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Resilience in Mothers Who Had Been Victims of Physical Child Abuse: an Exploration of the Mediating Effects of Personality Characteristics, Coping Skills, Social Support, and Family Characteristics

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ABSTRACT

RESILIENCE IN MOTHERS WHO HAD BEEN VICTIMS OF PHYSICAL CHILD ABUSE: AN EXPLORATION OF THE MEDIATING EFFECTS OF PERSONALITY CHARACTERISTICS, COPING SKILLS, SOCIAL SUPPORT, AND FAMILY CHARACTERISTICS

The etiology of physical child abuse by mothers has been linked to many factors such as a history of childhood physical abuse, poor coping skills, lack of social support, family problems, and psychological distress. This study explored the construct of resilience, defined as low-child-abuse potential, in relation to eight primary variables. Eighty mothers who voluntarily participated in the study were categorized into three groups based on childhood physical abuse history as measured on the Conflict Tactics Scale and high- or low-abuse potential quantified on the Child Abuse Potential Inventory. The three groups included abused and high-abuse-potential parents (N = 16), abused and low-abuse-potential parents (N = 55), and nonabused and low-abuse-potential parents (N = 9). The mothers completed demographic forms and questionnaires that measured eight primary variables: five personality dimensions (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) on the NEO Personality Inventory (Costa & McCrae, 1992b); coping skills on the Coping Resources Inventory (Hammer & Marting, 1988); social skills on the Social Skills Inventory (Riggio, 1989); and family cohesion on the Family Environment Scale (Moos & Moos, 1994).

Significant demographic data for resilient mothers (abused and low-abuse-potential) indicated that they were married (one significant relationship), with incomes above $50,000 that included income from outside efforts. As anticipated, significance was found on three of the five

personality factors--neuroticism, agreeableness, and conscientiousness as well as on some of the facets within the domains. Neuroticism clearly distinguished the abused and high-abuse-potential parents from the two low-abuse-potential groups in both the analysis of variance and in the discriminant function analysis. Coping skills and family cohesion showed significance and were able to discriminate between the mothers who were abused and had a high-abuse potential and the mothers who had been abused and had a low-abuse potential. The findings of the present study supported the importance of a multidimensional view of child abuse potential.

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Special thanks to Dr. Mary Flett and Dr. Katie McGovern who allowed me to talk out my early thoughts and who previewed pre-first-draft efforts, which allowed me to focus my efforts and begin the final dissertation process. Dr. Flett also gave nudges when the pace needed acceleration.

I am appreciative of the women who volunteered to participate in the study. Taking the time to answer all of the questionnaires took effort and persistence.

I would like to remember and thank my parents, who are deceased, for providing a nurturing environment during my childhood and managing to ensure that my brothers and I had everything we needed although finances were challenging at times. I am thankful for my older brothers, who acted like brothers but who offered their love and support in their own unique ways. I am grateful for marrying into a wonderful family. They have always made me feel welcome and part of "the family." I have been fortunate to have sisters-in-law whom I would not

trade for anything; they are truly my "sisters." Nieces and nephews taught me a lot about child development before I became a mother, which was informative and lots of fun. Our family also learned about the loss of a child when my nephew, Stephen, was called to God before his time. Stephen was not only my God-child, but he was also the ring bearer in my wedding.

I want to especially thank my sons, Roy and Chris, who "lived" my education their whole lives. On occasion, they came with me to class, to the library, and listened to endless hours of chatter about "my dissertation." Roy did some Xeroxing, walked with me, and distributed flyers. Roy critiqued my presentation for the oral defense. Chris compared notes with me as we challenged each other to a race to see who would finish the doctoral process first. Chris provided inspiration and encouragement along the way. I am also thankful for their numerous prayers.

I owe more gratitude than anyone can ever imagine to the best husband to forever grace the planet. He stood by me, supported me, and continuously encouraged me to forge ahead when the many tasks of life took energy and time away from "the dissertation." His unconditional love as well as his calm, steadfast, and practical approach to life, work, and family has been an inspiration throughout the process. I would not trade one minute of my time spent away from "the dissertation" that I had spent with my husband or my sons.

I am supremely thankful to God who made it all possible. Being blessed with my faith, my family, my education, and opportunity has carried me to completion of "the dissertation."

DEDICATION

In Memory of

My Mother

Antoinette Krawiec Demcsak

This monumental undertaking was incubated over the years as I observed my mother and heard stories about her from other people. My mother overcame many obstacles that most people who knew her were not aware of. My mother was the inspiration for my interest in the topic of resilience. She did not talk about the trauma that she experienced during childhood after the loss of her mother at the age of 8. She was reluctant to talk about the numerous medical problems including survival of cancer during the 1950s. Mom always maintained a positive attitude and encouraged her children to be the best that they could be. Although my mother did not finish high school, she had a natural ability to comfort and support others who gravitated to her for informal "therapy." My mother was, first and foremost, my mother, but she was also my friend, my role model, my confidante, and my biggest fan.

Mom, I wish you could be here to celebrate this accomplishment with me but I know that you had a huge part in this achievement. You were living proof that inherent characteristics contribute to human resilience. I Love You, Mom!

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Introduction

Background of the Problem

Most mothers who abuse their children were also abused as children (Berger, 1980; Ney & Peters, 1995; Steele, 1987a). However, not all mothers perpetuate the intergenerational cycle of abuse. Recent research on the effects of child abuse has focused on the factors which help a victim of abuse escape the pattern of abusing her own child (Caliso & Milner, 1992; Egeland, Jacobvitz, & Papatola, 1987; Justice & Justice, 1990). Resilience factors are those buffering characteristics of the individual, the environment, social supports, and family cohesiveness, which generate positive outcomes in spite of negative experience. Resilience literature has grown to include numerous developmental and contextual factors in the research focusing on women who were abused and who are now mothers (Kaufman & Zigler, 1987; Mrazek & Mrazek, 1987; O'Grady & Metz, 1987).

The ability of a woman to adequately parent a child is a result of a combination of several factors. Parental factors include developmental history, intergenerational transmission of abuse, and personality characteristics. Child variables encompass age, physical health, behavior, and temperament. Other parameters are community and social support as well as the societal-cultural context (Belsky, 1993). Mothers, who, as children, were physically abused, have been found to be at risk for abusing their own children (Williams, 1983). In spite of the high-risk potential of a history of childhood physical abuse, there are women who overcome these adverse circumstances and proceed to raise their children without maltreatment.

Incidence and Prevalence

The maltreatment of children has been documented as early as the year 900 when a Persian physician alluded to a child having been struck. Over the centuries, the maltreatment of children was discussed somewhat indirectly. Bonet, in 1684, acknowledged the deficient "constitution" of some mothers, which necessitated the assistance of wet nurses in the care of the children (Lynch, 1985). "Only recently has the standard treatment of children reached a point where maltreatment as a definable problem can even be meaningfully identified" (Garbarino & Gilliam, 1980, p. 19).

The increasing attention given in the literature to the etiology of physical child abuse seems to coincide with the incidence of child abuse cases reported nationally. In 1993, there were one or more reports of suspected abuse or neglect of 2.3 million children (U.S. Dept. of Health and Human Services, 1995). It is estimated from statistics that approximately 1 child in 10 is a victim of severe violence each year and that between 1,200 and 5,000 children die as a result (Breggin, 1991). In 1993, there were 1,028 child victims who died from maltreatment (U.S. Dept. of Health and Human Services, 1995). Child protective service agencies as well as mental-health professionals have recognized the difficulty in successfully treating parents who abuse their children (Gabinet, 1983). "Recidivism ranged from 44-85 percent depending on the number of perpetrators, targets, and types of abuse in the family" (Williams, 1983, p. 313).

Since treatment outcomes have failed to significantly reduce the incidence of child abuse, further research in this area is indicated (Jones, 1987; Maurer, 1983). Wolfe (1994) discussed the history of the treatment of child abuse and the reasons for less-than-adequate outcome statistics. Inadequate treatment outcomes in the literature may be

related to poor definitions of what is being treated or to the constantly changing causes for the abuse.

> ...The development of treatment strategies for child maltreatment has involved a long process of trial and error in which currently popular ideas are heralded as the 'necessary ingredients' for successful treatment outcome, only to be usurped by more popular methods or to fade due to disappointing results. (Wolfe, 1994, p. 225)

Individual Differences

Researchers have identified a number of protective and risk factors, which distinguish abusing parents from nonabusing parents. Personal factors, such as temperament, involve a strong genetic component (Rutter, 1996). Justice and Justice (1990) proposed that the etiology of child abuse is a result of an interaction between internal psychological forces and environmental pressures. Abusing parents tend to suffer from low self-esteem, a risk factor (Beardslee, 1989; Luthar & Zigler, 1991; Rutter, 1985, 1987), which involves an interaction between one's personal experience and the social environment (Gore & Eckenrode, 1996). Many perpetrators of child abuse, as a result of their own personal experiences with physical abuse (one risk factor) as well as continuous negative social and emotional experience (another risk factor), inflict their anger and hurt on their children (Higgins, 1994). Parents who are at risk of abusing their children, or who actually do physically abuse their children, reportedly have an external locus of control "that includes control by powerful others and chance factors" (Milner & Chilamkurti, 1991, p. 352). Herman (1992) suggested that "...repeated trauma in childhood forms and deforms the personality" (p. 96). This results in individuals who

remain more dependent on external sources of support and comfort and who succumb more readily to stress in the environment (Belsky & Vondra, 1991; Kolko, Kazdin, Thomas, & Day, 1993; Luthar & Zigler, 1991; Zigler & Hall, 1991).

Justice and Justice (1990) recognized that abusive parents have frequently experienced early deprivation of mothering and nurturing, which then impedes their own ability to provide appropriate care to their children. The unfulfilled need for nurturance can then lead to role reversal in which the parent seeks love and care from the child. Although there has been a renewed interest in the psychodynamic model with a goal of distinguishing abusive parents from nonabusive parents, the circumstances under which the abuse occurs are equally as important.

Environmental and Social Factors

Researchers looking beyond the individual to the external environment have found that stress is an important factor in the lives of many child abusers. Gil (1970) reported that stress factors in the environment diminish an individual's self-control. This can then lead to aggression. Proponents of the sociological model point to such factors as social class, cultural attitudes toward violence, social isolation, and lack of social-support systems (Garbarino, 1976; Goldstein, Keller, & Erné, 1985; Kaufman & Zigler, 1987). "Unlike the psychiatric model, the social or social stress models focus on the parents' and the families' interactions with society and the resulting pressures on the families, rather than implying that some defect or deficit inheres within the parent" (Zigler & Hall, 1991, p. 60).

Garbarino and Gilliam (1980) discussed the etiology of maltreatment in terms of an ecological theoretical model, which encompasses a social systems perspective rather

than an individual psychopathological etiology. Some have proposed that child abuse occurs along a continuum of "caregiver-child relations," and "is only quantitatively different from nonabusive relationships" (p. 20). The ecological model of child abuse depicts the perpetrator as a normal individual who is in a stressful situation and has a relatively low level of skill as a caregiver. Garbarino and Gilliam believed that almost any individual can be at risk in a situation in which the balance between support and demands is great enough to result in abuse.

Statement of the Problem

The goal of child-protective-service workers and family therapists to prevent and/or decrease child maltreatment and to promote positive parent-child interactions will be furthered if the mediating variables, which predispose a mother to become abusive, can be identified. The implication for prevention and treatment is evident in that the more information learned about the factors differentiating abusing parents from nonabusing parents can point to more effective intervention, thus lowering the incidence of child abuse.

> The analysis of the determinants of parental functioning, informed as it is by concern for the etiology of child maltreatment, suggests that parental functioning is influenced by a variety of forces, with its three major determinants being the personality/psychological well-being of the parent, the characteristics of the child, and contextual sources of stress and support (Belsky & Vondra, 1991, p. 187).

Zigler and Hall (1991) found that social stress as it relates to the parents' and families' interactions with society and the subsequent pressures and demands on the families can predispose a parent to become abusive, particularly in the absence of a support network.

The purpose of this study was to answer the question, "Is resilience in mothers with low-abuse potential who had experienced childhood physical abuse predictable from personality characteristics, coping skills, social support, and family cohesiveness, or from the interaction of these factors?" This question merits attention since the existence of resilience is more than a set of traits. Resilience is a process involving "protective factors" which alter an individual's response to adverse events that "predispose" that individual "to a maladaptive outcome" (Mrazek & Mrazek, 1987, p. 357).

Conceptual Assumptions

Studies encompassing several decades and many variables have resulted in the assumption that the etiology of child abuse is a complex, multidimensional problem (Berger, 1980; Milner & Chilamkurti, 1991; Starr, MacLean, & Keating, 1991). Milner (1991) referred to perpetrator, familial, and societal factors as the major determinants in distinguishing an abusing family from a nonabusing family. Other categories of factors involved in child abuse have been identified as individual, family relationship, and social/cultural dimensions (Belsky, 1993; Cohen & Wills, 1985; Perry, Wells, & Doran, 1983). "Breaking a cycle of maltreatment requires a dual focus on the development of the individual parent who may engage in it and on the social risk factors that potentiate it" (Starr et al., 1991, p. 25).

Individual differences in response to stress and adversity form the premise of the research on resilience (Rutter, 1985). Children who have been described as stress-resistant are frequently developmentally more advanced and intellectually mature (Luthar & Zigler, 1991). Beardslee (1989) acknowledged the effects of psychological factors, including temperament, coping styles, positive self-esteem, and an internal locus of

control. Milner and Wimberley (1980) developed an inventory to identify those individuals predisposed to physically abuse their children based on a consolidation of personality dimensions. The Child Abuse Potential (CAP) Inventory measures such factors as: "Distress, rigidity, child with problems, problems from family and others, unhappiness, loneliness, and negative concept of child and of self" (Milner & Wimberley, 1980, p. 875). "Although economic and social stressors must be addressed in any full account of child abuse, a psychological analysis of the problems seems inevitable, as the majority of the most economically and socially stressed parents do not physically abuse their children" (O'Leary, 1993, p. 16). Smith (1980) in a study of battered children, found that mothers who abused their young children were frequently diagnosed as neurotic and suffered from depression, anxiety or a combination of both as measured on the Eysenck Personality Inventory.

Since 1980, the evaluation of personality has evolved, resulting in a concurrence among researchers that individuals differ along fundamental dimensions of personality, and five recurrent factors have been identified (McCrae & John, 1992). One of the five factors, neuroticism, measures the individual's "tendency to experience distress" as well as the "cognitive and behavioral styles that follow from this tendency" (p. 195). Individuals who exhibit high scores on the Neuroticism scale tend to be negatively affected by the distress and frequently manifest psychiatric disorders. "The recurrent nervous tension, depression, frustration, guilt, and self-consciousness that such individuals feel is often associated with irrational thinking, low self-esteem, poor control of impulses and cravings, somatic complaints, and ineffective coping" (p. 195). The Revised NEO Personality Inventory was utilized in order to determine if individual

differences in personality characteristics exist between low- and high-abuse potential parents.

In addition to the Neuroticism dimension, other personality dimensions and facets have been associated with the concepts of vulnerability and resilience. Individuals who exhibit high scores on the Extraversion domain are more sociable and optimistic (Costa & McCrae, 1992b). Studies have found that the ability to view the future with hope (optimism) is related to invulnerability (Beardslee, 1989). Costa and McCrae (1992b) postulated that resilient individuals most likely score high on the Action and Ideas facet scales of the Openness to Experience dimension. Agreeableness includes interpersonal tendencies of individuals who are more likely to assist others and to "inhibit aggression" (Costa & McCrae, 1992b, p. 18). Individuals, who score high on the Conscientiousness domain, are able to control their impulses and are able to plan, organize, and carry out tasks. Self-esteem, which is often cited in the child abuse literature as a characteristic of abusive parents (Anderson & Lauderdale, 1982; Pelton, 1994), is measured on the Competence facet of the Conscientiousness scale.

Resistance to stress appears to be a result of environmental as well as constitutional factors. Research in the area of adult depression involving "...individual differences has led to a search for vulnerability factors that increase people's susceptibility to stressors, and for buffering influences that serve a protective function in the same circumstances" (Rutter, 1985, p. 599). Coping theorists assume that resilience is a result of a process in which individuals remediate a stressful situation or adapt their behaviors and emotions (Bolger, 1990). Beardslee (1989) added other factors that are related to invulnerability, including the ability to view the future with hope, active

problem-solving ability, cognitive appraisal of stressors, and a close, confiding relationship. Milner and Chilamkurti (1991) suggested that supportive childhood and adult relationships may actually "moderate the effects of stress and enhance self-esteem" (p. 357).

Thus, there appears to be intriguing, but incomplete, information in the areas of personality, coping, social support, and family cohesiveness. Despite the effects of economic and social stress, most parents do not physically abuse their children (O'Leary, 1993). O'Leary and Wolfe (1985) reviewed the literature focusing on personality and psychological characteristics of parents who abuse their children and under which circumstances. O'Leary postulated that the failure to find significant differences in personality characteristics was related to the choice of instruments in the literature thus far, particularly the MMPI, which was initially developed to measure "major mental problems or disorders" (p. 26). Wolfe noted that the relationship between "...child abuse and situational events argues for a better understanding and assessment of psychological variables that exert an influence on parental competence, as opposed to psychopathology" (p. 479). Wolfe and O'Leary have called for further research on Axis II personality disorders in an effort to distinguish between abusers and nonabusers.

Straus (1973) and Giles-Sims (1983) proposed a general systems theory to explain family violence. Straus acknowledged that violence within the family has many causes that included structure, conflicts, and personality traits. The roots of family violence develop in childhood and are sustained in imagery, social interactions, and the media. Straus believed that the violent acts are then propagated as the behavior produces the desired results, such as control over other family members. Burgess and Conger (1978)

discovered that the interactions of family members in abusive families are less frequent and are generally more negative in nature than in nonabusive homes. "The family system operations can maintain, escalate, or reduce levels of violence in families" (Gelles, 1993, p. 36).

Significance of the Study

As evidenced in the literature, research has demonstrated that the prediction of child abuse is dependent upon a number of factors including personality characteristics of abusing parents, childhood experiences of abusing parents, the social-situational factors of abusing parents, and the family social climate (Belsky, 1993; Browne, 1986; Mollerstrom, Patchner, & Milner, 1992; Mrazek & Mrazek, 1987). Treatment efforts have not significantly reduced the incidence of physical child abuse, nor have preventative measures had an impact on the incidence. Previous research has focused on the comparison of abusing and nonabusing parents. Few studies have looked at the nonabusing parent who had been abused as a child in order to determine those factors that strengthen or make that individual resilient. "If it were possible to identify variables that seem to protect an abused child from growing up to become an abusing parent, it might be possible to use such information in working with abusing families to break the 'cycle of abuse'" (Berger, 1980, p. 61).

The goal of this study was to examine variables that may buffer the effects of childhood abuse on the mother's potential to abuse her own children. Abused individuals who break the cycle of abuse are less anxious and depressed, which then increases their abilities to become more successful in their interpersonal relationships (Caliso & Milner, 1994; Seagull, 1987). In order to measure vulnerability and protective factors within the

individual, the current study examined the relationship between the dimensions and facets of the NEO-PI-R and child abuse potential. The authors of the NEO-PI-R (Costa & McCrae, 1992b) related a number of facets to the ability of an individual to cope effectively with stressors. For instance, Anxiety, Angry Hostility, Depression, and Vulnerability on the Neuroticism dimension were associated with an individual's ability to cope.

Garbarino (1982) suggested that "it is when personal vulnerability is compounded by social impoverishment that the most devastating effects take place" (p. 44). It has been hypothesized that mothers who are highly stressed and who abuse their children often respond to changing life events in a hostile manner as opposed to seeking social support or attempting to cope with the situation (Egeland, Breitenbucher, & Rosenberg, 1980). Individuals who score high on the Neuroticism scale experience more emotional distress. In this investigation, the overall dimension of Neuroticism as well as the facets on the Neuroticism dimension including Anxiety and Depression, were explored in order to determine the impact of these personality traits on child abuse potential.

Bolger (1990) postulated that coping is a personality process, which determines the difference in stress outcomes. In terms of personality traits linked to coping, several dimensions on the NEO-PI-R have been named as protective factors. Beardslee (1989), in acknowledging the effects of constitutional factors, postulated that the ability to view the future with hope (optimism) is associated with invulnerability. Individuals who are high scorers on the Positive Emotions (optimism) facet on the Extraversion domain are more likely to be less vulnerable to the effects of stress. Cowen and Work (1988) identified a number of protective factors, which included social responsivity, which is measured on

the Extraversion scale. Costa and McCrea (1992b) postulated that resilient individuals are most likely to score high on the Actions and Ideas facets of the Openness to Experience dimension. High scorers on the Agreeableness dimension tend to be sympathetic to others and eager to help them and also believe that others will be equally helpful in return. Therefore, this line of research within the personality dimensions of the NEO-PI-R attesting to the importance of these facets in the study of resilience contributed to the significance of the current study designed to identify factors related to the construct of resilience.

Seagull (1987) stated that there have been no studies that examined the relationship between social support and parents who are depressed among abusive parents. It was believed that the social skills of a mother would be a further predictor of child abuse potential particularly in light of the presence of depression as suggested by Seagull; therefore, the current study also looked at social skills. It has been hypothesized that mothers who are highly stressed and who abuse their children often respond to changing life events in a hostile manner as opposed to seeking social support or attempting to cope with the situation (Egeland et al., 1980).

Social support has been identified as a buffering factor in studies of the resilience of victims of child abuse (Kinard, 1995; Moncher, 1995). The influence of social support as a protective factor is more complex than the mere availability of resources. Factors that affect successful interactions between an individual and her relationships with others including family, friends, and the larger community involve the mother's own early experience with caregivers, her perceptions of others, her fear of rejection and criticism to name a few (Belsky, 1993; Marziali, Damianakis, & Trocmé, 2003). In the current study,

an inquiry regarding the perception of social support was made on the demographic form. In addition, the mother's level of social skills was viewed as influential in terms of the mother's ability to access and benefit from social support; therefore, the impact of mothers' social skills on the potential to abuse was investigated in this study.

In a comparison of two families with similar risk factors for physical abuse including "a childhood history of abuse, low frustration tolerance, depression, and unrealistic expectations about their children," Eliana Gil (1996) distinguished the family that resorts to abuse by the following factors: "a lack of social support, marital discord, or chronic economic stress" (p. xii). The implications for treatment include a systems approach, since the therapeutic approaches of the 1970s, which were primarily individual and linear, often failed when a child was reunified with his or her family. In the 1980s, with a more multidisciplinary focus, the parent-child interaction was recognized as was the theory of reciprocity in family relationships (Gil, 1996; Griffin, 1993).

In preliminary findings in an ongoing longitudinal study, Garmezy and Masten (1986) hypothesized that several parent attributes and "...certain family characteristics of stability and cohesion may not only be powerful predictors of competence, but may also moderate the effects of stressful events on certain aspects of competence" (p. 515). In this investigation, family cohesion was measured in the hopes of identifying which mothers are at greatest risk for high abuse potential.

Leaders in the treatment of abusive families have emerged only recently. The literature spanning the last four decades is replete with controversy surrounding the causes of family violence; therefore, treatment has been ineffectual as well. With the current emphasis on multidimensional causality, including a systemic focus, family

therapists are beginning to treat some abusive families with a margin of success. Gil (1996) viewed treatment as having a dual approach: "...systemic interventions designed to address the climate that contributes to the emergence of abuse, and a variety of interventions directed at behavior, attitudes, and social/cultural factors" (p. 122). It was anticipated that the variables in the current study would suggest treatment strategies and approaches for families who abuse their children.

Berg (1994), with her colleagues at the Brief Family Therapy Center in Milwaukee, Wisconsin, has developed a family-based therapy, which was influenced by family-systems theory. Traditional family therapy is based on the premise that the family system attempts to maintain boundaries and homeostasis, whereas, solution-focused therapy "views change processes as inevitable and constantly occurring" (p. 9). Berg believed that it is easier to focus on solutions in therapy, which encourages building upon successful behavior patterns as opposed to attempting to change problematic behaviors. The clients, therefore, feel in control of their own lives and are acknowledged as competent to make choices, which are appropriate. In identifying protective or resilient factors in low-abuse-potential mothers, it was anticipated that this study would shed further light on the direction of future therapeutic efforts.

Walsh (1998) proposed a "community-based family resource perspective" rather than a deficit-based model, which was designed to treat "multicrisis, vulnerable families" (p. 159). Within a strength-based, family-centered approach, families are perceived as resilient in that they have demonstrated resourcefulness in making it through each day with meager income, as well as a multitude of other stresses and adversities. "Interventions aimed at enhancing positive interactions, supporting coping efforts, and

building extrafamilial resources work in concert to reduce stress, to enhance pride and competence, and to promote more effective functioning in these families" (p. 159). The therapy needs to be more action-oriented and concrete in terms of problem-solving when working with families who are overwhelmed. Competencies within the family can be identified and magnified for the family to feel a sense of pride and accomplishment, which can then lead to further growth.

Research Questions

The following research questions were examined in this study. Are higher levels of childhood abuse associated with higher abuse potential? Are higher levels of neuroticism predictive of higher abuse potential? Are lower levels of extraversion, openness to experience, agreeableness, and conscientiousness predictive of higher abuse potential? To what degree do coping skills relate to abuse potential? Are higher scores on social skills related to lower abuse potential? Is a greater degree of perceived family cohesion related to lower abuse potential?

Hypotheses

This study investigated the relative influence of mediating variables on the relationship between the perceived magnitude of physical abuse experienced in childhood, as measured by the Conflict Tactics Scale (Straus, Gelles, & Steinmetz, 1980) and the potential to physically abuse a child, as measured by the Child Abuse Potential Inventory (Milner, 1986). Resilience, as a construct, was measured on each of the mediating variables in the low-abuse-potential parent groups as compared to the high-abuse-potential parent groups. The proposed mediating variables are (a) personality

characteristics, (b) coping style, (c) social support(s), and (d) family cohesiveness (see Figure 1).

The groups of participants were to consist of the following: abused and high-abuse-potential parents (AHAP), abused and low-abuse-potential parents (ALAP), nonabused and high-abuse-potential parents (NHAP), and nonabused and low-abuse-potential parents (NLAP).

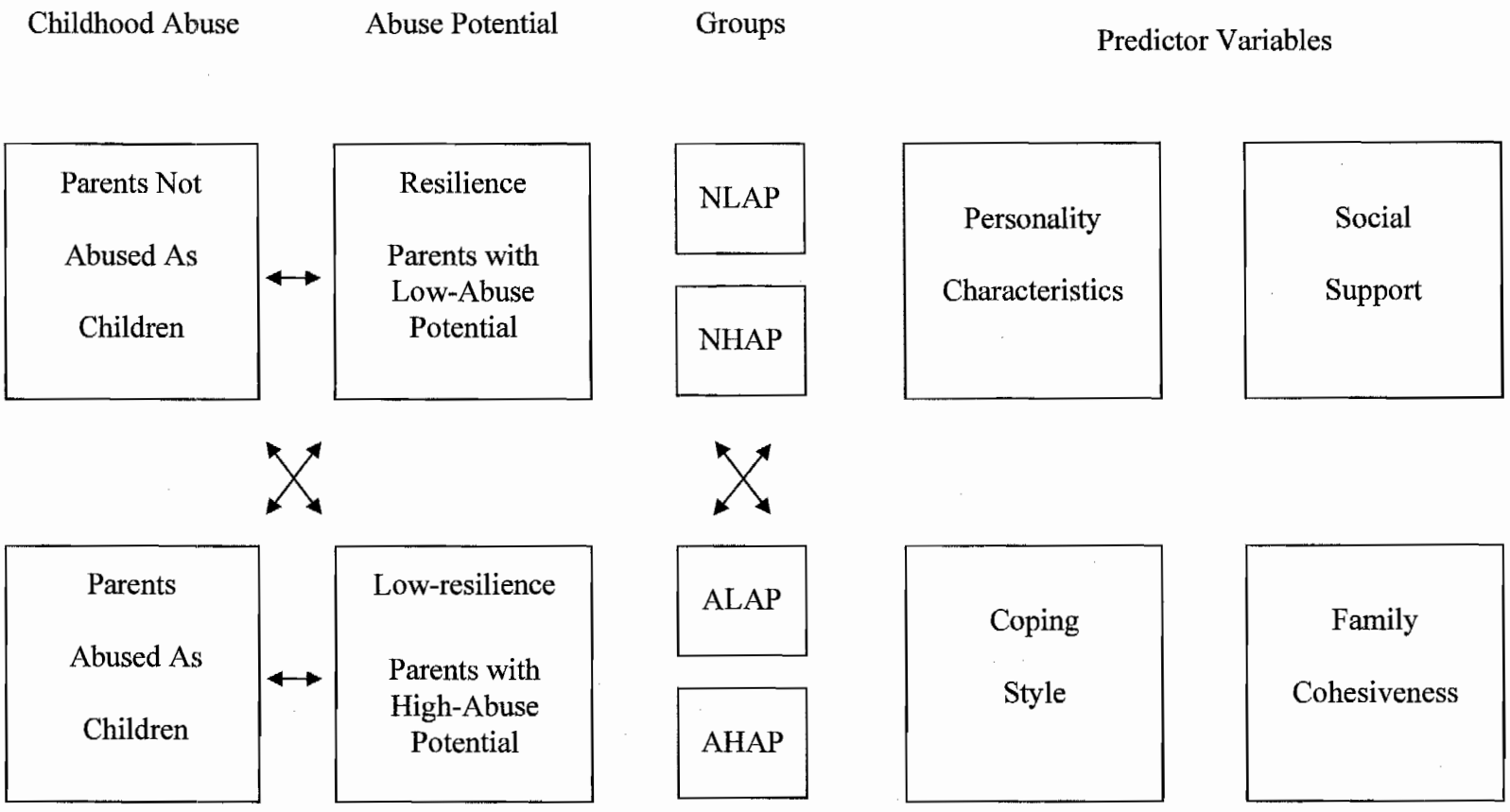

Figure 1. Investigation of the strength of mediating variables to predict resilience in mothers who had been physically abused as children.

1. Two groups of parents who were physically abused in childhood (AHAP and ALAP) will not differ in the amount of physical abuse they report; however, parent groups who report no physical abuse as children (NHAP and NLAP) will significantly differ from the two abused groups.
2. The groups of parents will show significant statistical difference in their child abuse potential from each other. The order of that difference from highest to lowest potential is: AHAP, NHAP, ALAP, NLAP.
3. The four groups will differ significantly on personality characteristics on each of the five domains. The four groups will be ranked on neuroticism in the following order from highest to lowest: AHAP, NHAP, ALAP, NLAP.
4. The four groups will score from highest to lowest on extraversion in the following order: NLAP, ALAP, NHAP, AHAP.
5. The four groups will be rank-ordered from highest to lowest on openness to experience: NLAP, ALAP, NHAP, AHAP.
6. The four groups will demonstrate the following rank order on agreeableness from highest to lowest: NLAP, ALAP, NHAP, AHAP.
7. The four groups will range from highest to lowest on conscientiousness: NLAP, ALAP, NHAP, AHAP.
8. The four groups will differ significantly on coping resources in decreasing order of coping ability: NLAP, ALAP, NHAP, and AHAP.
9. The four groups will differ significantly on social support in the order of greatest social competence. It is predicted that the groups will rank from highest to lowest scores in the following order: NLAP, ALAP, NHAP, and AHAP.

10. The four groups will show significant statistical difference on family cohesion. The order of that difference will be as follows: NLAP will have the highest score on cohesion followed by the remaining parent groups in descending order, ALAP, NHAP, and AHAP.

Cohen and Wills (1985) concluded that evidence exists for both a buffering and main effects model in terms of social support in protecting individuals from the negative effects of stressful events. The authors suggested future research aimed at measuring variables such as IQ, social competence, extraversion, and neuroticism in attempting to rule out alternative explanations for social support effects. Smith and Williams (1992) hypothesized that "...Extraversion or its facets may identify people who would be most and least likely to profit from social support during times of stress" (p. 415). Coping skills and social support appear to be inextricably linked to scores on all five factors of the NEO-PI-R. The direction of the relationship is dependent upon the protective or vulnerability qualitative connotation attached to the factor in question.

Definition of Terms

In the present study, child abuse was limited to physical abuse delineated in the definition utilized by the Office of the Attorney General, California Department of Justice (1993):

> Physical abuse may be defined as any act which results in non-accidental physical injury. Inflicted physical injury most often represents unreasonably severe corporal punishment or unjustifiable punishment. This usually happens when a person is frustrated or angry and strikes, shakes, or throws the child. Intentional,

deliberate assault, such as burning, biting, cutting, poking, twisting limbs, or otherwise torturing a child, is also included in this category of child abuse. (p. 3)

In the present study, physical abuse experienced by the mother was operationally defined as the magnitude of physical abuse experienced in childhood as measured on the Conflict Tactics Scale (Caliso, 1986; Straus, Gelles, & Steinmetz, 1980). Scores on the Reasoning, Verbal Aggression, and Violence Subscales were compared with the population norms in terms of percentiles in order to measure the way in which families attempt to deal with conflict (Straus, 1990). The potential for the parent to physically abuse a child was measured by the Child Abuse Potential Inventory (Caliso, 1986; Milner, 1986). "The abuse scale, descriptive factor scales, and special scales contained in the Child Abuse Potential Inventory measure variables that represent elements of the psychiatric and social-interactional models of physical child abuse" (p. 1) and indicate an increased risk of physical child abuse (Milner, 1990).

Personality characteristics of the high-abuse-potential and low-abuse-potential parent were measured by the NEO Personality Inventory (NEO-PI-R) (Costa & McCrae, 1992b). "The five-factor model of personality is a hierarchical organization of personality traits in terms of five basic dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience" (McCrae & John, 1992, p. 175). Researchers utilizing the five-factor model of personality have found significant correlations between the various dimensions with characteristics such as optimism, hardiness, coping, and self-esteem, which play a part in the buffering mechanisms in resilient individuals (McCrae & John, 1992; Smith & Williams, 1992).

Costa and McCrae (1992b) described Neuroticism as a domain that "contrasts adjustment or emotional stability with maladjustment or neuroticism" (p. 14). The authors further defined Neuroticism in terms of a "general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and disgust..." (p. 14). In addition to being more sociable and "to liking people and preferring large groups and gatherings,..." individuals with high scores on Extraversion "...are also assertive, active, and talkative. They like excitement and stimulation and tend to be cheerful in disposition. They are upbeat, energetic, and optimistic" (p. 15).

Individuals with high Openness to Experience scores are "willing to entertain novel ideas and unconventional values, and they experience both positive and negative emotions more keenly than do closed individuals" (Costa & McCrae, 1992b, p. 15). This domain is also associated with "aspects of intelligence, such as divergent thinking, that contribute to creativity" (p. 15). The authors claim that respondents with high scores on the Agreeableness domain are "sympathetic to others and eager to help them, and believe that others will be equally helpful in return" (p. 15). Conscientiousness is related to "character" and describe individuals who are "purposeful, strong-willed, and determined" (p. 16). High scores on this domain include individuals who may employ an "active process of planning, organizing, and carrying out tasks" (p. 16).

The coping resources of the high-abuse-potential and low-abuse-potential parent were measured by The Coping Resources Inventory (Hammer & Marting, 1988). "Coping, thus, is a process explanation for differences in stress outcomes" (Bolger, 1990, p. 525) based on "individual differences in motivational and cognitive variables, which intervened between the stressor and the reaction" (Lazarus, 1993, p. 3). Honig (1986)

found that parents who perceived themselves as in control of their lives and who experienced high self-esteem were able to adequately cope with stress and were less depressed. Family and social supports were also recognized as buffers for external stressors.

Social supports were assessed with The Social Skills Inventory (Riggio, 1989). "Social support can be conceptualized as consisting of positive and negative, functional (providing cognitive and affective support), and concrete (driving the victim to the doctor) components" (Caliso & Milner, 1994, p. 29). There has been increasing evidence in the literature on the importance of ameliorating the effects of stress on parents (Webster-Stratton, 1990).

Family relationships were measured by the Family Environment Scale (Moos & Moos, 1994). Mash and Johnston (1990) observed that, in abusive families, parent-child interactive stress results from parental characteristics and adverse environments as opposed to difficult child characteristics. Webster-Stratton (1990) concluded that stress is bidirectional and transactional, suggesting that parents experiencing depression and/or personality disorders often have difficulty problem-solving thus increasing their vulnerability to stress, which, in turn, results in minimal levels of functioning. "For the ultimate challenge is to recognize those families most at risk, those most vulnerable to disruption by life stressors, and to help them develop resources and coping skills that will minimize the disruption" (p. 310).

Limitations of the Study

This study focused on mothers who reside in a Western metropolitan area. Participants were solicited from Child Protective Services agencies, Parents United

treatment groups, parent-education classes, as well as respondents solicited through local newspapers.

The present study was modeled after a previous study in which significant differences were noted among three groups of parents along the continuum of child-abuse potential (Caliso, 1986). Significant differences were also found between the group of abusing parents who had been abused as children and the group of nonabusing parents who had been abused in the ways the parents perceived life, family, and other people. The abusing parents who experienced abuse as children perceived more distress in their lives and in their relationships with others. This group also reported other negative perceptions including feeling lonely and unhappy and did not expect support from others. Parents who had perceived that they had received the highest degree of abuse as children correspondingly had the highest abuse potential.

Researchers have concluded that the determinants of physical child abuse are multidimensional and have identified many variables within the individual, environmental, social, and family contexts. In order to build upon the results of the previous literature, the present study systematically examined the strengths of the low-abuse-potential parents as they related to mothers' personality characteristics, family relationships, and interactions within the larger community.

Generalizability was limited by the use of small samples of mothers who were to be identified through the child-protection system as well as treatment and educational programs who volunteered to participate in research. The variables in this study were limited to the personality characteristics of the mother, the mother's coping skills, the degree of social support, and the cohesiveness of the mother's family.

The initial focus of the present study was on female child abusing parents, which was the population sample selected by Caliso (1986), who noted that many of the parents who abuse their children are female. Since mothers who volunteered to participate in this study did not have substantiated reports of abuse, the mothers were described as high- or low-abuse potential rather than abusing parents. Other demographic information that has been associated with child abuse among female parents are single parent status and lower socioeconomic levels, which has been correlated with stressful situational factors. Mothers have been the subjects of many studies in the child abuse literature thus offering a large comparative data base for the current study (Caliso & Milner, 1992, 1994; Cantos, Neale, O'Leary, & Gaines, 1997; Kirkham, Schinke, Schilling, Meltzer, & Norelius, 1986; Lahey, Conger, Atkeson, & Treiber, 1984; Rosenberg & Reppucci, 1983). For the purposes of this study, parents were defined as mothers for the purposes of comparison and to control for any gender differences.

The female parent participants were to be identified by agencies in the state of California that provide assessment and treatment of child-abusing parents, public-health departments, community mental-health centers, day-care centers and community parent groups. Participants were drawn from open and closed cases in child welfare agency. The participants were to consist primarily of Caucasian and Hispanic female parents of low to lower middle class socioeconomic status. The participants were to be matched according to marital status, income, ethnicity, and age of mother. The findings of this study, therefore, were limited in terms of the above-mentioned demographic characteristics and were not generalizable to the general population.

Chapter II

Literature Review

As the recognition of child maltreatment developed over many years, eventually resulting in child protective laws, awareness of the etiology of child abuse continues to evolve with a hope of preventing child abuse. Early studies were focused on the psychopathology of the offending parent (Bennie & Sclare, 1969; Kempe, Silverman, Steele, Droegenmueller, & Silver, 1962; Oliver & Taylor, 1971; Steele, 1987a; Steele & Pollock, 1974). Steele and Pollock (1974), at the request of Kempe, intensively studied 60 families involved with significant abuse of infants or small children. Some of their findings included hypotheses that child-abusing parents have underlying feelings of depression and worthlessness, lack of basic trust, a sense of isolation, and experience "role reversal" (p. 95) with their children. However, many parents who had been clinically diagnosed with psychiatric disorders did not abuse their children (Belsky & Vondra, 1991; Gelles, 1973; Healy, Kennedy, & Sinclair, 1991).

Single-factor theories for explaining the etiology of child abuse have been promulgated. These included the psychopathology of the perpetrator, economic and/or environmental stress, marital problems, social isolation, lack of appropriate role models, and dearth of parents' knowledge of child development (Bennie & Sclare, 1969; Fontana, 1968; Gil, 1970; Kempe et al., 1962; Melnick & Hurley, 1969; Spinetta & Rigler, 1972).

> Although past reviewers of the literature have identified psychiatric or psychological models of maltreatment, which focus attention on the characteristics of the perpetrator; sociological models, which focus attention on the contextual conditions that give rise to abuse and neglect; and social-

> interactional or effect-of-the-child-on-caregiver models, which underscore the dyadic nature of problematic parenting...it is clear today that no one such model is adequate. (Belsky, 1993, p. 413)

Justice and Justice (1990) found that "(w)hen the abusing and nonabusing parents (the poor and the affluent were equally represented in the two groups) in our earlier study were compared, we found that change, not economic or environmental stress, was the distinguishing factor" (p. 17). The authors viewed constant change in terms of "sensory overload" (p.17), which can lead to "numbness" (p.17) and an inability to problem-solve. In a study done by the authors in 1976, a group of 35 abusing parents was compared with a group of 35 nonabusing parents. Abusing parents experienced a greater number of changes of significant intensity in their lives, which was described as constituting a "life crisis" (p. 16), and preceded the abusive behavior.

Justice and Justice (1990) noted that there were four significant factors distinguishing abusing from nonabusing parents in their research on life-change events. The factors were sexual difficulties, change in financial status, change in living conditions, and trouble with in-laws. The authors postulated that "the abusive parent's view of the world and patterns of coping invite one crisis after another, all of them demanding adjustment and change" (p. 23). The authors attributed these difficulties dealing with crisis and change to "a particular kind of personality interacting with others and with the environment" (p. 23).

Recent studies pointed to interactions between factors. For example, abused individuals who break the cycle of abuse are less anxious and depressed, which then increases their abilities to become more successful in their interpersonal relationships

(Caliso & Milner, 1994; Herrenkohl, Herrenkohl, Egolf, & Wu, 1991; Seagull, 1987). "Child abuse is a complex phenomenon that involves more than one individual; a unidimensional model of child abuse based on parental characteristics would seem to be far too simplistic to be useful" (Berger, 1980, p. 59). In the child-abuse literature, researchers, in an attempt to understand the etiology of abuse and to eventually work toward breaking the cycle of abuse have focused on a "multiple-factors model of the etiology of abuse and neglect" (Brunnquell, Crichton, & Egeland, 1981, p. 680; Gelles, 1973; Milner 1994; Spinetta & Rigler, 1972). Researchers, such as Milner (1991), have identified three major dimensions--perpetrator, familial, and societal factors--as the major determinants in distinguishing an abusing family from a nonabusing family. Others have categorized the factors within the parameters of individual, family relationship, and social/cultural factors.

Since the 1970s, researchers across disciplines have noted that there are individuals who have not only survived various adversities and traumatic experiences, such as the Nazi concentration camps and physical child abuse, but have also successfully progressed through the developmental stages of adulthood (Luthar & Zigler, 1991; Mrazek & Mrazek, 1987). These resilient individuals have not succumbed to psychopathology, nor have they resorted to violent or criminal behaviors and seem to have challenged the current developmental theories "regarding the ways that personality strengths evolve--or *de*volve" (Higgins, 1994, p. 3). Rutter (1985) defined the concept of "protective factors" as "influences that modify, ameliorate, or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome" (p. 600). Individual differences, such as "biological makeup" and perception of the world

contribute to one's "vulnerability" or "psychoimmunity" in response to adversity (Anthony, 1987, pp. 4-5). Protective factors gleaned from the literature include genetic and constitutional characteristics, such as the ways in which infants respond to environmental changes and caregiver attempts to comfort as well as patterns of sleep cycles (Luthar & Zigler, 1991) and the coping skills of individuals during times of stress (Gore & Eckenrode, 1996; Luthar & Zigler, 1991; Walsh, 1998).

Environmental factors have also been identified in the resilience literature. Recurrent environmental mediating factors include social support, supportive relationships and family functioning (Luthar & Zigler, 1991; Mollerstrom et al., 1992; Rutter, 1985; Walsh, 1998). The construct of resilience is viewed as "a dynamic process in which personality and environmental influences interact in a reciprocal, transactional relationship" (Benard, 1996, p. 4). An example of such a reciprocal relationship has been documented in the literature between social support and self-esteem (Gore & Eckenrode, 1996). Self-esteem and social skills are intercorrelated with the individual's ability and/or willingness to engage in interpersonal relationships which can potentially provide social support (Gore & Eckenrode, 1996; Justice & Justice, 1990; Milner & Wimberley, 1979).

In order to expand upon previous research in the field of physical child abuse, this study is intended to explore individual, familial, and social factors of mothers who have a low-child-abuse potential despite childhood histories of physical abuse. Individual personality characteristics, such as self-esteem, ability to benefit from social support during times of stress, depression and rigidity will be measured on the NEO-PI-R which developed from the five-factor model (FFM) of personality (Costa & McCrae, 1992b). Since an individual's coping mechanisms and social skills have been correlated with

positive outcomes in the resilience literature, these factors will be measured using the Coping Resources Inventory (CRI) and Social Skills Inventory (SSI), respectively. Some preliminary research studies using the CRI suggested that "coping resources were found to be negatively related to depression, grief, physical symptoms, psychological symptoms and illness" (Hammer & Marting, 1988, p. 23).

Although previous researchers had looked to the family for the etiology of physical child abuse, more recent studies have focused on the family's strengths in fostering resilience among parents who had been abused as children (Berger, 1980; Jones, 1987; Kolko et al., 1993; Walsh, 1998). The recent literature has shown that nonabusing families are more cohesive. Walsh advocated for a resilience-based approach in family therapy. By encouraging collaboration among family members, the family is thus able to "build new and renewed confidence, mutual support, and shared confidence that they can prevail under duress" (p. 23). The Family Environment Scale (FES), which measures family cohesion, has been used in counseling sessions in order to help promote change, strengthen the family unit, and improve parenting and family functioning (Moos & Moos, 1994).

Individual Personality Characteristics

Child abuse, in general, occurs within a dyadic relationship between the child and an adult. By definition, the perpetrator is the adult; therefore, the first level of causation to be examined involves the characteristics of the perpetrator. The literature on child maltreatment has focused on the personality of the perpetrator, which is multifaceted and has not been clearly defined, thus far. Individual differences encompass such constructs as locus of control (Ellis & Milner, 1981), self-esteem (Anderson & Lauderdale, 1982),

psychopathology (Healy et al., 1991; Milner, 1991), intelligence (Herrenkohl et al., 1991), and educational deficit (Twentyman & Plotkin, 1982). An overview of parental personality characteristics in child maltreatment research shows the salient attributes, which are also correlated with familial and societal factors.

Perpetrators of child maltreatment were initially believed to be severely mentally ill or psychotic (Miller, 1959), but, within a decade, studies revealed that, although impulse control was a problem, very few perpetrators were psychotic (Steele & Pollock, 1974). One of the first authors to describe abusing parents categorically according to personality characteristics was Merrill (1962). Personality characteristic types included hostility and aggression, rigidity, compulsiveness, lack of warmth, immaturity, passivity, and dependence. Blumberg (1974) believed that abusing parents were often victims of rejection in their early years and that such experiences ultimately precluded the ability to love, resulting in individuals who were often immature, narcissistic, demanded nurturing, and who had poor impulse control. In a study of 134 battered infants and children, Smith (1980) found that the mothers were diagnosed as neurotic based on three different measures including the Eysenck Personality Inventory (Eysenck & Eysenck, 1964), with diagnoses of depression or anxiety or a combination of both.

Allport (1961) regarded the personality of the individual as what the person "really is" referring to an "internal structure" as well as a "range of characteristics (variable, to be sure, but ascertainable)" (p. 35). Shapiro (1965), in his classic *Neurotic Styles*, discussed symptoms and adaptive behavior in terms of a general style of functioning. The concept of character styles was described by Shapiro as "human consistency over broad areas of functioning" (p. 3) with "relative stability over long

periods of time" (p. 4). Shapiro acknowledged that "these consistencies only have the status of clinical impressions until such forms of functioning that may explain them actually can be described" (p. 4). Cattell (1980) stressed the importance of an objective and systematic measurement of personality. He identified 15 major factors or source traits, which were regarded as the building blocks of the personality and which appeared to account for most behaviors. Cattell devised the 16 Personality Factor Inventory as an objective measure of distinguishing individuals and their behaviors based on personality traits. "When investigators begin the process of studying a personality variable, they should define the construct and select a measure that provides an adequate evaluation of the construct, assuming that such a measure exists" (Milner, 1991, p. 165). Milner further distinguished between a personality state and a personality trait; the difference is that the trait is more stable over time and that the state is more variable.

Bowlby (1984) and Steele (1987a) discussed some of the characteristics of women known to have battered their children. These included impulsivity, anxiety, immaturity, and inability to trust others. Personality and behavioral patterns often form during early childhood. The development of intense anxiety and anger can occur in a child who had been threatened with abandonment by her parents. Kempe and Helfer (1972) proposed that an abusive parent might have been subjected to rejection and a lack of nurturance, which resulted in a similar inability to nurture one's own children. "Thus, while constantly yearning for the love and care she has never had, she has no confidence she will even receive it; and she will mistrust any offer she may receive" (Bowlby, 1984, p. 16). As an adult, the mother then looks to her child for mothering, and, as roles are reversed, she assumes the role of the child by reacting impatiently and angrily when the

child becomes demanding and fails to respond to the mother's needs (Anderson & Lauderdale, 1982; Green, Gaines, & Sandgrund, 1974).

Abusive parents often suffer from a defective self-image (Justice & Justice, 1990; Kempe & Kempe, 1976), which then results in an inability to cope with stress (Green et al., 1974; Kempe & Helfer, 1972). "The relationship between feeling powerless and violent behavior has been tragically confirmed by numerous reported acts of serious injury or death to young children when the parent could not stop the child from crying" (Symonds, 1984, p. 30). Ellis and Milner (1981) hypothesized that abusive parents often project blame and responsibility on external factors, sometimes even on the child. Individuals who have an external locus of control believe that they do not have any control over their environments and frequently are deficient in "cognitive, mastery and coping skills" (p. 507). Family therapists have also recognized that the vulnerabilities of families include internal as well as external factors which make them more susceptible to stress and may involve feelings of helplessness as a result of "the perceived inability to cope with situations that demand effective response" (Cohen & Wills, 1985, p. 312; Gil, 1996).

Researchers who view antecedents of abusive behavior within the parameters of interaction and "triggering stimuli" (Rosenberg & Reppucci, 1983, p. 674) have taken a cognitive approach. These authors proposed that the interpretations abusive parents make of their children's behavior could "evoke an abusive response" (p. 674). In some cases, parents may attribute certain behaviors in their children to intentional disobedience when, in fact, developmentally the child is at an age-appropriate level (Rosenberg & Reppucci, 1983). "Some parents may have a low tolerance for essentially normal child problem

behaviors owing to constitutional factors or environmental stress" (Reid, Kavanagh, & Baldwin, 1987, p. 464). Subsequently, parents may be unable to calmly problem-solve the challenges of child rearing which can then result in frustration and possibly aggression (Azar, Robinson, Hekimian, & Twentyman, 1984). Some parents fail to observe their children during positive interactions, but then overreact when the behavior escalates or becomes aversive (Reid et al., 1987). The negative behavior is then viewed by the parent as a threat to self-esteem with subsequent anger directed at the child (Rosenberg & Reppucci, 1983). Milner (1993) noted within the social-information-processing model that parents with a childhood history of abuse who do not abuse are less rigid in how they view their children, such as utilizing mitigating information, which suggests a significant cognitive component. "Further, there is a need to more adequately describe how different cognitions may relate to each other and how cognitive activities may be impacted by personality factors (e.g., low self-esteem) and by events from other ecological levels (e.g., stress)" (p. 276).

Individual differences in response to stress and adversity form the premise of the research on resilience (Rutter, 1985). Children who have been described as stress-resistant are frequently developmentally more advanced and intellectually mature (Luthar & Zigler, 1991). Beardslee (1989) acknowledged the effects of constitutional factors, including temperament, coping styles, positive self-esteem and an internal locus of control. Beardslee also discussed other factors related to invulnerability including the ability to view the future with hope, active problem-solving ability, cognitive appraisal of stressors, and a close, confiding relationship. Cowen and Work (1988) described three categories of protective factors: "(a) personal predispositions such as activity level, social

responsivity, and autonomy in infancy and early childhood; (b) a warm, supportive family environment; and (c) extrafamilial peer and adult support sources and positive identification models..." (p. 599). Mrazek and Mrazek (1987) described the process of cognitively restructuring past negative experiences in order to develop more adaptive interactions. Higgins (1994) hypothesized that "the resilient feel a peculiar pride in being chosen to beat the odds, because their suffering, since it did not crush them, *made them more*" (p. 179). Keirsey and Bates (1984), in a treatise on character and temperament types, described the Dionysian temperament as "having the ability to survive setbacks which might leave other types permanently devastated" (p. 34). One of the factors distinguishing the abuser from the nonabuser might be the individual's perception of the world and/or an internal ability to cope with the adversity.

Five-Factor Theory

Despite the controversy in the field of psychology regarding personality theory, lay people in society have both "diagnosed" and described individuals with self-assured certainty. Many criminals have been labeled sociopaths, and coronary patients have been classified as "hostile" Type-A personalities. Personality disorders are widely used by mental health professionals and insurance companies. Individual differences are noticed by young children who label peers or adults in their environment as "mean" (hostile) or "nice" (altruistic). Milner (1986), who developed the Child Abuse Potential Inventory (CAPI), reviewed years of research in the field of child abuse and concluded that "...personality traits and interpersonal problems appear to have reciprocal relationships suggesting a constellation of psychological and interpersonal characteristics should be assessed" (p. 19). The history of trait theory which follows is indicative of the work

accomplished by personality theorists that has endured over the years culminating in the five-factor model of personality.

Trait theory had been highly criticized and dismissed over the past few decades until it was recently rediscovered (McCrae & Costa, 1996). Digman (1996) traced the history of the FFM to the work of Louis Thurstone, who in 1933, addressed the American Psychological Association on the topic of his research. Thurstone performed a factor analysis of 60 adjectives, which were used to describe the acquaintances of the subjects in his study. The list of adjectives was ultimately reduced to five independent common factors. Rather than forging ahead to develop the FFM in the 1930s, Thurstone instead developed a questionnaire, the Thurstone Temperament Schedule. However, prior to 1930, the earlier work of Spearman in 1904 identified a General Factor (g) of intelligence and in 1915, Webb isolated a second factor later called will (w), which included several characteristics, one of which was called "Conscientiousness" (Digman, 1996, p. 2) In 1919, Garnett advanced the work of Webb and created a third factor that he called "Cleverness" which was later interpreted as more closely resembling "Extraversion" (p.2).

In 1933, Raymond Cattell conducted a study with 62 male college students who used a set of 46 bipolar rating scales with brief descriptive phrases (Digman, 1996). Cattell derived four factors from this research, which were similar to his predecessors and/or the current theorists. The first factor was a *w* factor that was likened to the modern day "Conscientiousness" factor of the FFM (p. 3). The second factor that Cattell identified was similar to the Garnett *c* factor, which Cattell referred to as "*Surgency*" (p. 3). The third factor, *m*, a maturity factor, was similar to the "Agreeableness" dimension

of the FFM (p. 3). Cattell's fourth factor had an emotional quality to the descriptors, which was indicative of emotional adjustment. Digman suggested that the addition of the *g* factor as a fifth factor would have been a natural consequence since intellect was a universal factor at that time. In Digman's opinion, Cattell's analysis, of all of the pioneers of the "factor approach" to personality, most closely resembled a forerunner of the "Big Five" theory (p. 3).

In 1936, Guilford and Guilford used a 36-item personality questionnaire that resulted in an analysis based on what the variables had in common. "In terms of today's Big Five, it is possible to see four of these five factors as Extraversion (*S*), Emotional *In*stability (*E*), (lack of) Conscientiousness (with perhaps a bit of *Dis*agreeableness) (*R*), and Intellect (*T*)" (Digman, 1996, p. 4). The *S* factor involved a social aspect, and *E* was clearly the emotional dimension. The *R* factor corresponded to the Greek term "*Rhathymia*" meaning "freedom from care" (p. 4). The *T* factor referred to intellectual matters or a "liking for thinking," which Digman referred to as "Thinking Introversion" or just "Introversion" (p. 4).

Cattell, in a series of studies between 1944 and 1948, combined the results, which delineated between 9 and 12 factors into his 16 PF (Sixteen Personality Factors) Questionnaire. Two of the studies involved males, and the third study was solely based on women. The latter study which involved only women "provided an excellent Big Five solution" (Digman, 1996, p. 6). Cattell later concluded that six of the factors were replicable, but perpetuated the premise that the 16 PF was the "factor approach" to personality.

In addition, in the 1940s, Eysenck, in his work with neurotic World War II soldiers, proposed only two broad dimensions, Extraversion and Neuroticism. He later added a third dimension in the 1950s, Psychoticism. Eysenck maintained that a fourth dimension, Intellect, was orthogonal to the others (as cited in Digman, 1996).

In the late 1940s, Fiske utilized 22 of Cattell's rating scales in his own research that yielded five factors which he named "Social Adaptability," "Conformity," "Emotional Control," "Inquiring Intellect," and "Confident Self-Expression" (as cited in Digman, 1996, p. 7). Digman equated the first four factors to the current factors of Extraversion, Agreeableness, Emotional Stability, and Intellect. Building upon Cattell's and Fiske's research, in the early 1960s, Tupes and Christal, two U.S. Air Force researchers, adapted a set of 30 scales from Cattell and isolated five factors as well. Three other researchers in the 1960s, Norman, Borgatta, and Smith did similar research that was quickly dismissed as superficial and was ultimately supplanted by the behaviorist movement.

It was not until the 1980s that the FFM began to surface. Researchers have described a five-factor model (FFM) of personality which is a "hierarchical organization of personality traits in terms of five basic dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience" (McCrae & John, 1992, p. 175). All five factors have reportedly established convergent and discriminant validity across instruments and observers, and have been described as enduring across decades as measured in adults (McCrae & John, 1992).

McCrae and John (1992) "argued that individuals inherit a set of general predispositions associated with the five factors, and that environmental conditions

determine the particular forms--the specific traits--in which the factors are expressed" (p. 202). The factors include groups of intercorrelated traits, which are known as facets, and each cluster of facets is considered a domain. A description of the individual, based on the scores on each of the factors is obtained and encompasses the unique "emotional, interpersonal, experiential, attitudinal, and motivational styles" (Costa & McCrae, 1992b, p. 14). Research which has utilized the NEO-PI-R, according to Costa and McCrae (1992b), has demonstrated that "the same five factors can account for the major dimensions in personality questionnaires designed to measure Jungian functions, Murray's needs, the traits of the Interpersonal Circumplex, and the DSM-III-R personality disorders" (p. 14).

Proponents of the five-factor model acknowledge that the model is not an exhaustive description of personality, but, rather, the factors "represent the highest hierarchical level of trait description" (p. 190). "The factors represent groups of traits that covary, but are not necessarily interchangeable" (p. 190), and many traits are actually blends of two or more of the five dimensions (McCrae & John, 1992). For example, low self-esteem has been established to be a correlate of N (Neuroticism) (McCrae & John, 1992), as are limited ability to cope with stress and difficulty controlling impulses (Costa & McCrae, 1992b). Milner (1993), in a literature review on social information processing and physical child abuse, noted that an integrative cognitive model does not exist for physical child abuse, although cognitive factors have been addressed in family-violence research. Further research on the impact of "personality factors (e.g., low self-esteem)" (p. 276) and "events from other ecological levels (e.g., stress)" (p. 276) is needed, according to Milner. The advantage of the FFM is that it is comprehensive and

allows a systematic analysis of the relations between personality and other phenomena (McCrae & John, 1992).

McCrae and Costa (1996) noted that the proliferation of studies over the past two decades has provided evidence of the consensual validation, predictive utility, as well as the long-term stability of the five factors which has "nurtured our conviction that individuals are aptly characterized by a distinctive personality-trait profile that shapes their thoughts, feelings, and actions throughout their adult lives" (p. 58). In fact, many of the classic personality theories encompass a discussion of individual differences, such as Jung's "types" and theories on temperament. Linn (1985), who defined personality as "a set of relatively stable and predictable habits that characterize individuals in their way of managing day-to-day living" (p. 586), postulated that a personality type could become a personality disorder under sufficient stress.

O'Leary (1993) summarized his research on abuse that suggested as the degree of physical aggression increased "the greater the likelihood that some personality style, trait, or disorder will be associated with the physical aggression" (p. 25). Wolfe (1985) and O'Leary (1993) argued for further research with parents who abuse their children utilizing assessment tools to discriminate individuals in terms of Axis II personality disorders or problems. Widiger and Trull (1992) looked at the relationship between the FFM of personality and psychopathology, suggesting that Axis II personality disorders are "maladaptive variants of normal personality traits" (p. 363). Clinic patients with a diagnosis of Post-Traumatic-Stress Disorder (PTSD) were studied in terms of the five domains of the NEO-PI-R and were found to be high in Neuroticism. PTSD clients who scored high on Openness to Experience, Agreeableness, and Conscientiousness were less

problematic in treatment (Hyer, Braswell, Albrecht, Boyd, Boudewyns, & Talbert, 1994). Although individuals with the same diagnosis on the surface would appear to benefit from a particular type of treatment, the characteristics of the individual client can help to determine the efficacy of the therapy.

Clinicians have found that personality may interact with treatment in a negative direction, thus resulting in less effective therapeutic outcomes (Costa & McCrae, 1992a; McCrae, 1991; Miller, 1991). McCrae (1991) believed that the five-factor model is a useful tool for clinicians since "it measures emotional, interpersonal, and motivational styles that are relevant to the diagnosis of a wide range of other disorders" (p. 407). With the results of the NEO-PI, the clinician is presented with a comprehensive portrayal of the client, which can be useful in tailoring treatment to the individual. Costa described the methodology of "client-centered assessment" (term coined by McReynolds, 1985 as cited in Costa, 1991) in which the clinician, in an effort to include the client more thoroughly in the therapeutic process, shares information from an assessment instrument in an attempt to increase insight and self-understanding on the part of the client. A similar paradigm shift has been occurring in family therapy in which the family is engaged in developing its own treatment plan, which includes identification of needs and strengths as well as treatment goals.

Miller (1991), a practicing psychologist, did a study consisting of 101 participants who sought treatment. The range of disorders was quite broad with the exception of active psychoses during the treatment phase. Miller analyzed each participant in terms of presenting problem, patient personality, and treatment response. Treatment outcome was rated from very good to poor. "A contingent-eclectic treatment model, responsive to

client personality, might be more effective than a generic treatment model intended to maximize nonspecific curative factors" (p. 432). The therapist can anticipate possible problems and pitfalls in treatment with the client. Miller proposed that the five-factor model can be used to examine the personality of the therapist and "its effect on the therapist's theoretical and technical predispositions, its interaction with the personality of the client, and the consequent transference and countertransference phenomena" (p. 432). Also, in family therapy, Miller acknowledged that the interactions within the family unit are influenced by the types of personality characteristics of the individuals; therefore, the five-factor model has utility for the family therapist as well.

Early studies on child abuse, which focused on perpetrator characteristics revealed such individual characteristics as low self-esteem (Anderson & Lauderdale, 1982; Luthar & Zigler, 1991; Pelton, 1994; Perry et al., 1983), anxiety (Brunnquell et al., 1981; Egeland et al., 1980; Herrenkohl et al., 1991; Steele, 1987a), hostility (Brunnquell et al., 1981; Egeland et al., 1980; Merrill, 1962), anger (Spinetta, 1978), frustrated dependency needs (Melnick & Hurley, 1969), narcissism (Blumberg, 1974; Melnick & Hurley, 1969), external locus of control (Beardslee, 1989; Ellis & Milner, 1981; Milner & Chilamkurti, 1991; Spinetta, 1978), depression (Herrenkohl et al., 1991; Seagull, 1987), history of emotional deprivation (Blumberg, 1974; Kempe & Helfer, 1972), and impulsivity (Blumberg, 1974; Steele, 1987a). In a study by Melnick and Hurley (1969), 10 abusive and 10 control mothers were compared on the basis of 18 personality variables as measured on four personality assessments and the Thematic Apperception Test. The authors found that the abusive mothers exhibited lower self-esteem, perceived lack of environmental social supports, and experienced a deep sense of anxiety as a result

of feeling unable to cope with their responsibilities. The generalizability of the results was limited due to the small sample size.

Brunnquell et al. (1981) administered several personality and attitude scales to 26 low-income mother-infant pairs at 36 weeks of gestation and 3 months following birth. The mothers consisted of four subgroups: the Excellent Care Group, the Inadequate Care Group, the Random group and the "Matched" group (matched the inadequate group according to age, education, and marital status). Four factors emerged as stable over time: Impulsivity-Anxiety, Negative Reactions to Pregnancy, Psychological Complexity, and Hostility-Suspiciousness. The factor, Psychological Complexity, which measured "the extent to which the mother has the psychological maturity and sophistication necessary for adequate parent-child relations" (p. 688) best predicted group membership in the extreme groups. However, when age and education were controlled, the mother's hostility/suspiciousness score was most significant. A limitation in this study was the definition of inadequate care, which combined abuse and neglect of the child in both physical and emotional areas.

In a study by Ellis and Milner (1981), 37 "at risk" and 35 not "at risk" parents were administered the Rotter Internal-External Control Scale and the Child Abuse Potential Inventory. The results suggested that individuals who have high abuse scores also have expectations that events in their lives occur as a result of "unrelated and often random external factors" (p. 510). The group that was defined as "at risk" consisted of individuals who had been referred to a family life education program and was considered at risk of abuse and neglect.

Some of the problems with the research on individual psychological characteristics in the child abuse literature included small sample size and lack of control groups as well as inconclusive and contradictory results. Therefore, predictor variables of an abusive parent could not be determined. However, if service providers and/or psychotherapists were provided with information such as a clinical profile and/or more effective methods of treatment, then the research will have been worthwhile.

Spanning the past two decades, Milner and various associates in the child abuse literature have been conducting parallel research on child abuse perpetrator characteristics including personality and behavioral factors (Ayoub, Jacewitz, Gold, & Milner, 1983; Caliso, 1986; Caliso & Milner, 1992, 1994; Casanova, Domanic, McCanne, & Milner, 1992; Holden, Willis, & Foltz, 1989; Milner, 1990, 1991, 1993; Milner & Chilamkurti, 1991; Milner, Gold, Ayoub, & Jacewitz, 1984; Milner, Robertson, & Rogers, 1990; Milner & Wimberley, 1979, 1980). Abusive parents appear to share some similar characteristics, such as higher levels of state and trait anxiety, perception of more social isolation and stress, depression, rigidity, unhappiness, loneliness, negative concept of self, low self-esteem, limited appropriate assertiveness skills, less family cohesion, and more family conflict (Caliso & Milner, 1994; Milner, 1994; Milner & Chilamkurti, 1991).

The NEO-PI-R was used to describe parents' standing within the five domains that account for many of the individual characteristics identified in previous research on abusive parents. Low self-esteem and internal locus of control are associated with the Competence facet of the Conscientiousness scale. The ability to empathize with one's children or others is ascertained using the Altruism and Tender-Mindedness facets of the

Agreeableness scale. Narcissism is reflected by a low score on the Modesty facet of the Agreeableness scale. Anxiety, anger, and hostility are determined by the scores obtained on the respective facets (Anxiety and Angry/Hostility) of the Neuroticism scale. Dependency needs as well as an inability to cope with stress are identified by a high score on the Vulnerability facet of the Neuroticism scale. It was anticipated that the results on the NEO-PI-R would correlate with the recent research conducted by Milner and associates as well as others on the individual personality and behavioral factors of abusing parents.

McCrae and Costa (1991) postulated a relationship between personality characteristics and physical health as evidenced in the "illness-buffering" effects of traits, such as neuroticism and the degree and duration of physiological arousal, hardiness, and optimism. Smith and Williams (1992) reviewed the literature in the area of personality and physical health beginning with the psychoanalytic approach to psychosomatic illness and followed the trends as psychoanalytic and personality theories waned. Consistent results that emerged from the Type A personality studies also surfaced in the research on the five-factor model strongly suggesting that hostility is the "toxic component within the Type A pattern" (p. 401). Smith and Williams suggested that further research may find that "Extraversion or its facets may identify people who would be most and least likely to profit from social support during times of stress" (p. 415). The present study explored the relationship between the five dimensions of the NEO-PI and the buffering mechanisms in resilient individuals and the ability of the NEO-PI to predict group membership.

Researchers have described resilience as "the capacity for successful adaptation, positive functioning, or competence despite high-risk status, chronic stress, or following

prolonged or severe trauma" (Egeland, Carlson, & Sroufe, 1993, p. 517). These authors conducted a longitudinal study since 1975, the Mother-Child Project, which focused on resilience as a process in high-risk children and their families. Competence in female children was related to personal characteristics of their mothers, such as, "buffering" them from the negative effects of stress and providing role models for effective coping skills. The authors compared the responsive caregiving provided by the positive personality characteristics of the mothers to Bowlby's theory on early experience. The child, in response to a sensitive and nurturing caregiver, develops a sense that she is "loveable" and "worthwhile" and begins to "experience mastery in the environment" (p. 525). Unfortunately, the resiliency effects were minimal in the extreme risk group, especially those who were maltreated. Uneven improvement was noted in some measured domains, but, overall, adaptation across time was poor, and the most recent assessment, completed in the sixth grade, "demonstrated clear dysfunction resulting from maltreatment" (p. 520).

Coping

Stress has been studied as a major causative factor in physical child abuse (Justice & Duncan, 1976; Spinetta & Rigler, 1972). Gil (1970) found a correlation between low socioeconomic status stressors and increased child abuse. An association between child abuse and the combination of the ecological factors of socioeconomic stress and a lack of an adequate support system was postulated by Garbarino (1976). Inconsistent data suggested that life-event stress might not result in an increased incidence of child abuse (Egeland et al., 1980). Straus (1980) found a positive correlation between the number of reported stressors and the rate of child abuse. Researchers attempted to find other

stressors, which might be implicated in the etiology of physical child abuse. These included parent-child factors (Rosenberg & Reppucci, 1983), children with disabilities (Kirkham et al., 1986), life-situation stressors (Whipple & Webster-Stratton, 1991), and marital conflict (Holden et al., 1989).

One of the most salient problems in the literature focusing on the etiology of stress in child abuse is the amorphous definition of stress (Bolger, 1990; Whipple & Webster-Stratton, 1991). Whipple and Webster-Stratton drew a distinction between stress and stressors. They defined stressors as "life events, hassles, transitions and related hardships which produce tension that calls for management" (p. 279). Stress is the result of tension that is not relieved or resolved (Whipple & Webster-Stratton, 1991). Stress has been defined as a "function of the interaction of the subjectively defined demands of a situation and the capacity of an individual or group to respond to these demands" (Straus & Kantor, 1987, p. 46). Therefore, an individual's perception of the stressors and degree of reactivity in response to the stressor can impede the individual's coping skills. Also related to the individual's ability to cope with stress is facet N6, Vulnerability, on the Neuroticism scale of the NEO-PI-R, which measures the individual's vulnerability to stress. Individuals with a high score become dependent, hopeless, or panicked when facing an emergency situation and are unable to cope with stress (Costa & McCrae, 1992b).

Researchers have attempted to identify universal stressors that would elicit negative reactions and perceptions in the individual. Two experiences of such magnitude were considered: loss of or separation from a loved one and a disaster of great magnitude, such as the Holocaust (Garmezy & Masten, 1986). What researchers have found is a

range of adaptive responses in individuals. This has contributed to the volume of recent literature on resilience (Rutter, 1985). Masten and Garmezy (1985) discussed coping in terms of "stress-resistance," which they described as "the biological mechanism of homeostasis, innate capacities for coping such as individual differences in the 'drive for mastery,' and resilience-fostering environments that range from positive rearing conditions to situations in which challenging tasks are mastered" (p. 3). Resilient individuals most likely score high on the Action and Ideas facet scales of the Openness dimension of the NEO-PI-R (Costa & McCrae, 1992b).

The results of studies have suggested that abusive parents' expectations of their children are reportedly unrealistic (Rosenberg & Reppucci, 1983). Abusing parents often perceive greater life stress (Mash, Johnston, & Kovitz, 1983) and have higher levels of physiological reactivity to child-related stressors (Frodi & Lamb, 1980). Physically abusive parents also believe that aggression or violence is a legitimate way of dealing with frustration (Straus, 1980). On the NEO-PI-R, an individual's "readiness to experience anger" is measured on the "Angry Hostility" facet of the Neuroticism Scale. However, the expression of anger is interrelated with the level of agreeableness of an individual. Pelton (1994), who has studied the relationship between poverty and child maltreatment over the past 20 years, found that "material hardship and its attendant environmental deficits" (p. 168) are highly correlated with child abuse and neglect. He also discovered that certain personality characteristics, such as depression, low self-esteem, and feelings of helplessness, distinguished abusive parents from nonabusive parents (Pelton, 1994). On the NEO-PI, depression is one of the facets of Neuroticism, and low self-esteem is measured on the Competence facet of the Conscientiousness

Scale. Pelton concluded that "more efforts should be made to study impoverished parents who provide excellent care and nurturance to their children despite the context of an adverse environment in order to discover the specific strengths that enable them to do so" (Pelton, 1994, p. 171).

In view of the limitations of the stress factor in relation to physical child abuse, a more integrative theory had been proposed by Wolfe (1987). Rather than discrete styles of parenting, child abuse is regarded as the extreme end of a continuum of parenting. "Stage 1, reduced tolerance for stress and disinhibition of aggression; Stage 2, poor management of acute crises and provocation; and Stage 3, habitual patterns of arousal and aggression with family members" (Ammerman, 1990, p. 241). The degree of stress is mediated by other factors, such as social support (Kirkham et al., 1986), age of parents (Bennie & Sclare, 1969), or socioeconomic status (Pelton, 1978, 1994), and may be exacerbated by substance abuse (Murphy, Jellinek, Quinn, Smith, Poitrast, & Goshko, 1991), depression (Garbarino & Gilliam, 1980; Seagull, 1987), anxiety (Egeland et al., 1980), difficult children (Oates, 1986), and poor quality of marital relationship (Straus, 1980).

Bolger (1990) postulated that coping is a personality process that determines the difference in stress outcomes. Under stressful conditions, individuals may experience anxiety, which may interfere with the ability of an individual to resolve the stress of a crisis situation. In this study, the sample size was very small (50) and was limited to premedical students. The stressor was an examination, which is highly specific to a particular population. "Although neuroticism predicted coping, coping did not predict performance--a disturbing finding, but one that is consistent with other studies" (Bolger,

1990, p. 536). Bolger described six major types of coping including wishful thinking and self-blame, which is reportedly characteristic of people high in neuroticism (McCrae & Costa, 1986). Also measured on the Neuroticism scale are a number of facets that have been known to impair an individual's ability to cope including Anxiety, Angry Hostility, Depression, and Vulnerability (Costa & McCrae, 1992b).

Milner and Chilamkurti (1991) suggested that cognitive deficits might cause communication problems, which ultimately affect an individual's ability to cope with problems. Traditionally, researchers focused on risk factors which are often the antecedents of negative outcomes; however, recent research has begun to study resilience in stressful situations (Anthony, 1987). In order to devise preventive programs for children at risk, researchers are seeking those factors, which promote adaptation (Cowen & Work, 1988). D'Ercole (1988) found that social support was effective in mediating the effects of stress and that self-esteem affected the ability of the single mother to cope with the stress. Eighty-three single mothers were administered questionnaires designed to measure economic hardship, coping, self-esteem and social support. One instrument was adapted from Pearlin and Schooler's (1978) study, which examined the coping repertoires of individuals dealing with stress. The authors also utilized the Derogatis Brief Symptom Inventory and the Perceived Social Support Scale. The authors stated that "more than half of the scale was subject to error" as evidenced by low internal reliabilities (.57 and .35, respectively) for two of the coping scales ("financial devaluation and advice seeking vs. self reliance") (D'Ercole, 1988, p. 52).

Stress is defined as "hardship" or "adversity" (Lazarus, 1993). Psychological stress has been compared to the stress of structures as in the field of physics, which

results in strain when the load becomes overbearing (Lazarus, 1993). Stress was then studied in terms of causing dysfunction and human distress (Lazarus, 1993). Lazarus recognized the importance of "*individual differences* in *motivational* and *cognitive* variables" (p. 3), which affect reactions to stress. Researchers have found that physical child abusers actually exhibit greater physiological reactivity than nonabusers to child-related stressors (Casanova et al., 1992). On the NEO-PI, an individual's reactivity can be measured on the Impulsiveness facet of the Neuroticism scale and also on the Activity and Excitement-Seeking facets of the Extraversion scale (Costa & McCrae, 1992b).

Egeland et al. (1980) hypothesized that mothers who are highly stressed and who abuse their children often respond to changing life events in a hostile manner as opposed to seeking social support or attempting to cope with the situation. The hostile behavior may then increase the number of negative events in the woman's life. This further increases her hostile response, thus eliminating the buffering factor of social support. "The relation between changing life events and child abuse and neglect depends on a mother's anxiety level, personality characteristics, and competence in understanding and relating to her infant" (pp. 204-205). One of the limitations in this study involved the inclusion of a group described as the "inadequate care group" (p. 198) in which the mother was "irresponsible in managing the day-to-day child care activities" but not necessarily abusive. The potential for abuse and neglect was then generalized from the "inadequate care group." There were only three cases, which involved abuse; however, there were 25 cases of neglect. Therefore, the conclusions seem to be more relevant in the case of neglect, but not in the case of abuse.

In a recent study of coping strategies in abusing mothers, Cantos et al. proposed that these mothers exhibited a deficit in coping skills (1997). Seventeen abusing mothers who had inflicted injury on their children and 16 nonabusing mothers were interviewed and administered three questionnaires, the coping section of the Health and Daily Living Form, the Problem Solving Inventory, and a Hypothetical Coping Instrument developed for this particular study. The authors found that the abusing mothers utilized more emotion-focused coping strategies than the nonabusing mothers and thus postulated that the abusing mothers "exhibit strong emotional reactance" in stressful situations (p. 634). Thus, the "intense emotional response inhibits the use of effective problem-focused coping strategies" (pp. 634-635). The authors hypothesized that the "emotional reactance" to stress may be related to either physiological or cognitive variables, or a combination of both. The implications for treatment imply an approach to help the mothers modulate emotional reactivity to stress in order to develop more effective coping skills.

Social Support

Social support has been defined as "social relationships that provide (or can potentially provide) material and interpersonal resources that are of value to the recipient, such as counseling, access to information and services, sharing of tasks and responsibilities, and skill acquisition" (Thompson, 1994, p. 51). Despite the efforts of researchers and professionals to portray child abuse as occurring across ethnic, racial, religious, and socioeconomic groups, the literature and statistics seem to support a higher incidence of child abuse among the lower socioeconomic class (Pelton, 1994). Some of the reasons are self-evident, such as families in the middle- and upper-socioeconomic

strata have the financial resources to access childcare, better housing, private schools, psychotherapy, attorneys, and other support services. The poor, who are receiving public assistance and obtain medical care at clinics, are more susceptible to closer scrutiny. The community and social network of the poor is often more transient, less supportive, and frequently its members are attempting to cope with their own stressors (Gil, 1975; Thompson, 1994). "Personal characteristics needed to utilize social support also include the motivational bases for help seeking, such as an awareness of the relevance of support to one's coping capacities, sufficient sociability to seek assistance from others, and perceptions that support is available" (Thompson, 1994, p. 68).

Social support has been identified as a buffering factor in studies of the resilience of victims of child abuse (Kinard, 1995; Moncher, 1995). In a longitudinal study spanning 32 years, Werner (1989) followed 698 infants born in 1955 on the island of Kauai. One third of the infants were categorized as "at-risk" on the basis of the degree of perinatal stress, poverty, education of parents, disruptive family environments, and parents with substance abuse and/or mental health issues. One of the protective factors accounting for enhanced resilience was support from external sources, such as friends, relatives, spouse, school, work, and/or church, which provided a belief system and reinforced the individual's competencies and determination.

Parents who had been abused as children and who have broken the cycle of abuse have reported a supportive relationship with one parent (Hunter & Kilstrom, 1979) or with another supportive adult (Egeland, Jacobvitz & Sroufe, 1988; Milner et al., 1990) during their childhoods and have also reported supportive relationships during adulthood (Egeland et al., 1988). The emotional support provided by a nurturing relationship

facilitates the development of self-esteem and a sense of belonging which have also been viewed as buffering the effects of stress (Cohen & Wills, 1985; Thompson, 1994). Cognitive support may be provided in an information-sharing context in which a stressor is reframed, and the individual is assisted with a variety of options for coping with the stressor. This enhances the individual's internal locus of control (Cohen & Wills, 1985).

In a study of 92 mothers of developmentally delayed children, the mothers who were found to have the highest risk for child abuse had the lowest scores on cognitive skills, social support, and life satisfaction (Kirkham et al., 1986). The authors used the Inventory of Parent Experiences to measure the parents' satisfaction with their social networks and the Community Involvement Scale, which measured their perception of the degree of self-involvement in their community. Kirkham et al. suggested that, in order to prevent the abuse of developmentally disabled children, the parents need to learn how to develop and maintain support networks which includes effective communication skills.

Caliso and Milner (1994) utilized the Childhood Social Network Questionnaire (CSNG) to investigate the effects of social support during childhood in terms of the ability to predict the potential for child abuse among parents who had been abused and parents who had not been abused as children. Because the Child Abuse Potential Inventory has been found to account for between 52% and 89% of the variance between abusers and nonabusers and does not address buffering factors, the authors looked to the possibility of childhood social support, which "might combine with the abuse scale to improve physical child abuse screening classification rates" (p. 29). The attempt of the authors to combine social factors (CSNG) with the CAP abuse scale, did not yield any improvement in the classification rate of abusers and nonabusers over the rates obtained

with only the CAP abuse scale. Several factors were suggested by the authors, such as, the previously established relatively high rates of variance of the CAP abuse scale, the number of participants in the study, or "an incorrect a priori assumption that the CAP abuse scale does not measure social support factors" (pp. 40-41).

Albarracin, Repetto, and Albarracin (1997) conducted a study of 101 Argentinian mothers of children who were hospitalized or attended the outpatient medical clinic. The mothers were interviewed and administered the Mannheim Interview on Social Support (MISS). The authors found that there was a "direct influence of social support on abuse and neglect" and that "low-abuse/neglect mothers had a stronger kin network than high-abuse/neglect mothers" (p. 614).

Individuals with limited social skills who are isolated are more susceptible to low levels of stress (Garbarino & Gilliam, 1980). "A person with a large reservoir of social support and the skills to use it can cope with a lot of stress" (p. 43). Studies have found that mothers with more satisfying social supports are less likely to abuse their children (Kirkham et al., 1986). In fact, "[m]others, expected to preserve the well-being of all family members, typically play a key role in buffering families emotionally from the impact of crises" (Walsh, 1998, p. 93). Researchers have hypothesized that social support moderates the effects of stress and increases self-esteem (Milner & Chilamkurti, 1991). It was also speculated that individuals who abuse their children frequently do not trust others and do not avail themselves of community resources. Caliso and Milner (1994) suggested that the "perception of social support and reported satisfaction with perceived social support are significant factors in determining the buffering effects of social support" (p. 29). Current researchers are now focusing on buffering effects and

protective factors, which decrease an individual's vulnerability to stress, with social support viewed as one of the main factors (Beardslee, 1989; Rutter, 1985).

Family Systems Theory

A more global theoretical orientation encompasses the complex picture of family dynamics, which underlie family violence as opposed to focusing on the problems of an individual in isolation (Cirillo & DiBlasio, 1989/1992). Salvador Minuchin described the family as "a social unit that faces a series of developmental tasks" (Minuchin, 1974, p. 16). As a unit of two, the new couple begin the process of separating from the families of origin with the task of reorganizing the nature of the relationships with parents, siblings, and in-laws. Decisions about interactions with the larger social community including work, friends, and social organizations must be made. Routines, traditions and "transactional patterns" are formed within the new family. Boundaries with extended family and the larger social system must be established as the couple comes together. The family system continues to adapt and to reconfigure as children enter the family and as the family evolves through the developmental family life cycle (McGoldrick, 1988; Minuchin, 1974). The parent-child bond begins at the moment of the child's birth or even before birth. Garbarino and Gilliam (1980) described healthy infants as powerfully helpless and responsive, which explains the need for early social interaction. Neonatal studies suggested that attachment occurs within days after the birth of the child and possibly before birth.

Steinglass (1987) discussed three core concepts of family systems theory that included organization, morphostasis, and morphogenesis. The organization of the family is not only descriptive of the system as well as its members, but it is also interactive as it

helps to explain the functioning of the family. The family is viewed as a whole "single entity" with unique characteristics as opposed to a collection of individuals who live together. The behaviors of its individual members are a result of the interactions among the subsystems of the family which coexist and complement one another and which operate according to "circular causality" (Nichols, 1984, p. 80). A concept related to the internal construction of the family is referred to as boundaries, which define the extent of separation and differentiation among family members. Related to the functioning of the family is the concept of hierarchies, which is reflective of the distribution of power within the family system. Minuchin (1974) acknowledged that the family as well as its individual members need to negotiate the autonomy as well as the interdependence of its members within the family system.

Steinglass (1987) defined morphostasis as the process whereby "families behave in patterned and predictable fashions" (p. 39). The family maintains homeostasis or consistency despite change, including the normal developmental events within families. When the potential for change presents itself to the family either via outside forces or as related to the internal family life cycle, the system can react in one of two ways. The system can follow its natural tendency to resiliency and consistency, or a change in the rules and patterns of the family interrelationships can occur. Family-based services are "based on some of the same interactional and systemic ideas as family therapy..." but, rather than maintaining homeostasis, "...solution-focused therapy views change processes as inevitable and constantly occurring" (Berg, 1994, p. 9). Berg believed that it is easier to focus on successful behavior patterns rather than attempting to stop or change problematic behaviors. Walsh (1998) indicated that "a dynamic balance between stability

('homeostasis') and change ('morphogenesis') maintains a stable family structure while also allowing for change in response to life challenges" (p. 80).

Carter and McGoldrick (1988) discussed family stress as occurring at the "transition points from one stage to another of the family developmental process..." (p.4). A family's ability to adapt to change is referred to as the concept of morphogenesis, which was derived from the theory of cybernetics, originally conceived of as a mechanical feedback loop system, developed in 1961 by Norbert Weiner, an MIT mathematician (Griffin, 1993). Feedback loops, as adapted by family-systems theory, describe the behavioral interactions that result from external or developmental changes experienced by the family. "If the reactions are extreme and exacerbate the problem, the feedback loop is considered positive (increases reaction), or if the reactions are moderate and stabilize the system, the feedback loop is considered negative (dampens the reaction)" (Griffin, 1993, pp. 18-19).

Bowen (1994), as he attempted to treat families in the clinical setting, looked at family patterns, particularly at transition points in the family life cycle over several generations. His approach promoted growth and healing as he worked with families to increase differentiation and relatedness. Bowen's theory included two major variables, anxiety and integration of self. Anxiety becomes problematic when it increases and remains chronic. The result is a state of tension that can cause symptoms or dysfunction within the individual or within the family system. Bowen differentiated people according to the degree of fusion or differentiation between emotional and intellectual functioning. "Those with the most ability to distinguish between feeling and thinking, or who have the

most differentiation of self, have the most flexibility and adaptability in coping with life stresses, and the most freedom from problems of all kinds" (Bowen, 1994, pp. 355-356).

Therefore, to some extent, it is the individual's ability to be flexible and adaptable in order to cope with the stress of daily living as well as with the additional stress associated with crises and adversity. Moos and Moos (1994) proposed that family support and structure assist individuals as well as family members in managing life crises. On the NEO-PI-R, the individual who obtains a high score on the Actions subscale of the Openness dimension is more flexible. A low score on Vulnerability (Neuroticism Scale) is indicative of an individual who can cope with difficult and stressful situations. The current study measured the individual's "emotional, interpersonal, experiential, attitudinal, and motivational styles" in relation to the participant's functioning within the family system (Costa & McCrae, 1992b, p. 14).

Family Cohesion

The assessment of families can be accomplished in many ways including behavioral and clinical observations, structured interviews, genograms, coding scales, and family-life chronology (Bowen, 1994; Haley, 1976; McGoldrick & Gerson, 1985; Minuchin, 1974; Satir, 1983; Whitaker & Bumberry, 1988). Structural-family theorists describe a dysfunctional family in terms of an inadequate structure along with inflexibility within the family system. The dimensions of the structural model include boundaries, hierarchies, alignment, and power. The structure and the interactions within the family have a reciprocal effect in determining how flexibly or rigidly the family responds to change (Griffin, 1993).

Olson, Sprenkle, and Russell (1979) simplified the assessment process of families by narrowing the dimension to two general categories, cohesion and adaptability as described in the circumplex model. There are four values within the cohesion dimension: disengaged, separated, connected, and enmeshed. Within the dimension of adaptability, the four values are rigid, structured, flexible, and chaotic (Olson et al., 1979). Adaptability is described as "the ability of the system to change its power structure, its relationship roles, and the laws that organize the relationships in response to developmental and environmental pressures" (p. 5). Cohesion refers to the emotional connection between family members, which includes boundaries, coalitions, decision-making, and activities. The dimension of cohesion has been addressed by other family theorists. Walsh (1998), in her clinical experience and research on resilience, used the term "'connectedness' to describe the counterbalance of unity, mutual support, and collaboration with the separateness and autonomy of the individual" (p. 85). In order to overcome adversity, family members often appropriately turn to each other for support, yet family members reinforce the individual's growth, development, sense of competence and self-worth, according to Walsh. Family resilience is related to the ability of a family "to counterbalance stability and change as family members go through crisis and challenge" (p. 82). Minuchin (1974) discussed family functioning along the dimensions of enmeshment and disengagement. In an enmeshed family, Minuchin would help the family strengthen the boundaries in order to "facilitate the individuation of family members" (p. 144). In the case of disengaged families, the goal would be to help the family become less rigid in terms of boundaries in order to promote support within the family system.

Cohen (1994) found that single parents perceive less cohesion in their families than do two-parent families. The premise that differences were to be expected in the nature of the relationships within single-parent and two-parent families was confirmed. The author cautioned that utilizing the measures of cohesion and adaptability as normative as opposed to diagnostic is judgmental. According to Cohen, it is more important to assess the effectiveness of the single parent in accommodating the developmental needs of the children. Although sample sizes were small, Glasser, Sayger, and Horne (1993) concluded that there is a correlation between relationship variables in the family and family violence. The present study measured family cohesiveness in relation to the potential for child abuse.

Milner (1991), in reviewing the literature on child maltreatment over the past three decades, concluded that further research is needed in order to assess "perpetrator, familial, and societal factors" (p. 164). Perpetrator characteristics which have been identified frequently in studies include childhood history of abuse, low self-esteem, stress, lack of social support, beliefs related to parent-child relationships, lack of competence and coping skills, depressed affect as well as a variety of other related characteristics. Garmezy and Masten (1986) recognized the importance of stress, coping, risk, vulnerability, and protective factors and have encouraged researchers and psychotherapists to collaborate in strengthening the knowledge base in the field of resilience and "stress-resistance" (p. 500). The current study examined the individual characteristics on the NEO-PI-R, which contributed to resilience. In addition, this study attempted to account for the factors within the family environment that also contributed to a positive outcome.

A research project at the University of Minnesota entitled "Project Competence" has focused on children at risk for psychopathology and stress-resistant children over the past 20 years. Competence was measured within the school and home environments. Outcomes at school included teacher ratings of behavior in the classroom, peer assessment, and academic achievement. Interviews were also conducted with the children and parents in order to assess the behavior of the children both at school and at home. Stress was quantified by using the Life Events Questionnaire as well as interviews with the parents. The results thus far have indicated that "sex, intelligence, socioeconomic status, parenting qualities, and certain family characteristics of stability and cohesion may not only be powerful predictors of competence, but may also moderate the effects of stressful events on certain aspects of competence" (Garmezy & Masten, 1986, p. 515). Since the study is longitudinal, subsequent outcomes at various developmental stages will reveal the long-term effects of stress in this particular population.

Fifty-five parents who had abused their children were compared with an equal number of nonabusing parents utilizing the Janis-Field Feelings of Inadequacy Scale, the Life Experiences Survey, the Family Environment Scale, the Parent Questionnaire and the "trait" portion of the Speilberger, Gorsuch, and Lushene Self-Evaluation Questionnaire in a study by Perry et al. (1983). The authors found that the parents who had abused their children reported greater anxiety, life stress, and family conflict, but low family cohesion and expression. Perry et al. (1983) proposed that the perception of less support from families by the abusing parents might be related to an increased sense of isolation. In this study, the authors found that a parent's childhood history of abuse was

not significant in terms of distinguishing between abusing and nonabusing parents and encouraged further research to develop the role of stress and social support as moderating factors.

Trickett and Susman (1988) designed a research project in order to study parental perceptions about child rearing in physically abusive and nonabusive families. Fifty-six families with children between the ages of 4 and 11 were administered The Child Rearing Practices Q Sort, The Family Environment Scale, and participated in a structured interview. Patterns that emerged included less satisfaction with their children and a perception of child rearing as more difficult among the abusive parents. The results on the FES demonstrated "greater amounts of conflict and less expression of positive emotion in the abusive homes..." and the abusive homes were described as a place in which "...the expression of positive emotions such as affection and satisfaction is suppressed but in which the expression of conflict, anger and anxiety is rampant" (p. 274). The authors postulated that focusing on a wider context of parenting is necessary when attempting to study abusive parenting which includes family life-stage and that "breaking the cycle of abuse may be aided by encouraging parents to break out of their isolated style of rearing children" (p. 275).

Patchner and Milner (1992) administered the Family Environment Scale and the Child Abuse Potential Inventory to 525 military parents from 25 U.S. bases in the continental U.S. and 19 bases in overseas locations. A significant finding was that "elevated abuse scores were associated most strongly with lower levels of family cohesion in both the total sample and the abuser/comparison parent analyses" (p. 452). The authors proposed that family cohesion might be a significant moderating variable in

the determination of abuse potential on the premise that family commitment, help, and support are missing in abusive families. A limitation in this study was noted in the variety in the sample of parents who were in the child maltreatment group. There were 204 physical child abusers, 18 sexual child abusers, and 121 child neglecters. It has been shown in the literature that perpetrator characteristics differ among the specific groups of parents who engage in the various types of child maltreatment.

In a study by Kolko et al. (1993), 162 pairs of mothers/maternal guardians and their children were administered a battery of psychosocial measures including the CAP Inventory, the Hopkins Symptom Checklist-90, the Parenting Behavior Inventory, and the Family Environment Scale. The children were administered a number of self-report instruments as well. Several important parent findings from this study indicated that parents categorized as high in abuse potential rated themselves as "highly symptomatic," their children as "having behavioral and emotional problems," and their families as "less cohesive and stimulating" (p. 188). The authors acknowledged that the introduction of other types of measures would have provided additional support to the self-report data regarding the parent-child and family relationships.

Resilience

Resilience has been defined as the "ability to recover readily from illness, depression, adversity, or the like" (Random House Webster's College Dictionary, 1991). Walsh (1998) defined resilience as "the capacity to rebound from adversity strengthened and more resourceful" (p. 4). Walsh perceived resilience as more than merely surviving, but rather an active process of growth and healing resulting in an ability of the individual to "go on to live fully and love well" (p. 4). Throughout history, the people of various

nations have been described as resilient after surviving years of oppression, persecution, and occupation by other nations or ethnic groups. These include Christians in Communist Russia and China, civil rights workers in the South, African Americans, the people of Cambodia, and the survivors of the Holocaust (Beardslee, 1989; Spencer, Cole, DuPree, Glymph, & Pierre, 1993).

More recent research has focused on certain groups within a population which have overcome adversity, such as survivors of cancer, children of parents with mental illness, and other high-risk factors including children and adults who had been abused (Beardslee, 1989; Carro, Grant, Gotlib, & Compas, 1993; Rutter, 1987; Wyman, Cowen, Work, & Parker, 1991). The era of the medical model and psychopathology has been replaced by research focused on resilience, sometimes referred to as invulnerability. "Resilience is concerned with individual variations in response to risk" (p. 317), according to Rutter (1987). "Thus clinical and empirical emphasis is now being placed on individuals whose functioning is *not* significantly compromised by major stress" (Higgins, 1994, p. 3). Resilient individuals possess protective mechanisms, which serve as adaptive capacities to not only deal with adversity, but to flourish in spite of the negative experiences.

"Harmonious family relationships seem to lay the foundation for feelings of security and control in young children which, in turn, appear to account for their ability to modulate affect, establish positive social relationships, and successfully negotiate the variety of developmental tasks and challenges that children confront" (Pellegrini, 1990, p. 206). However, Werner (1995) found, based on the Kauai longitudinal study, that protective factors also included the development of a nurturing relationship with a

surrogate parent, such as members of the extended family. Another protective factor involved relationships with supportive members in the community, which included "having affectional ties that encourage trust, autonomy, and initiative" (p. 83), which are often affected by the individual's level of social skills.

Walsh (1998) recognized the significance of the hardiness of the individual; however, she also incorporated the concept of an interaction between nature and nurture in relation to the influence of a family on the resilience of an individual. "Even the emergence of genetically influenced individual traits occurs in relational context" (p. 10). Many studies have shown the importance of supportive relationships with an adult as abused or neglected children reach adulthood and develop into competent and nonabusive adults (Egeland et al., 1988; Hunter & Kilstrom, 1979; Milner et al., 1990; Werner, 1989). This study was focused on the traits of the individual that interacted with family and social environment in order to promote resiliency.

Cohen and Wills (1985) stressed the need to rule out specific "rival explanations" (variables) for emphasizing the effects of social support. These include IQ, social competence, sociability, extraversion, neuroticism, and openness to experience. Smith and Williams (1992) suggested that openness is associated with stress-reduction and that individuals who are extraverted are most likely to benefit from social support during times of stress. Anderson and Lauderdale (1982) found that low self-esteem is related to child abuse. They further suggested that parents who abuse are not satisfied with their lives and feel despair about the future. Participants from Arkansas, Louisiana, and Texas included 132 abusive parents who were administered the Tennessee Self-Concept Scale. The abusive parents saw themselves as "worthless," had "poorly integrated personalities,"

and "feel confusion and conflict in terms of their basic sense of self" (p. 292). The authors suggested that abusive parents are in need of therapy to help them cope with life's stresses and are also in need of interventions, which focus on "resocialization" (p. 292). "Children of poverty, for example, have only a limited range of models on which to draw, and as a result, they often construct self-defeating identities" (Hogan, 1996, p. 169). Egeland et al. (1988) noted that nonabusing mothers who had experienced childhood abuse frequently reported support from nonabusive adults during both childhood as well as adulthood.

"When these process variables were examined for the differential role they play in predicting resilient adaptation in maltreated and nonmaltreated children separately, ego-resiliency, ego-overcontrol, and positive self-esteem were found to account for significant amounts of variance in adaptive functioning for the maltreated children (Cicchetti, Rogosch, Lynch, & Holt, 1993, p. 643). McCrae and Costa (2006) related ego resiliency, ego control, and ego development to the five factors which are sets of traits. It has been proposed that the personality traits have demonstrated stability over time and that five dimensions have been identified to describe individual difference in personality (Buss, 1992; Costa & McCrae, 1988). These traits, as defined in the FFM and NEO-PI-R, including extraversion and neuroticism, have played a role in the literature on coping and social support as well as family functioning.

Conclusion

This study was based upon a dissertation by John Caliso in 1986 entitled *A Psychological Study of Mothers Who Do Not Physically Abuse Their Children Despite Histories of Physical Abuse in Their Own Childhoods*. Comparing abusing and

nonabusing mothers who had been abused as children was relatively new in the early 1980s. Caliso also decided to look at personality dimensions in terms of abuse potential by using Milner's Child Abuse Potential Inventory.

Caliso discovered that parents who had experienced childhood abuse perceived their families as "unhelpful and nonsupportive" (p. 98). They also viewed life as "unrewarding, pleasureless, and unfulfilling" (p. 98). Both of these findings were in opposition to the results noted in nonabused parents. "The abused and nonabusing parents were found to have a strong inclination to be less rigid in relating to their children, to recall more vividly their experiences with verbal abuse, and to maintain a higher educational level," which suggested to Caliso that "these differences may augment the abused and nonabusing parents' capacity to be more understanding, sympathetic, and empathetic in their behavior toward their own children" (p. 99).

Caliso urged future researchers to continue the effort to understand abused parents who have succeeded in breaking the cycle of abuse with their own children in the hopes of improving the prevention and treatment of child abuse. Caliso called for further research to examine the relationship between child abuse potential and various personality dimensions as well as comparisons between the perceptions of abusing and nonabusing parents of their own current family interactions. The present study extended the previous research of Caliso. The study attempted to identify those resilience factors within the individual as measured on the NEO-PI-R, which mediate the effects of childhood abuse on abuse potential as an adult.

Perry et al. (1983) found that parents who had been abused as children reported greater anxiety, life stress, family conflict, and low family cohesion. The authors called

for further research focusing on the role of stress and social support in comparing groups of abusing and nonabusing parents. Kolko et al. (1993) acknowledged the need for research which expands the "investigation of the relationship between abuse potential and other measures of both parenting competence and family functioning" (p. 188). These authors corroborated previous research on interactional models in which perceived psychological symptomatology, family conflict, and/or increased family stress contribute to abusive parental behavior.

Both Milner and Caliso did subsequent research as did Milner and other co-authors on a variety of additional variables including social support, spousal abuse, locus of control, intimate-partner, conflict-resolution tactics, and personality characteristics.

> Because the CAP physical child abuse scale does not account for all of the variance between physical child abusers and nonabusers (variance accounted for ranges from 52% to 89% (Milner, 1986) and was not designed to measure buffering factors, it is possible that buffering variables, such as childhood social support, might combine with the abuse scale to improve physical child abuse screening classification rates. (Caliso & Milner, 1994, p. 29)

Although the social support data did not distinguish between abusive and nonabusive parents with a childhood history of abuse, Caliso and Milner found that the "CAP rigidity and unhappiness factors remain robust in their discrimination of physical child abusers and nonabusers" (p. 42).

The current study was designed to expand the literature on the effects of social support on adult, child-abuse potential; however, as suggested by the authors, the potential buffering effect of social skills in adulthood was examined. The Social Skills

Inventory examined expressivity, sensitivity, and control on the two levels of social communication skills--emotional and social. Riggio (1989) proposed that social skills "may moderate the demonstrated relationship between social support and coping", which should also be "related to social adjustment and perceived well-being as well as a sense of competence over the social environment" (p. 4). The current study examined the factors of rigidity and unhappiness as they related to the potential for abuse as postulated by Caliso and Milner (1994). On the NEO-PI-R, rigidity is associated with the Actions facet on the Openness dimension, and the prediction of happiness is associated with the Positive Emotions subscale of the Extraversion domain.

Thus, resilience, in the present study, was defined in terms of the factor(s) associated with the mothers who had a history of child abuse, who have a low-child-abuse potential. The predictive factors used in the present study to assess resilience were family cohesiveness, perceived social support, effective coping skills, neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Chapter III

Methodology

Participants

Participants consisted of 80 adult, female parents over the age of 18 who were categorized according to the following groups: abused and high-abuse-potential parents (AHAP), abused and low-abuse-potential parents (ALAP), and nonabused and low-abuse-potential parents (NLAP). A fourth group -- nonabused and high-abuse-potential parents (NHAP) -- was anticipated but there were no participants in this category. The participants were solicited from agencies that provide assessment and treatment of child-abusing parents, public-health departments, community mental-health centers, day-care centers and community parent groups. Participants were drawn from open and closed cases in the child welfare agency. Additionally, the study was advertised in the local newspaper and with flyers. The participants were limited to those who volunteered to participate in the study.

The sample size was selected as a result of a power analysis, which is the probability that a statistical test will yield statistically significant results (Cohen, 1988). A power analysis utilizing the three parameters which affect the power of a statistical test of a null hypothesis -- the significance criterion, the effect size, and the reliability of the sample results -- was conducted. The significance criterion chosen was .05, which is one of the most common significance levels in research that attempts to minimize the Type I error. In reviewing previous literature on the instruments selected in this study, effect size or the degree to which the phenomenon is present in the population, varied within the medium range; therefore, .40 was utilized in the equation. Cohen assigned the value of

.80 to the power coefficient throughout his treatise on power analysis, and has thus been selected in the current study. According to Table 8.4.4 (Cohen, 1988, p. 384), a sample size of 18 per group is recommended when k-1 (u), degrees of freedom equal to 3 is used along with the values listed above. In order to allow for missing data and/or the attrition of participants, the sample size of 18 was rounded up to 20 per group.

The following conceptual configuration of groups was anticipated; however, there were no participants in the nonabused and high-abuse-potential group. Group size was expected to be equal with 20 mothers in each of the four groups, but group sizes were not equivalent. Few clients of the agencies described below volunteered to participate in the study as had originally been anticipated.

Abused and high-abuse-potential parents: This group of 20 parent participants was to be identified by agencies in the state of California that provide assessment and treatment of child-abusing parents. There were a few clients who volunteered for the study, but none of the mothers had substantiated reports of physical child abuse.

Abused and low-abuse-potential parents: This group of 20 parent participants was to be selected from public-health and community-mental-health clinics as well as through advertisement. There were a few clients from the public-health department who participated in the study.

Nonabused and high-abuse-potential parents: This group of 20 parent participants was to be identified by agencies in the state of California that provide assessment and treatment of child-abusing parents. There were no participants in this group.

Nonabused and low-abuse-potential parents: This group of 20 parent participants was to be selected from day-care centers and community parent groups as well as through advertisement. There were a few clients from a participating child care center who volunteered to participate in the study.

Instruments

Participants were given a demographic questionnaire soliciting general information such as age, participant's marital status, amount of income, source of income, occupation, number of brothers and sisters, ethnicity, composition of family origin, parents' marital status, education, number and ages of children, number of significant relationships, sources of support, religious affiliation and denomination, and childhood experiences.

The following instruments were selected to operationalize the independent and dependent factors (see Table 1): The Conflict Tactics Scale (CTS) (Straus et al., 1980); The Child Abuse Potential Inventory (CAPI) (Milner, 1986); The Revised NEO Personality Inventory (NEO-PI-R) (Costa & McCrae, 1992b); The Coping Resources Inventory (CRI) (Hammer & Marting, 1988); The Social Skills Inventory (SSI) (Riggio, 1989); The Family Environment Scale (FES) (Moos & Moos, 1994).

Table 1

Assessment of Independent, Dependent, and Mediating Variables

Type of variable	Variable name	Assessment
Independent	Mothers abused as children	CTS
	Mothers not abused as children	CTS
Mediating	Coping skills	CRI
	Social support	SSI
	Cohesion	FES
	Personality	NEO-PI-R
Dependent	Abuse potential	CAPI

Conflict Tactics Scale

This instrument was used to assess the severity of the mother's childhood abuse. In 1971, Straus designed the Conflict Tactics Scale (CTS) in order to determine the ways in which families resolve conflict (Straus et al., 1980). Many subsequent studies using the CTS were conducted over the years, culminating in a national survey consisting of 1,146 parents (Straus et al., 1980). The CTS defines three distinct approaches to resolve family differences: reasoning, verbal aggression, and physical abuse. The CTS is a 19-item scale composed of statements that reflect a range of actions a family member may select in resolving a dispute with another family member. The range of statements begins with actions as innocuous as calmly discussing an issue and ends with physical abuse. Each item is rated through use of a Likert-type scale ranging from *never* to *more than 20 times*.

Since the first national study of violence in American homes, numerous studies and versions of the CTS have come about.

Although the CTS was originally designed to measure violence between spouses, it had been used in numerous studies as a standardized self-report instrument to measure child maltreatment. Straus and Hamby (1997) noted a conceptual difference between measuring injury versus acts of maltreatment. "The CTS was designed on the premise that physical and verbal attacks on children are inherently acts of maltreatment, regardless of whether an injury occurs" (p. 121). A substantial number of studies used the original CTS to "obtain recall data from adults about the behavior of their parents" (p. 250) (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998).

Construct validity: Straus et al. (1980) examined the relationship between the construct of conflict and violence as measured on the CTS. Each couple received a conflict score "based on the number of times they disagreed on the five issues of money, children, sex, housekeeping, and social activities" (p. 161). Only 9.4% of the sample reported no conflict. There was a relationship between the conflict scores and the rate of violence. "The couples with the most conflicts had a violence rate of 43.9 per cent, which is sixteen times higher than the rate for the non-conflict couples (2.3 per cent)" (p. 161).

Concurrent validity: In one study, 105 college students completed the CTS, and 121 (72%) of their parents completed the questionnaire. Correlations between the scores on the Violence subscale of the parents and the students were .64 for the husbands (fathers) and .33 for the mothers (wives).

Reliability: Straus et al. (1980) used item analysis and the alpha coefficient to measure reliability of the CTS. In a pilot study with a sample of 385 couples, the mean

item-total correlation was .87 for the Husband-to-wife Violence Index and .88 for the Wife-to-husband Violence Index (Straus et al., 1980). In a subsequent sample of 2,143 couples, the alpha coefficients were .83 for the Husband-to-wife Violence Index, .82 for the Wife-to-husband Violence Index, and .88 for the Couple Violence Index (Straus et al., 1980).

In the current study, the Conflict Tactics Scale was to be used to measure the hypothesized lack of a significant difference in the magnitude of physical abuse in childhood between abused and high-abuse-potential and abused and low-abuse-potential parents as well as the difference between the two groups who had not experienced abuse as children. Group differences among the AHAP, ALAP, and NLAP groups were examined using an analysis of variance (ANOVA) and follow-up univariate tests.

Child Abuse Potential Inventory

In the present study, the Child Abuse Potential Inventory (CAPI) (Milner, 1986) was utilized to categorize the mothers into one of the parent groups. The CAPI is an assessment of a parent's potential to abuse her own children. The CAP Inventory is a screening tool that contains 160 items distributed across 10 scales. The primary abuse scale consists of 77 items, which are divided into six factor scales: Distress, Rigidity, Unhappiness, Problems with Child and Self, Problems with Family, and Problems from Others. This instrument also yields a Total Child Abuse Potential Score, which locates an individual's potential for child abuse along a continuum from low to high. In addition, the CAPI includes three validity scales, the lie scale, the random response scale, and the inconsistency scale.

The CAPI is the culmination of a series of studies employing a variety of preliminary instruments, which Milner and Wimberley (1979) had fine-tuned to measure personality factors that became evident after a review of the literature in the area of child abuse. Milner narrowed the etiological factors gleaned from the review to six clinically relevant constructs, which are measured in the factor scales. The three factors distress, rigidity and unhappiness "appear to describe psychological difficulties" and "the remaining three factors suggest interactional problems experienced by the respondent (i.e., problems with child and self, problems with family, and problems from others)" (Milner, 1986, p.2)

Construct validity: A variety of research studies had been undertaken to investigate the construct validity of the CAPI (Ayoub et al., 1983; Milner & Ayoub, 1980; Thomasson et al., 1981).

In order to discriminate between seriously at-risk, at-risk, and not-at-risk parents, Milner and Ayoub (1980) administered the CAPI to 67 parents. A chi-square analysis yielded results ($\chi^2 = 210.55$, $df = 1$, $p < .0001$), suggesting that at-risk parents' total abuse scores were significantly higher than not-at-risk parents.

A subsequent study by Ayoub et al. (1983) involved the comparison of the CAPI scores of seriously at-risk parents to the total abuse scores of the two groups in Milner and Ayoub's study in 1980. Once again, chi-square analysis revealed that seriously at-risk parents' total abuse scores were significantly higher than at-risk as well as not-at-risk parents at the .0001 level of probability. A multidisciplinary screening assessment was utilized to identify seriously at-risk parents on the basis that they were near committing abusive acts and were in need of immediate services in a treatment facility, since they

were not likely to benefit from community-based programs which had been designed for less severe cases.

Concurrent validity: In the child-abuse literature, Pruitt and Erikson (1985) had found that parents who abused their children had a greater physiological response to crying or smiling behavior in an infant. It was observed that participants, who had been identified as high-abuse potential, according to their CAPI scores, responded with significantly greater arousal rates than those individuals in the low-abuse potential group ($p < .05$). The responses to cry and smile behaviors in the high-abuse group were not statistically different, suggesting that crying and smiling behaviors were both perceived as unpleasant. The results of this study suggested that the CAPI scale was useful as an instrument for distinguishing abusers from nonabusers regarding physiological reaction.

Predictive validity: A study was undertaken by Milner et al. (1984) to determine if those individuals in the high-abuse potential category would be subsequently reported for abuse or neglect. A positive correlation at a significant level of .34 ($p < .0001$) was found between CAPI scores and eventual confirmed reports of physical abuse. Cases of neglectful parents were also predicted on the basis of CAPI scores ($p < .05$). The CAPI scores did not predict parents of failure-to-thrive infants.

Reliability: Split-half and Kuder-Richardson (KR-20) reliability coefficients were reported by Milner and Wimberley (1980) for a sample of 132 nonabusing subjects (.96 and .92, respectively). The test-retest reliability coefficient for a one-week time period for 42 respondents was .90. Milner (1986) obtained Kuder-Richardson reliability coefficients of .73 to .96 across groups for gender, age, and education.

Thomasson et al. (1981) were interested in the effectiveness of treatment programs for high-risk parents. A pre-post test was completed on a group of 42 high-risk parents who had attended a treatment program. The findings of this study suggested that the high-risk group's pretest CAPI scores were significantly higher than the not-at-risk groups' scores ($p < .0001$), and the high-risk group's CAPI scores immediately after treatment were significantly lower than their pretest scores ($p < .0001$). At 7 weeks after the treatment program ended, the high-risk group maintained significantly lower abuse potential scores ($p < .0001$).

The Child Abuse Potential Inventory yields a Total Child Abuse Potential Score, which categorizes that individual as having a low to high potential for abuse. Group differences between the AHAP, ALAP, and NLAP groups were examined using a univariate analysis of variance (ANOVA) to determine if the three groups differed significantly from one another. Since the differences between the groups were significant, then multiple comparison tests were run to compare group means.

The Revised NEO Personality Inventory

This instrument was employed to investigate the personality characteristics which mediate the impact of parents' experience of childhood abuse on their child abuse potential. The original NEO Personality Inventory (NEO-PI) was devised in 1985 by Costa and McCrae to assess personality within the parameters of the five dimensions identified over 50 years of factor-analytic research based on trait vocabulary describing the individual. The five-factor model (FFM) of personality includes the following five dimensions: Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C). In 1992, Costa and McCrae revised the

instrument, hence, NEO-PI-R, in order to more accurately represent the general population based on the 1995 U.S. Census projections for age, gender, and race (Botwin, 1995).

The NEO-PI-R, a 240-item standardized self-report inventory, provides scores for each of the five global personality domains and for each of the six facet scales of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The six facet scales that comprise Neuroticism include Anxiety, Angry Hostility, Depression, Self-Consciousness, Impulsiveness, and Vulnerability. The six facet scales included in the Extraversion dimension are: Warmth, Gregariousness, Assertiveness, Activity, Excitement-Seeking and Positive Emotions. Openness to Experience includes the following six facet scales: Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values.

The facet scales in the Agreeableness domain are Trust, Straightforwardness, Altruism, Compliance, Modesty, and Tender-Mindedness. Conscientiousness includes Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, and Deliberation. A 5-point Likert-scale is utilized with answers ranging from strongly disagree to strongly agree (Brooner, Herbst, Schmidt, Bigelow, & Costa, 1993). The domain scores provide a more global description of the personality, and the facet scales, as a result of their specificity, suggest the more subtle diagnostic distinctions (Costa & McCrae, 1992b).

Construct validity: Norms were based on a sample of 1,000 respondents comprised of 500 males and 500 females. Costa and McCrae (1992b, 1994) found that the NEO-PI-R scales correlated with the scales of instruments based on a variety of

theoretical perspectives including The Meyers-Briggs Type Indicator, Personality Research Form, Minnesota Multiphasic Personality Inventory, California Psychological Inventory, and The Guilford-Zimmerman Temperament Survey. Links were also found between the five factors, psychological well-being and coping style (Costa & McCrae, 1994).

Reliability: Test-retest reliability over a 6-month period for the dimensions ranged from .86 to .91 and from .66 to .92 for the facets. Test-retest reliability over a 6-year period for N, E, and O is above .80, and for facet scales the range was from .68 to .79 (Costa & McCrae, 1988). Test-retest reliability over a 3-year period was .63 for Agreeableness and .79 for Conscientiousness (McCrae & Costa, 1987).

The Coping Resources Inventory

This instrument was used to investigate the internal resources of parents which moderate the impact of a mother's childhood abuse on the potential to abuse her own children. The Coping Resources Inventory (CRI) is a 60-item measure designed by Hammer and Marting (1988) to "assess the internal resources people possess that relate to their capacity to handle stress" (Boothroyd, 1995, p. 241). The CRI consists of five domains: Cognitive, Social, Emotional, Spiritual/Philosophical, and Physical. Coping is bifurcated into resources which are described as "precursors of behavior" (p. 241) and strategies which describe how people react to stressors (Boothroyd, 1995).

Construct validity: Data were collected in a series of studies on 750 participants, and the CRI total resource score allowed for incrementally predicting stress symptoms (Elkind, 1981). Convergent validity coefficients ranged from .61 for the Spiritual/Philosophical to .80 for the Physical scale (Boothroyd, 1995). "Across different

samples, the internal consistency of scales ranged from moderate to good, with alpha coefficients tending to rise with the age of the sample" (Cochran, 1995, p. 243). Alpha coefficients for the total test ranged from .89 to .93 (Cochran, 1995).

Concurrent validity: Hammer and Marting (1988) assessed the coping resources of cardiac and pulmonary rehabilitation patients, stress-center clients, counseling-center clients, college student resident advisors, and high-school peer counselors. The authors found significantly higher scores on each CRI domain with the exception of the Emotional scale for healthy college students as compared to ill college students.

The CRI Total Resource score and number of life events accounted for 32% of the variance in stress symptoms in one predictive study of 108 junior high school students. "The CRI Total Resource score was a significant incremental predictor of stress symptoms (R^2 change = .15, $p < .0001$)" (Hammer & Marting, 1988, p. 15). The students were administered the CRI and Elkind's Stress Test for Children, a measure of life events. Three months later, they were given the Personal Stress Symptom Assessment, which renders a Total Symptom score in addition to frequencies on six physical and psychological symptom scales. "When the five individual CRI scale scores were entered into the equation with life events, 46 percent of the variance in symptoms was explained" (p. 15).

Reliability: According to Hammer and Marting, alpha reliabilities for each scale in the subgroups range from .70 to .80 on the individual subscales and are in the .90s for the total score. Test-retest reliability with a time frame of 6 weeks ranged from .60 to .73 with a sample of 115 high-school students (Hammer & Marting, 1988).

On the Coping Resources Inventory, mean and standard deviation scores were compared for all parent groups using the CRI - Total score. ANOVA was used to examine the relationship between abuse potential and coping skills.

The Social Skills Inventory

Riggio (1989) designed the Social Skills Inventory (SSI), which consists of 90 items intended to measure social communication skills. Riggio described the total SSI score as "a global level of social skill development indicative of overall social competence or social intelligence" (p. 2). Expressivity, Sensitivity, and Control are each measured on two levels, Emotional and Social, which contain a total of six domains.

The six dimensions of the social/communication skill inventory include: (1) Emotional Expressivity (EE), a nonverbal and emotional encoding skill; (2) Emotional Sensitivity (ES), a general skill which decodes the nonverbal behavior of others; (3) Emotional Control (EC), which is the ability to control and regulate emotional expression; (4) Social Expressivity (SE), a general verbal expression skill in which an individual engages others in social interaction; (5) Social Sensitivity (SS), ability to decode verbal communication and understand norms and conventions governing appropriate social behavior; (6) Social Control (SC), a skill in social self-presentation (Riggio & Sotoodeh, 1989).

Construct validity: Positive results have suggested that the SSI is measuring some of the same constructs measured by other inventories, including 16 Personality Factor Questionnaire, Personality Research Form, and Eysenck Personality Inventory (Conger, 1992).

Concurrent validity: A strong correlation (.64) was found between the SSI and the Affective Communication Test (ACT), a measure of nonverbal expressiveness (Riggio, 1989). Other measures vary over a wide range with the Profile of Nonverbal Sensitivity (PONS), demonstrating a weak correlation with emotional sensitivity (.18) and emotional expressivity (.19). The authors have undertaken ongoing research on validity in terms of "relating the SSI to performance measure[s] of social competence, as well as indirect measures such as social networks" (Conger, 1992, p. 843). The authors reported that the results are favorable, but failed to quote specific data in the manual. The Total SSI score is correlated with social support and social network size (Riggio, 1991).

Reliability: The test-retest reliability on the total SSI is .94 and .96 on Social Expressivity (SE). The overall test-retest reliability based on a 2-week interval ranges from .81 to .96 for the individual scales with a sample of 40. Internal consistency of the Emotional Expressivity and Emotional Sensitivity scales in a study with 182 males were .62 and .67, respectively, with the total range for all of the scales from .62 to .87 (Riggio, 1989). In the same study, the reliability coefficients ranged from .69 to .87 with 271 female undergraduates.

The SSI - Total Score was used to provide mean and standard deviation scores for all parent groups. ANOVA was used to examine the relationship between abuse potential and social skills.

The Family Environment Scale

This instrument was used to investigate the impact of the mediating variable of family cohesiveness on the mother's potential to abuse her own children. Moos, Insel, and Humphrey (1974) designed the Family Environment Scale (FES) to measure the

emotional supportiveness and the basic organizational structure of the family along 10 dimensions of family environment. The FES is a 90-item scale answered in the true-false format. There are 10 subscales each having nine items with three underlying domains: the Relationship domain; the Personal Growth domain; and the System Maintenance domain. The respective domains consists of the following: (1) Relationship: Cohesion, Expressiveness, and Conflict subscales; (2) Personal Growth: Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis subscales; and (3) System Maintenance: Organization and Control subscales.

The FES has been useful in describing and comparing families including measuring variations in abusive families (Allison, 1995). "Compared with nonabusive families, families that have a history of physical or sexual abuse tend to be less supportive, socially integrated, and organized. Some of these families may also be relatively low on independence and high on control" (Moos & Moos, 1994, pp. 39-40). The FES has also been useful in increasing awareness of how different family social climates develop as well as how a family environment influences a family's adaptation to life stages and crises. The scale has a large representative sample based on clinic as well as nonclinic samples with participants of varying socioeconomic and ethnic status.

Construct validity:

Moral-religious emphasis was highly related to an index of religious participation (average $r = .62$ for an alcoholic and a community sample); recreational orientation was associated with a role-performance measure, the proportion of household tasks that married partners perform jointly rather than separately

(average $r = .39$); and conflict was linked to an index of family arguments that is composed of the number of areas in which family members report disagreements (average $r = .49$). (Moos & Moos, 1994, p. 27)

Concurrent validity: Normative data for the FES included 1,432 normal and 788 "distressed" families from culturally, ethnically and geographically diverse backgrounds as well as multigenerational, single-parent and two-parent families of all age groups and life-cycle stages. Distressed families scored significantly lower on Cohesion, Expressiveness, Independence, Intellectual-Cultural, and Recreational subscales, and significantly higher on Conflict and Control than normal families (Moos & Moos, 1994).

Reliability: Test-retest reliability over a 12-month period ranged from .53 (independence) to .84 (moral-religious emphasis) on the individual subscales, and 9- to 10-year test-retest intervals yielded scores ranging from .43 (control) to .77 (moral-religious emphasis) (Moos & Moos, 1994).

The FES yields mean and standard deviation scores for all parent groups. ANOVA was used to examine the relationship between abuse potential and parent reports of family dysfunction.

Assessments and Procedures

The proposal for this study was approved by the Institutional Review Board (IRB) of Seton Hall University before data collection began. Letters from potential referral sources as well as newspaper advertisements and flyers soliciting research participants had prior approval. The approved proposal included a small retail gift card in the amount of $25 for participants who completed the questionnaires.

Data collected included scores on standardized self-report instruments and a demographic-data questionnaire. In the absence of significant findings, demographic data can provide additional information, such as correlations with dependent variables.

Administration of Materials

Child Protective Services caseworkers and community agency staff were contacted for referrals of potential respondents (mothers) to participate in the study at agencies where letters of authorization had been received. Cases from child welfare agency involved open and closed cases. Participants who were willing to participate in the research study contacted me and were provided information about the study and a letter of solicitation (Appendix A). Before the administration of the test instruments, the participants were advised that the results would be anonymous. Anonymity was accomplished through the utilization of a series of numbers which allowed questionnaires to be grouped according to participant for research purposes only but were not identifiable.

I reviewed with the participant the Consent to Participate in Research Study (see Appendix B) and advised each mother of her ethical right to not participate in the study, which was signed before the administration of the questionnaires. The participants completed the demographic questionnaire (Appendix C), the CTS (Appendix D), the CAPI (Appendix E), the NEO-PI-R (Appendix F), the CRI (Appendix G), the SSI (Appendix H), and the FES (Appendix I) in this study. No research assistant was used in the current study.

Directions for each instrument were provided to the participants, and questions were answered prior to the completion of the questionnaires in order to ensure that each

participant thoroughly understood the expectations of each of the tasks. Upon completion of the session, I answered questions, expressed appreciation to each participant for her time and effort, and gave the participant a gift card. Each participant was provided a list of mental health resources.

Variables

Dependent Variable

The dependent variable for this study -- resilience -- included two levels. The two levels were high resilience (low-abuse potential) and low resilience (high-abuse potential) based on the total abuse score on the Child Abuse Potential Inventory.

Independent Variable

The independent variable -- history of physical abuse in childhood -- included two levels: having been abused or not abused.

Mediating Variables

The mediating variables for this study were personality characteristics of the mother, social support, coping skills, and family cohesiveness.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS 14.0 for Windows) was used to analyze the data in this study.

Conflict Tactics Scale

The Conflict Tactics Scale was designed by Straus et al. (1980) in order to research the ways in which families resolve conflict. Straus identified three types of conflict resolution approaches: reasoning, verbal aggression, and physical abuse (Violence scale) (Straus et al., 1980). Mothers were grouped into parents who had been

abused as children and parents who had not been abused as children based on the scores obtained on the CTS - Violence scale. These two groups comprised the two levels of the independent variable.

Child Abuse Potential Inventory

In order to measure low-child-abuse potential (resilience factor) or high-child-abuse potential (low resilience factor), the Child Abuse Potential Inventory was used. The CAP Inventory was designed by Milner (1986) to screen for the detection of physical child abuse. The inventory yields a total abuse score in addition to individual subscale scores, which measure psychological factors: distress, rigidity, and unhappiness; interactional factors: problems with family, child, and others; and three validity scales: the lie scale, the random response scale, and the inconsistency scale. It was predicted that a group of mothers who were physically abused in childhood would have higher scores on the total abuse score than a group of mothers without a childhood history of physical child abuse. It was further predicted that the mothers who scored high on abuse potential would also have higher scores on the Distress, Rigidity, Unhappiness and Problems with Family, Child and Others subscales.

NEO Personality Inventory

The NEO-PI-R was used to explore the mediator effects of the personality characteristics of mothers who had been abused as children and mothers who do not have a history of childhood abuse on their potential to abuse their own children. The groups of mothers were compared on each of the five domains, which include Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. It was expected that the groups of mothers with high-abuse potential would score the highest

and the groups of mothers with low-abuse potential would have low scores on Neuroticism. Within the Neuroticism domain, the scores of the same groups of mothers were compared on the following facets: Anxiety, Angry Hostility, Depression, Impulsiveness, and Vulnerability. Each of these characteristics has been correlated with physical child abuse, poor coping skills, and deficient social skills. It was predicted that mothers with high-abuse potential would score significantly higher than mothers with low-abuse potential on the Anxiety, Angry Hostility, Depression, Impulsiveness, and Vulnerability facet scales.

On the Extraversion domain, it was predicted that mothers with low-abuse potential would obtain significantly higher scores than mothers with high-abuse potential. Scores obtained by the same groups of mothers were compared on the following facet scales: Warmth and Positive Emotions. It was hypothesized that mothers with low-abuse potential would exhibit higher scores on both the Warmth and Positive Emotions facet scales as opposed to mothers with high-abuse potential. Individuals who exhibit warmth are friendly, affectionate, and can form attachments to others. Individuals who score high on Positive Emotions are described as optimistic, laugh easily and often, and experience happiness, each of which has been correlated with resilience.

It was predicted that the groups of mothers with low-abuse potential would have higher scores on the Openness to Experience domain than mothers with high-abuse potential. It was hypothesized that mothers with low-abuse potential would have significantly higher scores on the Actions and Ideas facet scales than mothers with high-abuse potential. Individuals who obtain high scores on Actions appear willing to try different activities, prefer novelty and variety rather than the routine. Low scorers have

difficulty with change, which has been frequently correlated with parents who abuse their children. High scores on Ideas suggest individuals who are open-minded and willing to consider new and unconventional ideas; whereas, low scorers are more narrow in focus in terms of resources. The literature has suggested that parents who abuse are more rigid than nonabusing parents and resilient parents are more willing to cope with change.

On the Agreeableness domain, it was hypothesized that mothers with low-abuse potential would exhibit higher scores than mothers with high-abuse potential. It was further hypothesized that mothers with low-abuse potential would have higher scores on the Altruism, Compliance, and Tender-Mindedness facet scales. Individuals who obtain high scores on Altruism are more concerned for others' welfare and more willing to assist others. High scores on Compliance suggest individuals who inhibit aggression; whereas, low scorers are aggressive, and prefer to compete rather than cooperate. High scorers on Tender-Mindedness express sympathy and concern for others.

Coping Resources Inventory

In order to measure the mediator effects of the mother's coping resources on her potential to physically abuse her child, the Coping Resources Inventory was utilized. Hammer and Marting (1988) developed this instrument "to provide a standardized measure of coping resources that may prove important in mediating the stress response" (p. 1). The scales of the CRI are Cognitive (COG), Social (SOC), Emotional (EMO), Spiritual/Philosophical (S/P), and Physical (PHY). The authors of CRI have indicated that individuals with high coping resources have been characterized as resilient. The groups of mothers who had been abused as children and the mothers who do not have a childhood history of physical child abuse were compared in terms of their scores on the

five scales of the CRI. It was predicted that mothers with low-abuse potential would demonstrate higher coping resources than mothers with high-abuse potential.

Social Skills Inventory

The Social Skills Inventory was utilized to measure the lack of perceived difference between parents who had been abused as children and mothers who do not have a childhood history of physical abuse. Riggio (1989) designed the SSI to assess the social skills of individuals in treatment programs designed to work with clients with social skill deficits. It was predicted that mothers with low-abuse potential would exhibit a higher level of social skill development as evidenced in scores that are significantly higher than the scores of mothers with high-abuse potential.

Family Environment Scale

The Family Environment Scale was used to examine the mother's perceptions of her family and her place within the family. The test measures three broad dimensions: relationship, personal growth, and system maintenance and 10 subscales within the three dimensions. The subscales include Cohesion, Expressiveness, and Conflict in the relationship dimension; Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis within the personal growth dimension; and Organization and Control within the system maintenance dimension. The literature has suggested that resilient families are more cohesive than families in which there is physical child abuse. Families that are able to overcome adversity consist of family members who turn to each other for support, yet reinforce the growth, development, sense of competence, and self-worth of the individuals within the family (Walsh, 1998).

In the initial analysis, analysis of variance (ANOVA) was used to test for significance of each of the variables in the hypotheses. If significance was found, multiple comparison tests were used to determine which groups showed significant differences between the group means.

A discriminant function analysis was conducted in order to explore the effects of personality characteristics, coping skills, social skills, and family cohesion on the potential to abuse. Since the CTS and CAPI were used to classify participants into one of the three parent groups, these variables were not included in the discriminant function analysis. Eight variables -- neuroticism, extraversion, openness to experience, agreeableness, conscientiousness, coping skills, social skills, and family cohesion were included in the discriminant function analysis. Supplemental analysis was done on the facets of each of the five domains on the NEO-PI-R, on the subscales of the CAPI, and on the Conflict subscale of the FES using ANOVA and multiple comparison tests if significance was found.

Chapter IV

Results of Investigation

Introduction

This chapter contains the results of the study. The chapter is divided into the following headings: reliability analyses, sample characteristics, hypothesis testing, subsequent analyses, and supplemental analysis on the facets of the NEO-PI-R (Costa & McCrae, 1992b). The results in this chapter are presented in tables as well as narrative format. The level of confidence selected for statistical analysis is .05.

The subsequent statistical analyses involve comparing the following groups formed by scores on the Conflict Tactics Scale – Violence Scale (Straus et al., 1980) and the Child Abuse Potential Inventory – Abuse Scale (Milner, 1986): abused and high-abuse-potential parents (AHAP); abused and low-abuse-potential parents (ALAP); and nonabused and low-abuse-potential parents (NLAP). Since this study relied on participants who were voluntary, the size of the four groups varied from the intended number of 20 in each of the groups. The proposed nonabused and high-abuse-potential parents (NHAP) had no participants. Intuitively, it is understandable that the NHAP group would have a limited number of individuals since the premise throughout the literature has been that those who had been abused have a greater propensity to abuse their children and that those who had not been abused will not abuse their children.

The original research design included 80 participants equally divided into four groups of 20 based on the Violence scores of the Conflict Tactics Scale (CTS) (Straus et al., 1980) and on the basis of whether or not the mother had abused her children. CTS was used to classify individuals into abused or nonabused groups. This was based on the

experience of childhood physical abuse. If the participant reported any physical abuse on the CTS, she was classified as abused as a child. If the score on the Physical Aggression Subscale (Violence Scale) of the CTS was 0, she was classified as not abused as a child. The participants had also been administered a demographic questionnaire in which they were able to choose from a list of childhood experiences that included whether or not they had been physically abused as children.

In the original design, the mothers were to be classified further as to whether or not they had abused their children. The mothers were recruited from a child-protection-services agency, non-profit social-service agencies, and through flyers, and newspaper advertisements. Since participation was voluntary, there were no mothers who had substantiated reports of physical child abuse in the current study. Therefore, the classification of high-abuse-potential mothers was based on the abuse potential score on the Child Abuse Potential Inventory (CAPI), which has a high correlation with individuals who abuse their children (Milner, 1986).

In scoring the CAPI, the test user is instructed by the test author to compare the scores on the Lie scale, the Random Response scale, and the Inconsistency scale to the established cut-off scores. According to Milner (1986),

> If none of the validity scale scores are elevated (i.e., at or above the cut-off score), the test user can assume that the CAP Inventory abuse scale score is not significantly affected by some of the most common types of response distortions. However, if any one or more of the three validity scales are elevated, computation of the three response distortion indexes is recommended. (p. 11)

The cut-off scale scores for each of the scales are: Lie (L) scale, 7; Random Response (RR), 6; and Inconsistency (IC) scale, 6.

Milner (1986) further stated, "Since the response distortion indexes permit a more accurate interpretation of the type of response distortion present in a given protocol, the response distortion indexes should always be used instead of the individual validity scales" (p. 11). The three indexes include the faking-good ($L \geq 7$ and $RR \leq 5$) index, the faking-bad ($RR \geq 6$ and $IC \leq 5$) index and the random-response ($RR \geq 6$ and $IC \geq 6$) index. The faking-good index is elevated if the $L \geq 7$ and $RR \leq 5$. The faking-bad index is elevated if the $RR \geq 6$ and $IC \leq 5$. The random response index is elevated if $RR \geq 6$ and $IC \geq 6$.

According to Milner (1986), if the abuse score is below the scale cut-off score and the faking-good score is elevated,

> the abuse score should not be interpreted because the test user cannot be sure if the low abuse score accurately represents the examinee's abuse potential or if the low abuse score is due to successful faking-good behavior. However, research data suggest that if the abuse score is elevated *and* the faking-good index is elevated, the abuse score can still be employed for classification purposes. (p. 11)

CAPI test booklets were scored throughout the data collection process in order to obtain sufficient valid instruments. Twenty protocols were excluded during the data-collection process because they fit the criteria of faking-good, and the abuse scores were all below the lower cut-off score of 166. Data collection continued until 80 viable protocols were completed. In the current study, there were four individuals who had elevated scores on the faking-good index, but their CAPI Abuse scores were well above

the higher cut-off score of 215, so their protocols were not excluded. Two of these individuals had Lie scores of 7, and two had scores of 8.

Within a broad definition of resilience as the ability to overcome adversity, many researchers had conceptualized a variety of positive outcomes such as surviving a heart attack or not succumbing to mental illness (schizophrenia) (Anthony, 1987; Cicchetti & Garmezy, 1993). Many resilient individuals have either experienced traumatic events, such as the Holocaust or have been exposed to risk factors, such as poverty, maternal deprivation, and malnutrition (Higgins, 1994). Studies have shown that many individuals have learned adaptive coping mechanisms as they moved beyond the vulnerability point on the continuum and developed into healthy, functioning individuals (Anthony, 1987).

For the purposes of this study, resilience is defined by the absence of the potential to abuse as measured by low scores, below the cut-off of 215, on the Abuse subscale on Child Abuse Potential Inventory (Milner, 1986) for mothers who had been abused as children. Therefore, the mothers who were classified as abused and low-abuse-potential parents are referred to as the resilient group.

Statistical analyses included reliability analyses, demographic data, descriptive statistics, and ANOVAs for each test instrument and discriminant function analyses. SPSS Version 14.0 was used to perform the statistical analyses.

Reliability Analyses

Cronbach's alpha demonstrated internal reliability estimates that were within acceptable range as evidenced in Table 2. The alpha values for the five Neo Personality Inventory domains were slightly lower in the current study when compared to the values in the original studies by Costa & McCrae (1992b). The reliability estimate for the Social

Skills Inventory (SSI) – Total Score in the current study was also slightly lower than the original studies by Riggio (1989). The remaining alpha values were at or above the values by the respective test authors.

Table 2

Internal Reliability of Primary Variables

Variables	Number of items on scale	Cronbach's alpha for current study	Chronbach's alpha (test manual)
CTS – Violence Scale	8	.90	.82-.88*
CAPI – Abuse Scale	77	.95	.92-.98**
Neuroticism	6	.83	.92
Extraversion	6	.77	.89
Openness	6	.77	.87
Agreeableness	6	.71	.86
Conscientiousness	6	.86	.90
Family Environment Scale – Cohesion Scale	9	.84	.78
Social Skills Inventory – Total Score	90	.87	.94
Coping Resources Inventory – Total Score	60	.94	.91

Note. * The authors reported that Cronbach's alpha has been found to range from .82 to .88 for the three scales (Straus et al., 1980).

** "Overall, the 77-item CAP Abuse Scale has the highest internal consistency reliabilities (i.e., .92-.96 for controls and .95-.98 for abusers)" (Milner, 1986, p. 35).

Sample Characteristics

Highlights of the total sample are presented in this section. An attempt was made to solicit clients from Child Protective Services (CPS) in which mothers had physically abused their children. However, since participation in the study was voluntary, only a few mothers with CPS histories were willing to complete the questionnaires. Of those participants, none had substantiated reports of physical abuse. Participants were solicited through other service agencies serving mothers involved in substance abuse, counseling, public health, and other social services. Participants were also solicited through flyers and newspaper ads.

A questionnaire was administered to collect demographic data. Information was gathered on age, marital status, religion, ethnicity, education, income, number of children, types of abuse experienced in childhood, as well as characteristics about a mother's family of origin. Results are shown in table format.

The final subject pool of 80 females ranged in age from 23 to 64 (see Table 3). Approximately 50% of both the total sample (39, $n = 80$) and the ALAP group (26, $n = 55$) were 37 years of age or below, but slightly less than half (4, $n = 9$) of the NLAP group were. Approximately half of the AHAP group (8, $n = 16$) were below the age of 34.

Table 3

Ages of Participants

Age	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
23	0	0.0	1	1.8	0	0.0	1	1.3
25	1	6.3	0	0.0	0	0.0	1	1.3
27	1	6.3	0	0.0	0	0.0	1	1.3
28	0	0.0	1	1.8	1	11.1	2	2.5
29	2	12.5	4	7.3	0	0.0	6	7.5
30	1	6.3	4	7.3	0	0.0	5	6.3
31	1	6.3	2	3.6	2	22.2	5	6.3
32	0	0.0	3	5.5	0	0.0	3	3.8
33	0	0.0	2	3.6	0	0.0	2	2.5
34	2	12.5	1	1.8	0	0.0	3	3.8
35	1	6.3	1	1.8	0	0.0	2	2.5
36	0	0.0	3	5.5	0	0.0	3	3.8
37	0	0.0	4	7.3	1	11.1	5	6.3
38	2	12.5	3	5.5	0	0.0	5	6.3
39	0	0.0	1	1.8	0	0.0	1	1.3
40	0	0.0	1	1.8	0	0.0	1	1.3
41	1	6.3	2	3.6	0	0.0	3	3.8

(Table 3 continues)

Table 3 (continued)

Age	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
43	1	6.3	1	1.8	0	0.0	2	2.5
44	1	6.3	2	3.6	0	0.0	3	3.8
45	0	0.0	1	1.8	0	0.0	1	1.3
47	0	0.0	2	3.6	0	0.0	2	2.5
48	0	0.0	1	1.8	0	0.0	1	1.3
49	0	0.0	1	1.8	0	0.0	1	1.3
50	0	0.0	3	5.5	0	0.0	3	3.8
51	1	6.3	1	1.8	0	0.0	2	2.5
53	0	0.0	1	1.8	1	11.1	2	2.5
54	0	0.0	1	1.8	0	0.0	1	1.3
55	1	6.3	1	1.8	0	0.0	2	2.5
56	0	0.0	0	0.0	1	11.1	1	1.3
57	0	0.0	0	0.0	1	11.1	1	1.3
58	0	0.0	5	9.1	1	11.1	6	7.5
61	0	0.0	1	1.8	0	0.0	1	1.3
64	0	0.0	1	1.8	1	11.1	2	2.5
Total	16	100	55	100	9	100	80	100

The mean age for the AHAP group was 36.50, for ALAP 41.02, and the mean age for NLAP was 46.11. Total mean age for the sample was 40.69 (Table 4).

Table 4

Mean Ages of Participants

Group	*M*	*SD*	*n*
AHAP	36.50	8.56	16
ALAP	41.02	10.39	55
NLAP	46.11	14.11	9
Total	40.69	10.72	80

There were no significant differences between the means as evidenced in Table 5, $F(2, 77) = 2.49, p = .089$.

Table 5

ANOVA – Ages of Participants

Age	*df*	*SS*	*MS*	*F*
Between groups	2	551.317	275.66	2.49
Within groups	77	8519.871	110.65	
Total	79	9071.188		

Note. $p = .089$.

Of the total sample, 56.3% of the women were married, 21.3% were divorced, 12.5% were single, 5.0% separated, 3.8% were living with a partner, and 1.3% were widowed (see Table 6). In the resilient group (ALAP) 67.3% were married, and 21.8% of the group were divorced. The largest percentage (56.3%) of the AHAP group reported

that they were single, while 18.8% of the group was either married or divorced. In the NLAP group, 55.6% were married versus 22.2% who were divorced.

Table 6

Marital Status of Participants

Marital status	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Single	9	56.3	0	0.0	1	11.1	10	12.5
Married	3	18.8	37	67.3	5	55.6	45	56.3
Separated	1	6.3	3	5.5	0	0.0	4	5.0
Divorced	3	18.8	12	21.8	2	22.2	17	21.3
Widowed	0	0.0	1	1.8	0	0.0	1	1.3
Living with partner	0	0.0	2	3.6	1	11.1	3	3.8
Total	16	100	55	100	9	100	80	100

To investigate whether there is a statistically significant difference between the participants in terms of marital status, a chi-square statistic was used. Since many of the cells had counts below 5, categories were combined as evidenced in Table 7. When the marital status categories were combined, the differences became more evident regarding the relationships of the mothers in terms of marital partners or significant others. Of the total sample, 60.0% were married or living with a partner, whereas 40.0% were in one of the not married categories (single, separated, divorced, or widowed).

Table 7

Marital Status with Combined Categories

Marital status	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Single, separated, divorced,widowed	13	81.3	16	29.0	3	33.3	32	40.0
Married or living with partner	3	18.7	39	71.0	6	66.7	48	60.0
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the marital status of the participants was significant, χ^2 $(2, N = 80) = 14.24, p < .001$ (see Table 8). In the AHAP group, a large difference was noted with 81.3% in the not married category, 29.0% in the ALAP group, and 33.3% in the NLAP group. In contrast, 18.7% of the AHAP group was either married or living with a partner, 71.0% of the ALAP group and 66.7% of the NLAP group.

Table 8

Chi-square Test – Marital Status of Participants

	χ^2	*df*	*p*
Pearson chi-square	14.24[a]	2	.001
N	80		

Note. [a]1 cell (16.7%) has expected count less than 5. The minimum expected count is 3.60.

In the current sample, 57.5% of the total sample had incomes above $50,000, while 16.3% earned $19,000 or less, and 6.3% earned below $5,000 (see Table 9). In the

resilient group (ALAP), 69.1% had incomes over $50,000, 55.6% of the NLAP group and only 18.8% of the AHAP had larger incomes. In the lower income brackets, the 18.8% of the AHAP group had incomes below $5,000 as contrasted with 3.6% of the ALAP group and none of the NLAP group. In the second lowest category ($5,000 to 9,999) were 25.1% of the AHAP group, 5.4% of the ALAP group and none of the NLAP group.

Table 9

Incomes of Participants

Income	Groups									Total		
	AHAP			ALAP			NLAP					
	n	%	Cum. %	*n*	%	Cum. %	*n*	%	Cum. %	*n*	%	Cum. %
Below $5,000.	3	18.8	18.8	2	3.6	3.6	0	0.0	0.0	5	6.3	6.3
$5,000-9,999.	1	6.3	25.1	1	1.8	5.4	0	0.0	0.0	2	2.5	8.8
$10,000-19,999.	4	25.0	50.1	1	1.8	7.2	1	11.1	11.1	6	7.5	16.3
$20,000-29,999.	0	0.0	50.1	1	1.8	9.0	1	11.1	22.2	2	2.5	18.8
$30,000-39,999.	3	18.6	68.7	4	7.3	16.3	2	22.2	44.4	9	11.3	30.1
$40,000-49,999.	2	12.5	81.2	8	14.5	30.8	0	0.0	44.4	10	12.5	42.6
Above $50,000.	3	18.8	100.0	38	69.1	99.9	5	55.6	100.0	46	57.5	100.1
Total	16	100	100	55	100	100	9	100	100	80	100	100

In order to run a chi-square analysis, income categories of participants were collapsed from seven categories to three categories (see Table 10). When the income categories were collapsed, the contrasts between the groups are more evident especially in the lowest combined income category (0 to $19,999). Fifty per cent of the AHAP group had reported incomes in the category $19,999 or less compared to 7.3% of the ALAP group and 11.1% of the NLAP group. In the middle income category ($20,000 to 49,999), 31.3% of the AHAP group had been classified as opposed to 23.6% of the ALAP group and 33.3% of the NLAP group.

Table 10

Incomes of Participants with Combined Categories

Income	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0-$19,999.	8	50.0	4	7.3	1	11.1	13	16.3
$20,000-49,999.	5	31.3	13	23.6	3	33.3	21	26.3
Above $50,000.	3	18.8	38	69.1	5	55.6	46	57.5
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the income of the participants was significant, χ^2 (4, N = 80) = 20.03, $p < .000$ (Table 11). As noted in Table 10, incomes for the AHAP group gravitated toward the lower income categories, while over half of the participants in the ALAP and NLAP groups fell in the upper income category.

Table 11

Chi-square Test – Incomes of Participants

	χ^2	*df*	*p*
Pearson chi-square	20.03[a]	4	.000
N	80		

Note. [a]4 cells (44.4%) have expected count less than 5. The minimum expected count is 1.46.

Of the total sample, 43.8% indicated that their source of income was a job, 15.0% relied on spousal income, 2.5% were self-employed, 12.5% listed other, and the remainder (26.2%) listed a combination of income sources (Table 12). Within the resilient group (ALAP), 45.5% listed their source of income as a job, 50.0% was noted within the abused and high-abuse-potential group, and 22.2% in the nonabused and low-abuse-potential group. Eighteen percent of the ALAP group, 22.2% of the NLAP group, and none of the AHAP group listed spouse/partner as the income source.

Table 12

Income Sources of Participants

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Self-employed	0	0.0	1	1.8	1	11.1	2	2.5
Salaried job	8	50.0	25	45.5	2	22.2	35	43.8
Spouse/partner	0	0.0	10	18.2	2	22.2	12	15.0
Other	4	25.0	5	9.1	1	11.1	10	12.5
Self-employed and salaried job	1	6.3	0	0.0	0	0.0	1	1.3
Self-employed and spouse/partner	0	0.0	1	1.8	1	11.1	2	2.5
Salaried job and spouse/partner	1	6.3	10	18.2	0	0.0	11	13.8
Salaried job and other	2	12.5	2	3.6	1	11.1	5	6.3
Salaried job and spouse/partner and other	0	0.0	0	0.0	1	11.1	1	1.3
Self-employed and salaried job and spouse/partner	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

In order to run a chi-square analysis, the categories were collapsed from 10 categories to 3 based on whether the mother's income was achieved solely through her own efforts or whether reported income included income from the efforts of others (see

Table 13). The other category contained income sources that were not specified and combination categories of income sources, which incorporated the other category. The percentage of mothers who reported incomes that were earned through their own efforts were 56.3% of the AHAP group, 47.3% of the ALAP group, and 33.3% of the NLAP group. In the category that included income from outside sources such as spouse/partner, were 6.3% of the AHAP, 40.0% of the ALAP group, and 33.3% of the NLAP group. The third category, which integrated other and combinations of income sources that also included other as a category revealed, 37.5% of the AHAP group, 12.7% of the ALAP group, and 33.3% of the NLAP group.

Table 13

Income Sources with Combined Categories

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Own efforts	9	56.3	26	47.3	3	33.3	38	47.5
Outside efforts	1	6.3	22	40.0	3	33.3	26	32.5
Other/unspecified	6	37.5	7	12.7	3	33.3	16	20.0
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the income sources of the participants was significant, χ^2 $(4, N = 80) = 9.69, p = .046$ (see Table 14).

Table 14

Chi-square Test – Income Sources of Participants

	χ^2	*df*	*p*
Pearson chi-square	9.69[a]	4	.046
N	80		

Note. [a]7 cells (58.3%) have expected count less than 5. The minimum expected count is .23.

Participants identified a wide variety of occupations as evidenced in Table 15. Out of the total sample, 15.6% were teachers, 14.3% were social workers, 5.2% were stay-at-home mothers, and 3.9% of the total sample reported no occupation. The participants who chose teacher as an occupation included 6.3% of the AHAP group, 17.3% of the ALAP group, and 22.2% of the NLAP group. In the social worker category were 12.5% of the AHAP group, 17.3% of the ALAP group, and none of the NLAP group. None of the participants in either the AHAP or the NLAP group were stay-at-home mothers as opposed to 7.7% of the ALAP group.

In the group with a high potential to abuse (AHAP), the largest percentage (12.5%) was reported in each of the following categories (social worker, office assistant, eligibility worker, and none). In the resilient group (ALAP), the occupation categories with the largest percentage of mothers were teacher (17.3%), social worker (17.3%), stay-at-home mom (7.7%), and nurse (5.8%). In the NLAP group, the only category with more than one participant was teacher (22.2%). The remainder of the categories had only one individual in each of the three groups.

Table 15

Occupations of Participants

Occupation	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Foster mother	0	0.0	1	1.9	0	0.0	1	1.3
Social worker	2	12.5	9	17.3	0	0.0	11	14.3
Office assistant	2	12.5	1	1.9	0	0.0	3	3.9
M.H. counselor	0	0.0	1	1.9	0	0.0	1	1.3
Therapist	0	0.0	1	1.9	0	0.0	1	1.3
Nurse	0	0.0	3	5.8	0	0.0	3	3.9
Contract admin., piano teacher	1	6.3	0	0.0	0	0.0	1	1.3
Teacher	1	6.3	9	17.3	2	22.2	12	15.6
CNA, HHA, property mgr.	0	0.0	1	1.9	0	0.0	1	1.3
Cashier	1	6.3	0	0.0	0	0.0	1	1.3
Caregiver	0	0.0	0	0.0	1	11.1	1	1.3
Probation officer	0	0.0	1	1.9	0	0.0	1	1.3
Analyst	0	0.0	1	1.9	0	0.0	1	1.3
Consulting	0	0.0	1	1.9	0	0.0	1	1.3
Eligibility worker	2	12.5	0	0.0	0	0.0	2	2.6
LCSW	0	0.0	1	1.9	0	0.0	1	1.3

(Table 15 continues)

Table 15 (continued)

Occupation	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Homemaker	0	0.0	1	1.9	1	11.1	2	2.6
MFT	0	0.0	1	1.9	0	0.0	1	1.3
Medical assistant	1	6.3	0	0.0	0	0.0	1	1.3
Tax administrator	0	0.0	0	0.0	1	11.1	1	1.3
HHA, bus driver	0	0.0	1	1.9	0	0.0	1	1.3
Bookkeeper	0	0.0	1	1.9	0	0.0	1	1.3
Secretary	0	0.0	1	1.9	0	0.0	1	1.3
Educator	0	0.0	1	1.9	0	0.0	1	1.3
Stay-at-home mom	0	0.0	4	7.7	0	0.0	4	5.2
Office manager	0	0.0	1	1.9	0	0.0	1	1.3
Admin. assistant	0	0.0	1	1.9	0	0.0	1	1.3
Regional director	0	0.0	0	0.0	1	11.1	1	1.3
CNA	0	0.0	1	1.9	0	0.0	1	1.3
Office assistant	0	0.0	0	0.0	1	11.1	1	1.3
Cosmetologist	0	0.0	1	1.9	0	0.0	1	1.3
Newspapers	0	0.0	0	0.0	1	11.1	1	1.3
Auditor	0	0.0	1	1.9	0	0.0	1	1.3
Sr. accountant clerk	0	0.0	1	1.9	0	0.0	1	1.3

(Table 15 continues)

Table 15 (continued)

Occupation	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Restaurant manager/server	0	0.0	1	1.9	0	0.0	1	1.3
Accountant	1	6.3	0	0.0	0	0.0	1	1.3
Dental assistant	0	0.0	0	0.0	1	11.1	1	1.3
Server	0	0.0	1	1.9	0	0.0	1	1.3
Resident manager	1	6.3	0	0.0	0	0.0	1	1.3
Resident manager, data entry	1	6.3	0	0.0	0	0.0	1	1.3
Customer service representative	1	6.3	0	0.0	0	0.0	1	1.3
College advisor	0	0.0	1	1.9	0	0.0	1	1.3
Food server, pasta chef	0	0.0	1	1.9	0	0.0	1	1.3
SW/therapist	0	0.0	1	1.9	0	0.0	1	1.3
None (no occupation)	2	12.5	1	1.9	0	0.0	3	3.9
Total	16	100	52	100	9	100	77	100

The participants were asked to record the number of brothers and sisters in their families of origin. The total numbers of brothers in the sample ranged from 0 through 7 with 82.6% of the total sample having 2 or fewer brothers (see Table 16). Among the

three groups, the NLAP group had the fewest number of brothers (88.8% had 2 or less) as contrasted with 81.8% of the ALAP group and 81.3% of the AHAP group.

Table 16

Number of Brothers

Number of brothers	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0	5	31.3	11	20.0	3	33.3	19	23.8
1	4	25.0	21	38.2	2	22.2	27	33.8
2	4	25.0	13	23.6	3	33.3	20	25.0
3	1	6.3	4	7.3	0	0.0	5	6.3
4	2	12.5	1	1.8	1	11.1	4	5.0
5	0	0.0	3	5.5	0	0.0	3	3.8
7	0	0.0	2	3.6	0	0.0	2	2.5
Total	16	100	55	100	9	100	80	100

The number of sisters ranged from 0 through 9 (see Table 17). Of the total sample, 82.6% had 2 or fewer sisters. Eighty-nine percent of the ALAP group had 2 or fewer sisters compared to 75.1% of the AHAP group and 55.5% of the NLAP group. One participant in the AHAP group recorded 9 sisters, and one individual in the ALAP indicated that she had 6 sisters. All of the other participants in the NLAP group had 4 or fewer sisters.

Table 17

Number of Sisters

Number of sisters	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0	5	31.3	21	38.2	3	33.3	29	36.3
1	6	37.5	18	32.7	0	0.0	24	30.0
2	1	6.3	10	18.2	2	22.2	13	16.3
3	3	18.8	5	9.1	1	11.1	9	11.3
4	0	0.0	0	0.0	3	33.3	3	3.8
6	0	0.0	1	1.8	0	0.0	1	1.3
9	1	6.3	0	0.0	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

In Table 18, it was noted that the sample was predominantly Caucasian (81.3%), followed by Hispanic/Latina (11.3%), with approximately 7.4% in other categories. The AHAP (81.3%) and the ALAP (81.8%) groups each had approximately 81% Caucasian heritage, while the NLAP group followed closely with 77.8%. In the NLAP group, 22.2% of the participants indicated that they were Hispanic/Latina, while 12.5% of the AHAP group and 9.1% of the ALAP group were in this category. The remainder of each of the groups described themselves as having mixed heritage.

Table 18

Ethnicity of Participants

Ethnicity	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Caucasian	13	81.3	45	81.8	7	77.8	65	81.3
Hispanic/ Latina	2	12.5	5	9.1	2	22.2	9	11.3
Asian	0	0.0	1	1.8	0	0.0	1	1.3
Caucasian and Native American	0	0.0	1	1.8	0	0.0	1	1.3
Caucasian and Hispanic/Latin	0	0.0	1	1.8	0	0.0	1	1.3
Asian and Caucasian	1	6.3	1	1.8	0	0.0	2	2.5
Other	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

Of the total sample, 80.0% of the mothers were raised by natural parents, 1.3% by relatives, 5% said other, and 13.7% indicated various other combinations (see Table19). In the AHAP group, 81.3% of the group was raised by natural parents and the other two groups were 80.0% (ALAP) and 77.8% (NLAP). In the abused and high-abuse-potential group, 12.5% of the sample was raised by a combination of natural parents and fosterparents/guardians, but none of the participants in the ALAP or NLAP groups chose this category. In the NLAP group, 11.1% were raised by natural parents and other, usually a stepparent, as compared to 6.3% of the AHAP and 5.5% of the ALAP groups.

Table 19

Childhood Caregivers of Participants

Raised by	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Natural parents	13	81.3	44	80.0	7	77.8	64	80.0
Relatives	0	0.0	0	0.0	1	11.1	1	1.3
Other	0	0.0	4	7.3	0	0.0	4	5.0
Natural parents & fosterparents guardians	2	12.5	0	0.0	0	0.0	2	2.5
Natural parents & relatives & fosterparents guardians	0	0.0	1	1.8	0	0.0	1	1.3
Natural parents and other	1	6.3	3	5.5	1	11.1	5	6.3
Natural parents (mother)	0	0.0	1	1.8	0	0.0	1	1.3
Natural mother and stepdad	0	0.0	1	1.8	0	0.0	1	1.3
Natural parents, relatives and other	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

In order to run a chi-square analysis, the categories of relatives, other, and combination categories of the caregivers of participants were collapsed from eight categories to one category (other) (see Table 20). Although the composition of other differed to some extent, each of the groups had similar proportions of caregiver compositions. Approximately 80% were raised by natural parents and approximately 20% by some other combination of caregivers, often including one natural parent.

Table 20

Childhood Caregivers of Participants with Combined Categories

Raised by	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Natural parents	13	81.3	44	80.0	7	77.8	64	80.0
Other	3	18.8	11	20.0	2	22.2	16	20.0
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the childhood caregivers of the participants was not significant, χ^2 (2, $N = 80$) = 0.43, $p = .979$ (see Table 21).

Table 21

Chi-square Test – Childhood Caregivers of Participants

	χ^2	*df*	*p*
Pearson chi-square	0.43[a]	2	.979
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.80.

Within the total sample, 45.0% of the parents of the participants were married, 33.8% were divorced, 2.5% were separated, 8.8% were widowed, and 9.9% listed other descriptive responses (see Table 22). In the ALAP group, 47.3% of the parents were married while 43.8% of the AHAP and 33.3% of the NLAP groups were married. In the AHAP group, 50.0% of the parents were divorced as were 30.9% in the ALAP group and 22.2% in the NLAP group.

Table 22

Parents' (of Participants) Marital Status

Marital status	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Married	7	43.8	26	47.3	3	33.3	36	45.0
Divorced	8	50.0	17	30.9	2	22.2	27	33.8
Separated	0	0.0	0	0.0	2	22.2	2	2.5
Widowed	1	6.3	6	10.9	0	0.0	7	8.8
Living together	0	0.0	1	1.8	0	0.0	1	1.3
Parents never together	0	0.0	1	1.8	0	0.0	1	1.3
Grandparents married & bio divorced	0	0.0	0	0.0	1	11.1	1	1.3
Mother deceased & father remarried	0	0.0	1	1.8	0	0.0	1	1.3

(Table 22 continues)

Table 22 (continued)

Marital status	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Married (both deceased)	0	0.0	1	1.8	1	11.1	2	2.5
Married (mom & stepfather)	0	0.0	1	1.8	0	0.0	1	1.3
(Married while growing up) divorced	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

In order to run a chi-square analysis, categories were combined (see Table 23). If the parents had been married or living together during the participants' childhoods, those categories were combined. If the parents had never been married or living together, separated, divorced, or widowed, those categories were combined. The other category included those responses that did not fit either category. At face value, groups were closely divided between the two collapsed categories.

The groups had similar results for marital status of their parents. In the category that included options in which the parents were together during the participants' childhoods, the AHAP group had 43.8%, the ALAP group had 52.7%, and the NLAP group had 44.4%. In the category in which the parents of the participants were not together during their childhoods, the AHAP group had 56.3%, the ALAP group had 45.5%, and the NLAP group had 44.4%.

Table 23

Parents' Marital Status with Combined Categories

Marital status	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Married, living together, married (while growing up)	7	43.8	29	52.7	4	44.4	40	50.0
Separated, divorced, widowed, never married	9	56.3	25	45.5	4	44.4	38	47.5
Other	0	0.0	1	1.8	1	11.1	2	2.5
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the parents' marital status was not significant, χ^2 (4, N = 80) = 3.76, p = .440 (see Table 24).

Table 24

Chi-square Test – Parents' Marital Status

	χ^2	*df*	*p*
Pearson chi-square	3.76[a]	4	.440
N	80		

Note. [a]5 cells (55.6%) has expected count less than 5. The minimum expected count is .23.

In Table 25, in the 10 years of education category, the AHAP group had 12.5% but there were none in the other groups. In the 12 years of education category were 18.8% of the AHAP group, 14.5% of the ALAP group, and 11.1% of the NLAP group. Completing 16 years of education were 18.8% of the AHAP group, 23.6% of the ALAP group, and 11.1% of the NLAP group. In the category of 18 years of education were 6.3% of the AHAP group, 20.0% of the ALAP group, and 11.1% of the NLAP group.

Table 25

Education of Participants

Years of education	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
10	2	12.5	0	0.0	0	0.0	2	2.5
11	0	0.0	1	1.8	0	0.0	1	1.3
12	3	18.8	8	14.5	1	11.1	12	15.0
13	3	18.8	3	5.5	0	0.0	6	7.5
14	1	6.3	4	7.3	3	33.3	8	10.0
15	1	6.3	4	7.3	0	0.0	5	6.3
16	3	18.8	13	23.6	1	11.1	17	21.3
17	1	6.3	5	9.1	3	33.3	9	11.3
18	1	6.3	11	20.0	1	11.1	13	16.3
19	0	0.0	2	3.6	0	0.0	2	2.5
20	1	6.3	4	7.3	0	0.0	5	6.3
Total	16	100	55	100	9	100	80	100

In order to run a chi-square analysis, categories were combined (see Table 26). Eleven categories were collapsed into three categories. Grades 10 through 12 were combined and labeled "HS (high school) or less", some college included 13 through 16 years of education, and some postgraduate included 17 through 20 years of education.

Of the total sample, 18.7% had completed 12 or less years of education (HS diploma or less), 45.0% had completed some college, and 36.3% continued on with education beyond college (some postgraduate). In the category of a high-school diploma or less, the following percentages were found: 31.3% of the AHAP group, 16.4% of the ALAP group, and 11.1% of the NLAP group. In the group labeled some college, 50.0% of the AHAP group, 43.6% of the ALAP group, and 44.4% of the NLAP group were included. In the category consisting of participants with some postgraduate education were 18.7% of the AHAP group, 40.0% of the ALAP group, and 44.4% of the NLAP group.

Table 26

Education of Participants with Combined Categories

Education level	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
HS or less	5	31.3	9	16.4	1	11.1	15	18.7
Some college	8	50.0	24	43.6	4	44.4	36	45.0
Some postgraduate	3	18.7	22	40.0	4	44.4	29	36.3
Total	16	100	55	100	9	100	80	100

As evidenced in Table 27, a chi-square analysis of education of the participants was not significant, χ^2 (4, N = 80) = 3.63, p = .459.

Table 27

Chi-square Test – Education

	χ^2	*df*	*p*
Pearson chi-square	3.63[a]	4	.459
N	80		

Note. [a]4 cells (44.4%) have expected count less than 5. The minimum expected count is 1.69.

The participants were asked to denote the number of children they have. Of the total sample, 41.3% stated one child, 33.8% indicated two children, 21.3% stated three children, 2.5% had four children, and 1.3% had six children (see Table 28). Within each of the groups, 62.5% of the AHAP group had one child, as contrasted with 34.5% of the ALAP group, and 44.4% of the NLAP group. The percentages of the participants in each of the groups having two children were 18.8% of the AHAP group, 40% of the ALAP group, and 22.2% of the NLAP group. Those who reported having three children were 18.8% of the AHAP group, 20.0% of the ALAP group, and 33.3% of the NLAP group. Both the AHAP and the NLAP groups had three or fewer children and only 5.4% of the ALAP group had more than three children.

Table 28

Number of Children of Participants

Number of children	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
1	10	62.5	19	34.5	4	44.4	33	41.3
2	3	18.8	22	40.0	2	22.2	27	33.8
3	3	18.8	11	20.0	3	33.3	17	21.3
4	0	0.0	2	3.6	0	0.0	2	2.5
6	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

In order to run a chi-square analysis for the number of children of participants, five categories were combined into three categories (see Table 29). Of the total sample, 41.3% of the participants had only one child, and 58.8% of the mothers had two or more children. In the category of three through six children, 18.8% of the AHAP group, 25.5% of the ALAP group, and 33.3% of the NLAP group were included.

Table 29

Number of Children of Participants with Combined Categories

Number of children	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
1	10	62.5	19	34.5	4	44.4	33	41.3
2	3	18.8	22	40.0	2	22.2	27	33.8
3 through 6	3	18.8	14	25.5	3	33.3	20	25.0
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the number of children of the participants was not significant, χ^2 (4, N = 80) = 4.94, p = .294 (see Table 30).

Table 30

Chi-square Test – Number of Children

	χ^2	*df*	*p*
Pearson chi-square	4.94[a]	4	.294
N	80		

Note. [a]4 cells (44.4%) have expected count less than 5. The minimum expected count is 2.25.

The age of the youngest child of the participants ranged from less than 12 months to 37 years of age (Table 31). The only group to have more than two participants select a specific age for their youngest child was the ALAP group, which is most likely because there were a greater number of participants (n = 55) in the group than in the other two groups. Six (10.9%) of the mothers in the ALAP group had youngest children 12 months

of age or younger, while there was only one mother (6.3%) in the AHAP group and one mother in the NLAP group (11.1%) in this category. Five (9.1%) of the mothers in the ALAP group had youngest children in the 6 years of age category, as contrasted with one mother in the AHAP group (6.3%), and no mothers in the NLAP group. Comparisons for ages of youngest children were more relevant when the age categories were combined in Table 32.

Table 31

Ages of Youngest Child

Age (in years)	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0 (<12 mos.)	1	6.3	6	10.9	1	11.1	8	10.0
1 (12 m to < 24m)	0	0.0	3	5.5	1	11.1	4	5.0
2 (24 m to < 36 m)	0	0.0	4	7.3	1	11.1	5	6.3
3 (36 months+)	2	12.5	3	5.5	1	11.1	6	7.5
4	1	6.3	4	7.3	0	0.0	5	6.3
6	1	6.3	5	9.1	0	0.0	6	7.5
7	1	6.3	3	5.5	0	0.0	4	5.0
8	1	6.3	1	1.8	0	0.0	2	2.5
9	1	6.3	2	3.6	0	0.0	3	3.8
10	1	6.3	2	3.6	0	0.0	3	3.8
11	2	12.5	1	1.8	0	0.0	3	3.8

(Table 31 continues)

Table 31 (continued)

Age (in years)	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
12	0	0.0	3	5.5	0	0.0	3	3.8
14	1	6.3	2	3.6	1	11.1	4	5.0
15	0	0.0	1	1.8	0	0.0	1	1.3
16	0	0.0	1	1.8	0	0.0	1	1.3
18	0	0.0	1	1.8	0	0.0	1	1.3
19	1	6.3	1	1.8	0	0.0	2	2.5
20	0	0.0	1	1.8	0	0.0	1	1.3
22	1	6.3	0	0.0	0	0.0	1	1.3
23	0	0.0	2	3.6	0	0.0	2	2.5
24	0	0.0	2	3.6	0	0.0	2	2.5
27	0	0.0	1	1.8	0	0.0	1	1.3
28	1	6.3	1	1.8	0	0.0	2	2.5
29	0	0.0	0	0.0	1	11.1	1	1.3
30	1	6.3	2	3.6	1	11.1	4	5.0
34	0	0.0	1	1.8	1	11.1	2	2.5
36	0	0.0	1	1.8	1	11.1	2	2.5
37	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

A chi-square analysis was used to determine if there were significant differences between the groups for the age of the youngest child. In order to run a chi-square analysis for the age of youngest child, 28 categories were collapsed into 4 categories, 0 through 5, 6 through 10, 11 through 17, and 18 through 37 (see Table 32).

Of the total sample, 35.0% of the participants had youngest children 5 years of age or younger, 22.5% had youngest children who were between the ages of 6 and 10, 15.0% had youngest children between the ages of 11 and 17, and 27.5% had youngest children over the age of 18. Twenty-five percent of the AHAP group had their youngest children in the 0 through 5 age group, while 36.4% of the ALAP and 44.4% of the NLAP group had their youngest children in this age group. In the 6 through 10 age group, 31.3% of the AHAP group and 23.6% of the ALAP group had their youngest child in the category, while no participants in the NLAP group had their youngest children in this group. In the 11 through 17 age group, 18.7% of the AHAP group, 14.5% of the ALAP group, and 11.1% of the NLAP group had their youngest children within this age category. In the 18 through 37 age group, 25.0% of the AHAP mothers, 25.5% of the ALAP mothers, and 44.4% of the NLAP mothers had their youngest children within the adult age group.

Table 32

Ages of Youngest Child with Combined Categories

Age of youngest child	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0 through 5	4	25.0	20	36.4	4	44.4	28	35.0
6 through 10	5	31.3	13	23.6	0	0.0	18	22.5
11 through 17	3	18.7	8	14.5	1	11.1	12	15.0
18 through 37	4	25.0	14	25.5	4	44.4	22	27.5
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the age of the youngest child of the participants was not significant, χ^2 (6, N = 80) = 4.63, p = .593 (Table 33).

Table 33

Chi-square Test – Ages of Youngest Child

	χ^2	*df*	*p*
Pearson chi-square	4.63[a]	6	.593
N	80		

Note. [a]7 cells (58.3%) have expected count less than 5. The minimum expected count is 1.35.

The age of the oldest child ranged from less than 12 months to 40 years old (see Table 34). The only group to have more than two participants select a specific age for their oldest children was the ALAP group, which is most likely because there were a greater number of participants (n = 55) in the ALAP group than in the other two groups.

Four (7.3%) of the mothers in the ALAP group had oldest children in the age 2 category, while there was only one mother (11.1%) in the NLAP group and no mothers in the AHAP group in this category. There were four mothers (7.3%) in the ALAP group in the age 4 category, as contrasted with one mother (6.3%) in the AHAP group, and no mothers in the NLAP group in this category.

Table 34

Ages of Oldest Child

Age (in years)	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0 (<12 mos.)	0	0.0	3	5.5	1	11.1	4	5.0
1 (12 m - < 24m)	0	0.0	3	5.5	0	0.0	3	3.8
2 (24 m - < 36 m)	0	0.0	4	7.3	1	11.1	5	6.3
3 (36 months+)	2	12.5	1	1.8	1	11.1	4	5.0
4	1	6.3	4	7.3	0	0.0	5	6.3
5	0	0.0	1	1.8	0	0.0	1	1.3
6	1	6.3	3	5.5	0	0.0	4	5.0
7	2	12.5	2	3.6	0	0.0	4	5.0
8	0	0.0	1	1.8	0	0.0	1	1.3
9	1	6.3	2	3.6	0	0.0	3	3.8
10	2	12.5	0	0.0	1	11.1	3	3.8
11	1	6.3	2	3.6	0	0.0	3	3.8

(Table 34 continues)

Table 34 (continued)

Age (in years)	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
12	0	0.0	2	3.6	0	0.0	2	2.5
13	0	0.0	1	1.8	0	0.0	1	1.3
14	2	12.5	2	3.6	0	0.0	4	5.0
15	0	0.0	1	1.8	0	0.0	1	1.3
16	0	0.0	2	3.6	0	0.0	2	2.5
17	0	0.0	1	1.8	0	0.0	1	1.3
19	0	0.0	1	1.8	0	0.0	1	1.3
21	1	6.3	2	3.6	0	0.0	3	3.8
22	0	0.0	1	1.8	0	0.0	1	1.3
23	0	0.0	3	5.5	0	0.0	3	3.8
24	0	0.0	1	1.8	1	11.1	2	2.5
25	0	0.0	2	3.6	0	0.0	2	2.5
27	0	0.0	1	1.8	0	0.0	1	1.3
28	1	6.3	0	0.0	0	0.0	1	1.3
29	0	0.0	1	1.8	0	0.0	1	1.3
30	0	0.0	1	1.8	0	0.0	1	1.3
31	1	6..0	1	1.8	1	11.1	3	3.8
33	0	0.0	1	1.8	0	0.0	1	1.3

(Table 34 continues)

Table 34 (continued)

Age (in years)	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
34	1	6.3	0	0.0	1	11.1	2	2.5
36	0	0.0	2	3.6	0	0.0	2	2.5
37	0	0.0	1	1.8	0	0.0	1	1.3
38	0	0.0	1	1.8	0	0.0	1	1.3
39	0	0.0	1	1.8	1	11.1	2	2.5
40	0	0.0	0	0.0	1	11.1	1	1.3
Total	16	100	55	100	9	100	80	100

A chi-square analysis was used to determine if there were significant differences between the groups for the ages of the oldest child. In order to run a chi-square analysis, 36 categories were collapsed into 4 categories, 0 through 5, 6 through 10, 11 through 17, and 18 through 37 (see Table 35). Comparisons for ages of oldest children were more relevant when the age categories were combined in Table 35.

Of the total sample, 27.5% of the participants had oldest children 5 years of age or younger, 18.7% had oldest children between the ages of 6 and 10, 17.5% had oldest children between the ages of 11 and 17, and 36.3% had oldest children over the age of 18. In the AHAP group, 18.7% of the mothers had oldest children 5 years of age or younger, 29.0% of the ALAP group, and 33.3% of the NLAP group had oldest children within this age group. In the 6 through 10 age group, 37.5% of the AHAP group, 14.5% of the

ALAP group, and 11.1% of the NLAP group had their oldest children within this category. In the AHAP group, 18.7% had their oldest children in the 11 through 17 age group, 20.0% of the ALAP group and the NLAP group had none of their oldest children in this category. In the adult age group (18 through 37), were 25.0% of the AHAP group, 36.0% of the ALAP group, and 55.5% of the NLAP group.

Table 35

Ages of Oldest Child with Combined Categories

Ages of oldest child	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0 through 5	3	18.7	16	29.0	3	33.3	22	27.5
6 through 10	6	37.5	8	14.5	1	11.1	15	18.7
11 through 17	3	18.7	11	20.0	0	0.0	14	17.5
18 through 37	4	25.0	20	36.0	5	55.5	29	36.3
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the age of the oldest child of the participants was not significant, χ^2 (6, N = 80) = 7.68, p = .263 (see Table 36).

Table 36

Chi-square Test – Ages of Oldest Child

	χ^2	*df*	*p*
Pearson chi-square	7.68[a]	6	.263
N	80		

Note. [a]7 cells (58.3%) have expected count less than 5. The minimum expected count is 1.58.

The number of marriages or significant relationships of the participants ranged from none to five (see Table 37). More than half (57.5%) of the total sample reported having one marriage or significant relationship. In the two low-abuse-potential groups, 63.6% and 66.7% reported having had one relationship, as contrasted with only 31.3% of the high-abuse-potential group. All of the participants in the ALAP and NLAP groups had at least one relationship, while 25.0% of the participants in the AHAP group indicated that they had a history of no marriages or significant relationships, but there were no participants who reported no marriages or significant relationships in the other two groups (ALAP and NLAP).

Table 37

Number of Marriages/Significant Relationships

Number of marriages/ significant relationships	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0	4	25.0	0	0.0	0	0.0	4	5.0
1	5	31.3	35	63.6	6	66.7	46	57.5
2	4	25.0	14	25.5	1	11.1	19	23.8
3	2	12.5	2	3.6	1	11.1	5	6.3
4	0	0.0	3	5.5	0	0.0	3	3.8
5	1	6.3	1	1.8	1	11.1	3	3.8
Total	16	100	55	100	9	100	80	100

To investigate whether there is a statistically significant difference between the participants in terms of marital status, a chi-square statistic was used. Six categories were collapsed into four categories in order to conduct the chi-square analysis (see Table 38).

Table 38

Number of Marriages/Significant Relationships with Combined Categories

Number of marriages/ significant relationships	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
0	4	25.0	0	0.0	0	0.0	4	5.0
1	5	31.3	35	63.6	6	66.7	46	57.5
2	4	25.0	14	25.5	1	11.1	19	23.8
3 through 5	3	18.8	6	10.9	2	22.2	11	13.8
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the number of marriages/significant relationships of the participants was significant, χ^2 (6, N = 80) = 20.18, p = .003 (see Table 39).

Table 39

Chi-square Test – Number of Marriages/Significant Relationships

	χ^2	*df*	*p*
Pearson chi-square	20.18[a]	6	.003
N	80		

Note. [a]7 cells (58.3 %) have expected count less than 5. The minimum expected count is .45.

In terms of a support system, 10% of the total sample reported that they turned to a spouse or partner for support, 7.5% toward friends, 3.8% toward extended family, 1.3% toward co-workers, and 1.3% toward other (Table 40). The remainder of the total sample (76.1%) listed two or more sources of support with the largest combination of support

denoted as a combination of spouse/partner, extended family and friends, which was 16.3% of the total sample.

In the spouse/partner category, were 10.9% of the ALAP group and 22.2% of the NLAP group, in contrast to none in the AHAP group. In the extended family category, there were 6.3% of the AHAP group, 3.6% of the ALAP group, and none of the NLAP group. The following percentages selected friends as the type of support, AHAP (12.5%), ALAP (5.5%), and NLAP (11.1%). One individual (6.3%) in the AHAP group chose co-workers, but none in the other two groups (ALAP and NLAP) selected co-workers, and 6.3% of the AHAP group selected other, while none of the participants in either of the other two groups selected other. The largest percentages of the total sample as well as of the AHAP and ALAP groups listed combinations of two and three types of supports, whereas the NLAP group listed three and four types of supports. Comparisons of combinations of supports are more evident in Table 41.

Table 40

Types of Support of Participants

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Spouse/partner (S/P)	0	0.0	6	10.9	2	22.2	8	10.0
Extended family (EF)	1	6.3	2	3.6	0	0.0	3	3.8
Friends	2	12.5	3	5.5	1	11.1	6	7.5
Co-workers (CW)	1	6.3	0	0.0	0	0.0	1	1.3

(Table 40 continues)

Table 40 (continued)

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Other (Oth)	1	6.3	0	0.0	0	0.0	1	1.3
S/P & rel. group	0	0.0	2	3.6	0	0.0	2	2.5
S/P & EF	1	6.3	3	5.5	0	0.0	4	5.0
EF & friends	1	6.3	1	1.8	0	0.0	2	2.5
S/P & EF & friends & rel. group	0	0.0	0	0.0	1	11.1	1	1.3
S/P & EF & friends & co-workers	0	0.0	6	10.9	0	0.0	6	7.5
S/P & EF & friends	1	6.3	11	20.0	1	11.1	13	16.3
S/P & friends & CW & Oth	0	0.0	1	1.8	0	0.0	1	1.3
Children & friends	1	6.3	0	0.0	1	11.1	2	2.5
Children & EF & friends	0	0.0	2	3.6	0	0.0	2	2.5
S/P & children & EF & friends & CW	0	0.0	1	1.8	0	0.0	1	1.3
Children & EF & friends & CW	0	0.0	1	1.8	0	0.0	1	1.3
Children & Friends & CW	1	6.3	0	0.0	0	0.0	1	1.3
S/P & children & EF & friends	0	0.0	3	5.5	1	11.1	4	5.0

(Table 40 continues)

Table 40 (continued)

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
SP & EF & friends & CW & rel. group	0	0.0	1	1.8	0	0.0	1	1.3
Friends & CW	1	6.3	1	1.8	0	0.0	2	2.5
Friends & rel. group & Oth	0	0.0	1	1.8	0	0.0	1	1.3
S/P & friends	0	0.0	5	9.1	0	0.0	5	6.3
S/P & children & friends	0	0.0	1	1.8	1	11.1	2	2.5
S/P & EF & friends & CW & Oth	1	6.3	0	0.0	0	0.0	1	1.3
EF & friends & CW	1	6.3	0	0.0	0	0.0	1	1.3
S/P & children & EF & friends & CW & rel. group & Oth	0	0.0	1	1.8	0	0.0	1	1.3
S/P & friends & rel. group	1	6.3	1	1.8	0	0.0	2	2.5
S/P & friends & Oth	0	0.0	1	1.8	0	0.0	1	1.3
Children & EF & friends & rel. group & Oth	0	0.0	0	0.0	1	11.1	1	1.3
Friends & CW & Oth	1	6.3	0	0.0	0	0.0	1	1.3
Friends & rel. group	1	6.3	0	0.0	0	0.0	1	1.3
Friends & Oth	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

To investigate whether there is a statistically significant difference between the groups of participants in terms of support, a chi-square statistic was used. The numerous categories of support were collapsed from a total of 34 to 10 categories in order to conduct the chi-square analysis (see Table 41). The combination of sources of support were categorized into 2, 3, 4, 5, and 7 types corresponding to the combination of types of support chosen by the participants. The largest support categories in the total sample were 3 types of supports (30.0%) and 2 types of support (23.8%).

The largest support categories selected by the AHAP group were a combination of 2 types (31.3%) and 3 types (31.3%). The largest support categories selected by the ALAP group were 23.6% for a combination of 2 types and 30.9% for a combination of 3 types, while the NLAP group had 11.1% for 2 types and 22.2% for 3 types. None of the mothers in the AHAP group selected 4 types of support; however, 20.0% of the ALAP group and 22.2% of the NLAP group did. The following percentages selected 5 types of support: 6.3% of the AHAP group, 3.6% of the ALAP group, and 11.1% of the NLAP group. Only one participant (1.8%) in the ALAP group selected 7 types of support.

Table 41

Types of Support with Combined Categories

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Spouse partner	0	0.0	6	10.9	2	22.2	8	10.0
Extended family	1	6.3	2	3.6	0	0.0	3	3.8
Friends	2	12.5	3	5.5	1	11.1	6	7.5
Co-workers	1	6.3	0	0.0	0	0.0	1	1.3
Other	1	6.3	0	0.0	0	0.0	1	1.3
Combination – 2 Types	5	31.3	13	23.6	1	11.1	19	23.8
Combination – 3 Types	5	31.3	17	30.9	2	22.2	24	30.0
Combination – 4 Types	0	0.0	11	20.0	2	22.2	13	16.3
Combination – 5 Types	1	6.3	2	3.6	1	11.1	4	5.0
Combination – 7 Types	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the types of support of the participants was not significant, χ^2 (18, N = 80) = 18.44, p = .427 (see Table 42).

Table 42

Chi-square Test – Types of Support

	χ^2	*df*	*p*
Pearson chi-square	18.44[a]	18	.427
N	80		

Note. [a]26 cells (86.7 %) have expected count less than 5. The minimum expected count is .11.

Participants were asked to specify extended family relationships if they had chosen extended family as a type of support. There was missing data on 15 cases for this question on the demographic form; therefore, percentages were based on 65 cases. Of the support provided by extended family within the sample ($n = 65$), 56.9% had not selected extended family as a source of support, 9.2% of extended family support was attributed to sisters, 6.2% to their mothers, and 3.1% each to mother/father, aunts, and sisters-in-law (see Table 43). Other extended family members were mentioned by a small number of the participants.

Table 43

Support – Extended Family

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
None	10	76.9	22	50.0	5	62.5	37	56.9
Mother	1	7.7	3	6.8	0	0.0	4	6.2

(Table 43 continues)

Table 43 (continued)

Source	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Mother/father	0	0.0	2	4.5	0	0.0	2	3.1
Grandmother	0	0.0	1	2.3	0	0.0	1	1.5
Mother/father, in-laws, cousins, aunts/uncles	0	0.0	1	2.3	0	0.0	1	1.5
Aunt(s)	0	0.0	2	4.5	0	0.0	2	3.1
Sister(s)	0	0.0	5	11.4	1	12.5	6	9.2
Parents and brother	0	0.0	1	2.3	0	0.0	1	1.5
Sister, mom, aunts	0	0.0	1	2.3	0	0.0	1	1.5
Sisters-in-law	0	0.0	1	2.3	1	12.5	2	3.1
Brother and sister-in-law	0	0.0	1	2.3	0	0.0	1	1.5
Parents and grandparents	0	0.0	1	2.3	0	0.0	1	1.5
Family friends who are aunts, grandfather and aunt in Oklahoma	1	7.7	0	0.0	0	0.0	1	1.5
Cousin	1	7.7	0	0.0	1	12.5	2	3.1
Parents	0	0.0	1	2.3	0	0.0	1	1.5
Mom or stepmom	0	0.0	1	2.3	0	0.0	1	1.5
Mother and mother-in-law	0	0.0	1	2.3	0	0.0	1	1.5
Total	13	100	44	100	8	100	65	100

Information regarding religious participation and affiliation was gathered since several of the instruments included subscales that contained spiritual and religious content. In response to religious affiliation, 48.8% of the sample reported no religious affiliation, while 51.3% indicated an affiliation with a religious organization (Table 44). In the abused and high-abuse-potential group only 37.5% of the mothers reported religious affiliation. In the low-abuse-potential groups, 52.7% of the abused and low-abuse-potential group (resilient group) and 66.7% of the nonabused and low-abuse-potential group reported some religious affiliation.

Table 44

Religious Affiliation of Participants

Affiliation with religious organization	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Yes	6	37.5	29	52.7	6	66.7	41	51.3
No	10	62.5	26	47.3	3	33.3	39	48.8
Total	16	100	55	100	9	100	80	100

A chi-square analysis of the religious affiliation of the participants was not significant, χ^2 (2, $N = 80$) = 2.12, $p = .347$ (see Table 45).

Table 45

Chi-square Test – Religious Affiliation of Participants

	χ^2	*df*	*p*
Pearson chi-square	2.12[a]	2	.347
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.39.

There was a discrepancy in the number of participants who reported an affiliation with religious organization and the number who reported a denomination slightly altering the percentages in the 2 tables (Tables 44 and 46). Although three individuals indicated no religious affiliation, they listed denominations and were counted in Table 46. Besides the category of None (45.0%), the second largest category was Catholicism (28.8%).

Table 46

Religious Denomination of Participants

Religious denomination	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
None	9	56.3	25	45.5	2	22.2	36	45.0
Assembly of God	0	0.0	1	1.8	0	0.0	1	1.3
Pentecostal - Christian	0	0.0	0	0.0	1	11.1	1	1.3
Catholic	2	12.5	16	29.1	5	55.5	23	28.8
Lutheran	0	0.0	1	1.8	0	0.0	1	1.3
Presbyterian	0	0.0	1	1.8	0	0.0	1	1.3

(Table 46 continues)

Table 46 (continued)

Religious denomination	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Christian	3	18.8	4	7.3	1	11.1	8	10.0
Seventh Day Adventist	1	6.3	0	0.0	0	0.0	1	1.3
Christian Spiritualist	0	0.0	1	1.8	0	0.0	1	1.3
Congregational	0	0.0	1	1.8	0	0.0	1	1.3
Non-denominational	1	6.3	3	5.5	0	0.0	4	5.0
The Church of Jesus Christ of Latter-Day Saints (LDS)	0	0.0	1	1.8	0	0.0	1	1.3
Jehovah Witnesses	0	0.0	1	1.8	0	0.0	1	1.3
Total	16	100	55	100	9	100	80	100

On the demographic questionnaire, participants were asked a series of questions regarding childhood experiences, including whether they had been physically disciplined with an object. Of the total sample, 25.0% had childhood injuries, 46.3% had experienced verbal/emotional abuse, 72.5% had experienced spankings, 47.5% indicated that they had been physically disciplined with an object, 25.0% reported parental domestic violence, 21.3% had reported the experience of sexual abuse, and 3.8% had other childhood experiences (see Table 47).

Table 47

Types of Childhood Experiences of Participants

Experience	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Injuries - yes	7	43.8	12	21.8	1	11.1	20	25.0
Injuries - no	9	56.3	43	78.2	8	88.9	60	75.0
Total - injuries	16	100	55	100	9	100	80	100
Verb/emot. abuse - yes	13	81.3	22	40.0	2	22.2	37	46.3
Verb/emot. abuse - no	3	18.8	33	60.0	7	77.8	43	53.8
Total - V/E abuse	16	100	55	100	9	100	80	100
Spankings - yes	13	81.3	44	80.0	1	11.1	58	72.5
Spankings - no	3	18.8	11	20.0	8	88.9	22	27.5
Total - spankings	16	100	55	100	9	100	80	100
Phys. disc. w/obj - yes	12	75.0	26	47.3	0	0.0	38	47.5
Phys. disc. w/obj - no	4	25.0	29	52.7	9	100.0	42	52.5
Total - P.D. w/obj	16	100	55	100	9	100	80	100
Parents' D.V. - yes	4	25.0	12	21.8	4	44.4	20	25.0
Parents' D.V. - no	12	75.0	43	78.2	5	55.6	60	75.0
Total - parents' D.V.	16	100	55	100	9	100	80	100

(Table 47 continues)

Table 47 (continued)

Experience	Groups						Total	
	AHAP		ALAP		NLAP			
	n	%	*n*	%	*n*	%	*n*	%
Sexual abuse - yes	5	31.3	11	20.0	1	11.1	17	21.3
Sexual abuse - no	11	68.8	44	80.0	8	88.9	63	78.8
Total - sexual abuse	16	100	55	100	9	100	80	100
Other (child exp) - yes	1	6.3	1	1.8	1	11.1	3	3.8
Other (child exp) - no	15	93.8	54	98.2	8	99.9	77	96.3
Total - other	16	100	55	100	9	100	80	100

To investigate whether there were statistically significant differences between the groups of participants in terms of types of childhood experiences, chi-square analyses were run for the categories of childhood experiences. A chi-square analysis of the childhood injuries of the participants was not significant, χ^2 (2, N = 80) = 4.22, p = .121 (see Table 48).

Table 48

Chi-square Test – Childhood Injuries of Participants

	χ^2	*df*	*p*
Pearson chi-square	4.22[a]	2	.121
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.25.

A chi-square analysis of the childhood verbal/emotional abuse of the participants was significant, χ^2 (2, N = 80) = 10.84, p = .004 (see Table 49). The percentage of participants in each of the groups who reported the childhood experience of verbal/emotional abuse was 81.3% of the AHAP group, 40.0% of the ALAP group, and 22.2% of the NLAP group.

Table 49

Chi-square Test – Childhood Verbal/Emotional Abuse of Participants

	χ^2	*df*	*p*
Pearson chi-square	10.84[a]	2	.004
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.16.

A chi-square analysis of the childhood spankings of the participants was significant, χ^2 (2, N = 80) = 19.18, p = .000 (see Table 50). Similar findings for spankings emerged for the AHAP (81.3%) and ALAP (80.0%) groups, while 11.1% of the NLAP group reported experiencing spankings during childhood.

Table 50

Chi-square Test – Childhood Spankings of Participants

	χ^2	*df*	*p*
Pearson chi-square	19.18[a]	2	.000
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.48.

A chi-square analysis of the childhood physical discipline (with object) of the participants was significant, χ^2 (2, N = 80) = 13.00, p = .002 (see Table 51). The following proportion of participants reported the experience of physical abuse with an object: 75.0% of the AHAP group and 47.3% of the ALAP group, while none of the participants in the NLAP group (by definition) reported a history of childhood physical abuse.

Table 51

Chi-square Test – Childhood Physical Discipline (with object) of Participants

	χ^2	*df*	*p*
Pearson chi-square	13.00[a]	2	.002
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.28.

A Chi-square analysis of the domestic violence between the parents of the participants was not significant, χ^2 (2, N = 80) = 2.11, p = .348 (see Table 52).

Table 52

Chi-square Test – Domestic Violence Between Parents of Participants

	χ^2	*df*	*p*
Pearson chi-square	2.11[a]	2	.348
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.25.

A Chi-square analysis of the childhood sexual abuse of the participants was not significant, χ^2 (2, N = 80) = 1.56, p = .458 (see Table 53).

Table 53

Chi-square Test – Sexual Abuse of Participants

	χ^2	*df*	*p*
Pearson chi-square	1.56[a]	2	.458
N	80		

Note. [a]2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.91.

A chi-square analysis of the "Other" childhood experiences of the participants was not significant, χ^2 (2, N = 80) = 2.20, p = .333 (see Table 54).

Table 54

Chi-square Test – Other Childhood Experiences of Participants

	χ^2	*df*	*p*
Pearson chi-square	2.20[a]	2	.333
N	80		

Note. [a]3 cells (50%) have expected count less than 5. The minimum expected count is .34.

Hypothesis Testing

Hypothesis 1: In Hypothesis 1, it was predicted that the two groups of parents who were physically abused in childhood (AHAP and ALAP) would not differ in the amount of physical abuse they would report. However, parent groups who reported no physical abuse as children (NLAP) would significantly differ from the two abused

groups. Scoring of the CTS indicated that a higher score on the violence component is predictive of the childhood experience of physical abuse, and a score of zero is predictive of no experience of physical abuse as a child. There was a significant difference among the three groups, $F_{(2, 77)} = 10.63$, $p < .000$ (Table 55). As noted earlier, the NHAP group had no participants. The mean score for the abused and high-abuse-potential group was $M = 19.25$, for the abused and low-abuse-potential group $M = 8.82$, and the nonabused and low-abuse-potential group $M = .00$.

Table 55

Means, Standard Deviations, and Univariate Analysis of Variance Results for Conflict Tactics Scale – Violence Scale for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	19.25	15.19	10.63
ALAP	55	8.82	9.66	
NLAP	9	.00	.00	
Total	80	9.91	11.71	

Note. $p < .000$.

Post-hoc tests were used to determine which group means were statistically different from one another. Since the Levene's test of equality of error variances was significant, thus indicating that the assumption of equal variances was violated, the Games-Howell post-hoc test was used (see Table 56). Significant mean differences were found in each of the multiple comparisons indicating that each of the groups differed on the amount of reported childhood physical abuse as measured on the Conflict Tactics Scale – Violence Scale.

Table 56

Games-Howell Post-hoc Tests for Conflict Tactics Scale – Violence Scale

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	10.43*	4.01	.045
	NLAP	19.25*	3.80	.000
ALAP	NLAP	8.82*	1.30	.000

Note. * $p < .05$.

Hypotheses 2: In Hypothesis 2, it was predicted that the groups of parents would show significant differences in their abuse-potential scores. The order of difference from highest to lowest abuse potential was predicted to be: AHAP, NHAP, ALAP, NLAP. As evidenced in Table 57, the difference between the means was significant, $F_{(2, 77)} = 138.49$, $p < .000$. An inspection of the means indicated that the AHAP group ($M = 296.13$) was the highest, the ALAP group ($M = 81.49$) fell between the other two groups, and the NLAP group ($M = 66.78$) scored the lowest, thus identifying the correct order of the groups from highest to lowest. As noted earlier, the NHAP group had no participants.

Table 57

Means, Standard Deviations, and Univariate Analysis of Variance Results for Child Abuse Potential Inventory - Abuse Scale for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	296.13	49.32	138.49
ALAP	55	81.49	44.81	
NLAP	9	66.78	53.22	
Total	80	122.76	98.75	

Note. $p < .000$.

Tukey honestly significant difference (HSD) post-hoc tests were used to compare group means (see Table 58). Significant mean differences were found between the AHAP group and each of the other two groups. However, there was no significant difference between the ALAP group and the NLAP group. This finding was expected since both groups fell below the cut-off score for child-abuse potential.

Table 58

Tukey HSD Post-hoc Tests for Child Abuse Potential Inventory - Abuse Scale

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	214.63*	13.25	.000
	NLAP	229.35*	19.44	.000
ALAP	NLAP	14.71	16.77	.656

Note. * $p < .05$.

Hypothesis 3: In Hypothesis 3, it was predicted that the four groups would differ significantly on personality characteristics on each of the five domains. The four groups were predicted to rank on neuroticism in the following order from highest to lowest: AHAP, NHAP, ALAP, NLAP. The difference between group means was significant ($F_{(2, 77)} = 25.19, p < .000$) (see Table 59).

The mean scores on neuroticism for the groups followed the predicted rank order. The AHAP group had a mean of $M = 122.81$, and the means for the ALAP and the NLAP groups were 89.11 and 81.56, respectively (Table 59). As noted earlier, the NHAP group had no participants.

Table 59

Means, Standard Deviations, and Univariate Analysis of Variance Results for Neuroticism for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	122.81	18.13	25.19
ALAP	55	89.11	16.99	
NLAP	9	81.56	21.82	
Total	80	95.00	22.57	

Note. $p < .000$.

In the Tukey honestly significant difference post-hoc test, significant differences between the group means of the AHAP and each of the other two groups were found for Neuroticism (see Table 60). However, there was no significant difference found between the means of the ALAP and NLAP groups.

Table 60

Tukey HSD Post-hoc Tests for Neuroticism

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	33.70*	5.05	.000
	NLAP	41.26*	7.41	.000
ALAP	NLAP	7.55	6.39	.467

Note. * $p < .05$.

Hypotheses 4: In Hypothesis 4, it was predicted that the four groups would score from highest to lowest on extraversion in the following order: NLAP, ALAP, NHAP, AHAP. The difference between the means on the Extraversion domain was not

significant ($F_{(2, 77)} = 2.00, p = .142$) (see Table 61). The results supported the predicted rank order. The mean in the NLAP group was 118.44, and the means in the ALAP and AHAP groups were 111.78 and 102.44, respectively. As noted earlier, the NHAP group had no participants. Because there was not an overall statistical difference, no post-hoc statistical comparison test could be run.

Table 61

Means, Standard Deviations, and Univariate Analysis of Variance Results for Extraversion for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	102.44	19.33	2.00
ALAP	55	111.78	20.36	
NLAP	9	118.44	24.04	
Total	80	110.66	20.84	

Note. $p = .142$.

Hypotheses 5: In Hypothesis 5, it was predicted that the four groups would be rank ordered from highest to lowest on Openness to Experience: NLAP, ALAP, NHAP, AHAP. The difference between the means on the Openness to Experience domain was not significant ($F_{(2, 77)} = .051, p = .95$) (see Table 62).

The predicted ranking of means was found on Openness to Experience as evidenced in Table 62. The mean in the NLAP group was 115.33 and the means in the ALAP and AHAP groups were 113.02 and 112.69, respectively. As noted earlier, the NHAP group had no participants. Because there was not an overall statistical difference, no statistical comparison test could be run.

Table 62

Means, Standard Deviations, and Univariate Analysis of Variance Results for Openness to Experience for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	112.69	18.73	.05
ALAP	55	113.02	22.18	
NLAP	9	115.33	21.43	
Total	80	113.21	21.21	

Note. $p = .950$.

Hypotheses 6: In Hypothesis 6, it was predicted that the four groups would demonstrate the following rank order on agreeableness from highest to lowest: NLAP, ALAP, NHAP, AHAP. The difference between the means on the Agreeableness domain was significant ($F_{(2, 77)} = 3.60, p < .032$) (see Table 63). The predicted rank order of the respective groups was achieved in this sample. As noted earlier, the NHAP group had no participants. The NLAP group had the highest mean, $M = 130.33$, followed by ALAP, $M = 127.65$, and AHAP was 116.31. As noted earlier, the NHAP group had no participants.

Table 63

Means, Standard Deviations, and Univariate Analysis of Variance Results for Agreeableness for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	116.31	21.01	3.60
ALAP	55	127.65	14.03	
NLAP	9	130.33	16.33	
Total	80	125.69	16.38	

Note. $p < .032$.

Tukey honestly significant difference post-hoc tests were used to compare group means (see Table 64). Significant mean differences were found between the AHAP group and the ALAP group. No differences were found between the AHAP or ALAP groups with the NLAP group.

Table 64

Tukey HSD Post-hoc Tests for Agreeableness

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	-11.34*	4.51	.037
	NLAP	-14.02	6.61	.092
ALAP	NLAP	-2.68	5.70	.886

Note. * $p < .05$.

Hypotheses 7: In Hypothesis 7, it was predicted that the four groups would range from highest to lowest on Conscientiousness: NLAP, ALAP, NHAP, AHAP. The difference between the means on the Conscientiousness domain was significant ($F_{(2, 77)} = 3.117, p < .050$) (see Table 65).

However, the predicted rank order of the respective groups was not achieved in this sample (Table 65). The ALAP group had the highest mean score ($M = 121.31$) on Conscientiousness, the AHAP group had the lowest mean score ($M = 106.31$), and the NLAP group in between ($M = 113.67$). As noted earlier, the NHAP group had no participants.

Table 65

Means, Standard Deviations, and Univariate Analysis of Variance Results for Conscientiousness for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	106.13	21.32	3.12
ALAP	55	121.31	21.37	
NLAP	9	113.67	26.38	
Total	80	117.41	22.52	

Note. $p < .050$.

Tukey honestly significant difference post-hoc tests were used to compare group means (see Table 66). Significant mean differences were found between the AHAP group and the ALAP group. No differences were found between the AHAP or ALAP groups with the NLAP group.

Table 66

Tukey HSD Post-hoc Tests for Conscientiousness

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	-15.18*	6.23	.045
	NLAP	-7.54	9.14	.689
ALAP	NLAP	7.64	7.89	.599

Note. * $p < .05$.

Hypotheses 8: In Hypothesis 8, it was predicted that the four groups would differ significantly on coping resources (CRI-Total Score) in decreasing order of coping ability: NLAP, ALAP, NHAP, and AHAP. There was significance among the means ($F_{(2, 77)}$ =

4.77, $p < .011$); however, the mean scores did not follow the predicted rank order (see Table 67). The resilient group (ALAP) had the largest mean ($M = 172.36$), followed by the NLAP group with a mean of 169.22, and the AHAP had the lowest mean ($M =$ 153.19). As noted earlier, the NHAP group had no participants.

Table 67

Means, Standard Deviations, and Univariate Analysis of Variance Results for Coping Resources Inventory – Total Score for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	153.19	19.69	4.77
ALAP	55	172.36	21.75	
NLAP	9	169.22	26.19	
Total	80	168.18	22.90	

Note. $p < .011$.

Tukey honestly significant difference post-hoc tests were used to compare group means (see Table 68). Significant mean differences were found between the AHAP group and the ALAP group. No differences were found between the AHAP or ALAP groups with the NLAP group.

Table 68

Tukey HSD Post-hoc Tests for Coping Resources Inventory – Total Score

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	-19.18*	6.21	.008
	NLAP	-16.04	9.11	.190
ALAP	NLAP	3.14	7.87	.916

Note. * $p < .05$.

Hypothesis 9: In Hypothesis 9, it was predicted that the four groups would differ significantly on social support (SSI-Total Score) in the order of greatest social competence. It was anticipated that the groups would rank from highest to lowest scores in the following order: NLAP, ALAP, NHAP, and AHAP. The difference between the means on the Social Skills Inventory was not significant ($F_{(2, 77)} = .24, p = .785$) (see Table 69), so no further statistical tests were run on this variable. The rank order on the Social Skills Inventory that had been predicted was not born out in this study. As noted earlier, the NHAP group had no participants.

Table 69

Means, Standard Deviations, and Univariate Analysis of Variance Results for Social Skills Inventory – Total Score for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	285.38	27.49	.24
ALAP	55	282.42	30.88	
NLAP	9	289.67	33.81	
Total	80	283.83	30.28	

Note. $p = .785$.

Hypotheses 10: In Hypothesis 10, it was predicted that the four groups would show significant statistical difference on family cohesion, and the order of that difference would be as follows: NLAP will have the highest score on cohesion followed by the remaining parent groups in descending order, ALAP, NHAP, and AHAP. There was a significant difference between the groups ($F_{(2, 77)} = 14.73, p < .000$) (see Table 70). As noted earlier, the NHAP group had no participants. The predicted rank order was evident.

The largest group mean was the NLAP group ($M = 8.11$), followed by the ALAP group ($M = 7.78$), and AHAP had a mean of 4.75.

Table 70

Means, Standard Deviations, and Univariate Analysis of Variance Results for Family Environment Scale – Cohesion for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	4.75	3.15	14.73
ALAP	55	7.78	1.73	
NLAP	9	8.11	1.05	
Total	80	7.21	2.36	

Note. $p < .000$.

The Levene's test of equality of error variances was significant, thus indicating that the assumption of equal variances was violated; therefore, the Games-Howell post-hoc test was used (see Table 71). Significant mean differences were found between the AHAP group and the ALAP group and also between the AHAP group and the NLAP group. No difference was found between the ALAP and NLAP groups.

Table 71

Games-Howell Post-hoc Tests for Family Environment Scale – Cohesion

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	-3.03*	.82	.005
	NLAP	-3.36*	.86	.002
ALAP	NLAP	-.33	.42	.720

Note. * $p < .05$.

Subsequent Analyses

Subsequent analyses were used to further explore whether the scores on the variables could predict membership in one of the three abuse-potential groups and which of the variables are the best predictors of abuse potential. A discriminant function analysis (DFA) was performed in order to evaluate the differences among the three classification groups with respect to the eight variables: neuroticism (N), extraversion (E), openness to experience (O), agreeableness (A), conscientiousness (C), cohesion – FES (Coh), social skills (SSI-Total), and coping skills (CRI-Total). The CTS Violence Scale and the CAP Abuse Scale variables were not analyzed with the other eight variables because they had been used to classify the participants into the grouping variables (AHAP, ALAP, and NLAP).

In order to determine if the current data met the statistical assumptions for DFA, tests were run. Boxplots of the variables were obtained in order to screen for outliers. Openness and CRI-Total each had one outlier while neuroticism, extraversion, and agreeableness each had two outliers. Cohesion had eight outliers. An inspection of the histograms and the skewness and kurtosis statistics indicated that each of the variables had a relatively normal distribution with the exception of cohesion, which had a negative skew.

The Box's M statistic, used to test for the assumption of homogeneity of variance/covariance was not significant, (Box's M = 53.28, $F(36, 2652.50) = 1.17$, $p = .23$; therefore, the current data did not violate this assumption. In order to assess multicollinearity of the variables, an inspection of the pooled within-groups matrices

revealed correlations within acceptable ranges. There were no correlations at the .80 level or above.

Bivariate correlations were computed for the primary variables in the subsequent analyses (see Table 72). Out of 28 intercorrelations among the 8 variables, 17 were significant. Ten correlations were small but not significant, and 4 of the small correlations (.25 to .27) were significant at the .05 level. There were 9 moderate correlations (.32 to .48), which were significant at the .01 level, and 4 correlations were large (.53 to .75). Three of the four large correlations were between extraversion and each of the following three variables: openness to experience (.53), SSI-Total (.75) and CRI-Total (.57), all of which were positive. The fourth large correlation, between neuroticism and CRI-Total (-.64), was a negative correlation.

Based on the bivariate correlations, those participants who scored high on extraversion, by self-report, were more open to experience and reported higher scores on social and coping skills. Those who scored high on neuroticism reported lower overall scores on coping skills. There were several moderate inverse relationships noted between neuroticism and extraversion, conscientiousness and cohesion, respectively. Extraversion was also moderately associated with conscientiousness and cohesion. Openness was moderately associated with Social Skills Inventory-Total and Coping Resources Inventory-Total while agreeableness was moderately associated with cohesion in addition to small significant correlations with Social Skills Inventory-Total and Coping Resources Inventory-Total. Coping Resources Inventory-Total had moderate associations with conscientiousness and Social Skills Inventory-Total and a significant small correlation with cohesion.

"Discriminant Analysis is, however, fairly robust to these assumptions, although violations of multivariate normality may affect accuracy of estimates of the probability of correct classification" (Leech, Barrett, & Morgan, 2005, p. 119).

Table 72

Intercorrelations For Eight Primary Variables

	(N)	(E)	(O)	(A)	(C)	Coh	SSI	CRI
Neuroticism	--							
Extraversion	-.35(**)	--						
Openness	-.10	.53(**)	--					
Agreeableness	-.13	.15	.16	--				
Conscientiousness	-.42(**)	.27(*)	.04	.14	--			
Cohesion	-.32(**)	.33(**)	.13	.35(**)	.18	--		
SSI-Total	-.13	.75(**)	.44(**)	.26(*)	.13	.18	--	
CRI-Total	-.64(**)	.57(**)	.34(**)	.25(*)	.46(**)	.27(*)	.48(**)	--

Note. $N = 80$

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

The discriminant function analysis produced one significant function, ($\lambda = .40$, $\chi^2(16) = 67.32, p < .000$) (see Table 73). The second discriminant function was not significant ($\lambda = .93$, $\chi^2(7) = 5.16, p = .641$). The first of the two functions allowed for discriminating the members of AHAP group from the members of the other two (ALAP and NLAP) groups on the variables (see Figure 2). The second function accounted for

5.2% of the variance and was not significant. Because it was not significant, no further interpretation was offered.

Table 73

Significance of Discriminant Functions

Test of function(s)	Wilks' Lambda	Chi-square	*df*	*p*
1 through 2	.40	67.32	16	.000
2	.93	5.16	7	.641

The first discriminant function accounted for 94.8% of the variability while 5.2% was associated with the second discriminant function (see Table 74).

Table 74

Canonical Discriminant Functions

Function	Eigenvalue	% of variance	Cumulative %	Canonical correlation
1	1.33[a]	94.8	94.8	.76
2	.07[a]	5.2	100.0	.26

Note. [a]First 2 canonical discriminant functions were used in the analysis.

Discriminant functions are interpreted by the standardized canonical discriminant function coefficients and by the correlations of predictor variables with discriminant functions. The larger the discriminant function coefficients, the greater the relative contribution of the variable to the discrimination between groups. Neuroticism (.925) demonstrated the strongest positive relationship with the first function followed by Social Skills Inventory – Total (.448), and Coping Resources Inventory-Total (.252). Cohesion

had the strongest negative contribution (-.529) followed by agreeableness (-.367) and extraversion (-.325) (see Table 75). Because of the lack of correlation with the first discriminant function, openness (.117) and conscientiousness (.097) contributed minimally to the ability to discriminate between groups. Since the second discriminant function was not significant, no further interpretation was attempted.

The structure matrix of correlation of predictor variables with discriminant functions suggests the factor loadings or labels that identify the function. A function can be named by the variables that have the highest coefficients, particularly if those variables appear to be measuring a similar characteristic. Neuroticism was positively correlated with the first discriminant function, suggesting that individuals high in neuroticism were more likely to have a higher abuse potential. Cohesion-FES was negatively correlated with the discriminant function value, implying that individuals with less family cohesion were more likely to have a higher abuse potential. Although the associations were not as strong, Coping Resources Inventory-Total, agreeableness, conscientiousness, and extraversion had similar negative relationships, indicating that individuals with higher abuse potentials were less likely to score high on these constructs.

Table 75

Standardized Coefficients and Correlations of Predictor Variables with the Two Discriminant Functions

	Standardized coefficients for discriminant functions		Correlation coefficients with discriminant functions†	
	Function		Function	
Predictors	1	2	1	2
Neuroticism (N)	.925	.593	.70(*)	.01
Cohesion - FES	-.529	.291	-.54(*)	.19
Agreeableness (A)	-.367	-.186	-.27(*)	-.01
Conscientiousness (C)	.097	.561	-.21	.56(*)
Coping Resources Inv. - Total	.252	.990	-.29	.38(*)
Social Skills Inventory - Total	.448	-.396	.01	-.29(*)
Extraversion (E)	-.325	-.539	-.19	-.25(*)
Openness (O)	.117	.028	-.02	-.12(*)

Note. Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions.

†Variables ordered by absolute size of correlation within first function.

* Largest absolute correlation between each variable and any discriminant function.

The group centroids in Table 76 are the mean values on the discriminant functions for each of the three groups. The discriminant functions are orthogonal to one another. If the means are far apart, the discriminant function is clearly discriminating. The closer the means, the more errors of classification will occur. The AHAP group had the highest mean score (2.23) on the first function followed by ALAP (-.47) and NLAP (-1.07). The

first discriminant function separated the AHAP group from the other two groups (ALAP and NLAP) (see Table 76). In Figure 2, it is noted on Function 1 that the AHAP group could be differentiated from the ALAP and NLAP groups. The two groups with minimal or no abuse potential could not be differentiated from each other. On Function 2, which was not significant, the three groups could not be differentiated from each other.

Table 76

Functions at Group Centroids

	Function	
Group	1	2
AHAP	2.23	-.09
ALAP	-.47	.14
NLAP	-1.07	-.70

Note. Unstandardized canonical discriminant functions evaluated at group means.

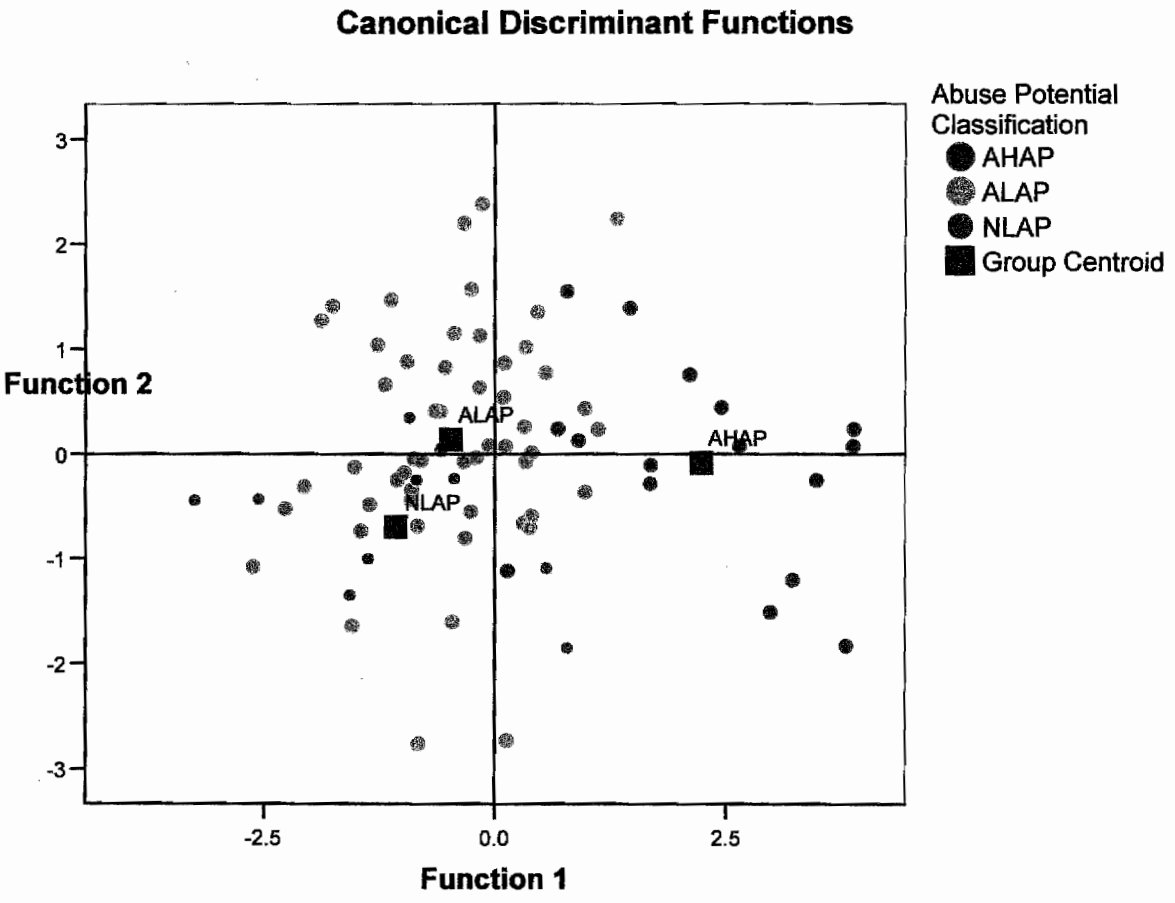

Figure 2. Plot of three group centroids on two discriminant functions derived from eight predictor variables.

The classification results show that the discriminant function analysis correctly predicted 81.3% of the AHAP group, 63.6% of the ALAP group, and 66.7% of the NLAP group (see Table 77). Overall, 67.5% of the cases were successfully predicted. The lower half of the table shows classification functions that are based on all cases except one, and then the left out case was classified. The analysis was continued until all cases have been left out once and "classified based on classification functions for the $N-1$ cases" (Green & Salkind, 2003, p. 290).

Table 77

Classification Analysis for Abuse Groups[b,c]

Classification analysis	Actual group member-ship	*n*	Predicted group membership					
			AHAP		ALAP		NLAP	
			n	%	*n*	%	*n*	%
Original	AHAP	16	13	81.3	2	12.5	1	6.3
	ALAP	55	4	7.3	35	63.6	16	29.1
	NLAP	9	0	0.0	3	33.3	6	66.7
Cross-validated[a]	AHAP	16	12	75.0	3	18.8	1	6.3
	ALAP	55	4	7.3	32	58.2	19	34.5
	NLAP	9	2	22.2	3	33.3	4	44.4

Note. [a]Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

[b]67.5% of original grouped cases correctly classified.

[c]60.0% of cross-validated grouped cases correctly classified.

In the cross-validated classification, the results indicated that 75.0% of cases in a new sample would be correctly classified in the AHAP group, 58.2% in the ALAP group, 44.4% in the NLAP group, and 60.0% overall. Classification rates for the two low-abuse-potential groups were not as accurate for the ALAP and NLAP groups. It is possible that with more numerous groups, significance might emerge. It is possible that accuracy might improve if the sample consisted of mothers who had verifiably abused their children rather than consisting of mothers with high-abuse potential as determined by a questionnaire.

The results on the discriminant function analysis supported several of the hypotheses in that the AHAP group, the high-abuse-potential group, was clearly differentiated from the minimal and low-abuse-potential groups on the first discriminant function. All but two of the variables appeared to moderately or strongly differentiate the groups. The variables that weighed most heavily in terms of loadings were neuroticism (positively) and cohesion (negatively).

Supplemental Analysis: NEO-PI-R (facets), CAPI (subscales), and Conflict (FES)

Supplemental analyses were conducted on the six facets for each of the five domains on the NEO-PI-R (Costa & McCrae, 1992b). The differences between groups on all but one of the means of the facets on the Neuroticism domain were significant (see Table 78). Anxiety, Angry Hostility, Depression, Self-Consciousness, and Vulnerability were all found to be extremely significant while one (Impulsiveness) was not ($p = .065$), although Impulsiveness was approaching significance. The overall domain of Neuroticism was also significant. On each of the facets in the Neuroticism domain, the

abused and the high-abuse-potential group had the highest mean, clearly suggesting that those mothers with the highest abuse potential score tend to experience more negative affect: anxiety, angry hostility, depression, self-consciousness, vulnerability, and possibly impulsiveness (Costa & McCrae, 1992b).

Table 78

Means, Standard Deviations, and Univariate Analysis of Variance- Neuroticism Facets

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Anxiety	AHAP	16	22.44	4.40	14.16	.000
	ALAP	55	16.47	4.61		
	NLAP	9	13.89	3.44		
	Total	80	17.38	5.15		
Angry Hostility	AHAP	16	18.38	4.94	8.80	.000
	ALAP	55	13.76	4.38		
	NLAP	9	11.11	5.35		
	Total	80	14.39	5.03		
Depression	AHAP	16	24.31	4.76	30.60	.000
	ALAP	55	14.00	4.66		
	NLAP	9	13.67	5.24		
	Total	80	16.03	6.27		
Self-Consciousness	AHAP	16	20.56	4.24	8.21	.001
	ALAP	55	16.42	4.27		
	NLAP	9	13.67	5.64		
	Total	80	16.94	4.81		

(Table 78 continues)

Table 78 (continued)

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Impulsiveness	AHAP	16	20.88	3.54	2.83	.065
	ALAP	55	17.95	4.56		
	NLAP	9	17.89	4.96		
	Total	80	18.53	4.52		
Vulnerability	AHAP	16	16.25	5.20	12.81	.000
	ALAP	55	10.51	3.54		
	NLAP	9	11.33	4.33		
	Total	80	11.75	4.56		
Neuroticism domain	AHAP	16	122.81	18.13	25.19	.000
	ALAP	55	89.11	16.99		
	NLAP	9	81.56	21.82		
	Total	80	95.00	22.57		

Tukey honestly significant difference post-hoc tests were run on the facets of Neuroticism that were found to be significant (see Table 79). Significant mean differences between the AHAP group with each of the other two groups (ALAP and NLAP) were found on each of the five significant facets (Anxiety, Angry Hostility, Depression, Self-Consciousness and Vulnerability). However, the mean differences between the ALAP and NLAP groups on the five facets were not significant. The results in Table 79 further support the difference between the mothers in the abused and abusing group and the other two groups on the five facets in the Neuroticism domain. The facets did not distinguish the two low-abuse-potential groups.

Table 79

Tukey HSD Post-hoc Tests for Neuroticism Facets – Anxiety, Angry Hostility, Depression, Self-Consciousness, Vulnerability

Facet	Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
Anxiety	AHAP	ALAP	5.97*	1.27	.000
		NLAP	8.55*	1.86	.000
	ALAP	NLAP	2.58	1.61	.248
Angry Hostility	AHAP	ALAP	4.61*	1.31	.002
		NLAP	7.26*	1.92	.001
	ALAP	NLAP	2.65	1.65	.250
Depression	AHAP	ALAP	10.31*	1.35	.000
		NLAP	10.65*	1.98	.000
	ALAP	NLAP	.33	1.70	.979
Self-Consciousness	AHAP	ALAP	4.14*	1.26	.004
		NLAP	6.90*	1.84	.001
	ALAP	NLAP	2.75	1.59	.201
Vulnerability	AHAP	ALAP	5.74*	1.14	.000
		NLAP	4.92*	1.67	.012
	ALAP	NLAP	-.82	1.44	.835

Note. * $p < .05$.

The domain of Extraversion was not significant (see Table 80). So, while the differences between groups on two of the means of the facets on the Extraversion domain (Warmth and Positive Emotions) were significant, no further statistical tests could be run.

As seen in Table 80, the abused and abusing group had the lowest means on Warmth (M = 20.50) and Positive Emotions (M = 17.31).

Table 80

Means, Standard Deviations, and Univariate Analysis of Variance-Extraversion Facets

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Warmth	AHAP	16	20.50	4.21	4.70	.012
	ALAP	55	23.24	3.81		
	NLAP	9	25.33	4.92		
	Total	80	22.93	4.20		
Gregariousness	AHAP	16	15.44	5.25	1.47	.237
	ALAP	55	17.96	5.22		
	NLAP	9	18.67	8.11		
	Total	80	17.54	5.63		
Assertiveness	AHAP	16	15.19	6.49	.23	.792
	ALAP	55	16.09	5.87		
	NLAP	9	15.00	5.03		
	Total	80	15.79	5.86		
Activity	AHAP	16	15.88	5.27	1.42	.248
	ALAP	55	17.96	4.09		
	NLAP	9	17.33	4.39		
	Total	80	17.48	4.40		
Excitement-Seeking	AHAP	16	18.13	4.56	1.95	.149
	ALAP	55	16.24	4.44		

(Table 80 continues)

Table 80 (continued)

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Excitement-Seeking (continued)	NLAP	9	18.78	5.02		
	Total	80	16.90	4.58		
Positive Emotions	AHAP	16	17.31	6.75	3.69	.029
	ALAP	55	20.29	5.19		
	NLAP	9	23.33	4.42		
	Total	80	20.04	5.64		
Extraversion domain	AHAP	16	102.44	19.33	2.00	.142
	ALAP	55	111.78	20.36		
	NLAP	9	118.44	24.04		
	Total	80	110.66	20.84		

The differences between groups on the means of the facets or on the overall domain of Openness to Experience were not significant (see Table 81). Therefore, no further statistical tests were run.

Table 81

Means, Standard Deviations, and Univariate Analysis of Variance-Openness to Experience Facets

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Fantasy	AHAP	16	16.88	5.56	.11	.899
	ALAP	55	17.38	5.50		
	NLAP	9	17.89	4.54		

(Table 81 continues)

Table 81 (continued)

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Fantasy (continued)	Total	80	17.34	5.36		
Aesthetics	AHAP	16	19.81	6.52	.48	.621
	ALAP	55	18.07	6.48		
	NLAP	9	19.11	6.90		
	Total	80	18.54	6.49		
Feelings	AHAP	16	22.50	4.93	1.02	.366
	ALAP	55	22.29	4.16		
	NLAP	9	20.11	5.23		
	Total	80	22.09	4.44		
Actions	AHAP	16	13.38	4.19	2.25	.112
	ALAP	55	15.62	3.96		
	NLAP	9	16.33	4.50		
	Total	80	15.25	4.13		
Ideas	AHAP	16	18.38	5.89	.75	.478
	ALAP	55	18.04	6.31		
	NLAP	9	20.67	3.43		
	Total	80	18.40	5.97		
Values	AHAP	16	21.75	4.04	.04	.960
	ALAP	55	21.62	4.65		
	NLAP	9	21.22	4.52		
	Total	80	21.60	4.47		

(Table 81 continues)

Table 81 (continued)

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Openness domain	AHAP	16	112.69	18.73	.05	.950
	ALAP	55	113.02	22.18		
	NLAP	9	115.33	21.43		
	Total	80	113.21	21.21		

The overall domain of Agreeableness was significant (see Table 82). The differences between groups on two of the means of the facets on the Agreeableness domain (Trust and Straightforwardness) were significant. The abused and abusing group had the lowest means on these two significant facets, Trust ($M = 15.50$) and Straightforwardness ($M = 18.19$). The significant results clearly indicated that it is likely that mothers who have a higher abuse potential are less able to trust and are not as straightforward (less sincere) as mothers who do not have a high-abuse potential.

Table 82

Means, Standard Deviations, and Univariate Analysis of Variance-Agreeableness Facets

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Trust	AHAP	16	15.50	5.07	10.48	.000
	ALAP	55	20.62	4.05		
	NLAP	9	22.67	5.27		
	Total	80	19.83	4.90		
Straightforwardness	AHAP	16	18.19	6.66	4.54	.014
	ALAP	55	22.02	3.83		

(Table 82 continues)

Table 82 (continued)

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Straightforwardness	NLAP	9	20.33	4.06		
(continued)	Total	80	21.06	4.74		
Altruism	AHAP	16	23.31	5.30	1.90	.156
	ALAP	55	25.24	2.74		
	NLAP	9	24.89	3.59		
	Total	80	24.81	3.52		
Compliance	AHAP	16	16.56	4.95	1.77	.176
	ALAP	55	18.09	4.40		
	NLAP	9	20.11	4.78		
	Total	80	18.01	4.60		
Modesty	AHAP	16	21.69	4.94	1.45	.242
	ALAP	55	19.95	4.09		
	NLAP	9	18.89	4.73		
	Total	80	20.18	4.36		
Tender-Mindedness	AHAP	16	21.06	3.96	1.50	.229
	ALAP	55	21.75	3.12		
	NLAP	9	23.44	3.36		
	Total	80	21.80	3.35		
Agreeableness domain	AHAP	16	116.31	21.01	3.60	.032
	ALAP	55	127.65	14.03		
	NLAP	9	130.33	16.33		
	Total	80	125.69	16.38		

Post-hoc tests on the facets (Trust and Straightforwardness) of Agreeableness were found to be significant (see Table 83). A Tukey honestly significant difference post-hoc test was used on the Trust facet. Significant mean differences between the AHAP group with each of the other two groups (ALAP and NLAP) were found on the Trust facet. However, the mean differences between the ALAP and NLAP groups on the Trust facet were not significant.

Since the Levene's test of homogeneity of variances was significant for the Straightforwardness facet, the Games-Howell post-hoc test was used; however, this post-hoc test did not reveal significant differences between the means of any of the three groups.

Table 83

Tukey HSD Post-hoc Test for Agreeableness Facet – Trust
Games-Howell Post-hoc Test for Agreeableness Facet - Straightforwardness

Facet	Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
Trust (Tukey HSD)	AHAP	ALAP	-5.12*	1.25	.000
		NLAP	-7.17*	1.84	.001
	ALAP	NLAP	-2.05	1.58	.403
Straight-Forwardness (Games-Howell)	AHAP	ALAP	-3.83	1.74	.099
		NLAP	-2.15	2.15	.584
	ALAP	NLAP	1.69	1.45	.499

Note. * $p < .05$.

The overall domain of Conscientiousness was significant (see Table 84). The differences between groups on two of the means of the facets on the Conscientiousness

domain (Competence and Self-Discipline) were significant. The abused and high-abuse-potential group had the lowest means on Competence (M = 19.38) and Self-Discipline (M = 16.19). The results intimated that mothers who have a higher potential to abuse have lower scores on the Competence and Self-Discipline facets.

Table 84

Means, Standard Deviations, and Univariate Analysis of Variance-Conscientiousness Facets

Facet	Group	*n*	*M*	*SD*	*F*	*p*
Competence	AHAP	16	19.38	4.79	5.52	.006
	ALAP	55	22.95	3.33		
	NLAP	9	23.33	5.45		
	Total	80	22.28	4.13		
Order	AHAP	16	18.06	5.26	1.24	.295
	ALAP	55	18.36	5.67		
	NLAP	9	15.22	5.29		
	Total	80	17.95	5.57		
Dutifulness	AHAP	16	20.13	4.86	1.96	.148
	ALAP	55	22.60	4.08		
	NLAP	9	21.89	5.53		
	Total	80	22.03	4.46		
Achievement Striving	AHAP	16	16.63	6.72	1.12	.330
	ALAP	55	18.71	4.91		
	NLAP	9	17.22	4.27		
	Total	80	18.13	5.26		

(Table 84 continues)

Table 84 (continued)

Facet	Group	*n*	*M*	*SD*	*F*	*P*
Self-Discipline	AHAP	16	16.19	5.44	4.53	.014
	ALAP	55	20.38	4.76		
	NLAP	9	20.56	5.81		
	Total	80	19.56	5.24		
Deliberation	AHAP	16	15.75	4.54	2.83	.065
	ALAP	55	18.31	4.59		
	NLAP	9	15.44	5.34		
	Total	80	17.48	4.77		
Conscientiousness domain	AHAP	16	106.13	21.32	3.12	.050
	ALAP	55	121.31	21.37		
	NLAP	9	113.67	26.38		
	Total	80	117.41	22.52		

Since the Levene's test of homogeneity of variances was significant for the Competence facet, the Games-Howell post-hoc test was used (see Table 85). Significant mean differences were found between the AHAP group and the ALAP group. However, the mean differences between the NLAP group and each of the other two groups (AHAP and ALAP) on the Competence facet were not significant.

A Tukey honestly significant difference post-hoc test was used on the Self-Discipline facet. Significant mean differences were found between the AHAP group and the ALAP group. However, the mean differences between the NLAP group and each of

the other two groups (AHAP and ALAP) on the Self-Discipline facet were not significant.

Table 85

Games-Howell Post-hoc Test for Conscientiousness Facet - Competence
Tukey HSD Post-hoc Test for Conscientiousness Facet – Self-Discipline

Facet	Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
Competence (Games-Howell)	AHAP	ALAP	-3.57*	1.28	.029
		NLAP	-3.96	2.18	.197
	ALAP	NLAP	-.39	1.87	.977
Self-Discipline (Tukey HSD)	AHAP	ALAP	-4.19*	1.43	.012
		NLAP	-4.37	2.09	.099
	ALAP	NLAP	-.17	1.80	.995

Note. * $p < .05$.

On the Child Abuse Potential Inventory, only one scale had been used to classify mothers into high-abuse potential or low-abuse potential groups. Three scales--Lie scale, Random Response scale, and Inconsistency scale--were used to exclude protocols, which could not be used for research purposes, as described earlier in this chapter. Subsequent analyses with the remaining subscales were run in order to explore further relationships between variables. Significant differences were found between the means on all of the subscales: Ego Strength, Distress, Rigidity, Unhappiness, Problems with Child and Self, Problems with Family, Problems with Others, and Loneliness (see Table 86). Ego strength, distress, rigidity, unhappiness, and loneliness denote individual characteristics, which were compared to facets of the NEO-PI-R (Costa & McCrae, 1992b). Problems

with child and self, problems with family, and problems with others were examined in relation to the Cohesion and Conflict subscales on the Family Environment Scale (Moos & Moos, 1994). Problems with others might also be related to the Trust and Straightforwardness facets on the NEO-PI-R and were explored.

Table 86

Means, Standard Deviations, and Univariate Analysis of Variance-Child Abuse Potential Inventory Subscales

Subscale	Group	*n*	*M*	*SD*	*F*	*p*
Ego strength	AHAP	16	9.00	5.01	103.70	.000
	ALAP	55	30.64	5.35		
	NLAP	9	31.89	6.55		
	Total	80	26.45	10.29		
Distress	AHAP	16	203.06	34.69	129.02	.000
	ALAP	55	45.36	36.14		
	NLAP	9	34.56	32.65		
	Total	80	75.69	73.13		
Rigidity	AHAP	16	18.63	15.62	8.26	.001
	ALAP	55	7.53	6.86		
	NLAP	9	9.78	10.72		
	Total	80	10.00	10.46		
Unhappiness	AHAP	16	29.31	17.66	12.01	.000
	ALAP	55	11.82	10.91		
	NLAP	9	12.00	13.30		
	Total	80	15.34	14.42		

(Table 86 continues)

Table 86 (continued)

Subscale	Group	*n*	*M*	*SD*	*F*	*p*
Problems with child and self	AHAP	16	6.88	9.03	5.14	.008
	ALAP	55	1.82	4.27		
	NLAP	9	4.78	6.76		
	Total	80	3.16	6.08		
Problems with family	AHAP	16	21.06	15.21	9.79	.000
	ALAP	55	8.05	11.53		
	NLAP	9	2.11	2.93		
	Total	80	9.99	13.05		
Problems with others	AHAP	16	17.19	6.11	19.00	.000
	ALAP	55	6.91	6.49		
	NLAP	9	3.56	6.52		
	Total	80	8.59	7.75		
Loneliness	AHAP	16	12.19	1.72	83.14	.000
	ALAP	55	3.64	2.33		
	NLAP	9	3.89	3.41		
	Total	80	5.38	4.15		

Tukey honestly significant difference post-hoc tests were run on the following CAPI subscales: Ego Strength, Distress, Unhappiness, Problems with Others, and Loneliness (see Table 87). Mean differences were significant between the AHAP group and the other two groups (ALAP and NLAP) on all five subscales. The mean differences between the ALAP and NLAP groups were not significant. Ego strength had a negative

relationship with abuse potential, suggesting that low scores on ego strength were associated with higher scores on abuse potential. Higher scores on distress, unhappiness, problems with others and loneliness were correlated with higher abuse potential.

Table 87

Tukey HSD Post-hoc Tests for Child Abuse Potential Inventory - Subscales

Subscale	Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
Ego Strength	AHAP	ALAP	-21.64*	1.54	.000
		NLAP	-22.89*	2.26	.000
	ALAP	NLAP	-1.25	1.95	.797
Distress	AHAP	ALAP	157.70*	10.09	.000
		NLAP	168.51*	14.80	.000
	ALAP	NLAP	10.81	12.77	.675
Unhappiness	AHAP	ALAP	17.49*	3.62	.000
		NLAP	17.31*	5.31	.005
	ALAP	NLAP	-.18	4.59	.999
Problems with others	AHAP	ALAP	10.28*	1.82	.000
		NLAP	13.63*	2.68	.000
	ALAP	NLAP	3.35	2.31	.319
Loneliness	AHAP	ALAP	8.55*	.67	.000
		NLAP	8.30*	.99	.000
	ALAP	NLAP	-.25	.85	.953

Note. * $p < .05$.

Levene's tests of homogeneity of variances were significant for the Rigidity, Problems with Child and Self, and Problems with Family subscales, so the Games-Howell post-hoc tests were used (see Table 88). Significant mean differences were evident on the Rigidity subscale for the AHAP and ALAP groups but not between the NLAP group and the other two groups (AHAP and ALAP). The results implied that mothers with a high-abuse potential also score high on rigidity. No significance was found on problems with child and self. Significant mean differences were noted between all group contrasts on problems with family. The results set forth in the current study on the Problems with Family subscale point out a strong significant relationship between problems in the family and higher abuse potential across all three groups.

Table 88

Games-Howell Post-hoc Tests for Child Abuse Potential Inventory - Subscales

Subscale	Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
Rigidity	AHAP	ALAP	11.10*	4.01	.034
		NLAP	8.85	5.29	.238
	ALAP	NLAP	-2.25	3.69	.819
Problems with child/self	AHAP	ALAP	5.06	2.33	.105
		NLAP	2.10	3.19	.790
	ALAP	NLAP	-2.96	2.33	.444
Problems with family	AHAP	ALAP	13.01*	4.11	.013
		NLAP	18.95*	3.93	.000
	ALAP	NLAP	5.94*	1.84	.006

Note. * $p < .05$.

Milner (1986) grouped three of the factors (distress, rigidity, and unhappiness) into what he described as psychological difficulties. Costa and McCrae (1992b) depicted the domain of Neuroticism as

> ...more than susceptibility to psychological distress. Perhaps because disruptive emotions interfere with adaptation, men and women high in N [Neuroticism] are also prone to have irrational ideas, to be less able to control their impulses, and to cope more poorly than others with stress. (p. 14)

The authors cautioned that high scores on neuroticism do not necessarily mean that an individual has a diagnosable psychiatric disorder. Costa and McCrae claimed that low scores on neuroticism are associated with emotional stability. Correlations between the individual psychological factors on the CAPI and the Neuroticism facets were run (see Table 89).

Many of the psychological factors showed strong correlations, indicating that the subscales on the two instruments measured similar individual characteristics. Distress (CAPI) and Depression (NEO-PI-R) had a correlation of .78 at the .01 level of probability. Both of these factors distinguished the high-abuse-potential participants (AHAP) from the other two low-abuse-potential groups (ALAP and NLAP) clearly implying an association with individual characteristics and abuse potential. Three other facets on the Neo-PI-R (Anxiety, .55; Angry Hostility, .55; and Vulnerability, .53) also demonstrated strong correlations with Distress (CAPI). Costa and McCrae (1992b) described individuals who have low scores on the facets of Anxiety, Angry Hostility, and Vulnerability collectively as "...calm and relaxed...easygoing...capable of handling

themselves in difficult situations..." (p. 16). Mothers who are resilient (low-abuse-potential) are likely to exhibit less psychological distress and more emotional stability.

Table 89

Intercorrelations For Psychological Factors on CAPI and Neuroticism (N) Facets on NEO-PI-R

Subscales	1	2	3	4	5	6	7	8
1 Distress (CAPI)	--							
2 Rigidity (CAPI)	.40(**)	--						
3 Unhappiness (CAPI)	.53(**)	.29(**)	--					
4 Anxiety (N)	.55(**)	.13	.24(*)	--				
5 Angry Hostility (N)	.55(**)	.33(*)	.35(**)	.39(**)	--			
6 Depression (N)	.78(**)	.27(*)	.49(**)	.57(**)	.54(**)	--		
7 Self-Consciousness (N)	.45(**)	.14	.27(*)	.55(**)	.39(**)	.62(**)	--	
8 Impulsiveness (N)	.36(**)	-.03	.18	.33(**)	.20	.43(**)	.36(**)	--
9 Vulnerability (N)	.53(**)	.16	.39(**)	.61(**)	.37(*)	.63(**)	.46(**)	.31(**)

Note. $N = 80$.

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

Milner (1986) described a second grouping of factors (problems with child and self, problems with family, and problems from others) as interactional problems

experienced by parents. Problems with child and self were not addressed in the current study. The Cohesion subscale on the Family Environment Scale (Moos, & Moos, 1994), was included as one of the primary variables in the earlier analysis and was strongly associated with abuse potential. Further analysis was undertaken to assess the relationship between the Conflict subscale (FES) and abuse potential (see Table 90). There was a significant difference between the groups ($F_{(2, 77)} = 14.70, p < .000$) for family conflict.

Table 90

Means, Standard Deviations, and Univariate Analysis of Variance Results for Family Environment Scale – Conflict Subscale for Three Groups

Group	*n*	*M*	*SD*	*F*
AHAP	16	5.00	2.22	14.70
ALAP	55	2.33	1.99	
NLAP	9	1.11	1.27	
Total	80	2.73	2.30	

Note. $p < .000$.

Tukey honestly significant difference post-hoc test was run on the Conflict subscale. Significant mean differences were found between the AHAP group and the ALAP group and also between the AHAP group and the NLAP group (see Table 91). No difference was found between the ALAP and NLAP groups. The results imply that a strong relationship exists between the level of family conflict and a higher abuse potential.

Table 91

Tukey Post-hoc Test for Family Environment Scale – Conflict

Group(I)	Group(J)	Mean difference (I-J)	*SE*	*p*
AHAP	ALAP	2.67*	.56	.000
	NLAP	3.89*	.82	.000
ALAP	NLAP	1.22	.71	.208

Note. * $p < .05$.

In an investigation of the correlations between variables measuring problems with family, small to large significant associations were found (see Table 92). Small correlations were noted between Conflict and Problems with Child and Self (.27) and between the two subscales of the CAPI (Problems with Family and Problems with Child and Self, $r = .23$). A moderate negative relationship (-.45) was revealed between Cohesion and Problems with Family. A large positive correlation was found between Conflict and Problems with Family (.66) and a large negative correlation (-.60) between the two subscales of the FES (Cohesion and Conflict).

Table 92

Intercorrelations for FES (Cohesion and Conflict) and CAPI (Problems with Family and Problems with Child and Self) Subscales

Subscale	1	2	3	4
1 Cohesion - FES	--			
2 Conflict - FES	-.60(**)	--		
3 Problems with Family - CAPI	-.45(**)	.66(**)	--	
4 Problems with Child/Self - CAPI	-.08	.27(*)	.23(*)	--

Note. $N = 80$.

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

Significance was noted in the current study between the Trust and Straightforwardness facets of the NEO-PI-R and on Problems with Others (CAPI). A moderate negative correlation (-.45) was evident in Table 93 between Trust and Problems with Others, indicating an association between low levels of trust and difficulty interrelating with others. Although Social Skills Inventory - Total Score was not significant in the earlier analysis of variance, the SSI - Total score had a significant correlation in the discriminant function analysis. In Table 93, a moderate correlation (.38) was found with the Trust facet, indicating an association between Trust and Social Skills. The facets Trust and Straightforwardness had a small correlation (.24), and a small negative correlation (-.21) between Problems with Others and Straightforwardness was apparent.

Table 93

Intercorrelations for Trust and Straightforwardness (NEO-PI-R) and Problems with Others (CAPI) Subscales and Social Skills Inventory – Total Score

Subscale	1	2	3
1 Trust (NEO-PI-R)	--		
2 Straightforwardness (NEO-PI-R)	.24(*)	--	
3 Problems with Others (CAPI)	-.45(**)	-.21	--
4 Social Skills Inventory – Total Score	.38(**)	-.02	-.07

Note. $N = 80$.

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

Summary

The cycle of physical child abuse, which had been advanced in the early child abuse literature, has been replaced with a more recent focus on resilience. The present study was designed to identify individual, systemic, and social factors that promoted resilience in mothers who reported childhood experiences of physical abuse. The construct of resilience in the current study was defined as low scores on the Abuse scale of the CAPI (Milner, 1986).

Significant differences were observed for marital status of the mothers in group comparisons. The abused and high-abuse-potential group (AHAP) was overwhelmingly without a partner (81%) while the two low-abuse-potential groups (ALAP and NLAP) experienced the reverse (29% and 33%, respectively). Income of the participants was remarkably different between the AHAP group and the other two low-abuse-potential groups. At the two extremes of the income range, greater than $50,000, the AHAP group had only 19% compared to 69% for the ALAP group and 56% for the NLAP group. At the lower end of the income spectrum, 50% of the AHAP group claimed an income of less the $19,000, while only 7% of the ALAP group and 11% of the NLAP group reported incomes in this category.

Other noteworthy demographic data for this sample included a large number of mothers with higher education with only 19% having 12 years or less of education; however, there was not a significant difference between the groups in terms of education. The sample was predominantly Caucasian. On the question about religious affiliation and religious denomination, there was a minor discrepancy in the number of mothers who reported an affiliation with a religious organization and the number of mothers who

reported a denomination. Three mothers reported no religious affiliation but subsequently identified a religious denomination possibly indicating a previous affiliation.

Approximately half of the ALAP group reported no religious affiliation. An interesting finding in this study was the comparison of the AHAP group, which indicated no religious affiliation (63%), as compared to the NLAP group of whom 33% reported no religious affiliation. A similar reverse relationship was found on religious affiliation for the two groups, in which 37% of the AHAP group reported a religious affiliation in contrast with 67% of the NLAP group. The largest percentage of the total sample that identified a religious denomination was Catholic (29%).

Every mother identified at least one type of social support. An interesting finding was that none of the mothers in the AHAP group named a spouse or partner when asked to identify a source of support in contrast to the ALAP group who reported 11% and the NLAP group who reported 22%. This finding is not surprising since many of the mothers in the AHAP group did not have a current partner. It is noteworthy that the mothers who named extended family members as a type of support turned more toward female members of their extended families. However, a majority of the participants (57%) did not list extended family as part of their support system.

On the question about childhood experiences, 47% of the resilient group (ALAP) had been physically abused with an object in contrast with 75% of the abused and high-abuse-potential group (AHAP). The AHAP group reported twice as much verbal/emotional abuse (81%) as the resilient group (40%). There was a similar relationship between the two groups in terms of childhood injuries with the AHAP group reporting 44% and the ALAP group 22%. The larger percentage of the physical abuse,

sexual abuse, and verbal/emotional abuse experiences within the AHAP group had been predicted; however, the reverse was found with the childhood experience of domestic violence. The NLAP group experienced approximately twice the amount of that reported by the AHAP and ALAP groups, though not significant.

The abused and high-abuse-potential group had the highest scores on childhood experience of physical abuse (CTS – Violence Scale) and the potential to abuse their own children (CAPI – Abuse Scale). This had been predicted. Significant differences were found between the groups on five of the variables in the remaining eight hypotheses. The variables that showed significant differences between the groups were neuroticism, agreeableness, conscientiousness, coping skills, and cohesion. In the subsequent discriminant analysis, neuroticism and cohesion were found to be the best predictors of abuse potential.

Three of the domains on the NEO-PI-R (Costa & McCrae, 1992b) allowed for distinguishing between the two low-abuse-potential groups suggesting a relationship between individual characteristics and the potential to abuse. As predicted, the AHAP group had the highest scores on the Neuroticism domain, thus intimating a relationship between neuroticism traits and a greater potential for abuse. The data in the current study predicted that mothers who have low scores on Neuroticism have a lower abuse potential. This connotes that physical abuse in childhood does not inevitably predict a mother's potential for violence. There was a significant inverse relationship between the potential to abuse and the domains of Agreeableness and Conscientiousness as predicted.

As anticipated, significant differences were found between the groups on coping skills; however, the ALAP (resilient) group had the largest mean score, denoting that

mothers who have higher scores on coping skills have a lower risk of abuse potential. Family cohesion was also found to be significant in terms of abuse potential. Mothers who scored high on family cohesion had a lower potential for abuse as predicted.

Supplemental analysis conducted on the facets of the five personality domains revealed significance for all but one of the facets for Neuroticism (Impulsiveness). The facets which were significant were Anxiety, Angry Hostility, Depression, Self-Consciousness, and Vulnerability in addition to the overall domain of Neuroticism. Although the lack of significance on the Impulsiveness facet was an unexpected finding, the probability value was approaching significance.

Although the overall domain of Extraversion was not significant, the facets Warmth and Positive Emotions were found to be significant. In the Agreeableness domain, Trust and Straightforwardness were found to be significant as was the overall domain. Competence and Self-Discipline were found to be significant in the Conscientiousness domain in addition to the overall domain.

Additional analyses were run on the subscales of the CAPI. Significance was revealed on all of the subscales. Correlations between the psychological factors on the CAPI (distress, rigidity, and unhappiness) were moderately to highly correlated with some of the facets on the Neuroticism domain on the NEO-PI-R. Interactional factors on the CAPI (problems with family and problems with child and self) were compared with the Cohesion and Conflict subscales of the FES with significant correlations noted between Cohesion and Conflict subscales and the problems with family factor. The interactional factor of problems with others (CAPI) and the Social Skills Inventory – Total Score were compared to the Trust and Straightforwardness facets of the

Agreeableness domain (NEO-PI-R) with significant correlations noted. The implications of the above findings will be discussed further in the next chapter.

Chapter V

Discussion

This chapter includes a restatement of the research problem, a discussion of the major findings, conclusions that may be inferred from the findings, how the results relate to previous research, limitations of the study, and suggestions for further research.

Problem Restatement

The current study was based on a previous dissertation by John Caliso (1986). Caliso began looking at the differences between mothers who were abused in childhood and who do not abuse their own children with a future goal of assisting practitioners in treating child abusers and diminishing child abuse. He discovered that those who do not abuse were less rigid and reported less distress and loneliness. Caliso also found that mothers who had perceived that they had received the greatest amount of physical abuse as children also had the highest abuse potential. In a study by Straus et al. (1980), as the magnitude of physical abuse in childhood increased, there was a corresponding increase in spouse and child abuse.

Caliso (1986) suggested several areas for future research, one of which was an examination of the differences between abusing and nonabusing parents in their perceptions of family interactions. In addition, the field of psychology has moved from a deficit model to a strength-based focus; therefore, as a natural extension of Caliso's work and the literature supporting a health and growth model (Berg, 1994; Walsh, 1998), the current study has been designed to explore factors within the individual parent, the family, and the social environment that contribute to the resilience of mothers who had been abused as children but who have been able to break the cycle of abuse.

Throughout the literature on physical child abuse, researchers have learned that the determinants are multidimensional and include many variables within the individual as well as within environmental, social, and family contexts. In order to improve prevention and treatment in the field of child abuse, further research on the determinants of physical child abuse and the concomitant buffering factors within the individual and in the larger social context was warranted. This study was undertaken with the purpose of identifying those factors that serve as protective factors within mothers, which ultimately lead to resilience as defined by low abuse potential.

Overview of Measurements

The instruments were selected based on the recommendations for further research in Caliso's (1986) dissertation, a review of the literature on child abuse (Caliso & Milner, 1994; Kolko et al., 1993; Patchner & Milner, 1992; Perry et al., 1983; Straus et al., 1980; Trickett, Aber, Carlson, & Cicchetti, 1991) and the established reliability and validity of the tools. The current study was intended to examine the relationship between child-abuse potential and personality factors, coping ability, social support, and perceptions of family cohesion.

All of the participants were administered a general information questionnaire and the following battery of assessments: Conflict Tactics Scale (CTS) (Straus et al., 1980), Child Abuse Potential Inventory (CAPI) (Milner, 1986), Coping Resources Inventory (CRI) (Hammer & Marting, 1988), Social Skills Inventory (SSI) (Riggio, 1989), NEO Personality Inventory (NEO-PI-R) (Costa & McCrae, 1992b), and Family Environment Scale (FES) (Moos & Moos, 1994). The Conflicts Tactics Scale and the Child Abuse Potential Inventory were used to classify the mothers into one of four groups--abused and

high-abuse-potential group, abused and low-abuse-potential group, nonabused and low-abuse-potential group, and nonabused and high-abuse-potential group. The CTS was used to determine if the mother had been abused as a child. If the mother reported any physical abuse on the CTS - Violence Scale, she was classified as abused as a child. If the score on the Violence Scale of the CTS was 0, the mother was classified as not abused as a child.

An interesting finding was that there was a discrepancy between the physical abuse reported on the demographic data sheet and the results on the CTS violence scale, which measured the mother's recall of physical force used by her parents in an attempt to resolve conflict. To account for this discrepancy, it is possible that the question on the demographic sheet asked if the participant experienced physical discipline with an object tapped a more narrow description of abuse as opposed to questions on the CTS, which included additional types of physical abuse such as kicking, biting, or pushing a child.

The Child Abuse Scale cut-off score on the CAPI further differentiated the mothers into high-abuse-potential or low-abuse-potential groups. The cut-off score of 215 on the Abuse Scale of the CAPI was used to classify the mothers. Mothers who had a score of 215 or greater and had a score above 0 on the CTS were included in the abused and high-abuse-potential group. Those with scores below 215 on the CAPI and scores above 0 on the CTS were placed in the abused and low-abuse-potential group (resilient). The mothers who had scores below 215 on the CAPI and scores of 0 on the CTS were classified as nonabused and low-abuse-potential.

There are two cut-off scores listed in the test manual: 166 and 215. The more conservative cut-off score (215) designating the potential to abuse was used in the current study. Milner (1986) stated that "a valid, elevated abuse scale score indicates that the

examinee has characteristics similar to known, active physical child abusers" (p. 12). As with many test instruments, a test score is often one piece of information that is used to predict abuse potential or to describe an individual. In the current study, the author has clearly stated that the use of the CAPI with the present sample measures only the potential to abuse and not substantiated physical abuse. The scores on the CAPI in the current study ranged from 2 to 416, with the abused and high-abuse-potential group exhibiting a range from 222 through 416, the abused and low-abuse-potential group (16 through 209), and the nonabused and low-abuse-potential group (2 through 175).

Overview of Sample

The study sample consisted of 80 participants, between the ages of 23 and 64. The participants volunteered to participate in the study and to complete the questionnaires. I attempted to solicit participation from mothers who had physically abused their children and who had open and closed cases with a local Child Protective Services Agency. All but a few mothers were reluctant to participate in the study; therefore, the participants who responded to the various advertisements or flyers and who participated in the research did not fit the intended profile for the four distinct groups: Abused and high-abuse-potential (AHAP), abused and low-abuse-potential (ALAP), nonabused and high-abuse-potential (NHAP), and nonabused and low-abuse-potential (NLAP). The sample included respondents in three of the categories (AHAP, ALAP, and NLAP), but none in the NHAP group. In addition, since there were no mothers who had substantiated reports of physical child abuse in the current study, the original definition of "abusing" parent was changed to high-abuse potential.

As mentioned in Chapter IV, the number of groups as well as the number of participants in each group differed from the original proposal. A fourth group was included in the hypotheses; however, the proposed nonabused and high-abuse-potential parent group (NHAP) had no participants. Throughout the extensive intergenerational abuse-cycle literature, most of the cases that involve physical child abuse include parental histories of their own experiences with physical child abuse in the parents' families of origin. Perry et al. (1983) encountered no differentiation between groups of parents regarding history of abuse as a child for men or women with at least a high-school education.

Widom (1989) did an extensive literature review and concluded that although there was a wide range of estimates of parents with such a history, "In most studies included here, the majority of abusive parents were not abused in their own childhoods" (p. 8). The intent of including such a group in the current study was to explore factors, such as personality qualities, that might lead a parent to abuse her child in the absence of the mother's own experience of physical abuse in childhood. If the lower of the two cut-off scores on the CAPI (166) was used in this study, one participant would have been classified as nonabused and high-abuse potential (NHAP); however, since the cut-off score of 215 was used, there were only three groups instead of four.

The group (AHAP) that consisted of mothers who had been physically abused as children and who scored above the cut-off on the CAP Abuse Scale had 16 mothers. The abused and low-abuse-potential or "Resilient" group (ALAP) in which the mothers reported that they had been physically abused as children but had scores below the cut-off on the CAP Abuse Scale was the largest group with 55 participants. There were only 9

mothers in the group (NLAP) in which the mothers stated that they did not experience physical abuse in childhood and scored below the cut-off score on the CAP Abuse Scale.

Although the mean age of the abused and high-abuse-potential group was the lowest among the three groups, there was no significance observed among the three group means for age. In terms of a significant difference in income, the two low-abuse-potential groups had higher incomes than the high-abuse-potential group. Fifty percent of the AHAP group earned less than $19,999. The ALAP (69.1%) and NLAP (55.6%) groups overwhelmingly earned over $50,000. The source of income was significant, and 47.7% of the mothers in the total sample reported income achieved through their own efforts. Occupations were quite varied across all participants. The data on the number of brothers and sisters of the participants did not reveal any significant group differences.

Approximately 80% of each group was Caucasian. Similarly, approximately 80% of the participants in each group were raised by natural parents. Over 40% of the parents of the participants were married. In general, the current sample had some college education and beyond, including 80% of the abused and abusing group. In the study by Caliso (1986), education level was found to mediate high and low child-abuse potential. Education level did not have any significant impact on child abuse potential in the current study.

A large percentage of the total sample had three or fewer children. The ages of their children ranged from a few months to age 40. More than half (58%) of the total sample reported having one marriage or significant relationship. Of particular interest was the fact that women in both the ALAP and NLAP groups had at least one relationship while 25% of the AHAP group indicated that they had a history of no

marriages or significant relationships. The data suggested that mothers who were not married had a higher abuse potential, although Stringer and La Greca (1985) did not find such a relationship for marital status. Egeland (1993) compared mothers who had been abused and those who had not been abused on one of the relationship variables: the mother's relationship with a husband/boyfriend. Mothers who had "intact, stable, and satisfying relationships" (p. 204) were able to break the cycle of abuse.

In the current study, all of the participants reported at least one type of support, but many individuals described a combination of social supports. In addition to a stable and satisfying relationship with a husband/boyfriend, Egeland (1993) ascertained that mothers who were able to break the cycle of abuse had supportive relationships with foster parents or relatives. Slightly over half of the sample had a religious affiliation. Besides the category of None (no religious affiliation), the second largest percentage (29%) was for the affiliation of Catholicism.

Participants documented a variety of childhood experiences on the demographic questionnaire, one of which was having experienced physical discipline with an object. A total of 38 individuals, or 47% of the total sample, reported physical discipline with an object. A large percentage (75%) of the AHAP group selected physical discipline with an object as opposed to 47% of the ALAP group. The AHAP group had the highest percentage (33%) of sexual abuse reported, followed by ALAP (20%), and NLAP (11%). The difference between the groups was more dramatic on the verbal-abuse question with the highest percentage (81%) in the AHAP group, followed by 40% for in the ALAP group, and 22% in the NLAP group. It is also interesting to note that many of the individuals who reported physical abuse in childhood also indicated other types of

potentially harmful experiences including verbal abuse, domestic violence, and sexual abuse.

Craig and Sprang (2007) compared women who had experienced or been exposed to a variety of traumatic events in childhood and/or adulthood, such as physical abuse, sexual abuse, rape, domestic violence, and others. The results suggested a profile that could lead to an increase in child-abuse potential. "Women younger than 33 who have been abused both in childhood and in adulthood and who were victims of childhood sexual abuse are those most likely to have high child abuse potential as measured by the CAPI" (p. 304).

Discussion and Integration of Hypotheses with Past Literature

Childhood Physical Abuse of Mothers

Hypothesis 1. The first hypothesis involved the prediction of the amount of childhood physical abuse reported by the mothers on the Physical Aggression (Violence) Scale of the Conflict Tactics Scale (Straus et al., 1980). It was predicted that the two groups of parents who were physically abused in childhood (AHAP and ALAP) would not differ in the amount of physical abuse they reported. It was further predicted that the two parent groups who reported no physical abuse as children (NHAP and NLAP) would differ significantly from the two abused groups. The first hypothesis was partially supported in that there was a significant difference between the nonabused and low-abuse-potential group and the two groups that had been abused (AHAP and ALAP). This hypothesis was not supported by the data, which showed a significant difference between the two abused groups as well. The data indicated that although both groups experienced abuse, the

abused and high-abuse-potential group had significantly higher scores than the abused and low-abuse-potential group on the Violence Scale of the CTS.

This result was not consistent with the findings of Caliso (1986) who stated that "the two parent groups who perceived that they were abused in childhood reported similar and significantly higher levels of experienced child abuse than the nonabused parent group" (p. 80). In the Caliso study, the abused and abusing group had a mean of 25.3, the abused and nonabusing group had a mean of 26.8, and the nonabused and nonabusing group had a mean of 4.8. In the current study, the corresponding means were 19.25 for the AHAP group, 8.82 for the ALAP group, and 0 for the NLAP group. One reason for this difference might be the slightly larger sample size (96) and equal-size groups in Caliso's study. The current study had unequal groups. Another possible explanation for the difference between the AHAP group and the ALAP group is that the amount of abuse experienced in childhood is related to the degree of abuse potential. In a study by Straus et al. (1980), as the magnitude of physical abuse in childhood increased, there was a corresponding increase in spouse and child abuse.

Child Abuse Potential of Mothers

Hypothesis 2. One of the rationales for the second hypothesis was that individuals who had experienced physical abuse in childhood would be more likely to abuse their children (have higher abuse potential scores on the CAPI) with the abused and high-abuse-potential parent group (AHAP) demonstrating the highest child abuse potential score followed by the other high-abuse-potential group (NHAP), and the two low-abuse-potential groups (ALAP and NLAP). However, there were no participants in the NHAP group. The results supported this hypothesis in terms of the rank order as well as in the

significance evidenced in the ANOVA. There was a significant difference between the AHAP group and the two low-abuse-potential groups (ALAP and NLAP); however, the two low-abuse-potential groups had similar mean scores.

Caliso (1986) and the results of this study demonstrated similar findings on the CAPI-Abuse Scale. There were significant differences between the means of the three groups. In comparing the mean scores of the groups, the following results emerged: abused and abusing group, $M = 308.2$ (Caliso) vs. $M = 296.13$ (AHAP - current study); abused and nonabusing group $M = 162.5$ (Caliso) vs. $M = 81.49$ (ALAP - current study); and nonabused and nonabusing group $M = 90.4$ (Caliso) vs. $M = 66.78$ (NLAP - current study). The difference between the mean scores in the two studies was the most noticeable for the abused and nonabusing group (ALAP - current study). An explanation for this finding might be the slightly larger sample size and equal group size in the Caliso research. Another possible explanation might be the fact that the abusing mothers in Caliso's study had actual substantiated reports of abuse.

Individual Characteristics

Individual characteristics have been associated with physical child abuse throughout the literature (Blumberg, 1974; Chaffin, Kelleher, & Hollenberg, 1995; Spinetta & Rigler, 1972). Initially researchers explored the more severe forms of mental disorders (Axis I disorders) using instruments, such as the Minnesota Multiphasic Personality Inventory, as a way of defining differences between abusers and nonabusers. As a result of a failure to find differences, the psychiatric model of child abuse was temporarily abandoned (O'Leary, 1993). With the resurgent interest generated in Axis II disorders as related to child abuse, subsequent researchers looked at personality

characteristics such as hostility, aggression, rigidity, compulsivenss, lack of warmth, immaturity, passivity, and dependence that Merrill (1962) had initially proposed.

In order to examine the relationship between individual parental characteristics and the potential for physical child abuse, the NEO-PI-R, which measures five personality domains, was used. In the third through the seventh hypotheses, the four groups were supposed to differ significantly on personality characteristics on each of the five domains of the NEO Personality Inventory. The order that was predicted in this study was related to whether the personality characteristic was perceived as a resilience factor or viewed as a risk factor contributing to the potential to abuse.

Hypothesis 3. In the third hypothesis, the four groups were ranked on neuroticism in the following order from highest to lowest: AHAP, NHAP, ALAP, NLAP. This hypothesis was confirmed in that the abused and high-abuse-potential group reported the highest scores in the Neuroticism domain. There was a significant positive relationship in the current study between the overall domain of Neuroticism and a higher abuse potential as predicted. Neuroticism has been linked to psychopathology and personality disorders which come into play in the child-maltreatment literature (Caliso & Milner, 1994).

In the current study, subsequent analysis on the facets of the five-factor domains further supported the literature since significance was found on some of the facets. Within the domain of Neuroticism, five of the six facets were significant, and one approached significance. Also noted in the child-maltreatment literature was impairment in an individual's ability to parent when she experiences emotional distress, such as anxiety, depression, and hostility (Brunnquell et al., 1981; Chaffin et al., 1995). I noted significant differences between the abused and high-abuse-potential group and the other

two low-abuse-potential groups (ALANP and NLAP) on the facets of the Neuroticism domain: Anxiety, Angry Hostility, Depression, Self-Consciousness, and Vulnerability.

Smith and Hanson (1975) conducted a study of 214 parents of battered children in order to shed some light on child-rearing practices. The authors discovered that the abusive mothers had significantly higher scores than the control group on neuroticism as measured by the Eysenck Personality Inventory (1964). Similarly, significant differences were found between the abusive mothers and the control group on the total Hostility scores on the Fould's Hostility and Direction of Hostility Questionnaire (1967).

Kaplan, Pelcovitz, Salzinger, and Ganeles (1983) discerned a significantly higher incidence of depressive disorders in mothers who abused their children when compared to nonabusive mothers. The current study clearly distinguished the high-abuse-potential group from the low-abuse-potential groups on depression, thus indicating a strong association between abuse and maternal depression and supporting the literature (Chaffin et al., 1995; Sheppard, 2003). In a study by Lahey et al. (1984), abusive parents reported more depression and physical distress than the control mothers.

Hamilton, Stiles, Melowsky, and Beal (1987), in looking at individual, family, and environmental levels of contributing factors, observed lower levels of self-esteem in the abusers. Other significant findings among abusers were patterns associated with impulsiveness and hostility. These findings were partially supported in the current study. The abused and high-abuse-potential group had significantly higher scores than the resilient group on angry hostility; however, impulsivity did not quite achieve significance but revealed a tendency.

Anderson and Lauderdale (1982) cited a higher incidence of low self-esteem in the abusive parents as measured on the Tennessee Self Concept Scale. On the Neuroticism domain, individuals with high scores on the Self-Consciousness facet are prone to feeling inferior (low self-esteem). In the current study, self-consciousness distinguished the AHAP group from the other two groups (ALAP and NLAP). A secondary finding noted by Anderson and Lauderdale was that the abusive parents had higher scores on psychological disturbance and showed limited abilities to adequately cope with life's stresses as compared to the normative group. On the Vulnerability facet, used to measure the individual's ability to cope with stress, respondents with high scores are more vulnerable to stress. In the current study, the ALAP group had the lowest scores of the three groups on this facet, thus clearly showing a strong negative relationship between the construct of resilience and vulnerability to stress.

Hypothesis 4. On the fourth hypothesis, it was predicted that the four groups would score from highest to lowest on extraversion in the following order: NLAP, ALAP, NHAP, AHAP. Although the results were not significant, the predicted rank order was realized. Extraversion, according to Costa and McCrae (1992b), is associated with warmth, gregariousness, positive emotions (optimism), and assertiveness, qualities that might mitigate a tendency or temptation to abuse. One reason that significance was not found on extraversion might be that extraversion implies a level of sociability. Therefore, it is possible that abusive mothers can be quite sociable with other adults, yet intolerant of the dependency needs of children. This could then lead to abusive behaviors toward their children when frustrated.

Mrazek and Mrazek (1987) elucidated that there are some children who had been victims of abuse who were resilient, and the authors theorized about specific individual genetic factors as well as environmental factors. Some of the protective factors discussed included altruism, optimism, and hope. Although the overall domain did not result in significant differences between the groups in this study, warmth and positive emotions showed up as significant, thus lending some support to the previously cited studies.

Prior to the first publication of the NEO-PI Manual, Costa and McCrae (1980) created a model of individual differences related to the concepts of happiness and well-being using the neuroticism and extraversion domains. Although the concept of happiness continued to appear to be somewhat elusive, some traits emerged as "more likely to be associated uniquely with one side or the other of the affect balance formula" in terms of happiness and well-being (p. 670). Positive affect (positive emotions) was correlated with well-being; hence, positive affect theoretically appears antithetical to physical abuse.

Warmth, according to Costa and McCrae (1992b), implies affection and attachment. When one speculates about a parent's ability to inflict pain and injury upon her child, warmth and affection do not come to mind. On the other hand, if a rare abusive episode occurred, it is possible that the ordinarily nonabusive parent experienced a momentary change in emotional state rather than a personality trait.

Optimism and hope can protect against negative feelings and depression and can help an individual weather crises. In the current study, there was a negative relationship between positive emotions and abuse potential, thus implying that optimism (positive emotions) might be a protective factor.

Hypothesis 5. It was hypothesized that the four groups would be rank ordered from highest to lowest on openness to experience as follows: NLAP, ALAP, NHAP, AHAP. Although the findings were not significant, the predicted order was found. This domain includes traits such as a willingness to try different activities and to be open minded (Costa & McCrae, 1992b). It was thought that this dimension might help to explain the resilience demonstrated in mothers who had been abused as children and who do not abuse their children. It was suggested that the mothers who had been abused as children and who do not abuse their children had been able to use fantasy as an escape during and after the abuse they had endured, thus allowing for a more hopeful view of the future and an optimistic outlook on life. In addition, further speculation about a willingness to try different activities and to be open minded were thought to be instrumental is promoting resilience. Nevertheless, the current research did not capture these facets.

Hypothesis 6. The following rank order on agreeableness from highest to lowest was predicted on the sixth hypothesis: NLAP, ALAP, NHAP, AHAP. The difference between the means on agreeableness was significant, and the predicted rank order of the respective groups was achieved in this sample. Costa and McCrae (1992b) found the content of the Agreeableness domain to include trust, straightforwardness, and altruism. These are traits that might mitigate the effects of childhood abuse on a mother's potential to abuse. In the current study, the facets of Trust and Straightforwardness were found to be significant. However, while in the post-hoc tests, trust distinguished the AHAP group from the ALAP and NLAP groups, there was not a significant difference between the ALAP and NLAP groups. The post-hoc test for straightforwardness did not yield any differentiation among any of the groups.

In the study of Mrazek and Mrazek (1987), altruism was one of the factors found to have a strong association with resilience. In assisting others through altruistic behavior, individuals can experience a positive feeling about themselves and can also obtain positive reinforcements from others, thus improving or strengthening self-esteem. In the current study, the overall domain of Agreeableness was significant, but the facet altruism did not demonstrate significance. However, the resilient group did have a higher mean score on altruism than the high-abuse-potential group.

Hypothesis 7. In Hypothesis 7, it was predicted that the four groups would be rank ordered from highest to lowest on conscientiousness as follows: NLAP, ALAP, NHAP, AHAP. The difference between the means on the Conscientiousness domain was significant; however, the predicted rank order of the respective groups was not achieved in this sample. The abused and low-abuse-potential parent group had the highest mean score followed by the NLAP group. The AHAP had the lowest mean score. The fact that the ALAP group had higher scores than the NLAP group, which had been predicted, might be attributed to the strength of the contribution of conscientiousness in resilience.

Resilience implies the degree of characteristics in a resilient individual that might be beyond the average range of conscientiousness. So, although the nonabused and low-abuse-potential mothers, in general, have high scores on four of the personality dimensions and low scores on neuroticism, the mothers in the abused and low-abuse-potential group had more obstacles that they had to overcome in order to grow and develop into a nonabusive parent. An abused yet resilient child learns many important lessons as she matures, such as reaching out for support from others; learning to rely on (and possibly care for) herself; and, sometimes, caring for the abusive parent. Therefore,

it is understandable that the ALAP group could have higher scores on the Conscientiousness domain than the NLAP group.

Costa and McCrae (1992b) described many traits throughout the facets of the Conscientiousness domain that could be associated with successful parenting practices, such as effective, well-organized, diligent, and cautious. Some of the factors in this domain include self-esteem and internal locus of control (Competence facet), organizational ability (Order facet), adherence to ethical principles and moral obligations (Dutifulness facet), ability to begin tasks and carry them through to completion (Self-Discipline facet), and tendency to think before acting (Deliberation facet). Many of these factors have been identified in the resilience literature, which can account for mothers who have been able to overcome their past abuse and to move beyond their adverse experiences to become effective (nonabusive) parents.

Hypothesis 8. In the eighth hypothesis, it was predicted that the four groups would differ significantly on coping resources in decreasing order of coping ability: NLAP, ALAP, NHAP, and AHAP. Although there was a significant difference among the means, the rank order found in the current study was ALAP, NLAP, and AHAP. The finding suggested that those mothers who had been abused as children and who scored low on the potential to abuse actually have better coping skills than those who had not been abused as children. As described earlier with the abused and low-abuse-potential group of mothers having higher scores on conscientiousness, similar findings occurred on coping skills.

Coping skills have been touted as a protective factor that may mediate or ameliorate many negative life situations, such as physical illness, stress, work

dissatisfaction, marital conflict, and child abuse. The hypothesis was supported in the current study. The resilient group had the highest mean score on Coping Skills Inventory – Total Score. In comparing the mean scores, the resilient group and the abused and high-abuse-potential groups were significantly different, but no significance was found between the nonabused and low-abuse-potential group and the other two groups (ALAP and AHAP).

Hammer and Marting (1988) stated that "[C]oping resources are those resources inherent in individuals that enable them to handle stressors more effectively, to experience fewer or less intense symptoms upon exposure to a stressor, or to recover faster from exposure" (p. 2). This instrument was chosen for use in the current study because the authors developed this instrument with an emphasis on resources and competencies rather than deficits. It has been suggested in the literature that coping skills may be a contributing factor in resilience.

Berzonsky (1992) examined the relationship between identity style and strategies used to cope with stress. Those individuals who used "information-processing techniques" (a problem-solving approach) were more successful in terms of coping abilities than the individuals who employ a more diffuse style with a tendency for procrastination and avoidance (emotion-focused coping style). Costa and McCrae (1992b) indicated that anxiety, hostility, and depression impair one's ability to cope.

Azar et al. (1984) looked at two forms of cognitive deficits in abusive parents: unrealistic expectations of their children and problem-solving ability in childrearing situations. The abusive parents clearly expected more of their children and appeared to

experience more difficulties with problem-solving skills when compared to nonabusing mothers.

One might speculate that an individual's coping ability might be influenced by her openness to experience and neuroticism as measured on the NEO-PI-R. Costa and McCrae (1992b) noted that individuals who score high on the Vulnerability facet of Neuroticism tend to be unable to cope with stress. In addition, those who have low scores on the Actions facet of Openness to Experience tend to find change difficult and might have difficulty using novel approaches in problem-solving situations. In the current study, the resilient group had significantly lower scores on Vulnerability than did the abused and high-abuse-potential group. However, on the Actions facet there were no differences.

Hypothesis 9. The four groups were expected to differ significantly on social support in the order of greatest social competence in the ninth hypothesis as measured on the Social Skills Inventory--Total Score. It was predicted that the groups would rank from highest to lowest scores in the following order: NLAP, ALAP, NHAP, and AHAP. This hypothesis was not supported by the data. There was no significance among the means. The rank order was NLAP, AHAP, and ALAP. The predicted order differed in that the abused and high-abuse-potential group had the second highest mean score. The instrument used in the current study was a measure of global social competence. Since significance was not found in the current study on this variable, sample size might explain the lack of significance and the failure to predict the rank order. Another possible explanation is that the Social Skills Inventory measured an individual characteristic rather than an

interactional factor as discussed in studies in which correlations between lack of social support and abusive behavior were found.

The Social Skills Inventory (Riggio, 1989) was selected in the current study because the instrument measured the contribution that the mother brings to the concept of social support. The Social Skills Inventory is based on a "...constellation of basic social communication skills..." that Riggio described as "...social participation skills, such as verbal and emotional expression, regulation of social behavior, and social role-playing abilities" (p. 1). He added that social competence is a "multidimensional construct that includes skills in receiving, decoding, and understanding social information" (pg. 1).

In the current study, not only was there not a significant difference between the groups, but the resilient group had the lowest mean score. The high-abuse-potential group had a higher mean score than the resilient group. One explanation that can account for such a finding is that social competence may not be an appropriate factor to distinguish high-abuse-potential and low-abuse-potential mothers. Individuals who are quite adept at socialization can certainly abuse their children, particularly if child rearing prevents the mothers from socializing.

Caliso (1986) found in his study that the parents who had been abused as children did not expect support from family and others. Other researchers have pointed out relationships between social isolation (lack of social support) and child abuse (Garbarino, 1976; Moncher, 1995). Garbarino and Gilliam (1980) stated that "[A] person with a large reservoir of social support and the skills to use it can cope with a lot of stress. An isolated and socially unskilled person is vulnerable to even low levels of stress" (p. 43). Family support programs were instituted as a means of decreasing the sense of isolation and

providing parenting education for high-risk families. More recently, home-visitor programs have sprouted to assist new mothers with education and support as they learn how to be parents (Emery & Laumann-Billings, 1998). Social support is a multifaceted factor in that individuals contribute as much or more to the solicitation and receipt of support as the provider of support in terms of the availability and provision of support.

Throughout the literature, a lack of social support is one of the major factors reported by parents who abuse their children (Cohen & Wills, 1985; Garbarino, 1976). While some authors claimed that the lack of social support was one of the major causes of child maltreatment, other researchers doubted the scientific evidence posed (Seagull, 1987). Seagull questioned the definition and context of social support. For example, in evaluating support in a couple, the relationship between the spouses can be either supportive, conflictual, or some degree of both characteristics. Belsky and Vondra (1991) compared the various types of support and concluded that the quality of marital relations is a strong predictor of parenting. Albeit, the influence upon parenting might be more indirect since it affects the psychological well-being of the parent(s) as the authors conceded.

In terms of friendships, often the affiliation can be rather one sided and actually deplete one of the individuals of internal resources. Seagull (1987) further pointed out that, in abusive families, it is sometimes more beneficial for the mothers to have less contact with their families of origin if they had been abused as children. Seagull qualified the impact of social support in child maltreatment research as she described the influence that personality factors and locus of control have in the amount of benefit individuals derive from social support. Ganellen and Blaney (1984) investigated the relation between

social support and hardiness on reducing the effects of stress on physical and psychological disturbance. The authors postulated that social support does not have a buffering effect on stress, which was confirmed in their study. "As expected, life stress, social support, and aspects of hardiness are directly related to depression." (p. 161)

Coohey (1996) distinguished two types of support in a study testing a hypothesis of social isolation and child maltreatment. The author identified two concepts: received support ("the actual receipt of supportive resources") and perceived support ("the cognitive appraisal of being reliably connected to others") (p. 243). Coohey acknowledged the difficulty in substantiating the social isolation theory in child abuse literature. Although Coohey's study focused on neglect rather than physical child abuse, she commented about similar findings in the literature regarding the lack of social support for mothers who physically abuse their children as well. Coohey developed a social network questionnaire that measured both received and perceived support. The results did not distinguish between the maltreating and nonmaltreating groups.

In the current study, on the demographic sheet, participants were asked to name the types of support in their lives. All of the mothers were able to name at least one type of support, and many named two or more types. On the surface, participants appeared to know where to turn for support. In actuality, there is no way to know if the participants actually benefited from the supports that were available to them. Based on the question of number and types of support in the current study, no differences were found between the groups thus supporting the results in the study by Coohey (1996).

Similarly, in this study, the construct of social support was confounded and did not have significant findings as measured on the Social Skills Inventory. The instrument

chosen to assess social support captured skills of the mother as opposed to the amount of social support perceived by her. In an extensive review of the literature on social support, Cohen and Wills (1985) evaluated studies on the basis of whether social support was viewed as a buffering model or a main effect model. The review concluded that evidence for both models existed. "Evidence for a buffering model is found when the social support measure assesses the perceived availability of interpersonal resources that are responsive to the needs elicited by stressful events. Evidence for a main effect model is found when the support measure assesses a person's degree of integration in a larger social network" (p. 310). Although evidence was found for both models, the authors concluded that "...each represents a different process through which social support may affect well-being" (p. 310).

Nevertheless, Seagull (1987) offered the framework of social support as part of a complex, multivariate concept within child maltreatment research. Another factor that might contribute to distinguishing between the benefit versus neutrality of social supports is the level of trust present in the parent. Frequent interventions in the treatment for child maltreatment have been made to assist the abusive parent in developing natural supports (neighbors and peer support) in addition to a variety of formal supports, such as counseling, child care, and parenting education. Difficulties arise if the parent has difficulty trusting others or fully utilizing the support that is offered.

Hypothesis 10. It was predicted in the 10th hypothesis that the four groups would show significant statistical difference on family cohesion. The subscale used in Hypothesis 10 was the Family Cohesion subscale because cohesion connotes the degree of commitment, help, and support family members provide for one another according to Moos and Moos

(1994). The predicted order of that difference would be as follows: NLAP would have the highest score on cohesion followed by the remaining parent groups in descending order, ALAP, NLAP, and AHAP. On the cohesion subscale of the Family Environment Scale, there was a significant difference between the AHAP group and the other two groups, and the rank order was as predicted.

The current finding of low family cohesion in the abused and high-abuse-potential group is consistent with results of Mollerstrom et al. (1992), in which parents who reported more disengagement (less cohesion) had higher scores on the CAPI Abuse Scale. The results in the current study are supported by other researchers who employed the Cohesion Scale of the FES. Perry et al. (1983) indicated that perpetrators of physical child abuse see their families as less supportive and less cohesive. In a study by Kolko et al. (1993), parents in the high-abuse group experienced less cohesiveness in their families.

Patchner and Milner (1992) compared the scores on the cohesion subscale of the Family Environment Scale to the scores on the CAPI Abuse Scale. A strong negative relationship was found. The results of the current study allow for clearly distinguishing the abused and high-abuse-potential group from the two low-abuse-potential groups, thus demonstrating a similar comparison. The current findings support the hypothesis that a higher abuse potential is correlated with a perception of less family cohesiveness.

Cook and Kenny (2006) assessed the differences between the individual's perception and assessment of the family (cohesion) versus the concomitant assessment of the member of the family dyad. As with all self-report instruments, there can be a great deal of variance on any given concept dependent upon the respondent(s).

Notwithstanding that the results showed less than 10% of the total variance explained by dyadic factors, the authors did not dismiss the original premise. The authors concluded that "for both theory and practice, it is essential to know if the features that make one family different than another family are the result of characteristics of individuals, dyads, or the family as a whole" (p. 216).

Laing, Phillipson, and Lee (1966) developed the Interpersonal Perception Method (IPM), a 720-question instrument, used to measure 60 dyadic issues such as interdependence and autonomy, warm concern and support, and disparagement and disappointment. The theory behind the instrument involved reciprocity--"reciprocal alienation" (p. 33) and "reciprocal dependence" (p. 34) between two individuals. The practical use proposed was to improve interactions within a couple or any other dyadic relationship. Although perceptions of the individual of herself and another individual can either match or conflict with the perceptions of the dyadic partner, the resulting perceptions influence the quality of the dyadic relationship.

In the current study, cohesion was found to be significant in the prediction of the potential to abuse. Although Cook and Kenny (2006) postulated variation in the degree of cohesion in the family system based upon the individual responding to the question, the reality is that an individual's perception of a situation greatly impacts how she will respond to interactions with others in her family as well as in the larger social system.

Martin and Elmer (1992) looked at adults who had been severely battered as children. They had described their birth families as less cohesive than the families with whom they had been placed. In this study, the trauma of the severe abuse incurred in the family of origin may have been mediated by the protective factor of the increased

cohesion of the placement family. Perry et al. (1983) and Kolko et al. (1993) found that a lack of family cohesion implies a lack of support and trust, some of the components of a healthy and resilient existence.

If the mother herself experienced early deprivation or abuse, her feelings of inadequacy, frustration, and loneliness can lead to a role reversal with her child, and she might seek love and care from the child. When the expected "mothering" is not forthcoming, the mother might lash out at her child. As a result of the early potentially harmful experiences, the mother might succumb to mental illness, personality disorders, substance abuse, or perpetrate child maltreatment.

Parents who have personality disorders or alcoholism also have less cohesiveness in their families. Weaver and Clum (1993) studied the relationship between childhood trauma experience: child abuse, early separation experiences, witnessed violence, and family environment characteristics in individuals. They compared two groups, those diagnosed with Borderline Personality Disorder (BPD) and those individuals without this diagnosis (NBPD). There was a significant finding of less family cohesiveness in the BPD group compared with the group without the diagnosis.

Bijttebier, Goethals, and Ansoms (2006) used the FES - Cohesion Scale to see if parental drinking and low global self-worth was mediated by family cohesion. Evidence was found in the study which supported previous literature "COA's [Children of Alcoholics] seem to have a lower sense of global self-worth in part because the family they live in is less cohesive than nonalcoholic families" (p. 129). However, the authors concluded that it is plausible that family cohesion is one of a number of "either mediators or moderators, either risk or protective factors" (p.129). This supports the

multidimensional dynamic process of family systems in that family cohesion is one of the factors that serves a protective function in a high-risk family.

Secondary Analyses

A discriminant function analysis was undertaken for the purpose of exploring which variables were involved in predicting group membership in the three groups and which of the variables are the best predictors of abuse potential. Of the two discriminant functions, only the first was significant, and it accounted for 94.8% of the variability. In terms of discriminating between the groups, the AHAP group was able to be distinguished from the other two groups (ALAP and NLAP); however, the two low-abuse-potential groups were not significantly different. The DFA correctly predicted group membership overall for 68% of the cases with the AHAP group having the best rate of prediction (81%). During cross-validation, the rates of prediction were slightly lower with the overall rate 60% and the AHAP group at 75%.

In the discriminant function analysis, five of the eight variables demonstrated significance in the first function. The variables that distinguished the groups were neuroticism, agreeableness, conscientiousness, cohesion and coping. Some of the facets on three of the five domains on the NEO-PI-R were significant and seem to support the literature in terms of protective or risk factors.

In studies in which a cut-off score of 215, as described in the manual (Milner, 1986), is used, the classification rates for physical abusers ranged from 73% to 90% (Milner, Gold, & Wimberley, 1986; Milner & Robertson, 1989; Milner & Wimberley, 1980). In the current research, the prediction rates for the abused and high-abuse-

potential group were similar to the results by Milner and other authors; however, overall prediction rates in the current study were slightly lower.

The largest contribution among the variables was neuroticism and was in a positive direction. Neuroticism had the highest factor loading, suggesting that individuals who have a high score in neuroticism are more likely to have a higher abuse potential as predicted. Cohesion had the strongest negative contribution implying that mothers who viewed their families as less cohesive tended to score higher on abuse potential. This was also predicted. Consistent with the neuroticism hypothesis, a strong correlation between neuroticism and high-abuse potential was evident, thus supporting the relevance of individual characteristics in physical child abuse.

More modest positive contributions were found for SSI - Total and negative contributions for agreeableness and extraversion. A smaller contribution was evident for CRI - Total. Openness and conscientiousness showed minimal contributions. Although their associations were not as strong, negative factor loadings for CRI - Total, agreeableness, conscientiousness, and extraversion were noted indicating that mothers with higher abuse potentials were less likely to score high on these constructs. This finding is not as strong as the results of the analysis of variance in which significance was found between the groups on coping, agreeableness, and conscientiousness. In light of the corroboration of significance in the discriminant function analysis and ANOVA analyses for coping skills and agreeableness, these factors clearly distinguish between high and low abuse potential in the current sample. Although conscientiousness appeared to have a minimal contribution in the discriminant function analysis, the AHAP group was significantly different from the ALAP group in the post-hoc comparison on the ANOVA.

Additional analyses were run on the subscales of the CAPI. The Abuse scale (CAPI) along with the Violence scale (CTS) had been used to classify the mothers into one of three groups (AHAP, ALAP, and NLAP). Milner (1986) divided the Abuse scale into two categories of subscales: psychological difficulties (Distress, Rigidity, and Unhappiness) and interactional problems (Problems with Child and Self, Problems with Family, and Problems from Others). After the initial CAPI was developed, the loneliness factor merged with distress, although a separate score is still available. Ego strength is another score that is available but is not a major focus in numerous studies on the CAPI. As expected, significance was noted on all of the subscales.

On the psychological difficulties subscales, Distress and Unhappiness yielded significant differences between the AHAP group and the other two groups (ALAP and NLAP), although the difference between the ALAP and NLAP groups did not reach significance. On the Rigidity subscale, the only significant difference was between the AHAP and the ALAP groups. In a study by Lahey et al. (1984), abusive parents reported more depression and physical distress than the control mothers. Thus, the current study supported the findings by Lahey et al. regarding an association between abuse potential and depression and physical distress.

On the interactional problems subscales, a significant difference among all three groups was evident on the Problems with Family subscale. Significant differences on Problems with Others were noted between the AHAP group and the other two groups (ALAP and NLAP), but not between the ALAP and NLAP groups. Problems with Child and Self did not show significance between any groups. On the Loneliness subscale, significant differences between groups were the same as on the Distress subscale since

they measure some of the same information. Ego Strength was significant between the AHAP group and the other two groups (ALAP and NLAP) although not between the ALAP and NLAP groups.

One of the primary variables in the initial analysis was Cohesion on the Family Environment Scale. Subsequent analysis was run on the Conflict subscale (FES). The AHAP group significantly differed from the ALAP and NLAP groups on this variable. There was a large significant correlation (.66) between family conflict (FES) and problems with family (CAPI). In a study by Trickett and Susman (1988), abusive parents reported "greater amounts of conflict and less expression of positive emotions" when compared to nonabusive parents as measured on the Family Environment Scale (p. 274). The authors also found that abusive parents were "less satisfied with their children and perceive(d) child rearing to be more difficult" (p. 274) than the nonabusive parents.

Multidimensional Factors

Many studies have been focused on multiple factors in the etiology of child maltreatment. Rodriguez and Green (1997) compared the scores on the CAPI Abuse Scale with scores on the Parenting Stress Index (PSI) and the State-Trait Anger Expression Inventory (STAXI). Findings revealed that scores on both the PSI and on the STAXI Anger Expression both predicted individually and jointly the scores on the CAPI Abuse Scale. In the current study, Angry Hostility scores were significantly elevated for the abused and high-abuse-potential group, which is in line with these findings. In the current study, the Vulnerability facet, used to measure vulnerability to stress and inability to cope with stress, was also elevated in the AHAP group further buttressing the results by Rodriguez and Green.

The results documented in a study by Kinard (1996) showed a strong relationship between maternal depression and less perceived support from families and partners in mothers of abused children. Results in the current study support Kinard's findings, although depression, in the current study, was the stronger contributing variable.

Resilience

Resilience, as a construct, was defined in the current study as those factors associated with the mothers (ALAP) who had a childhood history of physical abuse who exhibit scores below the cutoff score of 215 on the CAPI Abuse Scale. The comparison between the ALAP group and the abused and high-abuse-potential group (AHAP) provided the data used in the exploration of resilience in this study. Neuroticism was negatively related to resilience as evidenced in the significant group differences in the analysis of variance as well as in the discriminant function analysis. The resilient mothers had lower scores on all of the Neuroticism facets: Anxiety, Angry Hostility, Depression, Self-Consciousness, Impulsiveness, and Vulnerability.

In their initial study, Kochanska, Aksan, Penney, and Boldt (2007) stated that the personality of the parents moderated the impact of adversity experienced during childhood on parental behavior and affect. Although the work was preliminary, it showed a direction for future research regarding links between individual differences of parents, parenting styles, and children's outcomes.

In a joint project between researchers and clinicians via Project Competence in Michigan, Garmezy and Masten (1986) studied stress, competence, and resilience in children. They noted that stability and cohesion in families "may not only be powerful

predictors of competence, but may also moderate the effects of stressful events on certain aspects of competence" (p. 515).

A number of authors have proclaimed the resilience of humans in overcoming a variety of internal as well as external adversities (Beardslee, 1989; Pellegrini, 1990; Rutter, 1987; Walsh, 1998). Werner and Smith (1998) conducted a longitudinal study of resilient children in Kauai. These authors revised the nature-nurture conundrum as findings unfolded during their study. In addition to the "child's constitutional make-up and the quality of his or her caretaking environment" Werner and Smith expanded on a "dynamic transactional model" (pp. 4-5) in an attempt to explain the enigma of the resilient children who emerged from high-risk environments.

Siebert (1996) compiled a compendium of his research and drew from the research of others as well as from anecdotal information regarding the "The Survivor Personality", which is the title of his book. In the book he described resilient personality characteristics and subconscious resources, such as flexibility, empathy, curiosity, and creativity. Some of these traits were measured on the NEO-PI-R (Costa & McCrae, 1992b); however, none of the facets showed significant differences between the groups in the current study. The Tender-Mindedness facet on the Agreeableness domain measured empathy. On the Openness to Experience domain, the Fantasy facet was associated with creativity, and the Ideas facet was indicative of curiosity, but none showed significance in the current study.

Clinical Implications

In the practice of family therapy as well as in the research in this field, reducing family violence and healing the trauma from family violence have been challenging. For

decades, breaking the cycle of child abuse has been the mantra. More recent research in the field of physical child abuse has led to questioning the cycle of child abuse and exploring resilience factors, including individual and family characteristics, both in healing trauma and in reducing or eliminating family violence. Milner (1994) provided additional clarification of the uses and limitations of the CAPI in this article and also described some preliminary work on detecting "global treatment effects, when the intervention goal is to reduce participants' risk for physical child abuse" (p. 578).

The Child Abuse Potential Inventory (Milner, 1986) was initially designed as a screening tool for the detection of physical child abuse. The tool has been in use for over two decades and has undergone extensive reliability and validity studies, resulting in solid replication studies. Milner also suggested that the instrument can be used pretreatment for treatment planning and posttreatment to measure the effectiveness of treatment. The challenge in the field of child welfare has been the subgroup of parents who continue to maltreat their children after repeated interventions. Using the CAPI is one objective measure in the attempt to focus on specific barriers to treatment of an abusive parent. The results in the current study found significant differences between high abuse potential and a number of variables that were studied.

Maternal depression has been noted in numerous studies on child physical abuse (Chaffin et al., 1995). In the current study, the Neuroticism domain, which includes facets related to negative affects, was one of the strongest predictors of abuse potential. Neuroticism clearly distinguished the high-abuse-potential group from the two low-abuse-potential groups in the analysis of variance. In the discriminant function analysis, neuroticism demonstrated the strongest relationship with the first function, which was

significant. The results further demonstrated that the high-abuse-potential group was significantly differentiated from the low-abuse-potential groups. This has important implications beginning with postpartum depression and its treatment as well as in other types of depression. In the classification results, the discriminant function analysis was able to correctly predict 81.3% of the AHAP group. In the cross-validation classification, 75% of the AHAP group was correctly predicted. Both of the classification rates indicated the strength of the prediction of abuse potential in this study.

Some of the more serious abuse cases including child fatalities involved mothers with severe postpartum depression. Risk assessment with subsequent psychotherapy, home visiting, and close monitoring of the family by extended family or other supportive network is not only preventative, but also ameliorative. Depression has been associated with bonding and attachment disturbances between mothers and their children. Obstetricians, pediatricians, home visitors, and teachers can reach out to mothers who suffer from depression by making appropriate referrals or offering support and resources.

Mammen, Kolko, and Pilkonis (2002) found strong relationships between Minor Physical Violence and Depression on the Beck Depression Inventory and on Hostility on the Brief Symptom Inventory. The authors concluded that further attention should be focused on "emotion-focused treatments in physically abusive parents" (p. 407). The findings in the current study supported the results in the study by Mammen et al. Significant mean differences between the AHAP group and each of the two low-abuse-potential groups were noted on Depression and Angry Hostility on the NEO-PI-R. Additional significant differences between the same groups were found in the current study on the other facets of Neuroticism: Anxiety, Self-Consciousness, and Vulnerability,

thus lending further support for addressing affect and emotion in the treatment of abusive parents.

Clinical treatment is dependent upon the type of affect or emotion exhibited by the parent in families in which emotions are inhibited; emphasis in treatment on the expression of emotions is indicated. On the other hand, in families in which emotions override effective communication, the primary goal in treatment is to improve communication and possibly problem-solving strategies. In order to resolve family conflicts, it might be necessary to use cognitive therapeutic techniques such as encouraging the use of "I" statements with role playing during therapy sessions. Behavioral therapy is extremely useful to parents who have difficulty responding without emotional overreaction to the misbehavior of their children. A psychoeducational approach might include helping parents learn how to empathize with their children, learn anger and impulse control, as well as time and home management skills.

Temperament and emotions play a role in social-interactional processes such as parent-child and marital relationships. Strelau (2001) created a theoretical model using temperament as a moderator in the relationship between stress and coping. Some of the personality dimensions studied were hardiness, locus of control, and emotional reactivity. "Certain traits such as neuroticism, emotionality, and emotional reactivity also operate as moderators of the state of stress by increasing or decreasing the individual's emotional response to stressors" (p. 161). The results in the current study supported the theoretical model of temperament and affective states as moderating the abuse potential, thus further strengthening the need for treatment plans that include assessment and therapeutic goals inclusive of a mother's vulnerability (hardiness), perceived competence (locus of

control), and anxiety and angry hostility (emotional reactivity) as measured on the NEO-PI-R. Significant mean differences between the AHAP group and the other two low-abuse-potential groups were found on Competence, which includes self-esteem and locus of control.

Marziali, Damianakis and Trocmé (2003) proposed a theoretical model for this subgroup of parents including three areas of functioning: "...failures in establishing and maintaining mutually supportive relationships...deficits in regulating emotions that interfere with implementation of effective problem-solving strategies, and...characteristics of chronic problems in goal achievement and self-esteem maintenance" (p. 530). They recommended further research to assist treatment providers in identifying personality problems that interfere with the parents' abilities to access and benefit from treatment programs.

Straus et al. (1980) completed an 8-year study based on 2,000 interviews and research investigating family violence. Out of this study emerged a Child Abuse "Prediction" Checklist produced after a discriminant analysis isolated 18 parental characteristics. The importance of the family system in which the members were dependent upon each other became apparent. In looking at abusive mothers, Straus et al. found that husband-wife conflict in the family resulted in higher rates of child abuse. Stress caused by economic deprivation was another factor that emerged. Age was significant in that mothers who were under the age of 30 were more likely to abuse their children. The authors also noted that mothers who had been physically punished after the age of 13 by either parent were also more likely to physically abuse their own children. This study underscores the need to assess marital and family issues in abusive families.

Some relevant factors in the current research that were related to the findings described by Straus et al. (1980) were the age, marital status, and income of the mothers. Although age did not provide significant results, the mean age of the mothers in the high-abuse-potential group was lower than the other two groups. Significant findings regarding marital status suggested that the percentage of mothers in the high-abuse-potential group overwhelmingly did not have a current husband or partner. Income of participants in the current study supported the findings by Straus et al. in that the AHAP group reported significantly lower incomes than the other two groups.

In the current study, income source was also significant. The mothers in the resilient group not only had higher incomes but also had income from outside sources, which included a spouse/partner. If mothers who do not have the resources of a spouse/partner or adequate income, the implications for intervention might consist of assisting the mothers with accessing supports such as cash aid, community support, or parenting resource centers.

Other dynamics in the family contributing to increased child abuse are unmet needs of the parents who grew up in homes where abuse was present, but nurturance and protection were lacking (Kaplan et al., 1983). Steele and Pollock (1974) identified family issues such as parents' unrealistic expectations of their children, a basic lack of trust in others, and conflicted or nonexisting relationships with their spouses, extended family, and peers. In the present study, significant differences were observed on the Trust facet in the Agreeableness domain on the NEO-PI-R. Erikson (1980) emphasized the importance of parents creating a basic sense of trust in the first year of a child's life in order for normal development to occur. If the parent herself did not have her basic needs met and

thus developed mistrust, her own parenting skills would be limited, if not neglectful and/or abusive.

Although Bowlby (1984) described a variety of individual characteristics in abusing mothers, he indicated that some common issues have become apparent. He found that abusing individuals are "prone to periods of intense anxiety punctuated by outbursts of violent anger, they are said to be impulsive and 'immature'" (p. 14). In the current research study, there was a tendency toward Impulsiveness on the Neuroticism domain as the facet approached significance. "Although their 'dependency needs' are described as exceptionally strong, they are extremely distrustful and consequently unable or unwilling to make close relationships" (pp.14-15). In the current study, significance was found on the Trust facet of the Agreeableness domain on the NEO-PI-R. Significant mean differences were found between the AHAP group and each of the two low-abuse-potential groups, indicating a need to consider trust in the treatment of abusive parents.

Parents who experienced insecure, conflictual, or rejecting relationships within their families of origin may not have developed control over their own lives or the ability to trust that their needs will be met. Assisting parents in developing a treatment plan that addresses their needs is the first step in helping the parent become more autonomous. In some cases, starting slowly with referrals for basic things such as housing, food, and child care can help the parent see tangible benefits that resulted from her relationship with the treatment provider, thus starting to build a foundation of trust.

Kagan and Schlosberg (1989) cautioned clinicians against moving in too fast in therapy with crisis-oriented families. The authors warned that multiproblem families could seduce the therapist into their repetitive patterns of unsuccessful attempts to handle

crises. Then, ultimately, when treatment fails, the family's tendency to not trust others is reinforced. The therapeutic approach used by Kagan and Schlosberg in working with abusive families is to support the families in developing autonomy. This developmental approach focuses on promoting growth through parents taking control. In the families in which abuse is intergenerational, family members learn to avoid painful experiences and feelings by living from crisis to crisis without learning new ways of interacting or resolving problems. Typically, families in continual crisis end up pushing others away because they never change. Results in the current study supported such a cautious approach with mothers who had higher abuse potential scores and who also had lower scores on the Trust facet.

Although this study had involved exploring individual characteristics of mothers who have a high potential to abuse, a significant finding on family cohesion indicated that family therapy in addition to individual treatment might be beneficial. In the current study, in the discriminant function analysis, cohesion was the second highest factor that contributed to the discrimination of the AHAP group from the two low-abuse-potential groups. A similar robust finding was observed in the hypothesis testing for cohesion in which the AHAP group was significantly different from the two low-abuse-potential groups on the post-hoc tests. Trickett and Susman (1988) found a similar combination of individual and family problems as noted in the current study including "...greater amounts of conflict and less expression of positive emotions in the abusive homes..." (p. 274). In addition, "...a picture emerges of a child-rearing context that is considerably more negative for abused children -- one in which the expression of positive emotions

such as affection and satisfaction is suppressed but in which the expression of conflict, anger, and anxiety is rampant" (p. 274).

Hamilton et al. (1987) noted that mothers who abuse their children often encountered many negative experiences in their own childhoods often resulting in low self-esteem, greater need for nurturance and, as a result, they might engage in impulsive and hostile behaviors in response to stressors. Couples and family therapy can be effective since relationship patterns tend to reoccur until new ways of interacting replace the old, ineffective patterns. Hamilton et al. indicated that abusers described impoverished relationships with family in addition to "view[ing] their children as troublesome and demanding" (p. 218).

The findings by Mammen at al. (2002) and the current study had similar results regarding the relationship between hostility and violence. Mammen et al. suggested that mothers who approach parenting tasks with adversarial perspectives have greater tendencies to deal with the behavior of their children in a more aggressive manner. In the current study, mothers who have high scores on the Angry Hostility facet also had significantly higher abuse potential scores, thus indicating that a more adversarial disposition and tendency to react aggressively toward their children is likely.

In a systems model, a healthy family system is dependent upon relationships, interactions, and interdependence of the family members. If one member approaches the interactions from an adversarial rather than a cooperative perspective, communication and connection among family members are hindered, or even nonexistent. Helping family members build connections and learn to collaborate can begin with simple therapeutic assignments such as sharing meals and activities. After achieving smaller successes,

families can continue to strengthen the budding connections out of which families can continue to grow and heal from past traumas and conflicts.

Terr (1970) followed the progress of 10 cases of suspected child abuse over a 10-year period. Three major issues of family dynamics emerged. Individual parents revealed fantasies regarding fear of their children or that their children are not fulfilling a wish. A second issue was "an exaggerated dominant-submissive pattern in the marriage," which is related to the abuse pattern (p. 130). The hostility between the parents was then directed toward the child. The third salient observation was the contribution of the characteristics of the child in the abusive parent-child relationship, for example, birth defects or physical characteristic that might disappoint, anger or frustrate the parent. Terr recommended couples and family treatment. Although angry hostility and family cohesiveness were significant factors in the current study, characteristics of the child were not explored. However, mothers in the high-abuse group clearly had significantly higher scores on the Angry Hostility facet.

Eleana Gil (1996), a marriage, family, and child therapist, has written extensively on the treatment of abused children and abusive families. She is a proponent of systemic treatment due to the "nature of reciprocity in relationships" (p. xvii). In treating families who abuse, "attention to the interactions among the abusive parent, the abused child, the nonabused siblings, and the nonabusive parent, who often contributed to the familial conflict" is critical, according to Gil (p. xvii). She has been a strong advocate for maintaining children in the home while the therapeutic work is done, but she underscores maintaining the safety and well-being of the child. Child-Protective-Service workers need to consider specific maternal personality traits, such as angry hostility and impulsiveness

in evaluating risk of potential harm toward children. In addition, in the current study, family cohesion and family conflict were strongly associated with child abuse potential; both of these factors are also noteworthy in the decision-making process in child welfare.

As many researchers have promulgated, child maltreatment is multifaceted and multidimensional, thus requiring multilevel treatment modalities. Emery and Laumann-Billings (1998) suggested that treatment plans include recommendations for a combination of behavioral methods, stress management, and relationship skills. Cirillo and DiBlasio (1989/1992) developed a model of treating families who abuse. This requires attention to individual, family, social, and cultural dimensions as well as precipitating and mediating factors. The authors advocated working closely with social-service agencies in order to not remove children from their homes while keeping the safety of the children paramount.

Pardeck (2004) reviewed three types of family-therapy interventions that are used with maltreated children and their families. He also provided a case example for illustrative purposes. Because of the multidimensional nature of child maltreatment, Pardeck recommended using interactional family therapy, which utilizes an ecological and systemic approach. Walsh (1998) included and expanded on the interactional approach. She stated, "Interventions that enhance positive interactions, support coping efforts, and build extrafamilial resources are more effective in reducing stress, enhancing pride and competence, and promoting effective functioning" (p. 241). The aforementioned therapeutic interventions would address the concerns that emerged in the current study regarding diminished family cohesivesness, effective coping skills, and competence in abused and high-abuse-potential mothers.

Obtaining social support is partially dependent upon the individual's ability to relate to others with an appropriate level of social skill. Some factors that can interfere with continued social support are the inability of the individual to seek support initially or to allow enough interaction to continue in order to derive benefit from the support. Screening for social skills can be useful in couples as well as in individual counseling and therapy. In designing the Social Skills Inventory, Riggio (1989) saw the utility of such an instrument in helping clinicians to target specific skill deficiencies for remediation.

A noteworthy observation in the current study is the number of social workers and therapists in the sample. Elliott and Guy (1993) found that "women therapists appear to come from more chaotic families of origin. In spite of this, as adults, they experience no greater, and in many areas significantly less, psychological distress than do other professionals" (p. 89). However, with this population, in general, it is expected that the women are higher functioning in a number of areas, such as, cognitive and emotional, as well as in performance on the job.

Family cohesion was one of the significant variables in the current study. This finding would indicate that high-risk mothers would benefit from treatment via a family-systems approach with a focus on strengthening family cohesion. Walsh (1998) pointed out that the concept of family resilience is often overlooked since much of the research has been focused on resilience of the individual victim who has been able to overcome adversity. However, it is sometimes more beneficial to call on the shared resources available within the family system, even high-risk families. In a strength-based, family-focused treatment world, the social worker and/or clinician can use the presenting strengths of a particular family and help the family build on those strengths as the family

members increase confidence and competence. Families can be helped to decrease conflict and increase cohesion as well.

As mentioned earlier, the CAPI has been used pre- and posttreatment to measure the effects of treatment and has also been correlated with parents who leave treatment prematurely (Milner, 1994). The NEO-PI-R can serve a similar function particularly pretreatment in order to formulate treatment plans. The utility of the five-factor model for psychodiagnostic purposes and treatment selection was postulated by Costa (1991) and others. One way in which the NEO-PI-R has been used is to share with the client a profile on which her scores on each of the domains and facets is plotted. Costa and McCrae (1992b) suggested that these scores be considered in conjunction with other information such as the client's history, presenting problems, and other psychological test data, particularly in a clinical setting as is typically the case. Costa and McCrae (1992b) further speculated that the instrument might be used with couples as they compare their perceptions and work together in couples therapy. Finally, information about the way the couples raise their children could be gleaned.

Limitations

This study involved voluntary participants who were mothers. In reviewing the child abuse literature, there has been more research focused on mother-child physical abuse than on physical abuse by fathers. Gelles (1987) stated "The most physically aggressive parent is the mother" (p. 55) in a study in which he found that 94% of the mothers versus 65% of the fathers hit their children regularly. One of the reasons for this imbalance is the fact that mothers have traditionally been the caretakers and consequently spend more time with their children, which can lead to frustration and aggression.

Mothers have been held responsible by child protective authorities if their children were injured or murdered by their husbands or boyfriends because they should have protected their children. Mothers were also blamed for causing schizophrenia in their offspring with terminology such as "schizophrenogenic" mothers (Mitchell, 1968).

In contrast, historically, men have been touted as the perpetrators of sexual abuse and spouse battery. Thus, much of the research in these two areas has focused on male perpetrators. With the advent of women's rights, soaring divorce rates, the changing composition of family systems, and more attention to child protection, society and eventually research needs to expand the focus of exploration to include nontraditional populations, such as male perpetrators of physical child abuse. Margolin (1992) advocated for "developing theories that penetrate the interrelatedness of gender in all forms of violence" (p. 421). Women were selected to be studied in the current research because the study was inspired by a dissertation by Caliso (1986) who focused on mothers. A gender comparison was not the focal point in the current study. However, future research is recommended to tease out the multidimensional factors contributing to maltreatment caused by fathers. It will be interesting to note if there are differences in terms of individual, family, and social variables given the generalizations of males as more aggressive and females as more nurturing (Margolin, 1992).

The original intent of this investigation was to study mothers who had substantiated reports of physical child abuse, but less than a handful of mothers from the local child-protective-services agency were willing to participate, none of whom had physically abused their children. In the current study, there was no question asked of the mothers as to whether they had abused their children as defined by state child welfare

code, which is an ethical and sensitive area of inquiry. It is possible that some of the mothers met the definition of abusing parent; however, this information was not available.

It was necessary to adapt the grouping variable of the abused and abusing parent by redefining "abusing" to "abuse potential" as measured by the Abuse scale on the Child Abuse Potential Inventory. The abused and abusing group was subsequently changed to abused and high-abuse-potential group in the current study. Therefore, caution must be used when looking at the differences among the groups since the potential to abuse one's child is different from actual abuse. Even though the CAPI Abuse scale has very high internal consistency reliabilities for abusers and for controls, Milner (1986) cautioned against using the CAPI in the general population since a percentage of the sample would be misclassified.

In the present study, I chose the higher of the two cut-off scores to classify the mothers with the potential to abuse or the potential to not abuse their children. The more conservative cut-off score allowed for more potent distinction among the groups; however, group sizes might have been more equitable if the lower cut-off score had been used. I chose the more cautious path since the original intent of this study was to examine the differences between "abusing" and "nonabusing" parents, but the current study subsequently explored the differences between mothers with high- and low-abuse potential instead.

Milner (1986) acknowledged the difficulty in obtaining research participants with substantiated reports of child abuse and stated that the CAPI can be used "in a variety of theoretical research projects....Since active physical child abusers are usually difficult to

obtain in large numbers for research purposes, preliminary investigations can be undertaken using experimental [sic] groups created from individuals with high and low CAP abuse scores" (p. 5). In the CAPI manual, Milner reported overall internal consistency for the abuse scale as ".92-.96 for controls and .95-.98 for abusers" (p. 35).

Another question that was not asked was whether the mother had neglected her child. The practicality of how to ask such a question is beyond the scope of a single question but more in the realm of a questionnaire. Nevertheless, in the field of child welfare, often the allegations of child abuse and neglect go hand in hand. Similar findings in the child-abuse literature might be applicable to parents who are neglectful of their children.

There is a large percentage of mothers with substance abuse issues who have substantiated reports of child abuse. This question was also not asked in this study, but it is likely that some participants had current or historical experience with substance abuse.

The participants completed self-report questionnaires. With self-report studies, there is no presumption of causality, but rather correlational information that is reportable. Therefore, associations between variables might be speculative at the least or might lend further support to findings in previous studies. Such findings might also suggest future research in a particular area. Retrospective studies are limited in terms of generalizability. Researchers have been critical of retrospective self-report measures over the years; however, many studies have been based on questionnaires on a variety of social-science research problems. In the present study participants were given questions about their childhoods. It is important to take into account the possibility of inaccuracies in past memories such that individuals can deny or exaggerate past events.

Some individuals might respond in a more favorable way because of social desirability, whereas others tend to have a more pessimistic perception of their childhoods and of their lives in general. Due to elevated scores on the validity scale scores on the CAPI, the protocols of 20 participants were excluded prior to the completion of data collection. Couch and Keniston (1960) did an extensive study on tendencies to agree or disagree with items on questionnaires despite their contents. The authors described two personality types based on psychoanalytic theory (ego functioning) that emerged --"...yeasayers have relatively 'passive' (releasing) egos, as contrasted with the more 'active' (controlling) egos of the naysayers" (p. 170). Remedies for such confounding factors are lie scales, such as on the CAPI, and a balance between positive and negative items, such as found on the Coping Resources Inventory and Social Skills Inventory.

Social support has been found to mediate negative childhood experiences such as physical child abuse. Providing resources and social support to high-risk families was proposed by Walsh (1998). Such strength-based efforts can be preventive as well as ameliorative. Thompson (1994) acknowledged that obtaining social support is not a passive process. He stated that "support must be sought, accessed, and maintained by the recipient" (p. 68). Personal characteristics, such as motivation for seeking help and a perception that help is worth seeking have an effect on the successful provision of support.

On the demographic questionnaire in this study, the mothers were asked to place a check mark next to all of the types of support in their lives. All of the mothers in the sample listed at least one type of support with a majority listing two or three types of

support. Significance between the groups was not evident. The mothers' social skills were measured by a global social competence scale (SSI); however, the measure and subsequent finding was not indicative of the mother's use or ability to use social supports but was rather a measure of her own social skills. Therefore, the SSI may not have measured the construct of social support. In an exploratory study, Weinraub and Wolf (1983) used the Social Network Form that they had developed to compare the nature and extent of social supports between single and married mothers on mother-child interactions. The results indicated that single mothers experienced greater stress and received significantly less support from their social network.

The Family Environment Scale involves a respondent's descriptive self-report of her family. One limitation that is evident is that the participant's perceptions of her current family can be very different from her current family situation as opposed to the time period during which she was raising her young children particularly for mothers with adult children. In terms of comparison purposes, it is impossible to know exactly what point in time the participant was evaluating, although the instruction was to evaluate the current family constellation. This dilemma is particularly noticeable in the current study because of the wide age range of the mothers.

The age of the mothers ranged from 23 to 64, suggesting a variety of developmental stages and a wide range of ages of their children. In measuring the abuse potential of a young mother with children in the 0 to 5 age range in contrast with a mother in her fifties with adult children, a variety of factors might come into play in addition to the variables measured in this study, such as the older mother's memory of

child rearing. In addition, a mother's view of childrearing at age 50 versus a mother of 30 might look very different.

Another limitation involves one family member's perception of a family system without input from other family members. The Family Environment Scale has been useful in treating family systems in which the FES profiles are shared among family members as actual and preferred family climates are compared. Information on the FES profiles is often used to develop family treatment plans and to monitor progress (Moos & Moos, 1994). All human beings are social and interactional and responsive to the "reciprocal influences between the family environment and family members' functioning" (p. 69). The authors described a variety of dimensions ranging from conflict and cohesion within the family to intellectual-cultural and moral-religious aspects illustrating a parallel multilevel process within the family system as also evidenced within the concept of child maltreatment and indicative of future research.

The fact that the questionnaires were completed at one moment in time is a further limitation. For some individuals, transient emotional states are likely to have an affect on their responses to questions on a survey. Affective states such as anxiety and/or depression can change one's view of the world at a given moment. However, Costa and McCrae (1992b) indicated that personality traits are very stable in adults.

On the demographic questionnaire, the participants answered questions about a variety of experiences during their childhoods, including physical abuse, sexual abuse, and domestic violence. The challenge of separating the presence or absence as well as the degree of each type of abuse and/or negative childhood experience, particularly in

conjunction with the degree of accuracy of specific memories, further limits generalizability.

Another limitation was the unequal group sizes. The ALAP group had 55 participants, while the AHAP and the NLAP had 16 and 9 participants, respectively. Although significance was found in the mean differences and in the discriminant function analysis, the results are not as robust as a study with equal groups.

Implications for Future Research

This study limited the participants to mothers over the age of 18. Future research is indicated for fathers and teen mothers. Also, for comparison purposes, a narrower range of ages for mothers would allow more accurate data in terms of comparing mothers of children in the child-rearing stage as opposed to mothers of adult children. There is a dearth of studies with fathers in the child-abuse literature. In the literature on child abuse, the age of the mother has been shown to be related to a higher incidence of physical child abuse.

There has been a resurgence of trait theory and research studies using the five-factor model of personality. Three of the five factors in the model were found to be significant in both the initial analysis and the secondary analyses in the current study. Further research using personality traits is indicated in order to shed further light on improving prevention and treatment of parents who physically abuse their children.

The current sample consisted of predominantly Caucasian women; therefore, additional research including a more diverse sample is desirable. Future research should also contain questions about substance abuse since there reportedly is a high incidence within the child-abusing population.

Researchers can also explore the types of negative experiences of the parents to separate out physical abuse, sexual abuse, and domestic violence. A question that might be posed is to determine if one type of experience has more or less of an effect on resilience. Perhaps there is a negative cumulative affect with each additional type of potentially harmful experience. In the present study, participants were asked questions about their families of origin and by whom they had been raised. Although natural parents were distinguished from foster/adoptive parents, there were not enough participants raised by foster or adoptive parents within the current sample to provide additional information in the analyses.

The current study focused on individual characteristics of the mother as measured on the NEO-PI-R. Research studies designed to assess the impact of neurological aspects and physiological reactivity on child abuse potential need to be further explored in the future.

Summary and Conclusion

At first glance, there were several challenges noted in the current study including the redefinition of "abusing" to "abuse potential." Also, the group sizes were unequal, and there were no participants in the nonabused and high-abuse-potential group (NHAP). However, some significant findings emerged (see Figure 3). It was hypothesized that the groups would differ on the two variables (CTS - Violence scale and CAPI - Abuse scale) that were used to classify the participants into the categorical groups: abused and high-abuse-potential, abused and low-abuse-potential, nonabused and high-abuse-potential, and nonabused and low-abuse-potential. The results were significant and groups were formed based on the results.

Although significant differences were found on the CTS - Violence scale, the prediction that the two abused groups (AHAP and ALAP) would not differ from each other, but would differ from the two nonabused groups was not realized. In fact, all three groups showed significant differences in the mean scores. The results indicated that the severity of the perceived abuse in childhood by the AHAP group was significantly greater than the abuse reported by the ALAP group.

It was hypothesized that the groups would differ on the five domains of personality characteristics described in the five-factor model of personality. Significance was found on three of the five factors--Neuroticism, Agreeableness, and Conscientiousness as well as some of the facets within the domains. The Neuroticism domain was a significant factor in the both the analysis of variance and the discriminant function analysis. Clearly, neuroticism contributed to the discrimination between the groups in terms of the potential to abuse.

Within the domain of Neuroticism, significant differences were found between the AHAP and ALAP groups on all of the facets (Anxiety, Angry Hostility, Depression, Self-Consciousness, and Vulnerability). Neuroticism was also found to be the variable in the discriminant function analysis to make the largest contribution in discriminating between the three groups. Such a significant finding merits further research in light of the number of studies that have observed strong correlations between depression and abuse potential as well as with physical child abuse. Previous studies have measured depression in mothers who have physically abused their children with a variety of instruments; however, no published studies that have used the NEO Personality Inventory with this population in the study of physical child abuse have been noted.

Furthermore, it was hypothesized that the groups would differ on the variables of family cohesion, social support, and coping. Significance was found on two of the three variables (coping and cohesion), thus further supporting the literature (see Figure 3). The lack of significance on social support is likely a result of a difference between social skills of the individual and social support from a social systems perspective. Future research that looks at personality traits and the use of social supports (social network and social resources) would be useful in terms of discovering ways to assist mothers in the more effective use of the supports that are available. The buffering of risk factors, such as stress, begins in early childhood by the parent (Davies, 2004). The child learns effective coping skills to deal with stress from her parent.

Figure 3.

Variables	Expected Order of Groups	Results in Current Study	Significance In ANOVA	DFA Contribution of Variables
Violence Scores on CTS	AHAP=ALAP > NHAP*=NLAP	AHAP = 19.25 ALAP = 8.82 NLAP = 0	Significant Differences between all groups	Not Applicable (used to classify participants)
Abuse Scale on CAPI	AHAP NHAP* ALAP NLAP	AHAP=296.13 NA ALAP=81.49 NLAP=66.78	Significant differences: AHAP and ALAP AHAP and NLAP	Not Applicable (used to classify participants)
Neuroticism	AHAP NHAP* ALAP NLAP	AHAP=122.81 NA ALAP=89.11 NLAP=81.56	Significant differences: AHAP and ALAP AHAP and NLAP	.70
Extraversion	NLAP ALAP NHAP* AHAP	NLAP=118.44 ALAP=111.78 NA AHAP=102.44	n.s.	-.19
Openness to Experience	NLAP ALAP NHAP* AHAP	NLAP=115.33 ALAP=113.02 NA AHAP=112.69	n.s.	-.02
Agreeableness	NLAP ALAP NHAP* AHAP	NLAP=130.33 ALAP=127.65 NA AHAP=116.31	Significant differences: AHAP and ALAP	-.27

(Figure 3 continues)

Figure 3 (continued)

Conscientiousness	NLAP ALAP NHAP* AHAP	ALAP=121.31 NLAP=113.67 NA AHAP=106.13	Significant differences: AHAP and ALAP	.21
Coping Skills	NLAP ALAP NHAP* AHAP	ALAP=172.36 NLAP=169.22 NA AHAP=153.19	Significant differences: AHAP and ALAP	-.29
Social Skills	NLAP ALAP NHAP* AHAP	NLAP=289.67 AHAP=285.38 NA ALAP=282.42	NS	.01
Family Cohesion	NLAP ALAP NHAP* AHAP	NLAP=8.11 ALAP=7.78 NA AHAP=4.75	Significant differences: AHAP and ALAP AHAP and NLAP	-.54

*NHAP - No participants in group

Figure 3. Summary of expected versus actual results.

Despite the multitude of etiological variables that have been explored in the child maltreatment field, one thing that many researchers have highlighted as being invaluable is a multidimensional approach to understanding physical child abuse. Most researchers have acknowledged individual and family as well as social and community influences in terms of risk and protective factors that contribute to child maltreatment. The current study attempted to incorporate variables from the three levels of etiology discussed in the

literature. Individual factors measured in this study were personality traits and coping skills. While neuroticism and coping skills (individual) and family (cohesion) factors were found to be significant in the current study, the variables were looked at in terms of their relative contributions to the discrimination of the three groups in the discriminant function analysis.

Although social support in the context of the larger circle of social and community factors has been studied in the literature using a variety of instruments, in the current study, the SSI questionnaire measured individual components of social skills of the mothers rather than the quality or amount of support accessed by or perceived as available to the them. Since the question regarding types of support on the demographic questionnaire did not yield significance, the social interaction level of social support was not captured in the data.

The influence of the family system on child-abuse potential was explored and found to be significant; however, the methodology in the current study included only the mothers' perceptions of family cohesion rather than a more inclusive, and possibly more accurate, picture that might have been attained had other family members been studied. Recent studies on resilience have advanced the concept by describing resilience as a transactional process rather than as specific traits within an individual (Davies, 2004). Further exploration that includes completion of the Family Environment Scale by all family members is recommended in order to study the process of resilience and the functioning within the families of nonabusing parents. An investigation of the impact of support systems in relation to family, parent, and child resilience to child abuse should also be undertaken from a systemic approach to measurement.

The findings of the present study supported the importance of a multidimensional view of the child abuse potential and of the appropriate treatment modality for maltreating families. In light of the findings in the current study and of those presented earlier, family therapy of an interactional systemic nature appears to be the most promising in the treatment of abusive families (Gil, 1996; Pardeck, 2004; Walsh, 1998).

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Appendix A

Letter of Solicitation

SETON HALL UNIVERSITY
1 8 5 6

Dear Potential Participant,

I am a doctoral student completing my dissertation project at Seton Hall University under the supervision of the Department of Professional Psychology and Family Therapy.

We are interested in learning more about how personal and family experiences contribute to social and psychological resilience. We are looking at how mothers describe themselves, their relationships and their families. This study will be measuring the subject's potential for child abuse. We would like you to help us with this study. We realize that your time is valuable, and we also believe that it is important to understand how people think about themselves and their relationships with some clarity. We are using several questionnaires because we want to take a more in depth, rather than a superficial, look at important dimensions of social and psychological resilience. In order to compensate you for your time, at the completion of the six questionnaires, you will be given a $25. gift certificate. The total completion time is approximately two hours.

If a disclosure of child abuse occurs at any time, the researcher and/or research assistant are mandated by law to report such abuse to the appropriate law enforcement and/or child welfare authorities.

If you volunteer to participate in this research project, you will be asked to complete six questionnaires and a demographic instrument. You will be provided office space to complete the questionnaires and a test administrator will be available to answer questions during the testing session. The first questionnaire is *The Social Skills Inventory* (Riggio, 1989) which is a survey designed to assess basic social communication skills. *The Coping Resources Inventory* (Hammer & Marting, 1988) is a self-report tool used to identify resources currently available to individuals for managing stress. *The NEO Personality Inventory* (Costa & McCrae, 1992) is a self-report instrument, which provides information regarding the emotional, interpersonal, experiential, attitudinal, and motivational styles of the subject. *The Family Environment Scale*, third Edition (Moos & Moos, 1994) measures the individual family member's personal characteristics, coping skills, and well-being in relation to the family system. *The Conflict Tactics Scale* (Straus & Kantor, 1987) is a questionnaire designed to assess individual responses to situations within the family involving conflict. *The Child Abuse Potential Inventory* (Milner, 1990) measures psychological difficulties and interactional problems experienced by the respondent.

If you choose to participate, your participation remains voluntary throughout the project. If you should decide to discontinue, you can simply stop answering the materials and the materials will be destroyed. If you feel that you would become too uncomfortable completing these inventories, please feel free to not participate. For some people, answering some of the questions may stir up some uncomfortable feelings. If this

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Tel: 973.761.9451
400 South Orange Avenue • South Orange, New Jersey 07079-2685

happens to you, talk this over with someone who can be helpful to you, such as a family member, a friend, or a professional therapist. A list of mental health professionals is provided to every participant should you desire to pursue psychological counseling.

The responses of all the participants in the study will be confidential and anonymous. If you decide to take part, we would like you to complete several questionnaires, which ask your opinions relating to yourself and the family in which you grew up. There will also be a demographic instrument to complete. In order to preserve anonymity, no names will be used on the questionnaires. A number will be assigned to each participant in order to match the questionnaires to the participant; however, there will be no record of names of participants but rather anonymous data. After the results are analyzed, we will be glad to make a copy of the group findings available to you with an explanation of what the various questionnaires mean. In order to keep your identity confidential and separate from your questionnaires, you can write us at the address on the bottom of this page and ask for a copy of the group results.

The participant will place the completed set of questionnaires in envelopes. The questionnaires will be stored in a locked file cabinet until the data is scored and analyzed by the undersigned researcher who will retain the questionnaires for three years in a locked file cabinet after completion of the project. A copy of the test answer sheets for *The Conflict Tactics Scale* will be provided to the test author for the purpose of psychometric analysis, such as factor analysis, item analysis, and construction of normative tables, as per terms of agreement with the author. The answer sheets will be returned to the researcher as per agreement.

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached at (973) 275-2974.

The researcher has received permission from _____
to contact the potential participants in this study.

The questionnaires may be helpful in thinking about some of your experiences. For some people, answering some of the questions may stir up some uncomfortable feelings. If this happens for you, we encourage you to talk them over with someone who can be helpful to you, a family member, a friend, or a professional therapist. A list of mental health professionals will be provided to you at the end of the test session should you desire to pursue psychological counseling.

You will be provided with a copy of the Consent to Participate in Research Study form with signature if you should choose to participate in the study. Whether you participate in the study or not will not impact delivery of services.

Thank you for you consideration and for your time and effort if you participate. If you choose to participate after reading this letter, you may schedule an appointment with the

researcher to complete the questionnaires. Please call Denise Traina at 707-339-2555 to schedule an appointment.

Sincerely,

Denise A. Traina, M.A.
Doctoral Candidate

Return Address:
Denise A. Traina, M.A.
C/o Robert Massey, Ph.D., (Room 334, Kozlowski Hall)
Department of Professional Psychology and Family Therapy
Seton Hall University
South Orange, NJ 07079 (973) 761-9451

Appendix B

Consent to Participate in Research Study

SETON HALL UNIVERSITY
1 8 5 6

CONSENT TO PARTICIPATE IN RESEARCH STUDY

INVESTIGATOR: Denise A. Traina, Doctoral student at Seton Hall University, Department of Professional Psychology and Family Therapy

PURPOSE: The research study is investigating how personal and family experiences contribute to social and psychological resilience factors. This study focuses on how mothers describe themselves, their relationships and their families. This study will be measuring the subject's potential for child abuse. The total completion time is approximately two hours.

PROCEDURES: The participant will complete a series of pencil-and-paper questionnaires that will ask questions with multiple choice or true-false answers and a demographic instrument. If you choose to participate, you will be asked to complete six questionnaires. You will be provided office space to complete the questionnaires and a test administrator will be available to answer questions during the testing session. A sample question follows the description of each of the questionnaires. The first questionnaire is *The Social Skills Inventory* (Riggio, 1989) which is a survey designed to assess basic social communication skills. ["*I find it difficult to speak in front of a large group of people.*"] *The Coping Resources Inventory* (Hammer & Marting, 1988) is a self-report tool used to identify resources currently available to individuals for managing stress. ["*I am comfortable talking to strangers.*"] *The NEO Personality Inventory* (Costa & McCrae, 1992) is a self-report instrument, which provides information regarding the emotional, interpersonal, experiential, attitudinal, and motivational styles of the subject. ["*I work hard to accomplish my goals.*"] *The Family Environment Scale*, third Edition (Moos & Moos, 1994) measures the individual family member's personal characteristics, coping skills, and well-being in relation to the family system. ["*Activities in our family are pretty carefully planned.*"] *The Conflict Tactics Scale* (Straus & Kantor, 1987) is a questionnaire designed to assess individual responses to situations within the family involving conflict. ["*...how often have you/father/mother...pushed, grabbed, or shoved the other...*"] *The Child Abuse Potential Inventory* (Milner, 1990) measures psychological difficulties and interactional problems experienced by the respondent. ["*It is natural for a child to sometimes talk back.*"]

VOLUNTARY PARTICIPATION: Participation remains voluntary throughout the project. If you should decide to discontinue, you can simply stop answering the materials and the materials will be destroyed. If you feel that you would become too uncomfortable completing these inventories, please feel free to not participate. Whether you participate in the study or not will not impact delivery of services.

ANONYMITY: The responses of all the participants will be anonymous. In order to preserve anonymity, no names will be used on the questionnaires. A number will be assigned in order to match the questionnaires. This consent form will be kept separately and will not be associated with the anonymous data in any way.

STORAGE OF DATA: At the completion of the testing session, the participant will place the completed set of questionnaires in an envelope. The questionnaires will be stored in a locked file cabinet until the data is scored and analyzed by the researcher named above. The questionnaires

Seton Hall University
Institutional Review Board
DEC 14 2005
Approval Date

College of Education and Human Services
Department of Professional Psychology and Family Therapy
Tel: 973.761.9451
400 South Orange Avenue • South Orange, New Jersey 07079-2685

Expiration Date
DEC 14 2006

will be retained for three years in a locked file cabinet after completion of the project with the exception of *The Conflict Tactics Scale*. The score sheets of *The Conflict Tactics Scale* will be shared with the test author who will conduct further research with this data and then return the score sheets to the researcher named above.

CONFIDENTIALITY: The score sheets will be coded only with a number in order for the record forms to be matched according to subject. Names or addresses will not be used at any time. Questionnaires and/or score sheets will be kept in a locked file until the data is scored and analyzed. The test administrators will submit envelopes with test materials to the above-named researcher. With the exception of *The Conflict Tactics Scale*, all test materials will be retained for three years in a locked file cabinet. Per agreement with the author of *The Conflicts Tactic Scale,* the score sheets for that particular test instrument will be used by the test author for further research and returned to this researcher. **If a disclosure of child abuse occurs at any time, the researcher and/or assistant are mandated by law to report such abuse to the appropriate law enforcement and/or child welfare authorities.**

RISKS: The method of research in this study creates no potential risk to you as a subject. There are no foreseeable risks as a result of your participation, because this is an assessment study and not a treatment study. For some people, answering some of the questions may stir up some uncomfortable feelings. If this happens to you, talk this over with someone who can be helpful to you, such as a family member, a friend, or a professional therapist. A list of mental health professionals is attached to this document should you desire to pursue psychological counseling.

BENEFITS: Possible benefits might include interest in participating in a research study, which will provide additional data in the social and psychological resilience literature. At the completion of the six questionnaires, you will receive a $25. Gift certificate.

RIGHT TO REFUSE OR WITHDRAW: You may refuse to participate. You may change your mind about being in the study and withdraw after the study has started.

QUESTIONS: If you have any questions, please feel free to ask. If at a later time you have any additional questions, the principal investigator can be reached at (973-761-9451)

You will be provided with a copy of the Consent to Participate in Research Study form with signature if you should choose to participate in the study.

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached through the Office of Grants and Research Services. The telephone number of the Office is (973)[redacted]. 313 - 6314.

I have read the material above, and any questions I asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time.

Subject or Authorized Representative

Date

Seton Hall University
Institutional Review Board

DEC 14 2005

Expiration Date

DEC 14 2006

Appendix C

Demographic Questionnaire

GENERAL INFORMATION

Age: _____

Marital Status: _____ Single _____ Married _____ Separated
_____ Divorced _____ Widowed _____ Living with partner

Present Income:
Below $5,000. _____
$5,000. - 9,999. _____
$10,000. - 19,999. _____
$20,000. -29,999. _____
$30,000. - 39,999. _____
$40,000. - 49,999. _____
Above $50,000. _____

Source of Income:
Self-employed _____
Salaried job _____
Spouse/partner _____
Other _____ Please specify: _____

What is your occupation (if any): _____

How many brothers do you have: _____

How many sisters do you have: _____

Ethnicity:
African-American _____
Asian _____
Caucasian _____
Hispanic/Latin _____
Native American _____
Other _____ Please specify: _____

While growing up, who were you parented by (raised by)?
Natural parents _____
Relatives _____ Relationship _____
Fosterparents/guardians _____
Other _____

Your parents marital status:
Married _____
Divorced _____
Separated _____

Widowed _____
Living together _____

Your highest level of education:
Never attended _____
Grade School 1-4 _____ 5 _____ 6 _____ 7 _____ 8 _____
High School 9 _____ 10 _____ 11 _____ 12 _____
College 13 _____ 14 _____ 15 _____ 16 _____
Graduate School 17 _____ 18 _____ 19 _____ 20 _____

How many children do you have? _____

Age of youngest child: _____

Age of oldest child: _____

How many marriages/significant relationships have you had? _____

Who do you turn to for support?
Spouse/partner _____
Children _____
Extended family _____ Specify relationship: _____
Friends _____
Co-workers _____
Religious group _____
Other _____ Specify: _____

Are you affiliated with a religious organization? _____ yes _____ no

If yes, which denomination? _____

Did you experience any of the following during your childhood?
Injuries _____ Specify: _____
Verbal/emotional abuse _____
Spankings _____
Physical discipline with an object _____
Domestic violence between parents _____
Sexual abuse _____
Other _____

Appendix D

Conflict Tactics Scale

CONFLICT TACTICS SCALES, FORM N

Parents and children use many different ways of trying to settle differences between each other. When you were growing up, please think in what ways your parent(s) handled disputes with you. Read each statement below. Circle a response which indicates how often it occurred in your childhood. Remember, please complete all items. Think of any one year which most describes your childhood interactions with your parents.

Q. 53		NEVER	ONCE	TWICE	3-5 TIMES	6-10 TIMES	11-20 TIMES	MORE THAN 20 TIMES
a.	Discussed the issue calmly with me	0	1	2	3	4	5	6
b.	Got information to back up (his/her) side of things	0	1	2	3	4	5	6
c.	Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6
d.	Insulted or swore at me	0	1	2	3	4	5	6
e.	Sulked and/or refused to talk about it	0	1	2	3	4	5	6
f.	Stomped out of the room or house (or yard)	0	1	2	3	4	5	6
g.	Cried	0	1	2	3	4	5	6
h.	Did or said something to spite me	0	1	2	3	4	5	6
i.	Threatened to hit or throw something at me	0	1	2	3	4	5	6
j.	Threw or smashed or hit or kicked something	0	1	2	3	4	5	6
k.	Threw something at me	0	1	2	3	4	5	6
l.	Pushed, grabbed, or shoved me	0	1	2	3	4	5	6
m.	Slapped or spanked me	0	1	2	3	4	5	6
n.	Kicked, bit, or hit with a fist	0	1	2	3	4	5	6
o.	Hit or tried to hit with something	0	1	2	3	4	5	6
p.	Beat up on me	0	1	2	3	4	5	6
q.	Threatened with a knife or gun	0	1	2	3	4	5	6
r.	Used a knife or gun	0	1	2	3	4	5	6
s.	Other (PROBE): _____	0	1	2	3	4	5	6

Appendix E

Child Abuse Potential Inventory

CAP INVENTORY FORM VI

Joel S. Milner, Ph.D.

Name:_____ Date:_____ ID#:_____

Age:_____ Gender: Male_____ Female_____ Marital Status: Sin___ Mar___ Sep___ Div___ Wid___

Race: Black___ White___ Latino___ Am. Indian___ Number of children in home_____

Asian Am.___ Other (specify)_____ Highest grade completed_____

INSTRUCTIONS: The following questionnaire includes a series of statements which may be applied to yourself. Read each of the statements and determine if you **AGREE** or **DISAGREE** with the statement. If you agree with a statement, circle **A** for agree. If you disagree with a statement, circle **DA** for disagree. Be honest when giving your answers. Remember to read each statement; it is important not to skip any statement.

●OOO

1.	I never feel sorry for others	A	DA
2.	I enjoy having pets	A	DA
3.	I have always been strong and healthy	A	DA
4.	I like most people	A	DA
5.	I am a confused person	A	DA
6.	I do not trust most people	A	DA
7.	People expect too much from me	A	DA
8.	Children should never be bad	A	DA
9.	I am often mixed up	A	DA
10.	Spanking that only bruises a child is okay	A	DA
11.	I always try to check on my child when it's crying	A	DA
12.	I sometimes act without thinking	A	DA
13.	You cannot depend on others	A	DA
14.	I am a happy person	A	DA
15.	I like to do things with my family	A	DA
16.	Teenage girls need to be protected	A	DA
17.	I am often angry inside	A	DA
18.	Sometimes I feel all alone in the world	A	DA
19.	Everything in a home should always be in its place	A	DA
20.	I sometimes worry that I cannot meet the needs of a child	A	DA
21.	Knives are dangerous for children	A	DA
22.	I often feel rejected	A	DA
23.	I am often lonely inside	A	DA
24.	Little boys should never learn sissy games	A	DA
25.	I often feel very frustrated	A	DA

●OOO

26.	Children should never disobey	A	DA
27.	I love all children	A	DA
28.	Sometimes I fear that I will lose control of myself	A	DA
29.	I sometimes wish that my father would have loved me more	A	DA
30.	I have a child who is clumsy	A	DA
31.	I know what is the right and wrong way to act	A	DA
32.	My telephone number is unlisted	A	DA
33.	The birth of a child will usually cause problems in a marriage	A	DA
34.	I am always a good person	A	DA
35.	I never worry about my health	A	DA
36.	I sometimes worry that I will not have enough to eat	A	DA
37.	I have never wanted to hurt someone else	A	DA
38.	I am an unlucky person	A	DA
39.	I am usually a quiet person	A	DA
40.	Children are pests	A	DA
41.	Things have usually gone against me in life	A	DA
42.	Picking up a baby whenever he cries spoils him	A	DA
43.	I sometimes am very quiet	A	DA
44.	I sometimes lose my temper	A	DA
45.	I have a child who is bad	A	DA
46.	I sometimes think of myself first	A	DA
47.	I sometimes feel worthless	A	DA
48.	My parents did not really care about me	A	DA
49.	I am sometimes very sad	A	DA
50.	Children are really little adults	A	DA
51.	I have a child who breaks things	A	DA
52.	I often feel worried	A	DA
53.	It is okay to let a child stay in dirty diapers for a while	A	DA
54.	A child should never talk back	A	DA
55.	Sometimes my behavior is childish	A	DA
56.	I am often easily upset	A	DA
57.	Sometimes I have bad thoughts	A	DA
58.	Everyone must think of himself first	A	DA
59.	A crying child will never be happy	A	DA
60.	I have never hated another person	A	DA
61.	Children should not learn how to swim	A	DA
62.	I always do what is right	A	DA
63.	I am often worried inside	A	DA
64.	I have a child who is sick a lot	A	DA
65.	Sometimes I do not like the way I act	A	DA
66.	I sometimes fail to keep all of my promises	A	DA
67.	People have caused me a lot of pain	A	DA
68.	Children should stay clean	A	DA
69.	I have a child who gets into trouble a lot	A	DA
70.	I never get mad at others	A	DA

71.	I always get along with others	A	DA
72.	I often think about what I have to do	A	DA
73.	I find it hard to relax	A	DA
74.	These days a person doesn't really know on whom one can count	A	DA
75.	My life is happy	A	DA
76.	I have a physical handicap	A	DA
77.	Children should have play clothes and good clothes	A	DA
78.	Other people do not understand how I feel	A	DA
79.	A five year old who wets his bed is bad	A	DA
80.	Children should be quiet and listen	A	DA
81.	I have several close friends in my neighborhood	A	DA
82.	The school is primarily responsible for educating the child	A	DA
83.	My family fights a lot	A	DA
84.	I have headaches	A	DA
85.	As a child I was abused	A	DA
86.	Spanking is the best punishment	A	DA
87.	I do not like to be touched by others	A	DA
88.	People who ask for help are weak	A	DA
89.	Children should be washed before bed	A	DA
90.	I do not laugh very much	A	DA
91.	I have several close friends	A	DA
92.	People should take care of their own needs	A	DA
93.	I have fears no one knows about	A	DA
94.	My family has problems getting along	A	DA
95.	Life often seems useless to me	A	DA
96.	A child should be potty trained by the time he's one year old	A	DA
97.	A child in a mud puddle is a happy sight	A	DA
98.	People do not understand me	A	DA
99.	I often feel worthless	A	DA
100.	Other people have made my life unhappy	A	DA
101.	I am always a kind person	A	DA
102.	Sometimes I do not know why I act as I do	A	DA
103.	I have many personal problems	A	DA
104.	I have a child who often hurts himself	A	DA
105.	I often feel very upset	A	DA
106.	People sometimes take advantage of me	A	DA
107.	My life is good	A	DA
108.	A home should be spotless	A	DA
109.	I am easily upset by my problems	A	DA
110.	I never listen to gossip	A	DA
111.	My parents did not understand me	A	DA
112.	Many things in life make me angry	A	DA
113.	My child has special problems	A	DA
114.	I do not like most children	A	DA
115.	Children should be seen and not heard	A	DA

116.	Most children are alike	A	DA
117.	It is important for children to read	A	DA
118.	I am often depressed	A	DA
119.	Children should occasionally be thoughtful of their parents	A	DA
120.	I am often upset	A	DA
121.	People don't get along with me	A	DA
122.	A good child keeps his toys and clothes neat and orderly	A	DA
123.	Children should always make their parents happy	A	DA
124.	It is natural for a child to sometimes talk back	A	DA
125.	I am never unfair to others	A	DA
126.	Occasionally, I enjoy not having to take care of my child	A	DA
127.	Children should always be neat	A	DA
128.	I have a child who is slow	A	DA
129.	A parent must use punishment if he wants to control a child's behavior	A	DA
130.	Children should never cause trouble	A	DA
131.	I usually punish my child when it is crying	A	DA
132.	A child needs very strict rules	A	DA
133.	Children should never go against their parents' orders	A	DA
134.	I often feel better than others	A	DA
135.	Children sometimes get on my nerves	A	DA
136.	As a child I was often afraid	A	DA
137.	Children should always be quiet and polite	A	DA
138.	I am often upset and do not know why	A	DA
139.	My daily work upsets me	A	DA
140.	I sometimes fear that my children will not love me	A	DA
141.	I have a good sex life	A	DA
142.	I have read articles and books on child rearing	A	DA
143.	I often feel very alone	A	DA
144.	People should not show anger	A	DA
145.	I often feel alone	A	DA
146.	I sometimes say bad words	A	DA
147.	Right now, I am deeply in love	A	DA
148.	My family has many problems	A	DA
149.	I never do anything that is bad for my health	A	DA
150.	I am always happy with what I have	A	DA
151.	Other people have made my life hard	A	DA
152.	I laugh some almost every day	A	DA
153.	I sometimes worry that my needs will not be met	A	DA
154.	I often feel afraid	A	DA
155.	I sometimes act silly	A	DA
156.	A person should keep his business to himself	A	DA
157.	I never raise my voice in anger	A	DA
158.	As a child I was knocked around by my parents	A	DA
159.	I sometimes think of myself before others	A	DA
160.	I always tell the truth	A	DA

Appendix F

Revised NEO Personality Inventory

NEO PI-R

NEO Personality Inventory- Revised (NEO PI-R)

Form S

Sample Items

SD = Strongly Disagree D = Disagree N = Neutral A = Agree SA = Strongly Agree

79. I hesitate to express my anger even when it's justified.

113. I sometimes lose interest when people talk about very abstract, theoretical matters.

135. When I make a commitment, I can always be counted on to follow through.

Appendix G

Coping Resources Inventory

CRI

Coping Resources Inventory

Form D

Sample Items

N = Never or rarely
S = Sometimes
O = Often
A = Always or almost always

1. I have plenty of energy.

21. My weight is within 5 lbs. of what it should be.

28. I confide in my friends.

45. I accept my feelings of anger.

55. I am optimistic about my future.

Appendix H

Social Skills Inventory

SSI

Social Skills Inventory

Form S

Sample Items

1 Not At All Like Me
2 A Little Like Me
3 Like Me
4 Very Much Like Me
5 Exactly Like Me

1. It is difficult for others to know when I am sad or depressed.

17. I would much rather take part in a political discussion than to observe and analyze what the participants are saying.

38. I can accurately tell what a person's character is upon first meeting him or her.

68. I am easily able to give a comforting hug or touch to someone who is distressed.

90. I can easily adjust to being in just about any social situation.

Appendix I

Family Environment Scale

FES

Family Environment Scale

Form R

Sample Items

T = True
F = False

1. Family members really help and support one another.

46. We rarely have intellectual discussions.

60. Everyone has an equal say in family decisions.

74. It's hard to be by yourself without hurting someone's feelings in our household.

90. You can't get away with much in our family.