		σ	1.213	1.062	0.302	1.411	1.014	0.706	1.312	0.96
	Total	μ	3.04	0.39	0.09	1.8	0.58	0.3	2.85	0.37
		N	212	212	212	212	212	212	212	212
		σ	1.302	0.994	0.453	1.486	1.113	0.882	1.24	0.977
MW	Not high risk	μ	2.22	0.08	0.09	0.78	0.21	0.09	2.14	0.17
		N	86	86	86	86	86	86	86	86
		σ	1.458	0.412	0.424	1.269	0.721	0.5	1.448	0.723
	High risk	μ	2.24	0.16	0.05	0.8	0.15	0.06	2.03	0.07
		N	125	125	125	125	125	125	124	124
		σ	1.568	0.677	0.28	1.301	0.648	0.343	1.492	0.426
	Total	μ	2.23	0.13	0.07	0.79	0.18	0.07	2.08	0.11
		N	211	211	211	211	211	211	210	210
		σ	1.521	0.584	0.346	1.285	0.678	0.414	1.472	0.567

Table 10 Continued
Physical Abuse Means Visit 4

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Grab child	Shake child	Push or shove child	Spank child	Slap child
		μ	0.67	0.1	0.03	0.43	0.05	0.03	0.71	0.09
	Not high risk	N	79	79	79	79	79	79	79	79
		σ	0.473	0.304	0.158	0.498	0.221	0.158	0.457	0.286
		μ	0.66	0.03	0.03	0.37	0.03	0.02	0.74	0.05
NW	High risk	N	100	100	100	100	100	100	100	100
		σ	0.476	0.171	0.171	0.485	0.171	0.141	0.441	0.219
		μ	0.66	0.06	0.03	0.4	0.04	0.02	0.73	0.07
	Total	N	179	179	179	179	179	179	179	179
		σ	0.473	0.241	0.165	0.491	0.194	0.148	0.447	0.251

Table 10 Continued
Physical Abuse Means Visit 4

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Grab child	Shake child	Push or shove child	Spank child	Slap child
		μ	3.4	0.33	0	0.93	0	0.13	3.6	0.13
	Not high risk	N	15	15	15	15	15	15	15	15
		σ	1.121	0.724	0	1.1	0	0.516	0.91	0.516
		μ	3.04	0.24	0.08	1.08	0.33	0.13	3.19	0.14
SO	High risk	N	181	181	181	181	181	181	181	181
		σ	1.345	0.8	0.414	1.352	0.824	0.591	1.07	0.634
		μ	3.07	0.25	0.07	1.07	0.31	0.13	3.22	0.14
	Total	N	196	196	196	196	196	196	196	196
		σ	1.33	0.793	0.399	1.332	0.796	0.584	1.062	0.624

Table 10 Continued
Physical Abuse Means Visit 4

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Grab child	Shake child	Push or shove child	Spank child	Slap child
Total	Not high risk	μ	2.09	0.19	0.08	1.09	0.32	0.19	2.1	0.24
		N	275	275	275	275	275	275	275	275
		σ	1.551	0.632	0.428	1.372	0.875	0.712	1.465	0.75
	High risk	μ	2.41	0.23	0.06	1.01	0.27	0.11	2.35	0.15
		N	523	523	523	523	523	523	522	522
		σ	1.555	0.778	0.322	1.309	0.771	0.516	1.465	0.636

Table 10 Continued

Physical Abuse Means Visit 6

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Push grab or shove child	Shake child	Push or shove child	Spank child	Slap child
EA	Not high risk	μ	2.77	0.13	0.07	1.39	0.51	0.19	2.44	0.11
		N	97	97	97	97	97	97	97	97
		σ	1.381	0.623	0.415	1.483	1.156	0.697	1.479	0.454
	High risk	μ	2.52	0.24	0.07	1.33	0.47	0.33	2.14	0.26
		N	117	117	117	116	117	117	117	117
		σ	1.506	0.773	0.314	1.419	1.013	0.947	1.432	0.79
	Total	μ	2.64	0.19	0.07	1.36	0.49	0.27	2.28	0.19
		N	214	214	214	213	214	214	214	214
		σ	1.453	0.709	0.362	1.445	1.078	0.844	1.458	0.661
MW	Not high risk	μ	2.05	0.09	0.04	0.72	0.15	0.15	1.89	0.19
		N	81	81	81	81	81	81	81	81
		σ	1.532	0.424	0.247	1.267	0.635	0.594	1.557	0.743
	High risk	μ	2.15	0.12	0.07	0.97	0.08	0.06	1.74	0.1
		N	125	125	125	124	125	125	125	125
		σ	1.592	0.451	0.425	1.385	0.468	0.292	1.491	0.593
	Total	μ	2.11	0.11	0.06	0.87	0.11	0.09	1.8	0.14
		N	206	206	206	205	206	206	206	206
		σ	1.566	0.44	0.365	1.342	0.539	0.438	1.516	0.656

Table 10 Continued
Physical Abuse Means Visit 6

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Push grab or shove child	Shake child	Push or shove child	Spank child	Slap child
NW	Not high risk	μ	0.77	0.08	0.04	0.45	0.06	0.1	0.68	0.17
		N	71	71	71	71	71	71	71	71
		σ	0.421	0.28	0.203	0.501	0.232	0.3	0.471	0.377
	High risk	μ	0.67	0.08	0.01	0.34	0.05	0.03	0.66	0.07
		N	88	88	88	88	88	88	88	88
		σ	0.473	0.272	0.107	0.477	0.209	0.183	0.477	0.254
	Total	μ	0.72	0.08	0.03	0.39	0.05	0.06	0.67	0.11
		N	159	159	159	159	159	159	159	159
		σ	0.452	0.275	0.157	0.489	0.219	0.244	0.473	0.318
SO	Not high risk	μ	3.42	0.21		0.63	0.21		3.16	0.16
		N	19	19	19	19	19	19	19	19
		σ	0.692	0.918		1.212	0.713		1.068	0.688
	High risk	μ	3.05	0.21	0.08	1.17	0.23	0.11	3.01	0.14
		N	164	164	164	163	164	164	164	164
		σ	1.391	0.722	0.457	1.496	0.737	0.508	1.352	0.606
	Total	μ	3.09	0.21	0.07	1.11	0.22	0.1	3.03	0.14
		N	183	183	183	182	183	183	183	183
		σ	1.34	0.742	0.433	1.475	0.733	0.482	1.324	0.613

Table 10 Continued
Physical Abuse Means Visit 6

Site	Risk Status		Threaten to spank	Throw, hit some- thing	Throw some- thing at child	Push grab or shove child	Shake child	Push or shove child	Spank child	Slap child
SW	Not high risk	μ	2.18	0.31	0.03	1.1	0.1	0.12	1.42	0.1
		N	97	97	97	97	97	97	97	97
		σ	1.479	0.882	0.226	1.425	0.586	0.582	1.42	0.395
	High risk	μ	4	1	0.67	2.67		1	3	
		N	3	3	3	3	3	3	3	3
		σ	0	1.732	1.155	1.155	0	1.732	1	
	Total	μ	2.23	0.33	0.05	1.15	0.1	0.15	1.47	0.1
		N	100	100	100	100	100	100	100	100
		σ	1.49	0.911	0.297	1.438	0.577	0.642	1.432	0.389
Total	Not high risk	μ	2.07	0.11	0.05	0.88	0.26	0.14	1.86	0.15
		N	268	268	268	268	268	268	268	268
		σ	1.491	0.522	0.302	1.262	0.828	0.554	1.505	0.557
	High risk	μ	2.26	0.19	0.06	1.02	0.2	0.13	1.96	0.14
		N	591	591	591	588	591	591	591	591
		σ	1.571	0.669	0.354	1.369	0.695	0.58	1.537	0.58
	Total	μ	2.21	0.17	0.06	0.98	0.21	0.14	1.93	0.14
		N	862	862	862	859	862	862	862	862
		σ	1.549	0.634	0.345	1.34	0.738	0.579	1.526	0.572

Table 10 Continued
Physical Abuse Scores Visit 8

Site	Risk Status		Threaten to hit, throw some- thing at child	Throw hit some- thing due to child behavior	Push or grab or shove child	Spank child	Slap child	Kick or bite or hit child with fist	Hit/try to hit child with some- thing	Beat up child due to behavior
EA	Not high risk	μ	0.17	0.03	0.12	0.47	0.03		0.16	0.01
		N	98	98	98	98	98		98	98
		σ	0.407	0.303	0.329	0.56	0.173		0.512	0.101
	High risk	μ	0.15	0.04	0.17	0.59	0.04	0.04	0.12	0.05
		N	99	99	99	99	99	99	99	99
		σ	0.388	0.198	0.453	0.756	0.198	0.317	0.358	0.262
	Total	μ	0.16	0.04	0.15	0.53	0.04	0.02	0.14	0.03
		N	197	197	197	197	197	197	197	197
		σ	0.396	0.255	0.396	0.667	0.186	0.225	0.44	0.2
MW	Not high risk	μ	0.3	0.08	0.13	0.71	0.02		0.25	
		N	63	63	63	63	62	63	63	63
		σ	0.638	0.326	0.336	0.869	0.127		0.595	
	High risk	μ	0.2	0.06	0.11	0.82	0.02	0.01	0.33	0.01
		N	136	136	136	136	135	136	136	135
		σ	0.514	0.266	0.314	0.893	0.148	0.086	0.645	0.086
	Total	μ	0.23	0.07	0.12	0.79	0.02	0.01	0.31	0.01
		N	199	199	199	199	197	199	199	198
		σ	0.557	0.286	0.321	0.885	0.141	0.071	0.629	0.071

Table 10 Continued
Physical Abuse Scores Visit 8

Site	Risk Status		Threaten to hit, throw some- thing at child	Throw hit some- thing due to child behavior	Push or grab or shove child	Spank child	Slap child	Kick or bite or hit child with fist	Hit/try to hit child with some- thing	Beat up child due to behavior
NW	Not high risk	μ	0.15	0.02	0.09	0.74	0.02		0.17	
		N	46	46	46	46	45	46	46	46
		σ	0.515	0.147	0.285	0.855	0.149		0.529	
	High risk	μ	0.21	0.01	0.13	0.5	0.01		0.22	
		N	78	78	78	78	78	78	78	78
		σ	0.493	0.113	0.437	0.698	0.113		0.501	
	Total	μ	0.19	0.02	0.11	0.59	0.02		0.2	
		N	124	124	124	124	123	124	124	124
		σ	0.5	0.126	0.387	0.765	0.127		0.51	
Total	Not high risk	μ	0.21	0.04	0.12	0.6	0.02		0.19	
		N	207	207	207	207	205	207	207	207
		σ	0.512	0.284	0.321	0.742	0.155		0.541	0.07
	High risk	μ	0.19	0.04	0.13	0.67	0.03	0.02	0.24	0.02
		N	313	313	313	313	312	313	313	312
		σ	0.471	0.215	0.394	0.815	0.158	0.187	0.539	0.159
	Total	μ	0.19	0.04	0.13	0.64	0.03	0.01	0.22	0.01
		N	520	520	520	520	517	520	520	519
		σ	0.488	0.245	0.366	0.787	0.157	0.145	0.539	0.131

Table 11 summarizes the number and percentage of mothers who reported a history of victimization. The largest number of mothers reported at visit 4 a history of childhood physical abuse, SO (N=72), MW (N=59), and NW (N=48). The EA site had a split between childhood physical abuse and being founded as a child (N=41). The pattern continues at visit 6 with the SO site reporting more mothers having a history of childhood physical abuse (N=93). There are also many who report that they were beaten (46% of the mother reporting victimization) and up to 20% of the mothers reported being sexually assaulted as an adult. A history of victimization was not collected at visit 8.

Parent’s belief in the importance of religion: The LONGSCAN interview asks mothers: “How important are your religious or spiritual beliefs in the way you raise your children?” Responses were coded as 1 = not important 2 = somewhat important and 3 = very important. Mothers were also asked; “In the last year, how often did you attend religious or spiritual services?” Responses were coded as 0 = never 1 = 1 – 2 times 2 = 3 – 12 times 3 = 2 – 3 times a month 4 = once a week 5 ≥ once a week.

Table 12 summarizes the means and numbers of mothers reporting how important religion was in raising children and Table 13 displays frequencies of attending services for all three visits. For mothers at visit 4, 408 mothers report that religion is very important; this dropped to 237 mothers at visit 6, and then increased to the highest level (533) at visit 8. From all sites, the majority of mothers report that religion is important and attend services two to three times a month.

Table 11

Number and Percentage of Mothers Reporting History of Victimization Visit 6

History of victimization	Risk ^a	FIELD CENTER				
		EA	MW	NW	SO	SW
Mo as child: physical abuse	NAR	41 (19%)	65 (32%)	41 (26%)	93 (51%)	38 (38%)
	HR	23 (20%)	38 (30%)	22 (25%)	82 (50%)	278 (32%)
Mo as child: excessive punishment	NAR	28 (13%)	43 (21%)	35 (22%)	69 (38%)	32 (32%)
	HR	18 (15%)	23 (18%)	17 (20%)	58 (35%)	207 (24%)
Mo < 13:fondled	NAR	44 (21%)	56 (27%)	34 (21%)	69 (38%)	35 (36%)
	HR	30 (26%)	33 (26%)	20 (27%)	59 (36%)	238 (28%)
Mo < 13:forced fondle	NAR	23 (11%)	28 (14%)	22 (14%)	28 (15%)	16 (16%)
	HR	15 (13%)	16 (13%)	13 (15%)	25 (15%)	117 (14%)

Table 11 Continued

Number and Percentage of Mothers Reporting History of Victimization Visit 6

History of victimization	Risk ^a	FIELD CENTER				
		EA	MW	NW	SO	SW
Mo < 13:sex intercourse	NAR	30 (14%)	38 (18%)	22 (14%)	32 (18%)	12 (12%)
	HR	18 (15%)	22 (18%)	13 (15%)	26 (16%)	134 (16%)
Mo as teen: fondled	NAR	32 (15%)	54 (26%)	29 (18%)	58 (32%)	25 (25%)
	HR	19 (16%)	32 (26%)	16 (18%)	53 (32%)	198 (23%)
Mo as teen: forced fondle	NAR	19 (11%)	23 (14%)	12 (14%)	23 (15%)	13 (16%)
	HR	14 (12%)	14 (11%)	6 (7%)	20 (12%)	90 (14%)
Mo as teen: sex intercourse	NAR	24 (11%)	41 (20%)	21 (13%)	41 (22%)	20 (20%)
	HR	14 (12%)	25 (20%)	11 (12%)	37 (23%)	147 (17%)

Table 11 Continued

Number and Percentage of Mothers Reporting History of Victimization Visit 6

History of victimization	Risk ^a	FIELD CENTER				
		EA	MW	NW	SO	SW
Mo as adult: beaten	NAR	67 (31%)	90 (44%)	66 (42%)	115 (63%)	57 (58%)
	HR	34 (29%)	55 (44%)	38 (43%)	101 (61%)	395 (46%)
Mo as adult :other phys abuse	NAR	25 (12%)	30 (15%)	25 (16%)	68 (37%)	31 (31%)
	HR	14 (12%)	19 (15%)	15 (17%)	54 (32%)	179 (21%)
Mo as adult: s ex assault	NAR	28 (13%)	25 (12%)	13 (8%)	46 (25%)	16 (16%)
	HR	22 (19%)	15 (12%)	9 (10%)	39 (23%)	128 (15%)

^a Risk values are: “NAR” = Not-at-risk; “HR” = High risk

Table 12

*Mothers' Mean Report of Importance of Religion**Visit 4.*

Risk Status	Mother's view of religion	FIELD CENTER				
		EA	MW	NW	SO	SW
Not High risk	Not Important	7 (7%)	18 (22%)	12 (15%)	(0%)	7 (7%)
	Somewhat important	37 (39%)	29 (35%)	37 (47%)	5 (33%)	37 (39%)
	Very Important	50 (53%)	36 (43%)	30 (38%)	10 (67%)	50 (53%)
		94 (100%)	83 (100%)	79 (100%)	15 (100%)	94 (100%)
High risk	Not Important	9 (8%)	13 (11%)	13 (13%)	16 (9%)	9 (8%)
	Somewhat important	49 (42%)	46 (37%)	44 (44%)	49 (27%)	49 (42%)
	Very Important	246 (100%)	225 (100%)	215 (100%)	95 (100%)	246 (100%)
Total		7 (7%)	18 (22%)	12 (15%)	(0%)	7 (7%)

Table 12 Continued

*Mothers' Mean Report of Importance of Religion**Visit 6.*

Risk Status	Mother's view of religion	FIELD CENTER				
		EA	MW	NW	SO	SW
Not High risk	Not Important	9 (9%)	6 (8%)	4 (6%)	1 (5%)	
	Somewhat important	20 (21%)	29 (36%)	32 (45%)	2 (11%)	
	Very Important	67 (70%)	45 (56%)	35 (49%)	16 (84%)	
High risk	Not Important	6 (5%)	8 (7%)	7 (8%)	10 (6%)	8 (8%)
	Somewhat important	36 (31%)	32 (26%)	26 (30%)	34 (21%)	26 (27%)
	Very Important	74 (64%)	82 (67%)	54 (62%)	120 (73%)	63 (65%)
Total		116	122	87	164	97

Table 12 Continued

*Mothers' Mean Report of Importance of Religion**Visit 8.*

Risk Status	Mother's view of religion	FIELD CENTER		
		EA	MW	NW
Not High risk	Not Important	4 (5%)	4 (6%)	4 (7%)
	Somewhat important	20 (23%)	12 (18%)	23 (41%)
	Very Important	65 (73%)	51 (76%)	29 (52%)
High risk	Not Important	8 (5%)	9 (6%)	9 (7%)
	Somewhat important	40 (27%)	39 (27%)	39 (29%)
	Very Important	99 (67%)	98 (67%)	86 (64%)
Total		147	146	134

Table 13
*Mothers' Mean Report of Frequency of Attending Services
 Visit 4.*

Religion is not important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	0.88	16	1.36	0.78	9	1.394
MW	0.45	31	1.091	0.31	13	0.630
NW	0.72	25	1.370	0.77	13	1.536
SO	0.75	16	1.238	0.75	16	1.238
Total	0.66	88	1.240	0.65	51	1.214

Religion is somewhat important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	1.41	86	1.268	1.37	49	1.253
MW	1.25	75	1.220	1.13	46	1.087
NW	1.02	81	1.204	1.05	44	1.180
SO	1.35	54	1.276	1.41	49	1.273
Total	1.25	296	1.243	1.24	188	1.203

Religion is very important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	2.22	108	1.555	2.02	58	1.433
MW	2.4	101	1.550	2.46	65	1.562
NW	2.38	73	1.672	2.42	43	1.776
SO	2.44	126	1.478	2.41	116	1.451
Total	2.36	408	1.549	2.34	282	1.527

Table 13 Continued
 Mothers' Mean Report of Frequency of Attending Services
 Visit 6.

Religion is not important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	0.53	15	0.834	0.17	6	0.408
MW	0.29	14	0.611	0.38	8	0.744
NW	0.73	11	0.905	0.86	7	0.900
SO	0.36	11	0.809	0.40	10	0.843
SW	1.25	8	1.282	1.25	8	1.282
Total	0.58	59	0.894	0.62	39	0.935
Religion is somewhat important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	1.46	56	1.144	1.44	36	1.157
MW	1.34	61	1.377	1.34	32	1.516
NW	1.10	58	1.135	1.12	26	1.107
SO	2.08	36	1.156	2.09	34	1.190
SW	2.42	26	1.579	2.42	26	1.579
Total	1.54	237	1.323	1.68	154	1.381
Religion is very important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	2.40	141	1.643	2.24	74	1.620
MW	2.69	127	1.562	2.83	82	1.562
NW	2.48	89	1.746	2.65	54	1.639
SO	2.66	136	1.477	2.62	120	1.445
SW	2.80	66	1.808	2.86	63	1.795
Total	2.59	559	1.624	2.63	393	1.595

Table 13 Continued
 Mothers' Mean Report of Frequency of Attending Services
 Visit 8.

Religion is not important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	0.33	9	0.707	0.00	5	0.00
MW	0.77	13	1.301	1.11	9	1.453
NW	0.40	10	0.966	0.43	7	1.134
SO	0.43	7	1.134	0.00	5	0.00
SW	0.00	2	0.00	0.00	2	0.00
Total	0.49	41	1.028	0.46	28	1.071
Religion is somewhat important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	1.58	48	1.456	1.54	24	1.587
MW	1.61	44	0.993	1.59	29	1.086
NW	1.30	56	1.413	1.14	35	1.517
SO	1.52	23	1.442	2.00	13	1.291
SW	1.63	16	1.310	1.73	15	1.280
Total	1.50	187	1.325	1.51	116	1.386
Religion is very important : Religious Service Attendance						
FIELD CENTER	High risk			Not high risk		
	Mean	N	Std. Deviation	Mean	N	SD
EA	2.47	139	1.576	2.32	69	1.613
MW	2.67	141	1.597	2.73	98	1.583
NW	2.37	75	1.730	2.23	47	1.671
SO	2.69	116	1.518	2.69	83	1.600
SW	3.00	62	1.718	2.98	60	1.722
Total	2.62	533	1.613	2.62	357	1.639

Parent's age: The LONGSCAN data contains the parent's birth month and year, reset to the start of the month (to maintain confidentiality). Table 14 presents mean ages for mothers at each site for high risk and not-at-risk. The mother's ages are fairly uniform across the sites and at age 4 the mean age is about 27 to 29, at visit 6, 29 to 31, and 31 to 34 for visit 8.

The physical health of the parent: The LONGSCAN survey asks mothers to compare her health to others; "Compared to others your age, what would you say your health is?" The mother's answers are coded as 1= excellent, 2= good, 3= fair, and 4= poor. For visit 4 and 6 the parents were also asked, "During the past year, was there a period of a week or more when you had to stop or cut down on your regular work, school or housekeeping because of an illness or injury?" Responses were 0=no and 1=yes. Visit 8 only asked the mother to describe her own health in the last year using the same responses as visit 4 and 6.

Table 15 presents the means for the mothers. It appears that the mothers report their health to be "good to fair" with the poorest health (highest mean = 2.33) in the SW at visit 8 and the lowest mean (best health) was the not high-risk groups in the SO and EA sites at visit 6, where the mean was 1.84. In general, all sites for all ages report levels of health that are within one standard deviation of the mean for all sites.

The depression symptoms of the parent: The Center for Epidemiological Studies-Depression Scale (CES-D) is used in the LONGSCAN research to measure the mothers' depression symptoms experienced in the past week. The CES-D is a 20-item self-report scale of depressive symptoms, with questions ranging from "I did not feel like eating, my appetite was poor" to "I felt sad." Responses are 0= rarely or none of the time

Table 14

*Mean and Number of Mothers' Ages, Visits 4, 6, and 8**Visit 4*

FIELD CENTER	Risk Status	Mean	N	Std. Deviation
EA	Not high risk	27.04	94	5.70
	High risk	29.15	116	5.63
	Total	28.2	210	5.74
MW	Not high risk	26.73	85	5.56
	High risk	29.60	125	5.50
	Total	28.44	210	5.69
NW	Not high risk	28.75	79	6.48
	High risk	29.19	100	5.82
	Total	28.99	179	6.11
SO	Not high risk	29.07	15	5.06
	High risk	26.02	181	5.40
	Total	26.25	196	5.43
Total visit 4	Not high risk	27.55	273	5.90
	High risk	28.18	522	5.77
	Total	27.96	795	5.82

Table 14

*Mean and Number of Mothers' Ages, Visits 4, 6, and 8**Visit 6*

FIELD CENTER	Risk Status	Mean	N	Std. Deviation
EA	Not high risk	29.32	96	7.14
	High risk	31.83	116	8.26
	Total	30.69	212	7.86
MW	Not high risk	29.08	80	5.64
	High risk	32.28	124	5.87
	Total	31.02	204	5.97
NW	Not high risk	34.21	71	8.84
	High risk	36.95	88	10.64
	Total	35.73	159	9.94
SO	Not high risk	30.47	19	4.74
	High risk	31.19	163	10.23
	Total	31.12	182	9.80
SW	High risk	40.28	97	10.79
	Total	39.82	100	10.95
Total visit 6	Not high risk	30.64	266	7.40
	High risk	33.91	588	9.84
	Total	32.86	857	9.27

Table 14 Continued

*Mean and Number of Mothers' Ages, Visits 4, 6, and 8**Visit 8*

FIELD CENTER	Risk Status	Mean	N	Std. Deviation
EA	Not high risk	29.32	96	7.14
	High risk	31.83	116	8.26
	Total	30.69	212	7.86
MW	Not high risk	29.08	80	5.64
	High risk	32.28	124	5.87
	Total	31.02	204	5.97
NW	Not high risk	34.21	71	8.84
	High risk	36.95	88	10.64
	Total	35.73	159	9.94
SO	Not high risk	30.47	19	4.74
	High risk	31.19	163	10.23
	Total	31.12	182	9.80
SW	High risk	40.28	97	10.79
	Total	39.82	100	10.95
Total visit 8	Not high risk	30.64	266	7.40
	High risk	33.91	588	9.84
	Total	32.86	857	9.27

Table 15

Mother's Mean Self-Report of Health and How Health Affected Ability to Work, etc. Visits 4, 6, and 8

Health of Mother		Visit 4										
		Mother's rating of health (1=healthy...4=sickly)						Mother's health affects work (0=No; 1=Yes0)				
		Not High risk			High risk			Not High risk			High risk	
Field Center	Mean	N	Std Dev	Mean	N	Std Dev	Mean	N	Std Dev	Mean	N	Std Dev
EA	1.93	95	0.789	2.05	117	0.775	0.21	95	0.410	0.26	117	0.439
MW	2.05	86	0.750	2.03	125	0.813	0.23	86	0.425	0.25	125	0.434
NW	2.18	79	0.902	2.01	100	0.854	0.27	79	0.445	0.25	100	0.438
SO	2.33	15	0.816	2.20	181	0.741	0.4	15	0.507	0.31	181	0.464
Health of Mother		Visit 6										
		Mother's rating of health (1=healthy...4=sickly)						Mother's health affects work (0=No; 1=Yes0)				
		Not High risk			High risk			Not High risk			High risk	
Field Center	Mean	N	Std Dev	Mean	N	Std Dev	Mean	N	Std Dev	Mean	N	Std Dev
EA	1.84	97	0.773	2.09	117	0.877	0.20	97	0.399	0.33	117	0.473
MW	1.99	81	0.873	2.10	125	0.856	0.28	81	0.454	0.30	125	0.462
NW	2.23	71	0.831	2.02	88	0.857	0.44	71	0.499	0.40	88	0.494
SO	1.84	19	0.834	2.06	164	0.749	0.21	19	0.419	0.41	164	0.494

Table 15 Continued

Mother's Mean Self-Report of Health and How Health Affected Ability to Work, etc. Visits 4, 6, and 8

Health of Mother	Visit 8					
	Mother's rating of health (1=healthy...4=sickly)					
	Not High risk			High risk		
Field Center	Mean	N	Std Dev	Mean	N	Std Dev
EA	2.07	98	0.83	2.02	99	0.82
MW	2.13	62	0.71	2.07	135	0.72
NW	2.22	51	0.86	2.33	88	0.80
SO	2.18	45	0.81	2.22	100	0.81
SW	2.33	3	1.16	2.37	78	0.84
SO	1.84	19	0.83	2.06	164	0.75

Note: Data were not collected during Visit 8 regarding how Health Affected Ability to Work

(<1day), 1= some or a little of the time (1-2 days), 2= occasionally or a moderate amount of time (3-4 days), 3= most or all of the time (5-7 days). LONGSCAN data contains a summed total score that can range from 0 to 60. The CES-D has reported good internal consistency, test-retest reliability, concurrent validity, and construct validity (Radloff, 1977).

The LONGSCAN researchers suggest that any score over 16 is measuring some form of depression. Research on this cut-off point suggests that a score over 16 does measure some form of depression in general populations and with different ethnic groups (Martens et al., 2006). However, there might be a tendency for the CES-D to identify individuals as depressed when they do not meet the criteria for Major Depressive Disorder (Martens et al., 2006; McQuaid, Stein, McCahill, Laffaye, & Wiveak, 2000).

The cutoff at 16 was used in this work to explore whether depressive symptoms in mothers are predictive of verbal abuse. Caution should be taken not to label a mother as “depressed” if the scores are over 16, but rather as a mother who reports “depressive” symptoms.

Table 16 summarizes the data. The largest mean is the NW site at visit 8 for the not-at-risk mother (Mean= 17.04), the lowest reported mean was the NW site at visit 6 for the high-risk mothers (Mean=11.56).

Child’s age: The LONGSCAN data contains the child’s birth month and year, reset to the start of the month (to maintain confidentiality). Table 17 summarizes the means. At the start of the research (visit 4) the children’s ages varied, but by visit 8 the ages of the children were about at the same.

Table 16

Mean and Number of Mothers CES-D Depression Scores Visit 4, 6, and 8

Visit 4

FIELD CENTER	Risk Status	Depression Score		
		Mean	N	Std. Deviation
EA	Not High risk	12.19	95	8.90
	High risk	14.29	117	10.53
	Total	13.35	212	9.87
MW	Not High risk	14.92	86	10.60
	High risk	13.54	125	10.51
	Total	14.1	211	10.54
NW	Not High risk	13.95	79	10.85
	High risk	12.7	100	10.57
	Total	13.25	179	10.68
SO	Not High risk	14.4	15	16.46
	High risk	15.12	181	12.10
	Total	15.06	196	12.43
Total visit 4	Not High risk	13.67	275	10.52
	High risk	14.09	523	11.11
	Total	13.95	798	10.90

Table 16 Continued

*Mean and Number of Mothers CES-D Depression Scores Visit 4, 6, and 8**Visit 6*

FIELD CENTER	Risk Status	Depression Score		
		Mean	N	Std. Deviation
EA	Not High risk	12.46	97	9.64
	High risk	14.18	117	9.97
	Total	13.40	214	9.84
MW	Not High risk	13.49	81	11.35
	High risk	14.38	125	10.12
	Total	14.03	206	10.60
NW	Not High risk	14.01	71	11.60
	High risk	11.56	88	9.01
	Total	12.65	159	10.29
SO	Not High risk	15.00	19	12.41
	High risk	15.25	164	12.06
	Total	15.22	183	12.07
SW	High risk	15.81	97	12.38
	Total	15.47	100	12.35
Total visit 6	Not High risk	13.37	268	10.88
	High risk	14.40	591	10.95
	Total	14.04	862	10.93

Table 16 Continued

*Mean and Number of Mothers CES-D Depression Scores Visit 4, 6, and 8**Visit 8*

FIELD CENTER	Risk Status	Depression Score		
		Mean	N	Std. Deviation
EA	Not High risk	13.73	98	9.33
	High risk	13.94	99	10.84
	Total	13.84	197	10.09
MW	Not High risk	14.95	63	12.85
	High risk	13.83	136	8.95
	Total	14.19	199	10.33
NW	Not High risk	17.04	52	11.74
	High risk	11.3	89	8.81
	Total	13.42	141	10.33
SO	Not High risk	17.09	46	11.92
	High risk	15.17	101	12.46
	Total	15.77	147	12.28
SW	High risk	13.18	78	8.70
Total visit 8	Total	14.2	765	10.53

Table 17

Mean Age of Children at Visit 4, 6, and 8

		Visit 4		
FIELD CENTER		Mean	N	Std. Deviation
EA	Not High risk	3.94	95	0.25
	High risk	3.98	117	0.13
	Total	3.96	212	0.19
MW	Not High risk	4.15	86	0.70
	High risk	4.11	125	0.48
	Total	4.13	211	0.58
NW	Not High risk	3.76	79	0.43
	High risk	3.8	100	0.40
	Total	3.78	179	0.41
SO	Not High risk	5.6	15	0.51
	High risk	5.3	181	0.55
	Total	5.32	196	0.55
Total visit 4	Not High risk	4.04	275	0.63
	High risk	4.43	523	0.77
	Total	4.3	798	0.75

Table 17 Continued

Mean Age of Children at Visit 4, 6, and 8

FIELD CENTER		Visit 6		
		Mean	N	Std. Deviation
EA	Not High risk	5.93	97	0.26
	High risk	5.95	117	0.22
	Total	5.94	214	0.24
MW	Not High risk	6.22	81	0.69
	High risk	6.15	125	0.57
	Total	6.18	206	0.62
NW	Not High risk	5.49	71	0.50
	High risk	5.48	88	0.50
	Total	5.48	159	0.50
SO	Not High risk	6.68	19	0.48
	High risk	6.61	164	0.50
	Total	6.62	183	0.50
SW	High risk	6.07	97	0.26
	Total	6.07	97	0.26
Total visit 6	Not High risk	5.96	268	0.60
	High risk	6.13	591	0.57
	Total	6.07	859	0.59

Table 17 Continued

Mean Age of Children at Visit 4, 6, and 8

FIELD CENTER		Visit 8		
		Mean	N	Std. Deviation
EA	Not High risk	7.81	98	0.40
	High risk	7.86	98	0.38
	Total	7.83	196	0.39
MW	Not High risk	7.89	63	0.48
	High risk	8	136	0.64
	Total	7.96	199	0.60
NW	Not High risk	7.62	52	0.49
	High risk	7.71	89	0.46
	Total	7.67	141	0.47
SO	Not High risk	8.02	45	0.26
	High risk	7.94	101	0.34
	Total	7.97	146	0.32
SW	Not High risk	8.33	3	0.58
	High risk	8.1	78	0.31
	Total	8.11	81	0.32
Total visit 8	Not High risk	7.83	261	0.44
	High risk	7.92	502	0.48
	Total	7.89	763	0.47

Parent's educational level: The LONGSCAN researchers asked the mothers: "What is the highest grade in school or year of college that you have completed?" Table 18 presents the number of parents and their completed grades.

Parent's use of services: At age 6, data is collected to assess if mothers sought "services for a personal or emotional problems." The mother is asked "In the past year, did you see someone for help, or participate in a self-help group?" The parent responses with a 0= no or 1= yes. The mother is also asked the reason why she sought services, which is recorded by the LONGSCAN interviewer. The mother is then asked; "Did you see or talk to (any of the following) for help: received mental health help." The responses are codes as 0 = no and 1 = yes.

At visit 8, the mother is asked, "Did you feel you needed counseling or therapy for any reason in the past year?" and asked "have you used or received a service like this: Any type of counseling or therapy for you for a psychological or emotional problem? The response is 0=no and 1=yes.

Table 19 lists the number of parents who responded to the service questions. Eight six mothers of the high-risk group reported seeking services and forty-six mothers from the not-at-risk group sought services between visit 4 and 6. There were only forty mothers that saw a mental health counselor from the high-risk group and forty and sixteen from the not-at-risk group.

Between visits 6 to 8, fifty five mothers felt the need for counseling in the high-risk group, and thirty four from the not-at-risk group. Of these mothers, fifty one did see a mental health counselor from the high-risk group and twenty-four from the not high-risk group.

Table 18

Number and Percentage of All Mother's Education

Years of Education	Visit 4					Total
	FIELD CENTER					
	EA	MW	NW	SO		
2			1 (1%)			1 (0.1%)
4				1 (1%)		1 (0.1%)
5		1 (1%)		2 (1%)		3 (0.4%)
6			2 (1%)			2 (0.3%)
7	1 (1%)	1 (1%)		3 (2%)		5 (1.0%)
8	6 (3%)	10 (5%)	10 (6%)	10 (5%)		36 (5.0%)
9	16 (8%)	17 (8%)	14 (8%)	18 (9%)		65 (8.0%)
10	32 (15%)	23 (11%)	19 (11%)	22 (11%)		96 (12.0%)
11	35 (17%)	57 (27%)	33 (18%)	29 (15%)		154 (19.0%)
12	93 (44%)	62 (30%)	54 (30%)	75 (39%)		284 (36.0%)
13	13 (6%)	15 (7%)	22 (12%)	18 (9%)		68 (9.0%)
14	13 (6%)	12 (6%)	15 (8%)	13 (7%)		53 (7.0%)
15	3 (1%)	6 (3%)	6 (3%)	1 (1%)		16 (2.0%)
16		5 (2%)	2 (1%)	2 (1%)		9 (1.0%)
17			1 (1%)			1 (0.1%)
19				1 (1%)		1 (0.1%)
20		1 (1%)				1 (0.1%)
Total	212 (100%)	210 (100%)	179 (100%)	195 (100%)		796 (100.0%)

Table 18 Continued

Number and Percentage of All Mother's Education

Years of Education	Visit 6				
	FIELD CENTER				
	EA	MW	NW	SO	SW
1	1 (1%)				
2			1 (1%)		
4				3 (2%)	
5				2 (1%)	1 (1.0%)
6	1 (1%)		1 (1%)		1 (1.0%)
7	3 (1%)		1 (1%)	2 (1%)	1 (1.0%)
8	8 (4%)	8 (4%)	5 (3%)	13 (7%)	1 (1.0%)
9	12 (6%)	15 (7%)	17 (11%)	12 (7%)	4 (4.0%)
10	25 (12%)	17 (8%)	14 (9%)	21 (12%)	13 (13.0%)
11	51 (24%)	50 (25%)	21 (13%)	22 (12%)	4 (4.0%)
12	77 (36%)	65 (32%)	31 (20%)	80 (44%)	36 (36.0%)
13	12 (6%)	17 (8%)	19 (12%)	11 (6%)	13 (13.0%)
14	19 (9%)	20 (10%)	30 (19%)	9 (5%)	18 (18.0%)
15	2 (1%)	6 (3%)	7 (4%)	4 (2%)	2 (2.0%)
16	1 (1%)	4 (2%)	10 (6%)	3 (2%)	2 (2.0%)
17			1 (1%)		3 (3.0%)
18		1 (1%)		1 (1%)	
19			1 (1%)		
20					1 (1.0%)
Total	211	203	159	183	100

Table 18 Continued

Number and Percentage of All Mother's Education

Years of Education	Visit 8					
	FIELD CENTER					
	EA	MW	NW	SO	SW	Total
0		1 (1%)			1 (0.0%)	2 (0.1%)
1		1 (1%)				1 (0.1%)
2			1 (1%)			1 (0.1%)
3				1 (1%)		1 (0.1%)
4		1 (1%)	1 (1%)			2 (0.2%)
5				3 (2%)		3 (0.4%)
6			1 (1%)	1 (1%)	8 (3.0%)	10 (1%)
7	3 (1%)	1 (1%)	1 (1%)	1 (1%)	3 (1.0%)	9 (1%)
8	6 (3%)	5 (2%)	7 (3%)	12 (7%)	1 (0.0%)	31 (3%)
9	15 (6%)	11 (5%)	14 (6%)	11 (6%)	3 (1.0%)	54 (5%)
10	30 (13%)	18 (8%)	13 (6%)	25 (14%)	19 (7.0%)	105 (9%)
11	55 (23%)	48 (22%)	31 (14%)	21 (11%)	23 (9.0%)	178 (16%)
12	87 (37%)	64 (30%)	54 (24%)	77 (42%)	80 (29.0%)	362 (32%)
13	9 (4%)	27 (13%)	28 (13%)	12 (7%)	42 (15.0%)	118 (11%)
14	24 (10%)	25 (12%)	40 (18%)	10 (5%)	59 (22.0%)	158 (14%)
15	4 (2%)	4 (2%)	17 (8%)	4 (2%)	17 (6.0%)	46 (4%)
16	3 (1%)	8 (4%)	12 (5%)	5 (3%)	8 (3.0%)	36 (3%)
17					2 (1.0%)	2 (0%)
18	1 (0.1%)		1 (1%)	1 (1%)	4 (2.0%)	7 (1%)
19					2 (1.0%)	2 (0.2%)
20			1 (1%)			1 (0.1%)
Total	237	214	222	184	272	1129

Table 19

Service Use by Mothers for All Sites

		Between Visits 4 and 6						
Type of Help	Risk Status	Response	FIELD CENTER					Total
			EA	MW	NW	SO	SW	
Mother sought self-help	Not high risk	No	88	54	46	21	12	221
		Yes	8	18	12	8		46
		Total	96	72	58	29	12	267
	High risk	No	92	108	70	78	62	410
		Yes	8	19	13	39	7	86
		Total	100	127	83	117	69	496
Mother saw a mental health professional	Not high risk	No	6	14	7	3		30
		Yes	2	4	5	5		16
		Total	8	18	12	8		46
High risk	No	3	11	6	21	4	45	
	Yes	5	8	7	17	3	40	
	Total	8	19	13	38	7	85	

Table 19 Continued

Service Use by Mothers for All Sites

		Between Visit 6 and Visit 8						
Type of Help	Risk Status	FIELD CENTER					Total	
		EA	MW	NW	SO	SW		
Felt the need to use counseling session	Not high risk	No	80	54	44	20	7	205
		Yes	9	11	8	5	1	34
		Total	89	65	52	25	8	239
	High risk	No	85	110	57	98	39	389
		Yes	8	10	11	11	15	55
		Total	93	120	68	109	54	444
Mother saw a mental health professional	Not high risk	No	91	65	52	25	8	241
		Yes	5	6	5	4	4	24
		Total	96	71	57	29	12	265
High risk	No	92	120	68	109	54	443	
	Yes	7	6	15	8	15	51	
	Total	99	126	83	117	69	494	

Table 19 Continued

Service Use by Mothers for All Sites

		Top Three reason for Seeking Service between Visit 6 and Visit 8					
		FIELD CENTER					
Risk Status	Reason for Seeking Service	EA	MW	NW	SO	SW	Total
	Parenting concern	1	1	7	2		11
Not High risk	Drug use or dependence	2	6		1		9
	Depression, sadness, or hopelessness	1	2	4			7
	Parenting concern	2	1	5	10	1	19
High risk	Depression, sadness, or hopelessness	2	4		2	2	10
	Drug use or dependence		3		5	1	9

Verbal abuse: LONGSCAN interviewers determine the extent of verbal discipline behaviors by asking mothers, “How many times in the past year, when you have had a problem with child did you yell or scream at him/ her? How many times in the past year, when you have had a problem with child did you insult or swear at him/her?” Mother’s responses were coded as 0 = Never, 1 = Once, 2 = Twice, 3 = 3–5 times, and 4 = more than 5 times.

To create a *verbal abuse* variable, a cut-off point was designated. Unfortunately, there are no clear guidelines in the literature indicating what level of verbal abuse is harmful. Studies on the effects of verbal abuse have used different measures and rarely separate verbal abuse from other types of maltreatment (Solomon & Serres, 1999). Jackson et. al (1999) suggests that the responses 0= “never” and 1= “once” did not “seem to be meaningfully different” (p.19) so 0= “never” and 1= “once” were combined into “no-verbal abuse.” However, the challenge is to decide whether 4-and-above can legitimately be labeled as verbally abusive (*i.e.*, what is the minimum frequency of verbal abuse that is harmful to children?). Vissing, Straus, Gelles, & Harrop (1991) used an extended Conflict Tactics Scale measuring a variable that was the sum of “insulted, sulked, stomped out of the room, did or said something to spite him/her, threatened to hit or throw something, threw or smashed or hit something”. The scale ranged from none to 20 or more times a year and did not include yelling. The researchers used the cutoff point of 10 times a year as “verbally abusive” and found that children showed psychological effects above this point. The LONGSCAN survey does not consider as many types of verbal abuse, so one would expect that the LONGSCAN threshold should be set at a lower number of instances per year. Vissing, et al. found that parents reporting at least

half of the possible forms of abuse in a single year were affecting their children psychologically. Using this fraction as a guide, a value of 4 (half of eight) or more in the LONGSCAN survey was considered verbally abusive for this study. A binomial variable was defined = 0 (“not verbally abusive”) for survey values of 0, 1, 2, 3, 4; and defined as = 1 (“verbally abusive”) for survey values of 5 and above. Using this criterion, 68% of the mothers at visit 4 and visit 6 were verbally abusive (Table 20). Jackson et al. (1999) found that the mean rate of yelling is 3.70 times per year in the general population. This observation lends further support for setting the threshold for abusive behavior at five or more times per year.

For Visit 8, the LONGSCAN researchers used a shorter version of the CTS. The questions that were asked of the mothers were: “Over the last six months have you or anyone else had to yell or scream at him/ her?” and “Over the last six months have you or anyone else insulted or swore at him/ her because of his/her behavior?” The responses were: 0 = No and 1 = Yes. If the sum of these two variables was equal to 2, the mother was considered to be verbally abusive for visit 8. This coding resulted in a smaller percentage (between 10 % and 11 % for all sites) of mothers being considered verbally abusive at visit 8 (Table 20).

Data management

The LONGSCAN data were supplied as a bundle of separate files: one for each test and one for each visit. Additional files contained demographics for sites and each visit. The Conflict Tactics Scaled (CTS) file contained the data needed to assess verbal abuse and consequently was the main file used in the analysis. The CTS files were

Table 20

Sum of Frequencies for the Variables Yelling Plus Insulting

Verbal abuse sum Visit 4	FIELD CENTER				Total
	EA	MW	NW	SO	
0	15 (7%)	30 (14%)	35 (20%)	24 (12%)	104 (13%)
1	16 (8%)	27 (13%)	112 (63%)	18 (9%)	173 (22%)
2	28 (13%)	44 (21%)	32 (18%)	30 (16%)	134 (17%)
3	31 (15%)	26 (12%)		44 (23%)	101 (13%)
4	57 (27%)	41 (19%)		43 (22%)	141 (18%)
5	24 (11%)	15 (7%)		15 (8%)	54 (7%)
6	14 (7%)	12 (6%)		5 (3%)	31 (4%)
7	12 (6%)	11 (5%)		10 (5%)	33 (4%)
8	15 (7%)	5 (2%)		5 (3%)	25 (3%)
Total	212	211	179	194	796

Table 20 Continued

Sum of Frequencies for the Variables Yelling Plus Insulting

Verbal abuse sum Visit 6	FIELD CENTER						Total
	EA	MW	NW	SO	SW		
0	22 (10%)	37 (18%)	34 (21%)	32 (18%)	11 (11%)	136 (16%)	
1	16 (8%)	20 (10%)	97 (61%)	13 (7%)	11 (11%)	157 (18%)	
2	38 (18%)	26 (13%)	28 (18%)	22 (12%)	20 (20%)	134 (16%)	
3	43 (20%)	37 (18%)		40 (22%)	11 (11%)	131 (15%)	
4	46 (22%)	46 (22%)		41 (23%)	27 (27%)	160 (19%)	
5	10 (5%)	9 (4%)		11 (6%)	3 (3%)	33 (4%)	
6	16 (8%)	13 (6%)		6 (3%)	6 (6%)	41 (5%)	
7	10 (5%)	7 (3%)		6 (3%)	5 (5%)	28 (3%)	
8	13 (6%)	10 (5%)		10 (6%)	6 (6%)	39 (5%)	
Total	214	205	159	181	100	859	

Table 20 Continued

Sum of Frequencies for the Variables Yelling Plus Insulting

Verbal abuse sum Visit 8	FIELD CENTER			Total
	EA	MW	NW	
0	79 (40%)	81 (41%)	50 (40%)	210 (40%)
1	95 (48%)	97 (49%)	62 (50%)	254 (49%)
	23 (12%)	21 (11%)	12 (10%)	56 (11%)
Total	197	199	124	520

merged with the demographic files for the corresponding visits and with the files that contained the risk factors and the measures for each visit (depression, physical health, etc). Parents who were not the biological mother were flagged and not used in the analysis.

Measurement of the effectiveness of each intervention required comparisons of CTS at two different visits. For this purpose, the master CTS files, without the demographic variables, were merged: visit 4 with visit 6, and visit 6 with visit 8. A new variable was created to measure a difference of verbal abuse scores from one visit to the next. For visits 4 and 6, the method was simply to calculate the difference of the verbal abuse scores because the scoring for each visit was the same. Because visit 8 used a different scoring method, another method was needed to assess changes from visit 6 to 8. Visit 6 CTS scores were changed to 0= no verbal abuse and 1= verbal abuse. Visit 8 CTS scores were also change to the same code, a mother who scored 0 or 1 for both visits was labeled as “no change.” A mother who scored 0 at visit 6 but 1 at visit 8 was labeled as “increased,” correspondingly a change from 1 at visit 6 to 0 at visit 8 was labeled “decreased.”

The new “CTS-verbal abuse change file” was next merged with the service utilization file provide by LONGSCAN containing the use of services by the mothers between visits. Multiple regressions were run on this file to measure the effectiveness of interventions categorized in the utilization file.

Analysis of Predictors

Logistic regression was the statistical method used to identify predictors of verbal abuse. Logistic regression was selected because the literature suggests that verbal abuse, not necessarily its frequency, appears to be predictable from the presence or absence of a number of factors. In other words, the study explored the probability of verbally abusive behavior without making the assumption that the quantity of abuse is predictable.

Logistic regression predicts odds ratios that are related to probability through the relation:

$$P_i = \frac{e^{(b_0 + b_1x_1 + b_2x_2 + \dots)}}{1 + e^{(b_0 + b_1x_1 + b_2x_2 + \dots)}}$$

Variables considered possible predictors were entered into a logistic regression as independent variables and tested for significance. Verbal abuse was represented as a binomial dependent variable where 0 represented no verbal abuse and 1 represented verbal abuse. All the hypothesized variables; the mothers' histories of physical abuse, mothers' histories of sexual abuse, beliefs in religion, mothers' ages, incomes, mothers' health, mothers' depression, ages of children, and mothers' education were added to the logistic regression using the "forward" and "backward" method. In addition to the hypothesized variables, use of physical discipline variables were included because the review of literature revealed that physical abuse might be correlated with verbal abuse. Income was also added as there was some indication from the literature that it might a predictor. The forward selection in SPSS starts with the constant-only model and adds variables one at a time in the order of significance until some cutoff level is reached (a significance level of 0.05 was used as the cut-off). Data from each site and each data collection point: child age 4, 6, and 8, were tested separately. High risk mothers or not high risk mothers were tested together and separately.

Testing interventions

The efficacies of several interventions were tested using multiple linear regression to measure changes in verbal abuse rates before and after the intervention. The interventions were identified by responses to questions asked in the LONGSCAN survey. The following questions were used as indications of a psychological or therapeutic intervention: 1) “Did you feel you needed counseling or therapy for any reason in the past year?” 2) “Have you used or received a service like this; or any type of counseling or therapy for a psychological or emotional problem?” 3) “Did you see or talk to (any of the following) for help: received mental health help?”

While fitting multiple linear regression models to the data is a common procedure for outcome studies according to Nash et al. (2004), Fraser (2004) suggests that the researcher examine the data attending to attrition (drop-outs from the study), selection bias (who is selected), and clustering (was the effect of the intervention or the effect of the group).

Attrition rates, if large, are important because they lower the over-all statistical power of the estimate and they can add bias. Fraser notes that there can be two types of attrition bias: *measurement* attrition and *treatment* attrition. Addressing first the issue of treatment attrition, that is, mothers dropping out of treatment; it appears that this is not an issue with the data set. The mothers in this sample are not *assigned* to any treatment interventions, they report if they sought intervention or not. Therefore, we have no concern about treatment drop out.

There is also a concern about the rate of drop-out from the study. Using the data, the drop-out rate for each site was calculated for CTS and Service Utilizations. The rates of drop out between Age 4 and Age 6 were: EA=15%, MW=11%, NW=8%, and SO=11%. These numbers appear to be low and did not affect the analysis.

CHAPTER IV

RESULTS

*Frequency of Verbal abuse**Visit 4*

A total of 796 mothers completed the verbal abuse section of the LONGSCAN survey at visit four. The survey was completed by mothers from all sites except for the SW site. Of those mothers reporting, 143 (18%) scored 5 or more on the CTS and were consequently labeled as being verbally abusive. Surprisingly, not a single mother from the NW site (N = 179) reported verbal abuse of her child. The lack of any verbal abuse by mothers in the NW site is suspect, consequently the NW site is not included in the summary for Visit 4 (or Visit 6, but by Visit 8, mothers began reporting verbal abuse). Elimination of the NW site reduces the total number of mothers to 617 and increases the percentage of verbally abusing mothers to 23%, (26% of not-at-risk mothers, and 22% of high-risk mothers). The highest percentage of verbally abusive mothers were from the EA site (31%), followed by MW site (20%), and finally, the SO site (18%) (Table 21). There was little difference between the high-risk mothers and the not-at-risk mothers. Yelling was the most frequently reported behavior of verbally abusive mothers. Eighty-five percent of all verbally abusive mothers reported yelling; the breakdown by location is: EA (75%), MW (91%), SO (94%). Insulting the child was nearly as prevalent, with 70% of verbally abusive mothers reporting insulting. The breakdown by area is EA (43%), MW (91%) and SO (94%) (Table 21).

Table 21

*Frequency of Verbal Abusive Behaviors Three Sites Visit 4**(N=617)*

Risk Status	FIELD CENTER			
	<i>EA</i>	MW	SO	Total ^a
Frequency of verbal abusive behaviors, rate \geq 5 times yearly ^b				
Not High risk	32 (34%)	15 (17%)	3 (20%)	50 (26%)
High risk	33 (28%)	28 (22%)	32 (18%)	93 (22%)
Total	65 (31%)	43 (20%)	35 (18%)	143 (23%)
Yelling rate ^c				
Not High risk	19 (59%)	15 (100%)	2 (67%)	36 (72%)
High risk	30 (91%)	24 (86%)	31 (97%)	85 (91%)
Total	49 (75%)	39 (91%)	33 (94%)	121 (85%)
Insulting rate ^c				
Not High risk	18 (56%)	15 (100%)	2 (67%)	35 (70%)
High risk	10 (30%)	24 (86%)	31 (97%)	65 (70%)
Total ^a	28 (43%)	39 (91%)	33 (94%)	100 (70%)

^aPercentages calculated without NW site (see text).

^bPercentages calculated relative to total number of mothers at each site in each category.

^cPercentages calculated relative to number of verbally abusive mothers at each site in category.

Table 21 Continued

Frequency of Verbal Abusive Behaviors Three Sites Visit 4

Status of Mother	FIELD CENTER		
	EA	MW	SO
High risk not reported			17 (49%)
Not high risk not reported			3 (9%)
High risk birth and reported			13 (37%)
Not high risk but reported			2 (6%)
Failure to Thrive	14 (22%)		
Drug or HIV exposed	19 (29%)		
Clinic Control	32 (49%)		
Child in Long term family treatment		12 (28%)	
Reported and Usual care		16 (37%)	
Neighborhood control		15 (35%)	

Table 21 Continued

Frequency of Verbal Abusive Behaviors Three Sites Visit 4

		Family Income		
FIELD CENTER	Risk Status	Mean	N	Std. Deviation
EA	Not High risk	2.78	32	2.25
	High risk	2.50	32	1.74
MW	Not High risk	4.13	15	2.39
	High risk	2.71	28	1.36
SO	Not High risk		3	3.22
	High risk	2.59	32	2.15

See Table 22 for coding of income levels

Table 21 Continued

Frequency of Verbal Abusive Behaviors Three Sites Visit 4

Race	FIELD CENTER			
	EA	MW	SO	Total
White	38 (59%)	22 (51%)	15 (43%)	75 (52%)
African- American	27 (42%)	21 (49%)	20 (57%)	68 (48%)
Total	65	43	35	143

Religious affiliation	FIELD CENTER			
	EA	MW	SO	Total
Catholic	3 (5%)	8 (19%)	2 (6%)	13 (9%)
Jewish			1 (3%)	1 (1%)
Islam		2 (5%)		2 (1%)
Protestant (Denomination)	23 (35%)	11 (26%)	18 (51%)	52 (36%)
Christian (Non- Denomination)	9 (14%)	6 (14%)	3 (9%)	18 (13%)
Other	6 (9%)	2 (5%)	4 (11%)	12 (8%)
No Religion	24 (37%)	14 (33%)	7 (20%)	45 (32%)

Table 21 Continued

Frequency of Verbal Abusive Behaviors Three Sites Visit 4

Risk Status	Marital status	FIELD CENTER			Total
		EA	MW	SO	
Not High risk	Married	3 (9%)	9 (60%)	3 (100%)	15 (30%)
	Single	27 (84%)	5 (33%)		32 (64%)
	Separated	1 (3%)			1 (2%)
	Divorced	1 (4%)	1 (7%)		
High risk	Married	7 (21%)	3 (11%)	7 (22%)	17 (18%)
	Single	19 (58%)	21 (75%)	19 (59%)	59 (63%)
	Separated	3 (9%)	3 (11%)	1 (3%)	7 (8%)
	Divorced	4 (12%)	1 (4%)	5 (16%)	10 (11%)

The risk status at visit 4 had a mixture of parents in the high-risk group and in the not-high-risk group. The EA site had 14 mothers in the failure-to-thrive group, and 19 mothers in the HIV and drug-exposure group, with almost the same amount in the not-at-risk group (N= 32). The MW site had 12 mothers in the CPS long-term treatment, 16 mothers in CPS usual care and 15 in the not-at-risk group. The SO site had 17 mothers in high-risk (not reported to CPS group), 13 in high-risk (reported to CPS), two mothers in the not-high-risk (reported CPS), and only 3 in not-high-risk, not-reported (not-high-risk).

The mean total income for the verbally abusive mothers was 2.90 (close to \$10,000 to \$14,999 per year) (see Table 22 for income coding). The lowest-income group

Table 22
LONGSCAN Codes for Income

Code	Income per year
1	< \$5,000
2	\$5,000 – \$9,999
3	\$10,000 – \$14,999
4	\$15,000 – \$19,999
5	\$20,000 – \$24,999
6	\$25,000 – \$29,999
7	\$30,000 – \$34,999
8	\$35,000 – \$39,999
9	\$40,000 – \$44,999
10	\$45,000 – \$49,999
11	> \$50,000

was high-risk mothers (failure to thrive and drug exposure) in the EA (M=2.5). The highest income group was the three not-at-risk mothers in the MW. Most of the verbally abusive mothers (both high risk and not high risk) were in the same income range (Table 21).

There were slightly more white mothers (EA, 59%, MW, 51%) who were verbally abusive compared to African-American mothers except for the SO site where there were more African-American mothers (57%). Verbally abusive mothers reported their religion as Protestant (Denominational) (36%) or reported having no religion (32%). Verbally abusive mothers, both high-risk and not high risk mothers, reported being single (64%).

Visit 6

Out of 697 mothers (greater than number of mothers in Visit 4 because SW mothers are now included), 140 (20%) scored 5 and over on the verbal abuse scale. All sites have about the same proportion of verbally abusive mothers: EA with 23% (N = 49), MW with 19% (N = 39), SO with 18% (N = 33), and SW with 20% (N = 19) (Table 23). In this visit, the high-risk mothers seem to be 50% (18% vs. 13%) more likely than mothers not-at-risk to verbally abuse their children. The rates of yelling were much

Table 23

*Frequency of Verbal Abusive Behaviors Four Sites Visit 6**(N=697)*

Risk Status	FIELD CENTER				
	EA	MW	SO	SW	Total ^a
Frequency of verbal abusive behaviors, rate \geq 5 times yearly ^b					
Not High risk	19 (20%)	15 (19%)	2 (11%)		36 (13%)
High risk	30 (26%)	24 (19%)	31 (19%)	19 (20%)	104 (18%)
Total	49 (23%)	39 (19%)	33 (18%)	19 (20%)	140 (20%)
Yelling rate ^c					
Not High risk	12 (63%)	14 (93%)	2 (100%)		28 (78%)
High risk	22 (73%)	22 (92%)	24 (77%)	14 (74%)	82 (79%)
Total	34 (69%)	36 (92%)	26 (79%)	14 (74%)	110 (79%)
Insult rate ^c					
Not High risk	4 (21%)	4 (27%)			8 (22%)
High risk	10 (33%)	6 (25%)	10 (32%)	6 (32%)	32 (31%)
Total	14 (29%)	10 (26%)	10 (30%)	6 (32%)	40 (29%)

^aPercentages calculated without NW site (see text).

^bPercentages calculated relative to total number of mothers at each site in each category.

^cPercentages calculated relative to number of verbally abusive mothers at each site in category.

Table 23 Continued

*Frequency of Verbal Abusive Behaviors Four Sites Visit 6**(N=588)*

Risk Status	FIELD CENTER			
	EA	MW	SO	SW
High risk not reported			15 (46%)	
Not high risk not reported			2 (6%)	
High risk birth and reported			14 (42%)	
Not high risk but reported			2 (6%)	
Failure to thrive	17 (35%)			
Drug or HIV exposed	13 (27%)			
Clinic Control	19 (39%)			
Child in Long Term Family treatment		12 (31%)		
Reported and usual care		12 (31%)		
Neighborhood control		15 (39%)		
Foster returned				19 (95%)

Table 23 Continued

*Frequency of Verbal Abusive Behaviors Four Sites Visit 6**(N=588)*

FIELD CENTER	Family Income Means			
	Risk Status	Means	N	SD
EA	Not High risk		19	2.3
	High risk	3.1	28	2.1
MW	Not High risk	4.1	14	3.1
	High risk	3.3	24	2.6
SO	Not High risk	2	2	0
	High risk	3.4	31	2.6
SW	Not High risk			
	High risk	4.5	19	2.8

Table 23 Continued

*Frequency of Verbal Abusive Behaviors Four Sites Visit 6**(N=588)*

Race	FIELD CENTER				
	EA	MW	SO	SW	Total
White	2 (4%)	8 (21%)	14 (42%)	11 (55%)	35 (25%)
African- American	46 (94%)	24 (63%)	19 (58%)	3 (15%)	92 (66%)

Religious affiliation	FIELD CENTER				
	EA	MW	SO	SW	Total
No religion	12 (25%)	4 (11%)	4 (12%)	4 (20%)	24 (17%)
Catholic	3 (6%)	12 (32%)		4 (20%)	19 (14%)
Protestant	26 (53%)	17 (45%)	25 (76%)	4 (20%)	72 (51%)
Christian – Nondenominational	6 (12%)	5 (13%)	4 (12%)	4 (20%)	19 (14%)
Other	2 (4%)			4 (20%)	6 (4%)

Table 23 Continued

*Frequency of Verbal Abusive Behaviors Four Sites Visit 6**(N=588)*

Risk Status	Marital status	FIELD CENTER				Total
		EA	MW	SO	SW	
Not High risk	Married	3 (16%)	6 (43%)	1 (50%)		10 (29%)
	Single	16 (84%)	5 (36%)			21 (60%)
	Separated		1 (50%)		1 (3%)	2 (6%)
	Divorced		3 (21%)			3 (9%)
High risk	Married	4 (13%)	4 (17%)	9 (29%)	5 (26%)	22 (21%)
	Single	23 (77%)	17 (71%)	16 (52%)	7 (37%)	63 (61%)
	Separated	1 (3%)	1 (4%)		3 (16%)	5 (5%)
	Divorced	1 (3%)	2 (8%)	4 (13%)	4 (21%)	11 (11%)
	Widowed	1 (3%)		2 (7%)		3 (3%)

higher than the insulting rates for this age group (79% vs. 29%). While the yelling rates were identical (78% vs. 79%) for the not-at-risk and the high-risk mothers, high-risk mothers were about 50% (31% vs. 22%) more likely to insult their children. Once again, the insulting rates were almost identical between sites (26% to 32%), but during this Visit, a much larger variation was noted in yelling rates (69% to 92%).

The risk status of the mothers was similar to visit 4. The EA site had 17 failure-to-thrive, 13 HIV or drug-exposure, and less mothers than visit 4 (N=19) in the not-at-risk status. For the MW, site there were 12 mothers in long term care, 12 in reported usual care, and 15 mothers not-at-risk. The SO site had 15 mothers in the high-risk, not reported category, 14 in high-risk and reported, and only 2 in high-risk, and 2 in not reported and not high risk. The SW site was added and it had 19 mothers at risk.

The income range was slightly higher than visit 4. The mean income range was 3.54 (\$10,000 – \$14,999) (see Table 22). The smaller income range group continues to be high-risk mothers in the EA site (M=3.07), and the largest range is the high-risk mothers at the SW site (M=4.47).

There were more African-American mothers (66%) than white mothers (25%) at visit six then there were at visit 4. The largest shift was in the EA and MW sites from white mothers to African-American. A majority of the mothers reported themselves as Protestant, 51%; with an even split Catholic 14 % and 19 Non-denominational Christian 14%. Fewer mothers reported to have no religion 17% more than visit 4. Most of the mothers reported being single, both high risk and not high risk (60%) (Table 23).

Visit 8

Out of 520 mothers, only 56 (11%) reported some verbal abusive behavior, the EA site had N= 23 (12%), the MW site had N=21 (11%) and the NW site had N= 12 (10%). This is the first time that the NW site reported any verbally abusive behaviors. The SO and SW sites were not administered the CTS at visit 8. Because the coding was different at visit 8 (the parent had to both yell and insult for the behavior to be coded as verbally abusive), only one rate for verbal abuse is recorded. The status of the mothers who were verbally abusive were mainly not-high-risk from the EA sites N=13 failure-to-thrive, N=9 and HIV/drug-exposure with N=1. For the MW, there were 9 mother in long-term care, 5 mothers in usual-care, and 7 control mothers, the NW had 6 mothers in both report unsubstantiated and report substantiated (Table 24).

The income range for verbally abusive mother was wider than in previous visits. The total mean was 4.04 (\$15,000 – \$19,999) per year. The lowest income group were high-risk mothers in the EA 1.8 \$5,000 – \$9,999 per year and the highest income range was high-risk mothers in the NW M=5.75 (\$20,000 – \$24,999 per year).

Visit 8 did not include the race of the mother, but the race of the child was reported. Most of the children of verbally abusive mothers were African-American (68%). Consistent with the other visits, most of the verbally abusive mothers reported to be single (57%). Protestant (34%) was the leading religion of the verbally abusive mothers with a slight equal division between Catholic (21%) and non-denominational Christian (25%) (Table 24).

Table 24

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8**(N=520)*

Risk Status	FIELD CENTER			
	EA	MW	NW	Total
Not High risk	13 (13%)	7 (11%)	4 (9%)	24 (12%)
High risk	10 (10%)	14 (10%)	8 (10%)	32 (10%)
Total	23	21	12	56

Table 24 Continued

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8**(N=520)*

Risk Status	Verbal abuse	Yelling Behavior	FIELD CENTER			
			EA	MW	NW	Total
Not High risk	Not Verbally abusive	Not Yell	46 (54%)	23 (41%)	23 (55%)	92 (50%)
		Yell at child	39 (46%)	33 (59%)	19 (45%)	91 (50%)
	Verbally Abusive	Yell or scream at child	13 (100%)	7 (100%)	4 (100%)	24 (100%)
High risk	Not Verbally abusive	Not Yell	35 (39%)	58 (48%)	27 (39%)	120 (43%)
		Yell	54 (61%)	64 (53%)	43 (61%)	161 (57%)
	Verbally Abusive	Yell or scream at child	10 (100%)	14 (100%)	8 (100%)	32 (100%)

Table 24 Continued

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8**(N=520)*

			Insult or swear			
			FIELD CENTER			
Risk			EA	MW	NW	Total
Not High risk	Not Verbally abuse	No insult	84 (99%)	56 (100%)	42 (100%)	182 (100%)
		Insult	1 (1%)			1 (1%)
	Verbally Abusive	Insult	13 (100%)	7 (100%)	4 (100%)	24 (100%)
High risk	Not Verbally abuse	No insult	88 (99%)	122 (100%)	70 (100%)	280 (100%)
		Insult	1 (1%)			1 (1%)
	Verbally Abusive	Insult	10 (99%)	14 (100%)	8 (100%)	32 (100%)

Table 24 Continued

Frequency of Verbal Abusive Behaviors Three Sites Visit 8 (N=520)

Risk Status	FIELD CENTER		
	EA	MW	NW
Failure to Thrive	9 (39%)		
HIV /drug exposure	1 (33%)		
Clinic Control	13 (57%)		
Child in Long term Care		9 (43%)	
Reported and usual care		5 (24%)	
Neighborhood control		7 (33%)	
Reported (unsubstantiated)			6 (50%)
Reported (substantiated)			6 (50%)

Table 24 Continued

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8.**(N=520)*

		Family Income		
FIELD CENTER	Risk Status	Mean	N	SD
EA	Not High risk	3.4	13	1.8
	High risk	1.8	10	0.9
MW	Not High risk	4.9	7	2.1
	High risk	4.6	14	3.6
NW	Not High risk	5	4	4.5
	High risk	5.8	8	3.2

Table 24 Continued

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8.**(N=520)*

Race	FIELD CENTER			
	EA	MW	NW	Total
White	1 (4%)	1 (5%)	5 (42%)	7 (13%)
African- American	21 (91%)	14 (67%)	3 (25%)	38 (68%)
Hispanic			1 (8%)	1 (2%)
Mixed	1 (4%)	6 (29%)	3 (25%)	10 (18%)

Table 24 Continued

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8**(N=520)*

Religious affiliation	FIELD CENTER			
	EA	MW	NW	Total
No religion	4 (17%)	1 (5%)	2 (17%)	7 (13%)
Catholic	3 (13%)	8 (38%)	1 (8%)	12 (21%)
Protestant	7 (30%)	7 (33%)	5 (42%)	19 (34%)
Christian – Nondenominational	6 (26%)	5 (24%)	3 (25%)	14 (25%)
Other	3 (13%)	0 (0%)	1 (8%)	4 (7%)

Table 24 Continued

*Frequency of Verbal Abusive Behaviors Three Sites Visit 8**(N=520)*

Risk Status	Marital status	FIELD CENTER			
		EA	MW	NW	Total
Not High risk	Married	2 (15%)	3 (43%)	1 (25%)	6 (25%)
	Single	7 (54%)	4 (57%)	2 (50%)	13 (54%)
	Separated	2 (15%)			2 (8%)
	Divorced	2 (15%)		1 (25%)	3 (13%)
High risk	Married	1 (10%)	4 (29%)	3 (38%)	8 (25%)
	Single	8 (80%)	8 (57%)	3 (38%)	19 (59%)
	Separated	1 (10%)	1 (7%)		2 (6%)
	Divorced			2 (25%)	2 (6%)
	Widowed		1 (7%)		1 (3%)

*Predictors of Verbal Abuse**Visit 4*

Twenty-seven (27) independent variables were entered into the binary logistic regression using the forward method and tested against the dependent variable, verbal abuse (0= not verbally abusive, 1= verbally abusive). SPSS version 15 was used for the analysis. The twenty-seven independent variables included all reports of the mother's victimization, the physical abuse scores from the CTS, the mother's health rating and its effect on her ability to work, the mother's overall depression (C-ED) score, the mother's age, the child's age, the mother's highest level of school, the mother's belief that religion was important in raising children, and the mother's frequency of attending religious services. There was little missing data: 3 cases in the EA, 5 in the MW, and 8 cases in the SO; a total of 4.1%. It is therefore unlikely that missing data will effect a bias on the conclusions.

The results for all mothers (at all sites, high risk and not high risk) for Visit 4 indicate that there are nine variables that are statistically significant at the $p < 0.05$ level. The strongest predictor of verbal-abusive behavior for teenage mothers is "someone had touched her breast/genitals against wishes." Mothers who answered affirmatively to this question are 2.29 times more likely to be verbally abusive. A mother is 2.18 times more likely to be verbally abusive if she would "throw something at her child" as a discipline technique. Other predictors are physically abusive behaviors: "push or shove child (1.83 times more likely), threaten to spank (1.6 times more likely), grabbed the child (1.4 times more likely), and spanked the child (1.3 times more likely)." The mother's poor health is

also a predictor; a mother reporting “not being well” is 1.36 times more likely to be verbally abusive. Older mothers are slightly (1.07 times) more abusive than younger mothers. The overall model is significant at the 0.00 level according to the Model Wald statistic. The model predicts 86.8% of the responses correctly (Table 25).

When the 27 variables were entered into the logistic regression for only the high-risk mothers, the mother’s sexual victimization (“forced intercourse”) is no longer significant and being “sexually touched as a teen” becomes negatively correlated with verbal abuse, reducing the likelihood by almost a factor of two (odds ratio = 0.522). The physical-abuse variables remained; with “pushing or shoving the child” as the strongest predictor of verbal abuse (odds ratio = 2.77). This variable is followed by “threaten to spank” increasing the likelihood of physical abuse by 2.03 times. The model is significant and predicts 85.9% of the responses correctly (Table 26).

The predictors for not-at-risk mothers are the physical abuse variables; “slap child” with a 2.68 times increase, followed by “push or shove child, spank child and grabbed the child,” each with a 1.77 times increase in the likelihood of verbal abuse (Table 27).

When the sites are analyzed separately, the physical abuse variables are useful predictors of verbal abuse for each site, but mother’s age is only significant for the EA site, and mother’s health and sexual contact are only significant for mothers from the MW site (Table 28).

Table 25

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for all Mothers at Visit 4

(N= 778)

Predictor	β	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-7.275	0.827	77.370	1	0.000	0.001
Mother as teen: Someone touch breast/genitals against wishes	0.828	0.386	4.608	1	0.032	2.290
Throw something at child	0.781	0.348	5.046	1	0.025	2.183
Push or shove child	0.607	0.190	10.190	1	0.001	1.835
Threaten to spank	0.523	0.140	14.034	1	0.000	1.687
Push grab or shove child	0.389	0.086	20.550	1	0.000	1.476
Spank child	0.323	0.136	5.670	1	0.017	1.381
Mother health	0.306	0.153	4.031	1	0.045	1.358
Mother's age	0.068	0.020	11.730	1	0.001	1.071
Mother as teen: Forced sexual intercourse	-1.441	0.472	9.314	1	0.002	0.237
Overall model evaluation: Wald test			238.664	9	0.000	

Note: Cox and Snell R Square=.246. Nagelkerk R Square=.435. All statistics reported herein use 3 decimal places

Table 26

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for High-risk Mothers at Visit 4

(N= 523)

Predictor	β	SE β	χ^2	df	p	e β (odds ratio)
Constant	-5.988	0.863	48.094	1	0.000	0.003
Push or shove child	1.021	0.293	12.103	1	0.001	2.775
Threaten to spank	0.713	0.142	25.343	1	0.000	2.039
Push grab or shove child	0.330	0.101	10.613	1	0.001	1.391
Mother's age	0.066	0.023	8.273	1	0.004	1.068
Before age 13: touching your breasts/ genitals?	-0.649	0.325	3.998	1	0.046	0.522
Overall model evaluation: Wald test			127.950	5	0.000	

Note: Cox and Snell R Square=.221. Nagelkerk R Square=.365. All statistics reported herein use 3 decimal places

Table 27

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Not-at-risk Mothers at Visit 4

(N= 266)

Predictor	β	SE β	Wald χ^2	df	p	e^{β} (odds ratio)
Constant	-5.937	0.907	42.818	1	0.000	0.003
Throw, smash, or kick something (not child)	0.985	0.316	9.721	1	0.002	2.677
Threaten to spank	0.585	0.259	5.123	1	0.024	1.796
Push grab or shove child	0.570	0.154	13.786	1	0.000	1.769
Spank child	0.535	0.251	4.553	1	0.033	1.708
Overall model evaluation: Wald test			109.224	4	0.000	

Note: Cox and Snell R Square=.338. Nagelkerk R Square=.554. All statistics reported herein use 3 decimal places

Table 28

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Three Sites

EA Mothers at Visit 4 (N= 207)

Predictor	B	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-5.804	1.208	23.101	1	0.000	0.003
Threaten to spank	0.542	0.217	6.241	1	0.012	1.72
Push or shove	0.536	0.229	5.465	1	0.019	1.71
Push grab or shove child	0.444	0.142	9.781	1	0.002	1.56
Throw, smash something (not child)	0.418	0.181	5.322	1	0.021	1.52
Mother's age	0.067	0.032	4.579	1	0.032	1.07
Overall model evaluation: Wald test			63.773	6	0.000	

Note: Cox and Snell R Square=.265. Nagelkerk R Square=.375. All statistics reported herein use 3 decimal places

Table 28 Continued

*Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Three Sites**MW Mothers at Visit 4 (N= 206)*

Predictor	B	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-5.098	0.916	30.977	1	0.000	0.006
Slap child	1.239	0.682	3.296	1	0.069	3.452
Mother's Health	0.818	0.287	8.13	1	0.004	2.266
Spank child	0.551	0.193	8.135	1	0.004	1.736
Push grab or shove child	0.501	0.171	8.625	1	0.003	1.65
Mother as a teen: forced fondled.	-2.966	1.438	4.253	1	0.039	0.052
Overall model evaluation: Wald test			29.519	3	0.000	

Note: Cox and Snell R Square=.145. Nagelkerk R Square=.240. All statistics reported herein use 3 decimal places

Table 28 Continued

*Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Three Sites**SO Mothers at Visit 4 (N= 188)*

Predictor	B	SE β	Wald χ^2	df	p	e^{β} (odds ratio)
Constant	-4.071	1.018	15.978	1	0	0.017
Push or shove child	0.845	0.351	5.783	1	0.016	2.329
Threaten to spank	0.554	0.280	3.911	1	0.048	1.74
Push grab or shove child	0.358	0.151	5.593	1	0.018	1.43
Overall model evaluation: Wald test			71.442	5	0.000	

Note: Cox and Snell R Square=.293. Nagelkerk R Square=.461. All statistics reported herein use 3 decimal places

Visit 6

The same 27 variables (used for visit 4) were entered in the binary logistic regression using the forward method. Missing data were: three cases from the EA site, seven from the MW site, five from the SO site, and two from the SW site. The missing data could be safely ignored as it comprised only 3% of the data.

The results for all mothers (high risk and not high risk) at Visit 6 indicate that the strongest predictor of verbal abuse is “throwing something at the child;” a mother who throws something at her child is 3.39 times as likely to be verbally abusive as one who doesn’t. The other significant variables are also physical abuse variables: “grab child,” 1.7 times more likely; “throw smash or kick something (not child),” 1.6 times more likely; “threaten to spank,” 1.4 times more likely; “push or shove child,” 1.4 times more likely; and “spank child,” 1.3 times more likely. The variables, “attend religious services,” “mother’s health,” and as “a child or teen excess punishment” have negative coefficients. The model is significant and 88.2% of the data are correctly predicted (Table 29).

For high-risk mother, the strongest predictor of verbal abuse is the variable “throw something at the child,” these mothers were 4.4 times more likely to be verbally abusive. The other results are similar to the results for all mothers: a mother is 1.7 times more likely to be verbally abusive if she “grabs her child or smashed or kicked something (not the child),” “push or shoved the child,” or “spanked the child.” The mother’s poor health was the only factor that reduced the likelihood of verbal abuse, nearly by a factor

Table 29

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for all Mothers at Visit 6

(N= 841)

Predictor	β	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-3.302	0.468	49.788	1	0.000	0.037
Throw something at child	1.221	0.451	7.336	1	0.007	3.392
Push grab or shove child	0.535	0.086	38.279	1	0.000	1.707
Throw smash or kick something (not child)	0.516	0.157	10.856	1	0.001	1.675
Threaten to spank	0.398	0.124	10.276	1	0.001	1.489
Push or shove child	0.352	0.177	3.967	1	0.046	1.421
Spank child	0.298	0.111	7.161	1	0.007	1.347
Attend religious services	-0.168	0.077	4.835	1	0.028	0.845
Mother's health	-0.350	0.151	5.340	1	0.021	0.705
As a child or teen excess punishment	-0.619	0.260	5.654	1	0.017	0.539
Overall model evaluation: Wald test			274.184	9	0.000	

Note: Cox and Snell R Square=.293. Nagelkerk R Square=.493. All statistics reported herein use 3 decimal places

Table 30

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for High-Risk Mothers at Visit 6

(N= 263)

Predictor	β	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-3.222	0.492	42.842	1	0.000	0.040
Throw something at child	1.483	0.746	3.952	1	0.047	4.406
Push grab or shove child	0.577	0.096	36.408	1	0.000	1.781
Smash hit or kick something (not child)	0.564	0.171	10.874	1	0.001	1.757
Push or shove	0.479	0.227	4.457	1	0.035	1.614
Spank child	0.474	0.117	16.548	1	0.000	1.606
Mother's Health	-0.393	0.178	4.864	1	0.027	0.675
Overall model evaluation: Wald test			183.882	6	0.000	

Note: Cox and Snell R Square=.273. Nagelkerk R Square=.447. All statistics reported herein use 3 decimal places

of two (0.6). The model is significant and predicts 88.2% of the responses correctly (Table 30).

For not-at-risk mothers the strongest predictors are slap child (2.8 times more likely), push or shove (2.2 times more likely), spank child (2.2 times more likely) and grab child (1.7 times more likely) (Table 31).

For each site individually, the predictors are mainly physical abuse: “grabbing the child,” “spanking,” or “slapping the child” forecasting that the mother is two times more likely to be verbally abusive. The EA site predicts that a mother who “throws something at the child” is ten times more likely to be verbally abusive. The prediction for mothers in the MW site suggests that mothers who “grab the child” are three times more likely to be verbally abusive. The SW and SO sites predict that mothers who “throw, kick or smash something (not the child)” are three times more likely to be verbally abusive (Table 32).

Visit 8

Twenty-four variables were entered into a binary logistic regression using the forward method to determine predictors of abuse for mothers at visit 8. The twenty four variables included the new variables for physical abuse which were asked only at visit 8; “threw, smash, hit, or kicked something (not the child), push, grabbed or shove him/ her, spanked him / her, slapped him/ her, kicked, or bit child, hit him/ her with a fist or a switch or a belt or a hairbrush, beat him / her up.” (The variables, burn the child, threaten with a gun, and used a gun or knife on child did not have any responses and were not included.) The other variable were the victimization variables that were collected at visit.

Table 31

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Not-At-Risk Mothers at Visit 6

(N= 263)

Predictor	β	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-5.0848	0.6985	52.9968	1	0.0000	0.0062
Slap child	1.0459	0.4171	6.2887	1	0.0122	2.8459
Push or shove	0.8179	0.3542	5.3312	1	0.0209	2.2656
Spank child	0.7951	0.2010	15.6516	1	0.0001	2.2147
Push grab or shove child	0.5331	0.1720	9.6103	1	0.0019	1.7042
Overall model evaluation: Wald test			79.291	4	0.000	

Note: Cox and Snell R Square=.260. Nagelkerk R Square=.479. All statistics reported herein use 3 decimal places

Table 32

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Four Sites

EA Mothers at Visit 6 (N= 211)

Predictor	β	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-3.133	0.508	38.047	1	0.000	0.044
Throw something at child	2.387	0.933	6.546	1	0.011	10.885
Throw smash or kick something (not child)	0.843	0.275	9.386	1	0.002	2.323
Push grab or shove child	0.466	0.149	9.774	1	0.002	1.593
Spank	0.374	0.167	5.032	1	0.025	1.454
Before 13: someone touched genitals	-2.889	1.225	5.56	1	0.018	0.056
Overall model evaluation: Wald test			65.486	5	0.000	

Note: Cox and Snell R Square=.267. Nagelkerk R Square=.403. All statistics reported herein use 3 decimal places

Table 32 Continued

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Four Sites

MW Mothers at Visit 6 (N= 199)

Predictor	β	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-3.91	0.746	27.476	1	0.000	0.02
Push grab or shove child	1.172	0.231	25.741	1	0.000	3.228
Spank child	0.984	0.247	15.869	1	0.000	2.675
Attend religious services	-0.692	0.202	11.732	1	0.001	0.501
Before age 13; forced sexual intercourse.	-2.304	0.927	6.177	1	0.013	0.1
Overall model evaluation: Wald test			101.57	4	0.000	

Note: Cox and Snell R Square=.400. Nagelkerk R Square=.642. All statistics reported herein use 3 decimal places

Table 32 Continued,

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Four Sites

SO Mothers at Visit 6 (N= 178)

Predictor	β	$SE \beta$	$Wald \chi^2$	df	p	e^{β} (odds ratio)
Constant	-4.611	1.054	19.130	1	0.000	0.01
Slap child	0.756	0.361	4.380	1	0.036	2.129
Push grab or shove child	0.634	0.148	18.325	1	0.000	1.886
Spank child	0.585	0.286	4.175	1	0.041	1.795
Overall model evaluation: Wald test		45.58	3.000	4	0.000	

Note: Cox and Snell R Square=.226. Nagelkerk R Square=.366. All statistics reported herein use 3 decimal places

Table 32 Continued

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Four Sites

SW site all Mothers at Visit 6 (N= 98)

Predictor	β	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-0.628	1.129	0.310	1	0.578	0.534
Throw, smash, kick something (not child)	1.195	0.394	9.174	1	0.002	3.302
Push grab or shove child	0.932	0.254	13.439	1	0.000	2.54
How important is religion in raising children	-1.148	0.494	5.399	1	0.020	0.317
Overall model evaluation: Wald test			38.020	3	0.000	

Note: Cox and Snell R Square=.322. Nagelkerk R Square=.505. All statistics reported herein use 3 decimal places

6 and merged with the visit 8 data file, mother's completed school grade, mother's belief that religion is important in raising children and religious service attendance, child's age, mother's age, and mother's rating of health. Missing cases were: one for the EA sites, seven for MW, and twenty-seven for the NW. The missing data were ignored.

The strongest predictor of verbal abuse for the entire sample (high risk and not high risk) is the variable "Beat him/her up," with the mother 10.9 times more likely to be verbally abusive. Other significant variables include the same variables seen at other visits, "push, grabbed child," (4.6 times more likely) and "tried to hit the child with something," (1.6 times more likely). Two variables are significant for the first time at visit 8: if the mother has been "beaten as an adult," (2.7 more likely to be verbally abusive) and the age of the child, the older the child the more likely to be verbally abusive (1.8 times more likely). The model is significant and predicts 89.1% of the responses (Table 33).

For high-risk mothers at Visit 8, the variables "beat up child" (7.5 times more likely) and "push, grabbed child" (4.5 times more likely), continue to be strong predictors. The variable for the mother being beaten as an adult drops out and is replaced by the mother experiencing excessive punishment as a child or teen (2.7 times more likely). The model is significant, and correctly predicts 89.5% of the responses (Table 34).

For not-at-risk mothers the variable "grabbed child" (5.7 times more likely) is the strongest predictor. Also, "since you've been an adult: Have you ever been hit, slapped, beaten, or pushed around by someone?" (5.2 times more likely) returns along with the

Table 33

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for All Mothers at Visit 8

(N=509).

Predictor	B	SE β	Wald χ^2	df	p	e^{β} (odds ratio)
Constant	-7.853	2.470	10.113	1	0.001	0.000
Beat him/her up	2.389	1.037	5.306	1	0.021	10.897
Push grab or shove child	1.542	0.322	22.995	1	0.000	4.674
As adult: Beaten by someone	1.017	0.321	10.039	1	0.002	2.765
Age of child	0.599	0.305	3.866	1	0.049	1.821
Tried to hit child with something	0.475	0.223	4.538	1	0.033	1.608
Overall model evaluation: Wald test			52.115	5	0.000	

Note: Cox and Snell R Square=.097. Nagelkerk R Square=.196. All statistics reported herein use 3 decimal places

Table 34

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for High-Risk Mothers at Visit 8

(N=307)

Predictor	B	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-2.786	0.269	107.197	1	0.000	0.062
Beat him/her up	2.027	0.956	4.497	1	0.034	7.592
Push grab or shove child	1.511	0.394	14.720	1	0.000	4.531
Mother as child/teen: Excessive punishment	0.997	0.460	4.703	1	0.030	2.710
Overall model evaluation: Wald test			27.943	3	0.000	

Note: Cox and Snell R Square=.087. Nagelkerk R Square=.178. All statistics reported herein use 3 decimal places

Table 35

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Not High-Risk Mothers at Visit 8

(N=202)

Predictor	B	SE β	Wald χ^2	df	p	e β (odds ratio)
Constant	-13.162	5.012	6.897	1	0.009	0.000
Push grab or shove child	1.735	0.558	9.674	1	0.002	5.668
Since you've been an adult, have you ever been hit, slapped, beaten, or pushed around by someone?	1.657	0.526	9.906	1	0.002	5.241
Age of child	1.251	0.623	4.032	1	0.045	3.494
Overall model evaluation: Wald test			118.286	3	0.000	

Note: Cox and Snell R Square=.116. Nagelkerk R Square=.229. All statistics reported herein use 3 decimal places

child's age (3.4 times more likely). The model is significant, with 89.5% predicted (Table 35).

For the individual sites the physical abuse variables, mainly "push or shove the child" is significant for all three sites. For the EA "beat up the child" is a strong predictor with the parent 8.8 times more likely to be verbally abuse. Others include "beaten as an adult (4.0 times more likely), "push or shove child" (3.69 time more likely) and "spank the child" (2.5 time more likely). The MW, "push and shove" is the only predictor with the mother 6.4 times more likely to be verbally abusive. At the NW site, a site that had no verbal abusive behaviors at visit 4 and 6, the predictors for this site are age of child (12.2 times more likely), "when you were a teen: forced touched breast or genitals" (10.8 times more likely) and "pushed or shoved child" (6.9 times more likely) (Table 36).

Qualitative Interview

Although the largest number of parents reported yelling when their child fights with another child (N=13) or when their child talks back and is disrespectful (N=12), it is when the mothers report on the "biggest problem with the child" that a sense of frustration as the underlying cause seems to emerge. Responses such as "Stubborn sometimes," "Can't have her way," "Arguing, has to have the last word" and others similar statements appear to describe a mother who has reached her limit (Table 37)

Table 36

*Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Three Sites**EA site Mothers at Visit 8 (N=196)*

Predictor	β	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-3.711	0.529	49.188	1	0.000	0.024
Beat up child	2.177	1.087	4.012	1	0.045	8.818
Since adult, have you been beaten/slapped by someone?	1.409	0.52	7.350	1	0.007	4.092
Push grab or shove child	1.307	0.473	7.630	1	0.006	3.696
Spank child	0.918	0.32	8.255	1	0.004	2.504
Overall model evaluation: Wald test			29.130	4	0.000	

Note: Cox and Snell R Square=.138. Nagelkerk R Square=.268. All statistics reported herein use 3 decimal places

Table 36 Continued

Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Three Sites

MW site Mothers at Visit 8 (N= 192)

Predictor	β	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-2.485	0.289	74.097	1	0.000	0.083
Push or shove child	1.856	0.524	12.53	1	0.000	6.400
Overall model evaluation: Wald test			11.177	1	0.001	

Note: Cox and Snell R Square=.057. Nagelkerk R Square=.113. All statistics reported herein use 3 decimal places

Table 36 Continued

*Summary of Logistic Regression Analysis for Significant Variables Predicting Verbal Abuse for Three Sites**NW site Mothers at Visit 8 (N= 179)*

Predictor	β	<i>SE</i> β	<i>Wald</i> χ^2	<i>df</i>	<i>p</i>	<i>e</i> β (<i>odds ratio</i>)
Constant	-22.93	9.69	5.600	1	0.018	0.000
Age of child	2.495	1.211	4.248	1	0.039	12.124
When you were a teen: forced touched breast or genitals.	2.382	0.786	9.176	1	0.002	10.824
Push or shove child	1.945	0.815	5.686	1	0.017	6.991
Overall model evaluation: Wald test			23.300	3	0.000	

Note: Cox and Snell R Square=.179. Nagelkerk R Square=.388. All statistics reported herein use 3 decimal places

Table 37

Mother's Survey Responses Visit 8

Biggest problem mother had with child's behavior in the last six months	<i>How the mother handled the situation</i>
That she is extremely slow, she is forgetful and her mind...	<i>Yelling and screaming like a nut</i>
Listening while I am reprimanding her. She will try to (lost data)	<i>Yelling match. I will just tell her to</i>
Arguing-he has to have the last word, no matter what I say	<i>Yell at him</i>
Stubborn sometimes	<i>Yell at her</i>
Not turning in her homework. She does it but then doesn't...	<i>I teach her, ask what other kids doing? Then second time yelled at her.</i>
Mad all the time, acting out in school, disrespectful to...	<i>Yell at her</i>
Stubbornness	<i>Yelling</i>
When she can't have her way she starts hollering and...	<i>Screaming</i>
Does not obey	<i>Yelling (what do you mean?) Raise my voice (what do you say?) You will go to...</i>
	<i>Yell</i>

Table 37 Continued

Mother's Survey Responses Visit 8

Biggest problem mother had with child's behavior in the last six months

How the mother handled the situation

Child fights or hits another child

Usually yell at him

Yell at her, threaten to hit her

Yell at her

Yell at her

Scold him both talking and yelling at him

Fuss at her(yell at her)

Usually yell at him

Yell at her, threaten to hit her

Holler to grab her attention (p) "Samantha what are you doing?"

Yelling and fussing

Scream at her and make her stand in the corner

Yell at him "don't fight"

Fuss at her(yell at her)

Child back talks

Yell at her

Fuss at her (yell at her)

Get mad, yell at him

Yell at him

Sometimes stand her in corner or take away privileges. Sometimes yell or thro

Yell at her

Yell at her

Yelling at him

Raise my voice, yell at her

Yell at him & explain it is not ok

Table 37 Continued

Mother's Survey Responses Visit 8

 Biggest problem mother had with child's behavior in the last six months

How the mother handled the situation

Child back talks (continued)

*Yell at her**Yell at him & explain it is not ok*

Child lies

*Yell at her**Get made at her, yell**Timeout, yelled at**I yell, something I have no tolerance for**Gets yelled at (child's name) then has to pray**Holler at him**Usually just holler at him**Fuss at her (yell at her)*

Child steals

*If from the family, I yell at him**Really yell**Make him put it back and yell at him**Fuss at her (yell at her)*

Most effective discipline

*Hollering**A nice good yell - a mean voice**Yelling and time out**Yelling and counting to a number**Yell and scream at him and act like a crazy woman**Fussing at her (yelling at her)**Holler at him and hit w/hand on hand*

Interventions

The number of mothers who decreased their verbal abusive behavior from visit 4 to visit 6 was 112 mothers from the high-risk group and 68 mothers from the not-at-risk group. There were 180 mothers in the high-risk group who increased or remained the same and 138 mothers from the not-at-risk group (Table 38). Most of the mothers either increased their verbal abuse by one or two points, or decreased by one point. (See Table 39 for not-high-risk mothers and Table 40 for high-risk mothers.)

Table 38

Increase or Decrease in Verbal Abuse Scores from Visit 4 to Visit 6

Risk Status	Change in Verbal Abuse Score	Field Center				
		EA	MW	NW	SO	Total
Not High risk	Increased or remained the same	24	52	33	29	138
	Decreased	23	20	9	16	68
	Total	47	72	42	45	206
High risk	Increased or remained the same	55	48	36	41	180
	Decreased	40	25	7	40	112
	Total	95	73	43	81	292

Table 39

Change in Verbal Abuse Scores from Visit 4 to Visit 6 All Sites Not High Risk

Change in Verbal Abuse	Field Center				Total
	EA	MW	NW	SO	
Reduction in verbal abuse					
-5	2				2
-4	2	3		2	7
-3	2	3		3	8
-2	7	5	1	2	15
-1	10	9	8	9	36
Total	23	20	9	16	68
No Change	12	22	31	14	79
Increase in verbal abuse					
1	6	16	2	6	30
2	3	12		3	18
3	2			4	6
4	1			2	3
6		1			1
7		1			1
Total	12	2	2	15	59

Table 40

Change in Verbal Abuse Scores from Visit 4 to Visit 6 All Sites High Risk

	Field Center				
	EA	MW	NW	SO	Total
Reduction in verbal abuse					
-7				1	1
-6	1	1			2
-5	4	1		1	6
-4	4			5	9
-3	4	4		7	15
-2	10	4	2	9	25
-1	17	15	5	17	54
Total	40	23	7	39	112
No Change	23	16	29	17	85
Increase in verbal abuse					
1	16	11	7	12	46
2	10	14		7	31
3	4	5		3	12
4	2	2		1	5
6				1	1
Total	32	32	7	24	95

To understand why some parents had reduction in verbal abuse several analysis were done. First, the response from the questions “In the past year, did you see someone for help, or participate in a self-help group?” was entered into a linear regression with the dependent the change in verbal abuse score. Second, the response from the question, “Did you see or talk to (any of the following) for help: received mental health help?” The multiple regression produced no significant results.

To understand why there was a reduction in verbal abuse, each question about who the mother saw for social services: a health care professional, a social services worker, a work counselor, a substance abuse counselor, a lawyer-probation officer, a preacher or religious counselor, a natural healer, a self help group or any other provider,” were entered into the linear regression with the change in verbal abuse score as the dependent variable. There were no significant results from these regressions.

An ANOVA analysis was then run on to look for possible reasons for a decrease in verbal abuse. There were only two sites and two variables with significant decreases in the verbal abuse scores. Mothers in the EA site who saw a social worker had a mean decrease of 2.00 (SD=2.1) points in the verbal abuse scale $F(1,8) = 8.238, p=.021$. The SO site mothers had a mean decrease of 2.28 (SD=1.9) in verbal abuse points if they went to a self-help group $F(1,13) = 5.605, p=.034$. (LONGSCAN did not provide the definition of self-help group.)

To understand if there were any changes from visit 6 to visit 8, the rates for visit 6 were converted to 0=no verbal abuse and 1=verbal abuse because the Visit 8 response to verbal abuse questions was 0=no and 1= yes. The sum of “yelling” and “insulting” were then converted, if the sum was below two, it was coded as 0=no verbal abuse, and the

sum of 2 as 1=verbally abusive. The difference was measured to see if changes occurred. There were 103 mothers in the high-risk group out of 301 who decreased their verbal abuse scores. In the not high-risk group, there were 57 mothers out of 218 who decreased their scores. The number of mothers who reported to be verbally abusive is low for this visit, 56 mothers. Of these, 18 were mothers who were considered not verbally abusive at visit 6 (Table 41).

When the variables “did you feel you needed counseling or therapy for any reason in the past year?” and asked “have you used or received a service like this; any type of counseling or therapy for you for a psychological or emotional problem?” were entered into a linear regression using the verbal abuse change rate from visit 6 to visit 8 as the dependent variable, there were no significant results. The change rate was changed to a binary variable, 0=no verbal abuse change, and 1=decrease in verbal abuse change, and the two variables “sought counseling” and “received counseling” were entered into a logistic regression, there were no significant results.

Again, to understand why there was a reduction, the variables “attending a parenting class, attended a self-help group, and used DSS (Child Protection Services)” were entered into the logistic regression and an ANOVA. There were no significant results from either of these tests.

Table 41

Increase or Decrease in Verbal Abuse Scores from Visit 6 to Visit 8

Risk Status	Change in Verbal Abuse Score	Field Center			
		EA	MW	NW	Total
Not High risk	Increased	7	8	3	18
	Remained the same	59	40	44	143
	Improved	31	24	2	57
	Total	97	72	49	218
High risk	Increased	2	7	9	18
	Remained the same	57	61	62	180
	Improved	41	58	4	103
	Total	100	126	75	301

CHAPTER V

DISCUSSION

Previous studies of the verbal abuse of children have focused primarily on its detrimental effects: increased depression, anxiety, anger, mental health problems, and low self-esteem. Virtually no studies exist that explore the frequency or predictive behaviors of parents who are known to be verbally abusive. The LONGSCAN data provide a glimpse into this world through a secondary analysis on data collected to measure child abuse.

A challenge facing social-work researchers is how to distill from their statistical analysis, methodologies that are of use to social workers serving families in communities, parenting centers, daycare centers, schools, and Child Protection Services. This research is no exception. The results presented here appear to have uncovered parenting behaviors that might subsequently develop into verbal-abusive behaviors and therefore recommendations for interventions can be suggested. On the other hand, other conclusions about the frequency of abuse or the efficacy of specific interventions are not as conclusive, and recommendations are more suggestive than prescriptive.

A study of the frequencies of verbal abuse derived from the LONGSCAN data does not provide insight into characteristics that would help identify families that are likely to be verbally abusive. No demographic characteristics were noted that distinguish non-verbally-abusive from verbally-abusive mothers. There were not even significant differences between verbally abusive high-risk mothers and verbally abusive not-at-risk mothers. It should be noted though, that the inability to detect significant demographic

differences may be an artifact of the comparatively homogenous population comprising the LONGSCAN study group (see Table 5, Table 6, and Table 7)

On the other hand, significant differences were observed in the amount yelling and insulting in non-verbally-abusive mothers and verbally-abusive mothers. In the LONGSCAN sample, the mean rates of yelling and insulting mirror the results from a random sample taken from the general population (Jackson et al., 1999) when *all* the mothers are included from visit 4 and visit 6 (visit 8 could not be used to calculate frequency as parents were only asked a yes, no question). The LONGSCAN yearly rate for yelling at visit four was $M=2.2$ ($SD= 1.41$) and at visit 6, the mean was also 2.2 ($SD= 1.47$). The yearly rate for swearing and insulting in visit 4, $M=0.54$ ($SD =1.05$) and for visit 6, $M=0.55$ ($SD=1.08$). However, the mean yearly rate of yelling for the verbally-abusive mothers was $M=3.78$ ($SD=0.4$) for visit 4, and $M=3.70$ ($SD=0.4$) for visit 6. Interestingly, the frequency of swearing/insulting children for verbally-abusive mothers at visit 4 was $M=2.43$ ($SD=1.0$) and at visit 6, $M=2.74$ ($SD=1.0$), twice the rate for the general population, suggesting that rates of swearing and insulting are particularly sensitive indicators of verbal abuse.

The anticipated predictors of verbal abuse (based on Jackson's study of the general population) were not correlated at the 95% confidence level in the LONGSCAN data; consequently the hypotheses that the predictors of verbal abuse in an at-risk population would be the same as the general population are rejected. Furthermore, social learning is not a significant factor contributing to verbal abuse. However, other predictors were discovered that are statistically significant at the 95% or higher level.

The strongest predictors for each visit were organized in tables for review (see Table 42, Table 43, and Table 44).

Focusing on the predictors identified in visit 4 and 6, the strongest predictors of verbal abuse are various types of physical abuse: *throw something at the child, push or grab child, and push gab or kick something (not the child)*. These behaviors are often precursors to the mother's slapping or hitting the child. It is noteworthy that the most frequently used form of *discipline* is spanking (Table 10), yet, spanking alone is not a strong predictor of verbal abuse. Verbally abusive behavior is highly correlated with what appears to be displays of anger or frustration; it should not be surprising then that these behaviors are accompanied by verbal abuse. It is easy to imagine that the mother, grabbing, throwing, or kicking something, is also yelling or cursing the child. In fact, it is hard to imagine that these behaviors occur in silence, especially if they are displays of anger and frustration.

The qualitative interviews support these observations. Mothers who reported “yelling” or “hollering” seem to be reacting to frustrating situations. When mothers were asked to report the “biggest problem” that they have had with their children in the last six months, those who “yelled” said such things as: “Arguing—he has to have the last word” or “Mad all the time, acting out in school.” These responses (Table 37) seem to indicate that the mother is frustrated with her child's behavior. When taken together, the results of logistic tests of predictors and the interview data suggest that when the mother's level of frustration rises above a threshold, she responds by verbally abusing her child.

Table 42

Strongest Predictors Variables at Visit 4

Site or group	Predictor	B	SE β	Wald χ^2	df	p	e β (odds ratio)
MW site	Slap child	1.239	0.682	3.296	1	0.069	3.452
High-risk mothers	Push or shove child	1.021	0.293	12.103	1	0.001	2.775
Not high-risk mothers	Throw, smash, or kick something (not child)	0.985	0.316	9.721	1	0.002	2.677
SO site	Push or shove child	0.845	0.351	5.783	1	0.016	2.329
All mothers	Mother as teen: Someone touch breast/genitals against wishes	0.828	0.386	4.608	1	0.032	2.290
EA Site	Threaten to spank	0.542	0.217	6.241	1	0.012	1.720

Table 43

Strongest Predictors Variables at Visit 6

	Predictor	B	SE β	Wald χ^2	df	p	e β (odds ratio)
EA	Throw something at child	2.387	0.933	6.546	1	0.011	10.885
High risk	Throw something at child	1.483	0.746	3.952	1	0.047	4.406
All	Throw something at child	1.221	0.451	7.336	1	0.007	3.392
SW	Throw, smash, kick something (not child)	1.195	0.394	9.174	1	0.002	3.302
MW	Grab child	1.172	0.231	25.741	1	0.000	3.228
Not high risk	Slap child	1.0459	0.4171	6.2887	1	0.0122	2.846
SO	Slap child	0.756	0.361	4.38	1	0.036	2.129

Table 44

*Strongest Predictors Variables at Visit 8**(N= 778)*

	Predictor	B	SE β	Wald χ^2	df	p	e β (odds ratio)
NW	Age of child	2.495	1.211	4.248	1	0.039	12.124
All	Beat him/her up	2.389	1.037	5.306	1	0.021	10.897
EA	Beat up child	2.177	1.087	4.012	1	0.045	8.818
High risk	Beat him/her up	2.027	0.956	4.497	1	0.034	7.592
MW	Push or shove child	1.856	0.524	12.53	1	0.000	6.400
Not high risk	Grabbed him/ her	1.735	0.558	9.674	1	0.002	5.668

Other studies have made similar observations. Jackson et al. (1999) in a random sample of parents taken from the national population found that parents who had difficulty managing their anger were more likely to be verbally abusive. Thompson et al. (1999) also found that verbally abusive mothers had trouble controlling their anger.

Studies of anger have suggested that verbal aggression and anger are correlated. In a 1997 study (Holloway, 2003), 58 percent of adults in a community sample reported anger episodes that included yelling or screaming. Buss and Perry (1992) in a college-age sample found a strong correlation between anger and verbally aggressive behavior.

The interventions studied in this thesis were chosen based on the presumption that the behaviors predictive of verbal abuse are internalizing behaviors (depression, past history of abuse, illness). It was hypothesized that the interventions that mitigate these internalizing behaviors would also reduce verbal-abusive behaviors. The effectiveness of these interventions, unfortunately, was not supported. The only interventions even slightly effective were visits to a social worker (mothers in the EA site) and self-help groups (mothers in the SO site).

The inability to identify effective treatments would not appear to be because there were not enough parents seeking services to have statistically significant results. Eighty-six mothers of the high-risk group and 46 mothers from the not-at-risk group sought services between visit 4 and 6. Of these, 40 mothers from the high-risk group saw a mental-health counselor as did 16 from the not-at-risk group. Between visit 6 and 8, 55 mothers in the high-risk group felt the need for counseling, and 34 from the not-at-risk group. Of these mothers seeking services, 50 from the high-risk group saw a mental health counselor and 24 from the not-at-risk group saw a counselor. With the exception

of seeing a social worker and going to a self-help group, the interventions showed no statistically significant effect on reducing verbal abuse. In light of the conclusions regarding the predictors of verbal abuse, the explanation of the failure of most interventions could lie in the fact that these interventions did not address anger issues, whereas the social worker and the self-help groups did.

Recommended Interventions

In the literature, several interventions are described as being effective in reducing verbal abuse, including home-based counseling programs focusing on parenting-skill building and parenting programs that focus on anger and frustration reduction.

Home-based service programs place trained family workers in homes to provide counseling, education, and information. The most commonly used model is Family Preservation (National Family Preservation Network, 2007), however, there are other home-based models which are also effective (Prevent Child Abuse America, 2005). Healthy Steps, a national home-based service, measured the discipline strategies of 432 parents a month before starting Healthy Steps and after starting the program when the child was 16 months and 34 months. The fraction of parents who “yelled in anger” at least three-times-a-week, dropped from 43% to 13% at the end of the intervention (Caughy, Miller, Genevro, Huang, & Nautiyal, 2003). An important component of these models is that they put a social worker into the home where he/she could observe family interactions and intervene when necessary.

Parenting-education is less costly than placing social workers into homes. Usually run in a group model, parenting education has been demonstrated to be effective

(Lloyd, 1999) in reducing verbal abuse by teaching anger-management skills.

Preliminary results from studies of parenting programs that provide information on anger management, for instance the program RETHINK (Fetsh et al., 1999), support the conclusion that these programs reduce-verbal abusive behaviors (also see, Nicholson, Anderson, Fox, and Brenner (2002)).

Another class of interventions that might be effective in reducing verbal abuse is cognitive-behavioral therapy (CBT). CBT is known to be effective in reducing anger (a 20-year meta-analysis has demonstrated that people treated for anger with CBT showed significantly better anger management than 76% of untreated subjects (Beck & Fernandez, 1998)). Sofronoff, Attwood, Hinton, and Levin (2006) used CBT to teach parents of children with Asperger Syndrome how to control their anger. The results show a significant reduction in weekly anger and less conflict with their child (parent self-report) that continued through a six-week follow-up.

The three parenting programs recommended by Prevent Child Abuse America, (Prevent Child Abuse America, 2005): Parent Effectiveness Training (P.E.T.), the Parent Nurturing Program, and Systematic Training for Effective Parenting (STEP), do not address anger or anger management. Active Parenting (Popkin, 2002) and “How to Talk So Kids Will Listen” (Faber & Mazlish, 2001), two other popular parenting programs, also do not include anger management for parents.

Alternative parenting programs (un-researched, yet promising) could be explored to help parents learn techniques to control their verbal abuse. Marshall Rosenberg’s non-violent communication (Rosenberg, 2003) might be a good tool for parenting educators. Rosenberg teaches individuals and families how to communicate and resolve conflicts

without reverting to violent language. Rosenberg has published a parenting education book (Rosenberg, 2004) which could be useful in developing parenting curricula.

Another program that shows promise of reducing verbal abuse is mindfulness parenting (Dumas, 2005). Mindfulness-based parenting is the concept that parents need to stop being judgmental and just attend to what their children are doing or saying. Similar to cognitive therapy, parents are trained to ignore the “chatter” in their minds (such as “Why is Jason always getting on my nerves?” or “Sandra never listens to what I say, so why bother?”) and attempt to respond to situations without cognitive judgments (“Jason is full of energy tonight, he is really running around” or “Sandra is preoccupied, I’ll tell her later what I want her to do). Those who promote mindfulness believe that by ignoring the “mind’s chatter” parents will be more relaxed and less frustrated and angry (Kabat-Zinn & Kabat-Zinn, 2000).

Child Protection Workers need to be trained to be aware of parents’ verbal abuse. In a review of the legal definitions of emotional and psychological maltreatment of children (Loue, 2005) the author writes that “despite 30 years of research indicating the adverse consequences of emotional and psychological maltreatment of youth, child protection agencies and courts rarely attend to situations involving emotional or psychological abuse that do not also involved sexual or physical abuse” (p. 336). As the effects of verbal abuse are better understood and as proactive factors are indentified, this information needs to be communicated with Child Protective Workers so that they can make better assessments of abuse and neglect.

Finally, the public needs to be made more aware of the effects of verbal abuse on children and develop programs to teach parents how to eliminate this behavior. Parenting

education needs to emphasize communicating with children. Information on verbal abuse and its prevention needs to be distributed in schools, community centers, and faith-based organizations. Only when the seriousness of verbal abuse is appreciated will the community and professional services take the necessary actions to teach parents more effective ways of communication with their children.

Limitations

The LONGSAN data, while providing a glimpse into the world of parents who are verbally abusive to their children or at risk of being so, has several limitations: the method of the data collection, the inconsistent way in which the parents were questioned about verbal abusive behavior from visit 6 to visit 8, and the smallness of the sample despite the fact that more than 750 families were involved in the study.

Logistic regression is frequently limited by multicollinearity and data outliers. In the LONGSCAN data these two limitations do not appear to be an issue.

Multicollinearity occurs when two or more independent variables in the model are correlated. Multicollinearity usually occurs when independent variables are similar or are duplicate measures of the same variables (Morrow-Howell, 1994). Multicollinearity can be checked for by using SPSS to calculate a correlation matrix for each logistic regression. The results show that only two variables are slightly correlated in visit 4 but none are in visit 6 or visit 8. At visit 4 there was a slight negative correlation between “threaten to spank” and “spanked the child” (-0.552) and a negative correlation between the mother having her breast touched as a teenager and forced intercourse (-0.659). At

visit 6, there are no correlations above 0.146. For visit 8 all the correlations were under 0.179.

Outliers are data that are outside the normal range (Pett, 1997). Various tests did not identify any significant outliers (Table 10 through Table 18).

The LONGSCAN data comprise a remarkable dataset. The project was started in 1989 with the plan of collecting data every two or every four years covering the period from the child's age of four to twenty. The project is nearly complete and the dropout rate has been comparatively low, so the number of participating parents is still high enough for the studies to be meaningful. The study is unique in its broad temporal coverage and relatively wide geographic representation. It also targets the "at-risk population," a group whose parenting behavior has barely been studied. However, it has its limitations. The most significant is that the parents who have participated in the LONGSCAN study are volunteers. As a researcher who has worked in the child-welfare system for over twenty years, I know one is lucky just to have a parent open the door to allow the CPS worker into the home, let alone answer questions for a survey as detailed and lengthy as the LONGSCAN survey. LONGSCAN samples parents who are willing to expose their private life to strangers. While measuring behaviors of parents for which there are little data, the sample undoubtedly is biased toward people who are reaching out for help and therefore more compliant with intervention. This so-called "healthy-user bias" was first noticed in epidemiology research. Because of healthy-user bias, pilot studies were found to include more people compliant with prescribed medications, and because they were interested in being healthy, with better health habits (exercise, diet, and so forth) than the general population (Brookhart et al., 2007). Since the

LONGSCAN data consists of parents willing to talk about their parenting, it is likely that they are also more interested in improving their lives than most of the at-risk population. This bias could explain why the rates of verbal abuse by the parents in the LONGSCAN survey were similar to samples from the general population and not higher as naively expected.

Another limitation of the data set is that it relies on the mother's self-report of abusive behaviors. How honestly did the mothers answer questions about verbal abuse? When answering the question, "how many times did you insult your child?", did the mothers provide accurate assessments or more socially desirable answers (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003)? Since many of the mothers are involved in Child Protective Services, they might under report the severity of their parenting behavior for fear of having their child removed. Another reason to expect that the amount of verbal abuse is probably under reported is that the mothers might not have realized that their behavior was "yelling," or might not remember yelling at their children because the behavior is natural and not extraordinary; consequently they would have reported a lower frequency than that that would have been reported by someone observing the mother.

Retrospective questions have limitations. Did the mother accurately remember how many times that she yelled or insulted her children in the last year? Undoubtedly the mothers were giving a "best guess" of how much yelling and insulting they recalled. Retrospective recall is also subject to narrative bias (Bem & McConnel, 1970; Holmberg & Holmes, 1994; Markus, 1986) which limits its accuracy.

Future Research

Continued research into verbal abuse is needed on many levels. Overall, the most important research goal should be to develop an improved measure of verbal abuse. The Conflict Tactics Scale is the most commonly used instrument. The limitations of this scale are, foremost, its reliance on retrospective recall, and nearly as importantly, its dependence on self-reporting. The problem of retrospective recall is exacerbated by questions that refer to the distant past: the past six months, or even the past two years. The reliability of the survey would be improved if the parent were asked to recall his behavior in progressive steps: yesterday, during the past week, and during the past month. The problem of self-reporting could be overcome by using another method to collect data on verbal abuse, such as home visits or laboratory observations. Although parents behave differently when observed, home-based counselors (in home for therapeutic services), if properly trained, could provide an additional source of data that might be more accurate than self-reports.

Adding the child's behavior to the list of possible predictor variables might be informative. It is likely that the interaction between a child and parent is a cause of verbal abuse; a more difficult child might more quickly raise the frustration level of a parent and cause the parent to yell and become verbally abusive.

More interviews of mothers to determine how they feel about being verbally abusive would help inform effective treatment strategies. When mothers verbally abuse their children do they feel that they are out of control, or do they see the verbal abuse as a form of tough love or a legitimate method of improving their child's behavior?

Better measures of predictive factors are needed. Unfortunately, the LONGSCAN data do not include a parent's anger scale, and anger, as has already been indicated, appears to be a good predictor of verbal abuse. Cross validation with an independent measure of anger or frustration would help test this hypothesis. A study comparing the behavior of parents randomly assigned to parenting groups that teach anger management to parents in a comparison group or waiting lists would contribute significantly to our knowledge about the importance of anger in verbal abuse.

In conclusion, this research yields some insights into possible predictors of verbal abuse. Verbal abuse remains a relatively unexplored area in social work. It is hoped that this research will spark interest in this area and others will take up the challenge to help stop and prevent further abuse of our children.

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VITA

Richard T. Lange

- 1957 Born July 12 in Philadelphia, Pennsylvania.
- 1975 Graduated from George Washington High School, Philadelphia, PA.
- 1975-79 Attended The Pennsylvania State University, majored in Human Services.
- 1979 B.S. in Human Services, Pennsylvania State University.
- 1979-1981 Employed by the Woods Schools, instructor for adults with Head Injuries.
- 1981-90 Employed by Community Organization for Mental Health and Retardation, program coordinator and Mental Health Counselor.
- 1985-86 M.Ed. in counseling psychology. Antioch University.
- 1987 Conference presentation: "Group Psycho-Therapy for the Dually Diagnosed," *National Conference for the Dually Diagnosed*, Chicago, IL.
- 1990- Present Employed by the Center for Family Services, Inc. Therapist and Mental Health Program Director.
- 1991-1994 Adjunct Professor in Human Services, Camden County Community College.
- 1998-2000 Attended the University of Pennsylvania Master's of Social Work Program.
- 2000 MSW in Social Work, University of Pennsylvania.
- 2000-07 Attended the Ph.D. program at Rutgers University, New Brunswick, New Jersey.
- 2003 Article: Tips for Time Out. *Healing Magazine* **8 (1)** 10-11.
- 2004 Article: Time-out in Residential Settings. *Residential Group Care Quarterly* **4 (3)** 9-10.
- 2004 Article: Using narrative therapy in a parenting educational group. *Groupwork* **14 (1)** 63-79.
- 2008 Ph. D. in social work from Rutgers, The State University of New Jersey.