Predicting child abuse potential during pregnancy

Kylene Krause

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Predicting Child Abuse Potential During Pregnancy

by

Kylene Krause

Thesis

Submitted to the Department of Psychology
Eastern Michigan University
in partial fulfillment of the requirements
for the degree of

Masters of Science
in
Clinical Psychology

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August 21, 2009
Ypsilanti, Michigan
Abstract

This study examined how mothers’ perceptions of their childhood relationships with their mothers, expectations about being a mother, demographic characteristics, and perceptions of social support are related to a woman’s child abuse potential during pregnancy. Data were collected during an initial interview with women during their third trimester of pregnancy as part of a larger longitudinal study. One hundred twenty high-risk women between the ages of 18 and 42 were recruited through fliers from public locations and pregnancy-related programs in southeastern Michigan to participate in this study. Results showed that perceptions of a higher quality childhood relationship with one’s mother, and perceptions of childhood experiences of low maternal acceptance, were negatively correlated with child abuse potential. A composite of demographic risk factors including being less than 20 years of age, being near poverty, having more than 3 children, being unmarried, having completed high school or less, and not being enrolled in public assistance programs when eligible was positively correlated with child abuse potential. Social support did not moderate relationships between perceptions of childhood relationship with mothers and child abuse potential or between demographic risk and child abuse potential. Instead, it was directly associated with child abuse potential above and beyond these two predictors. Moderate, realistic expectations about having a baby (as opposed to extremely positive or negative expectations) were not correlated with lower child abuse potential. Results from this study have important implications for intervention programs to prevent child abuse.
# Table of Contents

Abstract..............................................................................................................................................ii

Introduction........................................................................................................................................1

- Prevalence of Child Abuse.................................................................................................................3
- Costs of Child Abuse..........................................................................................................................5
- Importance of Prevention...................................................................................................................6
- Predictors of Child Abuse and Child Abuse Potential........................................................................8
  - Perception of childhood relationships with parents..............................................................10
  - Expectations about having a new baby....................................................................................12
  - Perceived social support..............................................................................................................14
  - Demographic characteristics.....................................................................................................16

The Present Study...............................................................................................................................16

Hypothesis..........................................................................................................................................17

Method..............................................................................................................................................18

- Participants.................................................................................................................................18
- Procedures......................................................................................................................................20
- Measures........................................................................................................................................22
  - Brief Version of the Child Abuse Potential Inventory (BCAP).............................................22
  - Factor Analysis of the BCAP.....................................................................................................26
  - Mother-Father-Peer Scale (MFPS).........................................................................................27
  - Prenatal Maternal Expectations Scale (PMES)..................................................................29
  - Perceived Social Support Scale (PSSS)..............................................................................31
  - Demographic Questionnaire (DRS).......................................................................................31
Results ........................................................................................................................................32
  Missing Data ..................................................................................................................32
  Descriptive Statistics ........................................................................................................33
  Hypothesis One ..............................................................................................................36
    Proposed Hypothesis Testing .....................................................................................36
    Subscale Analysis .......................................................................................................36
  Hypothesis Two .............................................................................................................38
    Proposed Hypothesis Testing .....................................................................................38
    Subscale Analysis .......................................................................................................38
  Hypothesis Three .........................................................................................................41
    Proposed Hypothesis Testing .....................................................................................41
    Subscale Analysis .......................................................................................................42
  Hypothesis Four ............................................................................................................45
    Proposed Hypothesis Testing .....................................................................................45
    Subscale Analysis .......................................................................................................45
  Hypothesis Five ............................................................................................................47
    Proposed Hypothesis Testing .....................................................................................47
    Subscale Analysis .......................................................................................................49
Discussion ..................................................................................................................................50
  The Association between Demographic Risk and Child Abuse Potential .................50
  The Association between Perceptions of Childhood Relationship with One’s Mother and
  Child Abuse Potential .....................................................................................................55
  The Association between Prenatal Maternal Expectations and Child Abuse Potential ....59
LIST OF TABLES

Table 1. Fathers’ Demographic Information ................................................................. 21
Table 2. Descriptive Data for Study Variables ............................................................. 34
Table 3. Exploratory Analysis of Hypothesis One – Correlations between Child Abuse Potential and Demographic Risk .......................................................... 37
Table 4. Summary of Multiple Regression Analysis for Hypothesis Two, Part 1 ............ 39
Table 5. Summary of Multiple Regression Analysis for Hypothesis Two, Part 2 ............ 39
Table 6. Exploratory Analysis of Hypothesis Two – Correlations between Child Abuse Potential and Recollection of Parental Relationship Quality ........................................... 40
Table 7. Summary of Moderation Analysis for Hypothesis Two .................................... 43
Table 8. Exploratory Analysis of Hypothesis Three – Correlations between Child Abuse Potential and Perceived Social Support .................................................. 44
Table 9. Exploratory Analysis of Hypothesis Four – Correlations between Child Abuse Potential and Prenatal Maternal Expectations .................................................. 46
Table 10. Exploratory Analysis of Hypothesis Four ...................................................... 48
Table 11. Summary of Moderation Analysis for Hypothesis Five ................................... 49
LIST OF FIGURES

Figure 1. Pictorial Representation of Hypothesis Two.........................................................18

Figure 2. Pictorial Representation of Hypothesis Five..........................................................19
**Introduction**

Many consider the initial recognition of child abuse to have occurred in Kempe’s paper in 1962 on battered child syndrome (Lynch, 1985). Since then, research in this area has increased in frequency and complexity. The physical, psychological, behavioral, and psychosocial effects of child abuse have been, and continue to be, the focus of considerable research. Child abuse has many forms including emotional, physical, and sexual abuse, as well as neglect. Past research has identified connections between these forms of child abuse and numerous short (direct) and long-term (indirect) consequences. Direct physical effects include, but are not limited to, developmental delays (Kolko, Moser, & Weldy, 1990; Veltman & Browne, 2001), brain damage (Perry, 2001; Teicher, 2000), and death (Durfee & Tilton-Durfee, 1995; U.S. Department of Health and Human Services, 2007). Other developmental and psychological effects of abuse, such as impaired cognitive and intellectual performance (Culp et al., 1991; Eckenrode, Laird, & Doris, 1993), decreased self-esteem (Cavaiola & Schiff, 1989; Cerezo & Frias, 1994; Kim & Cicchetti, 2006), elevated depression (Bemporad & Romano, 1993; Lizardi et al., 1995), emotion regulation difficulties (Shipman et al., 2007; Zlotnick, Mattia, & Zimmerman, 2001), lower frustration tolerance (Egeland, Sroufe, & Erickson, 1983; Williamson, Bordsuin, & Howe, 1991), and general mental illness (Anda, Brown, Felitti, Bremmer, Dube, & Giles, 2007; Fergusson & Lynsey, 1997; Joynce et al., 2005) may be immediate or not evident until adolescence or early adulthood.

Differences in later years between victims and non-victims often include poor social information processing (Camras & Rappaport, 1993; Kim & Cicchetti, 2003), poor relationships with peers (Bolger & Patterson, 2001; Bolger, Patterson, & Kupersmidt, 1998; Salzinger, Feldman, Hammer, Rosario, 1993), increased aggression (Bolger & Patterson, 2001; Salzinger et
al., 1993; Turner, Finkelhor, & Ormrod, 2005), and social withdrawal (Bolger & Patterson, 2001; Elliott, Cunningham, Linder, Colangelo, & Gross, 2005). By adulthood, behaviors often worsen. For example, elevated substance abuse (Fergusson & Lynskey, 1997; Schuck & Widom, 2001; Widom, Schuck, & Raskin, 2006), violence and criminal behavior (Luntz & Widom, 1994; Mersky & Reynolds, 2007; Widom et al., 2006), self-mutilation (Nijman et al., 1999; Turell & Armsworth, 2003), suicide attempts (Bridgeland, Duane, & Stewart, 2001; Fergusson & Lynskey, 1997; Thompson et al., 2005), risky sexual behavior (Cavaiola & Schiff, 1988; Fergusson, Horwood, & Lynskey, 1997; Van Bruggen, Runtz, & Kadlec, 2006), and symptoms of fear and Post-Traumatic Stress Disorder (Courtois, 2004; Vranceanu, Hobfoll, & Johnson, 2007) have been reported among individuals with a history of child abuse. This non-exhaustive list demonstrates the severity and impact of child abuse on the lives of many individuals in our society. Past research has found related risk factors, but a sufficient intervention model has yet to be identified.

This study examined several possible predictors of mothers’ risk for perpetrating child abuse assessed during pregnancy. The sections that follow will first present the literature examining mothers’ perceptions of their childhood relationships with their parents, mothers’ expectations about motherhood, and mothers’ perceptions of social support as they appear to be related to risk for perpetrating child abuse. The relations between child abuse potential and actual child abuse and demographic characteristics such as maternal age, income level, number of children in the household, single parenthood, maternal education, and failure to enroll in assistance programs were also examined. Following the literature review, study hypotheses and methodology are outlined, along with a discussion of the results of this study.
Prevalence of Child Abuse

Despite the well-known consequences of child abuse and the enactment of mandated reporting laws in all 50 states, the incidence continues to rise (Sedlak & Broadhurst, 1996; U.S. Department of Health and Human Services, 2007). The National Incidence Study (NIS), a congressionally mandated periodic research effort, has conducted three major investigations assessing the incidence of child abuse and neglect in the United States [NIH-1(1979-1980), NIH-2(1986-1987), and NIH-3 (1993-1994)] (Sedlak & Broadhurst, 1996). Trained, representative samples of professional staff who are likely to come into contact with maltreated children were used to collect data for these three investigations. Annual estimates of the number of abused children were 652,000, 931,000, and 1,553,800, for the three reports. These included children between birth and 18 years of age who had already experienced harm from child abuse or neglect. The most recent report (NIS-3) shows a 67% increase since NIS-2 and a 149% increase since NIS-1. A fourth investigation was conducted in 2005 and 2006, but results have not been released. In order to most accurately derive statistics, the “Harm Standard” was applied. This standard included situations in which behaviors resulted in demonstrable harm to a child. Use of the “Harm Standard” results in conservative prevalence estimates, relative to the simultaneously used “Endangerment Standard” (children who experienced abuse or neglect that put them at risk of harm). Use of this definition suggests that the number of children at risk for being abused is substantially higher than the statistics reported above.

The United States Department of Health and Human Services (2007) has published yearly reports on child abuse since 2000 (Child Maltreatment, 2000-2005). Though they are useful for observing recent trends, statistics reported in these compositions have been debated as grossly conservative (Alvarez, Donahue, Kenny, Cavanagh, & Romero, 2005; Alvarez, Kenny,
Donahue, & Carpin, 2004; Caldwell, 1992; Olds & Kitzman, 1993; Runyan et al., 2005). In comparison to the NIH-3, conducted in 2003 and 2004, which reported 1,553,800 victims, the 2003 and 2004 Child Maltreatment publications reported 906,000 and 872,000 victims, respectively. These statistics show the rates decreasing from 2003 to 2004, which contrasts with longitudinal trends, and both are significantly lower than the NIH-3 estimates. The 2005 (most recent) report estimated that 899,000 children were abused during that year (U.S. Department of Health and Human Services, 2007). It reported that approximately 3.3 million child abuse referrals were made to Child Protective Services (CPS), of which 62% were investigated. Of those cases investigated, only about 28.5% included at least one child who was determined to be a victim of abuse (substantiated cases).

Debate about the actual number of child abuse victims may be due to the high number of suspected but unreported, uninvestigated, and unsubstantiated cases. Reasons for unsubstantiated cases are numerous and include failure to investigate possible cases, hesitancy to breach confidentiality, fear for self, fear for victim, lack of familiarity and comfort with the legal system, inadequate training of mandated reporters and unfamiliarity with the reporting system, and misunderstanding of what behaviors are severe enough to constitute abuse. These issues have become popular research topics (Alvarez et al., 2005; Alvarez et al., 2004; Brosig & Kalichman, 1992; Delaronde, King, Bendel, & Reece, 2000; Drake, 1995; Finkelhor, 1994; Flango, 1991; Inkelas & Halfon, 1997; King, Trocmé, & Thatte, 2003; Wells, Lyons, Douech, Brown, & Thomas, 2004; Winefield & Bradley, 1992; Zuravin, Orme, & Hegar, 1995). For example, in their review of the literature, Brosig and Kalichman (1992) found that 25 to 63% of psychologists (mandated reporters) failed to report cases of suspected child abuse. Similar statistics were found among other professionals as well.
One recent study found no difference in behavioral and developmental outcomes between children involved in substantiated cases and those whose cases were found to be unsubstantiated. They concluded that their “findings are consistent with the view that unsubstantiated reports should not be dismissed or discounted” in terms of potential harm to the child (Hussey et al., 2005, p. 490). Regardless of the criteria or specific definition used to define child abuse, the results indicate an alarmingly high prevalence. Moreover, as outlined previously, there are considerable life-long negative consequences for this very vulnerable population. Perhaps even more disturbing is the finding that CPS investigated less than half of the cases in which children were within the Harm Standard (Sedlak & Broadhurst, 1996). Child abuse has, unfortunately, truly lived up to its reputation of being called an epidemic.

**Costs of Child Abuse**

In addition to consequences for the individual and family, child abuse has devastating consequences for society at large. The direct and indirect consequence of child abuse costs taxpayers millions of dollars a day and reduces the ability to fund other services (Caldwell, 1992; Child Protective Services, n.d.; Neddermeyer, 2006; Prevention Pays: The Costs of Not Preventing Child Abuse and Neglect, 1998). Direct costs of child abuse include medical services, CPS and police investigations, and foster care, while indirect costs include special education programs, psychological services, substance abuse programs, teen pregnancy, welfare dependency, chronic health care treatment, homelessness, juvenile delinquency, and adult criminality (Caldwell, 1992).

Michigan is not immune from these effects. Between 1993 and 2000, there was a 38% increase in substantiated child abuse cases in Michigan. Three hundred and fifty cases of possible abuse or neglect are reported each day (one every five minutes) and three children are
abused each hour (Washtenaw Area Council for Children, n.d.). In 2006, evidence of child abuse was found in over 29,843 children (there were 129,650 complaints) including 53 deaths (Children’s Protective Services, n.d.). Noor and Caldwell (2005) estimated the cost of child abuse in Michigan to be over $1,795,000,000 per year in 2002 (using only substantiated cases reported by Michigan’s Department of Social Services). This estimate was based primarily upon: low birthrate (584 million), child death and subsequent loss of taxable income (68.1 million), medical treatment (13.3 million), special education costs for victims (20.7 million), protective services (55.1 million), placement of children in foster care (465.7 million), juvenile justice system costs to victims (305.3 million), adult criminality (257.7 million), and psychological care (25.5 million). In Washtenaw County, Michigan (where the current investigation is being conducted), 2,561 cases of child abuse were investigated and resulted in 320 substantiated victims in 2003 (Washtenaw Area Council for Children, n.d.). Failure of a case to be classified as substantiated does not mean that abuse did not occur, only that it could not be substantiated using the current definition and available evidence (Bethea, 1999). Additionally, 372 children were in out-of-home care due to abuse in this county. According to the Washtenaw Area Council for Children (n.d.), it has been estimated that for every $1.00 spent on preventing child abuse, $34.00 is saved in crisis intervention, suggesting that prevention efforts are likely well worth the financial investment.

**Importance of Prevention**

Child abuse is very difficult to fully remedy post-incident (tertiary prevention). Thus, the ability to predict and intervene before abuse occurs (primary and secondary prevention) is essential. The most successful intervention strategies are ones in which child abuse potential is reduced before the abuse occurs (Carter, 2005; Dubowitz, 1989; MacMillan, MacMillan, Offord,
Child abuse potential refers to the likelihood an individual will become a child abuse perpetrator. This construct has been well studied, although less so compared to actual child abuse. Programs that predict and intervene before abuse occurs are often called primary and secondary prevention programs. Secondary prevention is distinct from primary prevention in that it is aimed at a specific group in a population that is known to be high-risk, e.g., low income parents in the county as opposed to all parents in a county. The advantages of secondary prevention are (a) the conservation of funding by focusing on those at-risk, (b) the ability to provide customized services (and longer duration of services) for those in need, and (c) a reduction in the effects of child abuse by decreasing the prevalence and long-term problems associated with child abuse since many of its effects cannot be reversed.

Multiple studies have shown that prevention is possible as early as pregnancy (Cadzow, Armstrong, & Frazer, 1999; Cerney & Inouye, 2001; Fraser, Armstrong, Morris, & Dadds, 2000; Stevens-Simon, Nelligna, & Kelly, 2001). In order to do so, the assessment of child abuse potential has been used before the child is born. Measurement of child abuse potential after children are born has also been shown to accurately predict future actual abuse (Ayoub & Milner, 1985; Milner, 1986; Milner, Gold, Ayoub, & Jacewitz, 1984). Rates of child abuse are highest in the birth to 3 year age group, and slowly decrease as age increases (i.e., a negative correlation between child abuse potential and child age has been shown; U.S. Department of Health and Human Services, 1995). Therefore, there is a clear advantage of assessing child abuse potential during pregnancy in that intervention programs can begin before this highly vulnerable period and can potentially circumvent irreversible damages.
Predictors of Child Abuse and Child Abuse Potential

One of the most widely studied precursors of child abuse potential is the mother’s trauma history (Craig & Sprang, 2007; Morrel, Dubowtiz, Kerr, & Black, 2003; Nair, Schuler, Black, Kettinger, & Harrington, 2003). Trauma may include being a victim of child abuse (De Paul & Domenech, 2000; Ertem, Leventhal, & Dobbs, 2000; Narang & Contreras, 2005; Oliver 1993; Ornduff, Kelsey, Bursi, Alpert, & Bada, 2002), past experience of domestic violence (Casanueva & Martin, 2007; Cerney & Inouye, 2001; Main & Goldwyn, 1984), and current domestic violence (Appel & Holden, 1998; Edleson, 1999; Mills et al., 2000; Rodriguez, 2006; Ross, 1996; Salzinger et al., 2002). These investigations leave no doubt that trauma influences potential for and actual child abuse. The U.S. Department of Health and Human Services (1995) issued a report in which they indicated that domestic violence may be the leading predecessor of child abuse fatalities. Yet researchers have found that a trauma history accounts for only a portion of the variance of child abuse potential. For example, several reports have suggested that a history of childhood physical abuse accounts for only 12 to 33% of the variance in abuse potential as an adult (Narang & Contreras, 2005; Oliver, 1993). Therefore, it is important to examine other potential predictors to better understand the complexity of child abuse and child abuse potential in order to develop more effective intervention programs and more accurately determine those at risk.

Indeed, more recent studies have examined the interaction between multiple risk factors in predicting child abuse (Bethea, 1999; Dubowitz, 1989; Dubowitz & Bennett, 2007; Goldman, Salus, Wolcott, & Kennedy, 2003) and child abuse potential (Brown, Cohen, Johnson, & Salzinger, 1998; Carter, 2005; Nygren, Nelson, & Klein, 2004; Rinehart et al., 2005). Results have shown many less obvious factors also predict child abuse individually or in combination.
These factors include, but are not limited to, low maternal education (Kotch et al., 1995; Sidebotham, Golding, and the ALSPAC Study Team, 2001; Stiffman et al, 2002) and young maternal age (Connelly & Straus, 1992; Sidebotham et al, 2001; Stier, Leventhal, Berg, Johnson, & Mezger, 1993; Welfner & Gelles, 1993). Investigations of child abuse potential have also shown that young maternal age (Brown et al., 1998) increases the potential for child abuse. However, these findings are complex, and the separate and combined effect of these and other variables on child abuse and child abuse potential is hard to estimate.

Recent literature has indicated that severity and accumulation of risk factors may increase child abuse potential and frequency of abuse/neglect (Wu et al., 2004), especially when they outweigh any compensatory influences (Belsky & Jaffee, 2006). In Wu et al.’s (2004) study, 189,055 children were followed beginning at birth. Of these, 4,496 were found by CPS to be abused, neglected, or harmfully threatened (a willful act that is intrinsically harmful or dangerous and could clearly and immediately result in injury or harm) within 1 year of life. Fifteen known factors associated with actual child abuse were evaluated to determine the relative strength of associations between abuse and each factor. Eleven factors were significantly associated with elevated infant abuse. The top five predictors of abuse were maternal smoking during pregnancy, presence of more than two siblings, Medicaid beneficiary, being unmarried, and low birth weight. Infants who had four out of five risk factors were estimated to have an abuse rate seven times higher than the average rate in the population, suggesting that number and types of risk factors may be important to consider. It has not yet been determined if these same factors, or combinations of such risk factors mentioned earlier, can reliably and meaningfully predict abuse at such a high rate. However, Wu et al.’s finding and previously mentioned investigations
demonstrate the importance of the continued exploration of risk factors and combinations of risk factors that may affect abuse potential so effective secondary interventions can be developed.

Though post incident intervention is necessary and valuable, preventative strategies that avoid suffering and reduce the need for higher cost compensatory services would be ideal. Only by intervening during pregnancy is there assurance that the intervention has begun early enough. Though there have been a significant number of investigations on predicting negative parenting behaviors during the perinatal period, few have looked specifically at child abuse potential during pregnancy in samples other than pregnant adolescents. The current research is, therefore, unique in that it is the first of its kind to assess child abuse potential in a sample of high risk adult pregnant women using an established known measure of abuse potential.

**Perception of childhood relationships with parents.** One possible predictor of child abuse potential is how women were parented by their own parents, although surprisingly, this construct has not been well studied in relation to abuse potential. Since it is well known that parenting styles tend to repeat over generations (Capaldi, Pears, Patterson, & Own, 2003; Chen & Kaplan, 2001; Crittenden, 1984; Jacobvitz, Morgan, Kretchmar, & Morgan, 1991; Simons, Whitbeck, Conger, & Chyi-In, 1991), it follows that the history of parents’ relationships with their parents is important to consider in exploring factors that may contribute to child abuse potential. For example, a history of having been abused has a strong correlation with abusing one’s own children (Dixon, Browne, & Hamilton-Giachritsis, 2005; McCloskey & Bailey, 2000; Milner, Robertson, & Rogers, 1990). Yet not all parents who were abused become abusers (Narang & Contreras, 2005; Oliver, 1993).

Research has suggested that parents’ representations of their life histories with caregivers shape their conceptualization of their own child and, in turn, influence their parenting behavior
(George & Solomon, 1999; Lutz & Hock, 1995; Main, Kaplan, & Cassidy, 1985). Perceptions of parental relationships have been found to correlate with current observable parent-child interactions such as harmonious relationship patterns and punitive parenting (Adam, Gunnar, & Tanaka, 2004; Biringen, 1990; Cowan, Cohn, Cown, & Pearson, 1996; Crockenberg, 1987; Crowell & Feldman, 1991; Das Eiden, Teti, & Corns, 1995; Ward & Carlson, 1995). The finding that childhood relationships are connected to parental behavior is congruent with Bowlby’s attachment theory (Bowlby, 1969) and Hazan and Shaver’s romantic love formation (Hazan & Shaver, 1987), which suggest that child attachment representations become templates for relationships in adulthood. In fact, Moncher (1996) and Rodriguez (2006) both found a correlation between attachment style and child abuse potential.

In a review of 400 studies spanning 45 years, Rohner (1985) found that individuals who conceptualize their relationship with their childhood caregiver as rejecting are likely to develop distorted mental representations of themselves, significant others, and the world around them, a notion consistent with Bowlby’s attachment theory (Bowlby, 1969) and consistent with many other studies on attachment (e.g., Huth-Bocks, Levendosky, Bogat, & von Eye, 2004; Main et al., 1985; Ricks, 1985). Accordingly, Rohner developed the Parental Acceptance-Rejection Theory (PARTheory; Rohner, 1985), which attempts to predict and explain major causes, consequences, and other correlates of perceived parental acceptance–rejection. Rohner has found that approximately 26% of the variability in children’s psychological adjustment and 21% of adults’ psychological adjustment is accounted for by perceived parental acceptance (or rejection). Biringen (1990), along with Lutz and Hock (1995), have also found correlations between parental acceptance and observable behaviors between mothers and infants. More specifically, Biringen (1990) found a strong relationship between recall of high childhood
parental acceptance among mothers and observed mother-child dyadic harmony, defined as interactions characterized by high maternal sensitivity, while Lutz and Hock (1995) found that mothers who recalled their mothers as being more rejecting and discouraging of independence during childhood were more likely to report higher levels of anxiety during short-term separations from their 2-month-old infants.

Examining associations between perceptions of childhood caregivers and parenting risks such as child abuse potential may be especially important during pregnancy, as pregnancy is a critical period during which old psychological conflicts are revived, a woman’s relationship with her own mother is reorganized, and attitudes toward and representation of her developing infant begin to emerge (Bibring, Dwyer, Huntington, & Valenstein, 1961; Stern, 1995). In fact, these psychological processes are believed to evolve more rapidly during this period than at most other stages of a woman’s life (George & Solomon, 1999).

**Expectations about having a new baby.** Another related, important variable that may be associated with child abuse potential is maternal prenatal expectations regarding the infant and lifestyle changes after the birth of the baby. The transition to parenthood is full of changes that are often approached with enthusiasm and excitement, but the experience is often very different from what many mothers are expecting (Coleman, Nelson, & Sundre, 1999; Lawrence, Nylen, & Cobb, 2007; Stattin & Klackenberg-Larsson, 1991). Considerable research has been done to identify factors that impact the successful role transition to motherhood. This construct has been defined in multiple ways but generally centers around the incorporation of the mothering role into a woman’s personal identity and sense of self (George & Solomon, 1999; Rubin, 1984; Zeanah & Barton, 1989).
A review of literature by Coleman et al. (1999) found that factors contributing to successful maternal role transition include maternal personality, low social stress, greater social support, older maternal age, a better relationship with one’s own mother, and greater self-efficacy. Mothers who find a larger discrepancy between what they were expecting and postpartum experiences typically have greater difficulty adjusting to parenthood, especially if experiences were worse than anticipated (Kach & McGhee, 1982; Kalmuss, Davidson, & Cushman, 1992). In their sample \((N = 12)\), Kach and McGhee (1982) found that the two most common problems mentioned by mothers of 2-month-old infants in terms of maternal role transition were (a) lack of sleep and energy (49% of their sample endorsed this statement), and (b) the extra time and responsibility involved in caring for the baby (39% of the sample). Kalmuss, Davidson, and Cushman (1992) found women had greater difficulty adjusting to parenthood when parenting expectations exceeded experiences regarding their relationship with their spouse, physical well-being, maternal competence, and maternal satisfaction. Additionally, Stattin and Klackenberg-Larsson (1991) found that having a baby of the opposite sex than what was preferred resulted in less play, more perceived problems in the child, and a more strained mother-child relationship as reported by the mother. Taken together, these results suggest that certain prenatal maternal expectations and a mismatch between expectations and real experience may negatively influence parenting.

A woman’s ability to imagine herself as a mother also plays an important role in preparing for pregnancy (Coleman et al., 1999), and there is evidence that being able to do so predicts positive mother-child relations after birth (Dayton, Levendosky, Bogat, & Davidson, 2008; Heinicke, 1984; Lerner & Galambos, 1985; Stern, 1995; Zeanah & Barton, 1989). Huth-Bocks et al. (2004) found that negative expectations or unrealistically positive expectations
predicted a more problematic parent-infant relationship. Unreasonable expectations about children’s behavior have been correlated with child abuse potential in two existing studies, one in the United States (Haskett, Johnson, & Miller, 1994) and one in Germany (Schleske, 1999). The former study evaluated teenage mothers’ expectations and abuse potential during the perinatal period, while the latter evaluated mothers’ expectations during pregnancy and postpartum abuse potential. While these are the only existing studies, it seems reasonable to imagine that certain types of maternal expectations during pregnancy and difficulty adjusting to the maternal role could initiate or exacerbate child abuse potential. This idea is highlighted by the fact that the time between birth and 3 years of age is the highest risk period for child abuse (U.S. Department of Health and Human Services, 2007). The connections between expectations of motherhood during pregnancy and child abuse potential are clearly important for future research.

**Perceived social support.** Another important variable that is likely related to child abuse potential is maternal social support. There has been more research on the connections between child abuse and child abuse potential and social support than the two previously described predictors. In general, greater social support has been found to significantly improve the mother-child relationship (Armstrong, Birnie-Lefcovitch, & Ungar, 2005; Crockenberg, 1981; Feiring, Fox, Jaskir, & Lewis, 1987; Goldstein, Diener, & Mangelsdorf, 1996; Ortega, 2002); these findings are especially evident in lower income populations where social support may have a greater benefit. Lack of support has also been linked specifically to greater child abuse potential (Budd, Heilman, & Kane, 2000; Hall, Sachs, & Rayens, 1998; Rodriguez, 2008; Zelenko, Huffman, Lock, Kennedy, & Steiner, 2001) and more actual child abuse (Bethea, 1999; English,
1998; Kinard, 1996; Moncher, 1995) in a variety of high-risk samples including low-income, minority, adolescent, and pregnant mothers.

In addition to the direct effects of social support on mother-infant relationships, researchers have found social support is instrumental in other ways. For example, Litty, Kowalski, and Minor (1996) found that social support moderated the relationship between a parent’s history of child abuse and their own child abuse potential. A history of abuse was significantly related to child abuse potential only for those with low levels of social support but not for those with high levels of social support. Other studies have found the same (Egeland, Jacobvitz, & Sroufe, 1988; Zuravin, McMillen, DePanfilis, & Risley-Curtiss, 1996), suggesting that social support is a protective factor for parents with a history of having been abused themselves and may help break the notorious cycle of child abuse over generations. Social support has also been found to moderate the relationship between life stress and maternal functioning, including parenting behaviors (Crnic, Greenberg, Magozin, Robinson, & Basham, 1983; Glazier, Elgar, Goel, & Holzapfel, 2004), and between stressful life events and child maltreatment reports (Kotch et al., 1995). These findings regarding the role of social support are important given that life stress has been correlated with child abuse (Cowen, 2001; Gracia & Musitu, 2003; Humphreys, 2007; Oliver, Kuhns, & Pomeranz, 2006) and child abuse potential (Burrell, Thompson, & Sexton, 1994; McCurdy, 2005). Additionally, social support has been found to mediate the relationship between abuse potential and timing of confirmed future abuse (DePanfilis & Zuravin, 1999) and between maternal abuse history and child social-emotional problems (Koverola, Papas, Murtaugh, Black, & Dubowitz, 2005). Interestingly, poor adjustment to stressful life events, such as the birth of a child, has also been found even if social support is actually present but is perceived by mothers as lacking (Wethington & Kessler, 1986).
Demographic characteristics. Due to the complexity of evaluating child abuse potential, consideration of demographic characteristics of a family is also valuable. Aber, Jones, and Cohen (2000) indicated that without economic and material resources, the family unit weakens and there is a compromise in parents’ capacity to rear their children competently. The most commonly identified demographic risks for child abuse in the current literature include: teenage parenthood or young maternal age (Bethea, 1999, Connelly & Straus, 1992; English, 1998 as discussed in Carter, 2005; Wu et al., 2004), low income or SES (Bethea, 1999; Egami, Ford, Greenfield, & Crum, 1996; English, 1998), greater number of children in the household (Bethea, 1999; Brown et al., 1998; Ethier, Couture, & Lacharite, 2004), single marital status (Bethea, 1999; Nygren, Nelson, & Klein, 2004; Wu et al., 2004), and low maternal education (Nygren et al., 2004; Wu et al., 2004). There has been debate about whether enrollment in public assistance programs lowers risk for child abuse. Several studies found support for such a hypothesis (Brown et. al., 1998; Lee & Mackey-Bilaver, 2007), while Wu et al. (2004) found the opposite.

The Present Study

Overall, there has been a fair amount of research evaluating various predictors of child abuse; however, less research has assessed variables related to child abuse potential; even fewer have examined these relationships during pregnancy despite the fact that pregnancy is a critical period in mothers’ adjustment to parenthood. While a mother’s own history of trauma has been consistently linked with child abuse and child abuse potential, a number of other factors are also important in understanding abuse potential. This investigation will examine the relationship between a number of such factors including perceived childhood relationships with parents, prenatal expectations of motherhood, perceived social support, and six demographic variables (maternal age, income level, number of children in the household, marital status, maternal
education, and participation in public assistance) and child abuse potential in a sample of high-risk pregnant women primarily selected based on economic disadvantage. This investigation will add to the literature by exploring these less well-known factors that may contribute to child abuse potential in an effort to fill the large gap in our understanding of child abuse potential. These results will have important implications for effective prevention and secondary intervention programs.

**Hypotheses**

(1) Greater demographic risk, defined by younger maternal age, income at or near the poverty level, three or more children in the household, single marital status, less maternal education (high school diploma or less), and failure to enroll in assistance programs when eligible, will be correlated with greater child abuse potential.

(2) Positive perceptions of childhood relationships with mothers will be negatively related to child abuse potential. Additionally, perceptions of childhood experiences of maternal acceptance (converse of rejection), in particular, will be negatively related to child abuse potential.

(3) Social support will moderate the relationship between perceptions of childhood relationships with mothers and child abuse potential, particularly if these associations are weak. It is hypothesized that there will be a significant and/or stronger relationship between negative perceptions of childhood relationships with mothers and child abuse potential among people with lower levels of social support, and there will be a non-significant relationship and/or weaker relationship between these variables for people with higher levels of social support. See Figure 1.

(4) A curvilinear relationship is expected between prenatal maternal expectations and child abuse potential, whereby extremely positive and extremely negative prenatal expectations will be
related to higher child abuse potential, while moderate and more realistic expectations will be related to lower child abuse potential.

(5) Social support will moderate the relationship between demographic risk and child abuse potential, particularly if these associations are weak. It is hypothesized that a significant and/or stronger relationship between demographic risk and abuse potential will exist for people with lower social support, while a non-significant or weaker relationship between these variables will be revealed for people with higher social support. See Figure 2.

Method

Participants

A community sample of 120 pregnant women were recruited from public locations, programs, and agencies primarily serving low-income families in Washtenaw and Wayne counties. More specifically, 23% were recruited from several community-based health clinics serving low-income and/or uninsured individuals, 18% from the Women, Infants, and Children
Figure 2 Pictorial Representation of Hypothesis Five

(WIC) social service program, 16% from student areas in one regional-level university and one community college, 11% from a “community baby shower” sponsored by local social service programs, 11% heard about the study through word of mouth (friend, relative, another research study, or church), 7% from Head Start and local daycare programs, 7% from subsidized and/or temporary housing facilities, 5% from second-hand donation centers for pregnant women and young children, and 2% from a parenting class.

The sample ranged in age from 18 to 42 (M = 26.2 SD = 5.7). Forty-seven percent of participants were African American, 36% were Caucasian, 13% were Biracial, and 4% belonged to other ethnic groups. Sixty-four percent described themselves as single (never married), 28% married, 4% separated, and 4% divorced. Thirty percent of participants were first time mothers. Of those who have had previous pregnancies, women reported an average of 2.7 previous pregnancies (range = 1 – 12).

Twenty percent of the sample reported having a high school diploma/GED or less education, 44% reported some college or trade school, and 36% reported a college degree. Forty-
five percent of participants were currently employed. However, despite the relatively wide range of educational attainment, the present sample was economically disadvantaged, overall. The median monthly income was $1,500 (range = $0 - $10,416.). Eighty-eight percent currently receive services from WIC, 62% receive food stamps, 90% receive Medicaid, Mi-Child, or Medicare, and 20% receive public supplemental income. See Table 1 for descriptive information about the study infants’ fathers.

**Procedures**

Fliers asked pregnant women who were interested in participating in a research study (called the EMU Parenting Project) about experiences during pregnancy, other life experiences, and women’s health, to call the research office. When interested women called, research assistants assessed eligibility (pregnant, over the age of 18, and ability to speak fluent English). Next, assistants gave potential participants a brief summary of the study, answered any questions they had about the study, and collected basic demographic and contact information. This included name, date of birth, anticipated due date, phone number/s, e-mail, mailing addresses, ethnicity, education level, and where they had heard about the study. If women were in their third trimester at the time of the call, an interview was scheduled at the participant’s convenience. Participants were given the option of having research assistants go to their home for the interview or meet them at a research office on campus. If participants were not yet in their third trimester, a return call was made when they entered the third trimester to schedule an interview.

Seventy-eight percent of the participants chose to have the interview conducted in their homes. Research assistants were thoroughly trained by the primary investigator on the procedures related to home visits (safety, ethical issues, appropriate behavior, etc.), as well as
Table 1

*Fathers’ Demographic Information*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage (N = 120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fathers’ Age</td>
<td>$M = 28.9$ (range = 18 – 60, $SD = 7.4$)</td>
</tr>
<tr>
<td>Fathers’ Race</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>56%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>32%</td>
</tr>
<tr>
<td>Biracial</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
</tr>
<tr>
<td>Fathers’ Relationship with Participant</td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>28%</td>
</tr>
<tr>
<td>ex-spouse</td>
<td>1%</td>
</tr>
<tr>
<td>Partner</td>
<td>50%</td>
</tr>
<tr>
<td>ex-partner</td>
<td>10%</td>
</tr>
<tr>
<td>Friend</td>
<td>6%</td>
</tr>
<tr>
<td>Acquaintance</td>
<td>1%</td>
</tr>
<tr>
<td>Stranger</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
<tr>
<td>Father’s Employment</td>
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</tr>
<tr>
<td>Fathers’ Education Level</td>
<td></td>
</tr>
<tr>
<td>High school diploma/ GED or less</td>
<td>46%</td>
</tr>
<tr>
<td>Some college or trade school</td>
<td>28%</td>
</tr>
<tr>
<td>College degree</td>
<td>26%</td>
</tr>
</tbody>
</table>

proper administration of all measures. All research assistants (both graduate and undergraduate students at Eastern Michigan University) met together with the primary investigator on a weekly basis to discuss questions or concerns that arose during the course of the investigation and for ongoing training.

Research assistants conducted home interviews in teams of two. The composition of teams was varied to help insure correct administration and reduce drift from standardized
administration protocol. After introductions, a written informed consent was read aloud (see Appendix A) and potential participants were given the opportunity to ask questions before signing the consent. Two identical consents were signed by both the lead research assistant and participants so that each participant and researcher could keep a copy. Following a brief demographic questionnaire and a 1-hour audio-recorded semi-structured interview with participants about their ideas and feelings about their unborn child, all study questionnaires were administered in the same, pre-determined order for each participant. Participants were given an identical copy of the measures to follow along, but the lead researcher read each questionnaire aloud and recorded the participant’s verbal answers in order to minimize random responding and protect against possible literacy difficulties.

Each pregnancy interview lasted 2 to 3 hours. At the conclusion of each interview, participants were asked if research assistants could stay in contact with them (about every 3 months) until their child reached 1 year of age, in order to continue with the larger study. Each participant was compensated with a $25.00 gift card to Target.

Measures

Brief Version of the Child Abuse Potential Inventory [BCAP; Ondersma et al., 2005(see Appendix B)]. One of the most widely used measures for identifying parental child abuse potential is the Child Abuse Potential Inventory (CAPI; Milner, 1986). The CAPI is a 160-item self-report measure that was developed primarily as a screening tool to detect physical child abuse by protective service workers in their investigations of reported child abuse. Although the abuse scale has significantly elevated scores for other child maltreatment groups, the individual classification errors increase when child sexual abusers and child neglectors are screened. All items are forced choice, agree or disagree, and scored using a weighted scale (from 1 to 23) with
some reverse scoring. Seventy-seven items compose the Abuse Scale, which is comprised of six subscales labeled: distress (36 items), rigidity (14 items), unhappiness (11 items), problems with child and self (6 items), problems with family (4 items), and problems with others (6 items). The remaining items comprise three validity scales labeled lie scale (18 items), random response scale (18 items), and inconsistency scale (20 items). These scales are used in various combinations to produce response distortion indexes assessing faking good, faking bad, and random responding.

The CAPI was developed using an initial group of 19 parents who were known to be physical abusers and 19 parents matched on location of residence, gender, age, ethnic background, education, marital status, number of children, age of children, and sex of children. A second validity study was conducted in a similar manner \((N = 76)\), as well as a cross-validation study \((N = 132)\). The CAPI has been found to be very reliable (alphas are .92 to .96 for controls and .95 to .98 for abusers) and easy to administer. Temporal stability was calculated on the abuse scale using a group composed of control, at-risk, neglectful, and abusive subjects \((N = 549)\).

Correlations over periods of 1 day, 1 week, 1 month, and 3 months were .91, .90, .83, and .75, respectively. Possible total scores can range from 0 to 400. Two cutoff scores, 166 (theory-based) and 215 (based on clinical criteria), are used to identify those at risk for child abuse based on scores from known abusers and non-abusers.

Predictive validity using these cut-off scores has been calculated on concurrent and future abuse. Using the 166 point cut-off, the CAPI correctly identify 94.9% of subjects as current abusers or non-abusers (86.7% of abusers and 100% of the non-abusing parents). Using the 215-point cut-off, concurrent abuse was correctly identified in 93.6% of subjects (83.3% of abusers and 100% of the control parents). To test future prediction of the CAPI, 190 at-risk parents were
assessed and then followed for a mean of 195 days to see if abuse reports were made. Those who were and those who were not reported for abuse differed significantly on total CAPI scores (Milner, 1986). These results, along with subsequent studies (Chaffin & Valle, 2003; Milner & Robertson, 1990; Ondersma et al., 2005) indicate that the CAPI is likely helpful for predicting child maltreatment in general (physical and sexual abuse as well as neglect) nearly as accurately as its original intended goal of predicting physical abuse.

Though the majority of research on the CAPI has revealed multiple strengths, some weaknesses have been identified as well. Although the CAPI never directly assesses violence directed at children, making it acceptable and less obvious to many being assessed (low face validity), some of the items could be construed as intrusive (e.g., “I have a good sex life”). Also, there are some items in which the complex language has been questioned for use with less well-educated populations. The length of the CAPI can also make it difficult to complete. Additionally, the CAPI frequently phrases statements which refer directly to the respondent’s children (e.g., “I always try to check on my child when it’s crying”), which reduces its applicability to parents who do not have custody of their children or are first-time pregnant mothers. Finally, the elaborate scoring of weighted responses (1-23) resulting in a total score, as well as six subscales, three validity indexes, and three distortion scales, has been criticized (Ondersma et al., 2005). The four main weaknesses of the CAPI, therefore, are (a) intrusive items, (b) complex language, (c) length, and (d) less applicability to parents who are not in current possession of their children.

By using a four-step process, Ondersma et al. (2005) were able to test \(N = 1,470\), and cross-validate \(N = 713\) a brief version of the CAPI (the BCAP) in families already enrolled in some form of child abuse treatment or preventive services. Their participants were 83% women,
and 67% had a high school education or less. The only differences between the development and cross-validation groups were that the development group was younger (mean age was 28 vs. 33), included more Native Americans (33% vs. 21%) and fewer Caucasians (45% vs. 59%), and had lower mean CAPI scores (146 vs. 167). There were three main goals in the development of this measure: (a) shorten and simplify the CAPI while retaining as much shared variance as possible between the BCAP and the CAPI, (b) create a brief measure with a stable factor structure and a useful validity scale, and (c) maximize the BCAP’s predictive validity. The resulting BCAP is a 33-item self-report measure that retained the same forced-choice response format as the CAPI. The subscales of distress, rigidity, happiness, and family conflict were also retained from the original measure. Scales assessing loneliness and feelings of persecution were added. The lie and random responding distortion scales were retained, while the inconsistency scale was removed. Also, the most common distorted response set, faking good, was included.

Ondersma et al. (2005) reported data on the CAPI and BCAP. In comparison with the original CAPI, scores from the 24-item BCAP abuse scale (potential range is 0 to 24) demonstrated an alpha of .89, a stable 7-factor structure (explaining 66.2% of the variance in each sample), and substantial correlations with the CAPI total abuse score ($r = .96$). The CAPI risk cut-off was predicted with 93% sensitivity (using a score of 9 on the BCAP and 166 on the CAPI) and 93% specificity. The more conservative clinical cutoff of 215 on the CAPI matched with a BCAP cutoff score of 12 with sensitivity and specificity values of 91% and 93%, respectively.

A comparative investigation of these two measures was also conducted by examining Child Protective Services (CPS) reports over an 18-month period following the administration of the CAPI. BCAP scores were computed using the CAPI responses, and the ability to predict
future abuse as indicated by CPS reports was assessed. There were no significant differences in
the predictive ability of the two measures using each respective total abuse scores in the
development sample or the cross-validation sample (Ondersma et al., 2005). Therefore, since it
has been shown that the BCAP produces results similar to the CAPI, is less likely to be construed
as offensive, is written below a fourth grade level, takes less than 10 minutes to complete, does
not assume current parenthood, and has a simpler scoring method, it was chosen for use in the
current investigation. The total BCAP score was used for this investigation. Coefficient alpha for
this measure in the current sample was .86.

**Factor Analysis of the BCAP**

An exploratory principle components factor analysis with varimax rotation was
conducted to explore the factor structure of the BCAP to ensure that this outcome measure could
be used reliably with this population. As shown in Appendix F, an eight factor solution emerged.
Factors made up of at least three items loading over .400 and with Eigenvalues above 1.000 were
considered in order to determine which factors were interpreted; the scree plot was also visually
examined to aid in interpretation. As a result of these considerations, six factors were interpreted.

The first and strongest factor that emerged was labeled Loneliness/ Depression. This
factor accounted for 28% of the variance and was made up of all 4 of the original Loneliness
items along with 3 of the original 6 Distress items. The second, third, and fourth factors that
emerged were labeled Happiness, Family Conflict, and Feelings of Persecution, respectively.
These original scales, of 3 items each, remained intact and accounted for 9%, 7%, and 7% of the
variance, respectively. The fifth item that emerged was labeled Distress. This factor accounted
for 6% of the variance and was made up of the 3 items from the original Distress scale (1 of
these items also loaded on the first factor and 1 of the original Distress items did not load on any
of the factors currently). The sixth, and final, factor to be interpreted was labeled Rigidity. This factor account for 5% of the variance and was made up of 3 of the original 4 Rigidity items (1 item did not load on any of the factors). The seventh factor was not interpreted because it only contained 2 items with loadings above .400. The final factor only contained 1 item that loaded over .400. Together, the six interpreted factors accounted for 62% of the variance. Thus, although there was some variability in the subscale loadings, in general the subscales were intact for this population. The researcher decided to use the subscales as designed.

Mother-Father-Peer Scale [MFPS; Epstein, 1983(see Appendix C)]. The MFPS is a 70-item self-report measure designed to assess recollection of quality of relationships with one’s own mother (30 items), father (30 items), and peers (10 items) during childhood, as well as current idealization of parents. The current investigation included only the parental items due to the purpose of the study. The MFPS asks participants to rate various statements on a 5-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = uncertain, 4 = somewhat agree, and 5 = strongly agree). The questionnaire measures five dimensions for each parent: Encouraged Independence (7 items), Overprotection (6 items), Acceptance (5 items), Rejection (5 items), and Parent Idealization (7 items). The following are examples from each category: "My mother/father encouraged me to do things for myself" (Independence), "My mother/father would often do things for me I could do for myself" (Overprotection), "My mother/father sometimes disapproved of specific things I did, but never gave me the feeling that he/she disliked me as a person" (Acceptance), "My mother/father didn’t like to have me around the house" (Rejection), and “My mother/father had not a single fault that I can think of” (Parent Idealization).
These five dimensions are used to calculate three subscales for each parent (Encouraged Independence vs. Overprotected, Accepted vs. Rejected, and Idealization). The Encouraged Independence vs. Overprotected subscale (13 items) indicates the degree to which the parents accepted and encouraged the child’s independence, self-reliance, and the development of social and other skills (higher scores), versus the degree to which they overprotected the child, worried about the child’s health and safety, and failed to help the child learn to function independently (lower scores). The Accepted vs. Rejected subscale (10 items) indicates the degree to which the parents communicated love, acceptance, and appreciation of the child (high scores), as opposed to viewing the child as undesirable, a burden, a nuisance, and a source of unhappiness or disappointment (lower scores). The Idealization subscale (7 items) indicates the degree to which the parent is accorded possibly unrealistic virtues approaching perfection. High scores may indicate defensiveness and an inability to accept parents as fallible human beings. Total scores range from 60 to 300 (30 to 150 for mother and father, respectively), with high scores indicating recollection of higher quality relationships with one’s parents and peers. Approximately half of the items in each section are reverse scored. Alphas, demonstrating internal consistency reliability, for each subscale were reported in the original normative group of male and female adults as follows (N = 1,048): Mother Encouraged Independence vs. Overprotected = .85, Mother Accepted vs. Rejected = .89, Mother Idealization = .90, Father Encourage Independence vs. Overprotected = .83, Father Accepted vs. Rejected = .90, Father Idealization = .91 (Epstein, 1983).

The MFP has also been found to have good construct and discriminant validity as demonstrated by significant correlations with measures of self-esteem and non-significant correlations with measures of personality. More specifically, more positive recollections of
parental relationships were correlated with high self-esteem; correlations between total self-esteem on the Self-Esteem Inventory (Epstein, 1983) and the MFPS subscales of Mother Encouraged Independence, Mother Accepting, Father Encourage Independence, and Father Accepting ($N = 293$) were .88, .91, .82, and .93, respectively. Correlations between the Baron’s Ego Strength Inventory (total scale) and the same MFPS scales were .36, .25, .38, and .26 ($N = 285$), indicating the MFPS is not simply a measure of pathology.

The MFPS has also been used in numerous other studies, which have also demonstrated construct validity. For example, recollection of more positive relationships has been correlated with higher self-esteem (McCormick & Kennedy, 1992) and better parental behavior (Lutz & Hock, 1995). Ricks (1985) also reported that a mother’s recollections of her childhood relationships with her parents using the MFPS predicted her present relationship with her own child, as observed by researchers, in the expected direction. Furthermore, recollections of overprotection among grandmothers were related to adult daughters’ recollections of overprotection during childhood indicating transmission across generations (Jacobvitz, Morgan, Kretchmar, & Morgan, 1991). Test-retest reliability is between .88 and .93 (Biringen, 1990). The current investigation used the total maternal MFPS score, consisting of all items except the idealization items with possible scores ranging from 23 – 115, as well as the Accepted vs. Rejected subscale. Coefficient alphas for these two scales were .87 and .94, respectively.

**Prenatal Maternal Expectations Scale [PMES; Coleman, Nelson, & Sundre, 1999]** (see Appendix D). The PMES is designed to assess maternal prenatal expectations in five areas. This 46-item self-report measure asks participants to describe their level of agreement with various statements on a 5-point Likert scale ($1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree$). Twenty-seven items are reverse scored. Total scores can range
from 46 to 230 with higher scores indicating more positive expectations. The PMES is composed of five subscales labeled (a) baby, (b) enjoy, (c) friends, (d) life, and (e) image. Ten “baby” statements measure expectations of baby characteristics and child care (e.g., “It will be fascinating to watch my baby’s developing awareness of the world”). Eleven “enjoy” statements measure the degree of enjoyment anticipated from mothering (e.g., “Children are not much fun until they are able to talk”). Nine “friend” statements measure expected changes in relationships with husband/boyfriend as well as other friends (e.g., “The birth of my baby will place a large strain on my relationship with my boyfriend/husband”). Eight “life” statements evaluate the mother’s predicted changes in lifestyle or quality of life (e.g., “When my child is born I may have to give up many activities that I enjoy”). Ten “image” statements address the woman’s projected image of herself as a mother (e.g., “I have trouble picturing myself as a mother”).

The measure was initially validated on a sample of 62 first time mothers who were in their third trimester of pregnancy and enrolled in a Lamaze class (Coleman et al., 1999). The sample was predominantly white and middle class but was diverse in age and marital status. Alpha for the total score was .80. The measure was originally meant to identify women with unrealistically negative views of motherhood, women with unrealistically positive views of motherhood, and women with more moderate, realistic expectations. Using a subsample of mothers ($n = 31$) who had postnatal data, Coleman et al. derived these three groups of women by establishing cut-offs based on the sample distribution (upper quarter, lower quarter, and middle half). Unexpectedly, they found no evidence for unrealistically low, negative expectations; instead, they found a linear, positive relationship between prenatal expectations and postnatal attitudes and feelings about parenthood. However, the authors concluded that this may have been due to restricted range in their high functioning sample, as these results run counter to
theory. To date, temporal stability and factor structure have not been reported for the PMES. The total PMES score was used for this investigation. Coefficient alpha for this measure was .85.

Perceived Social Support Scale [PSSS; Procidano & Heller, 1983(see Appendix E)]. The PSSS is a 40-item forced choice (Yes, No, Don’t Know) measure of perceived social support. It was designed to measure the extent to which individuals perceive how well their needs for support, information, and feedback will be satisfied if needed. Previous research has found that perceived social support has more impact on adjustment to stressful life events than actual support that is received (Cummins, 1988; Wethington & Kessler, 1986). The PSSS is composed of two subscales assessing perceived social support from friends (20 items) and family (20 items). The following are examples from each subscale: “There is a friend I could go to if I were just feeling down, without feeling funny about it later” (Friend) and “Most other people are closer to their family than I am” (Family). Approximately 25% of the items are reverse scored. Possible scores range from 0 to 40 (0 to 20 for friends and family, respectively). Higher scores indicate more perceived social support. Internal consistency for the Friends subscale was .88 and the Family subscale was .90 (Proidano & Heller, 1983). No temporal stability investigations have been published to date. The total PSSS score was used for this investigation. Coefficient alpha for this measure in the current sample is .91.

Demographic Questionnaire. A demographic questionnaire designed for this study was administered to assess a variety of background and identifying characteristics of sample participants. Variables of interest for this investigation included: (a) maternal age, (b) income level, (c) number of children residing in the home, (d) relationship status, (e) maternal education, and (f) participation in public assistance programs. The total demographic risk score (DRS) was calculated by giving each participant one point for the presence of each of the following risk
variables: (a) maternal age less than 20 years, (b) near poverty, or income-to-needs ratio below 2 [income level divided by the poverty threshold for a certain size family as determined by the U.S. Census Bureau (U.S. Census Bureau, Housing and Household Economic Statistics Division, 2008)], (c) three or more children residing in the home, (d) not married, (e) maternal education of high school level or less, and (f) absence of enrollment in public assistance program(s) when income-to-needs ratio is below 2 (i.e., when one is eligible). An income-to-needs ratio of 2 was determined to be an appropriate cut-off point for near poverty based on the National Institute of Child Health and Human Development Study of Early Childcare (2005). The DRS ranged from 0 to 6 with higher scores indicating higher demographic risk.

Results

Missing Data

Two participants were unaware of their family income and were unable to provide these data, and two more refused to answer this question, leaving four participants with missing income information. Also, one participant refused to answer the maternal MFPS items so the total maternal MFPS score and the maternal subscales were missing for one participant. Finally, 11 participants did not have a current partner and were unable to answer 8 items pertaining to such a relationship on the PMES. Therefore, the partner subscales on the PMES for these 11 participants were missing and a total PMES could not be calculated. All missing values were imputed using an expectation maximization algorithm from SPSS 17.0 (single imputation) before any data analysis occurred. As a result, all analyses were based on 120 participants. Based on recommendations made by Cohen (1992), the current sample size has adequate power to achieve a medium effect size using 6 variables with an alpha set at .05.
Descriptive Statistics

Descriptive data for study measures are provided in Table 2. In order to better interpret these data, descriptive data from original authors’ articles (Ondersma et al., 2005; Epstein, 1983; Coleman et al., 1999; Procidano & Heller, 1983), where available, have been added to the table; original references and associated data are indicated in parentheses for comparison purpose. In some cases, the original authors did not report certain descriptive statistics, and thus, some scales in Table 2 are missing descriptive data from original sources.

Ondersma et al. (2005) developed the child abuse potential measure used in this investigation with a diverse (50% Caucasian), urban, and generally high-risk female (83%) sample; all were enrolled in some form of child abuse treatment or preventative service program and 67% had a high school diploma/ GED or less. Compared to the original sample, the current sample had somewhat lower child abuse potential. Compared to a group of male and female college students (Epstein, 1983), the current sample recalled slightly lower levels of encouragement of independence, self-reliance, and help developing other skills from their mothers. They also recollected slightly lower levels of communications of love, acceptance, and appreciation of them as a child from mothers. Levels of idealization were equivalent between the two samples. However, with regard to fathers, the current sample recalled slightly higher levels of encouragement of independence and self-reliance. Recollections of communications of love, acceptance, and appreciation of them as a child were roughly equivalent with the comparison sample. Interestingly, the current sample scored substantially higher on idealization of fathers than Epstein’s college student sample, indicating the possibility of unrealistically positive feelings towards fathers, possible defensiveness, and an inability to accept their fathers as fallible human beings.
Table 2

*Descriptive Data for Study Variables (N = 120)*

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<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
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<th>Poss. Range</th>
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<tbody>
<tr>
<td>Total BCAP (Ondersma et al., 2005)</td>
<td>6.4 (8.5)</td>
<td>5.0 (6.3)</td>
<td>0 - 21</td>
<td>0 – 24</td>
</tr>
<tr>
<td>Distress</td>
<td>1.2</td>
<td>1.6</td>
<td>0 - 6</td>
<td>0 - 6</td>
</tr>
<tr>
<td>Ridigity</td>
<td>1.6</td>
<td>1.3</td>
<td>0 - 4</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Happiness</td>
<td>2.8</td>
<td>0.6</td>
<td>0 - 3</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Family Conflict</td>
<td>1.0</td>
<td>1.2</td>
<td>0 - 3</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.0</td>
<td>1.5</td>
<td>0 - 4</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Persecution</td>
<td>1.1</td>
<td>1.2</td>
<td>0 - 3</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Poverty</td>
<td>0.5</td>
<td>0.7</td>
<td>0 - 2</td>
<td>0 – 2</td>
</tr>
<tr>
<td>Total MFPS (Epstein, 1983)</td>
<td>174.4</td>
<td>24.2</td>
<td>108 - 216</td>
<td>56 - 280</td>
</tr>
<tr>
<td>Total Maternal MFPS</td>
<td>85.3</td>
<td>16.1</td>
<td>33 - 111</td>
<td>23 – 115</td>
</tr>
<tr>
<td>Ind.</td>
<td>45.8 (47.0)</td>
<td>8.0 (9.8)</td>
<td>23 - 63</td>
<td>13 - 65</td>
</tr>
<tr>
<td>Accept.</td>
<td>39.4 (40.9)</td>
<td>10.9 (9.0)</td>
<td>10 - 50</td>
<td>10 – 50</td>
</tr>
<tr>
<td>Idealization</td>
<td>18.7 (18.5)</td>
<td>7.4 (6.3)</td>
<td>7 - 33</td>
<td>7 - 35</td>
</tr>
<tr>
<td>Total Paternal MFPS</td>
<td>86.7</td>
<td>16.0</td>
<td>41 - 109</td>
<td>23 - 115</td>
</tr>
<tr>
<td>Ind.</td>
<td>47.4 (44.5)</td>
<td>8.1 (8.5)</td>
<td>19 - 63</td>
<td>13 - 65</td>
</tr>
<tr>
<td>Accept.</td>
<td>39.3 (38.6)</td>
<td>10.3 (9.7)</td>
<td>12 - 50</td>
<td>10 – 50</td>
</tr>
<tr>
<td>Idealization</td>
<td>18.4 (17.1)</td>
<td>7.3 (6.9)</td>
<td>7 - 33</td>
<td>7 - 35</td>
</tr>
<tr>
<td>Total PMES (Coleman et al., 1999)</td>
<td>187.1 (169.0)</td>
<td>15.0 (14.4)</td>
<td>142 (141) - 227 (196)</td>
<td>46 – 230</td>
</tr>
<tr>
<td>Baby</td>
<td>40.5</td>
<td>4.4</td>
<td>26 - 50</td>
<td>10 - 50</td>
</tr>
<tr>
<td>Enjoy</td>
<td>46.8</td>
<td>4.2</td>
<td>35 – 55</td>
<td>11 - 55</td>
</tr>
<tr>
<td>Friends</td>
<td>35.4</td>
<td>4.0</td>
<td>23 – 45</td>
<td>9 - 45</td>
</tr>
<tr>
<td>Life</td>
<td>31.3</td>
<td>4.4</td>
<td>21 – 40</td>
<td>8 - 40</td>
</tr>
<tr>
<td>Image</td>
<td>41.2</td>
<td>4.1</td>
<td>30 – 50</td>
<td>10 - 50</td>
</tr>
<tr>
<td>Total PSSS (Procidano et al., 1983)</td>
<td>30.1</td>
<td>8.0</td>
<td>3 - 40</td>
<td>0 – 40</td>
</tr>
<tr>
<td>Friends</td>
<td>15.2 (15.5)</td>
<td>4.6 (5.8)</td>
<td>0 - 20</td>
<td>0 - 20</td>
</tr>
<tr>
<td>Family</td>
<td>14.9 (14.2)</td>
<td>5.3 (6.0)</td>
<td>0 - 20</td>
<td>0 - 20</td>
</tr>
<tr>
<td>Demographic Risk Score</td>
<td>1.93</td>
<td>1.07</td>
<td>0 - 4</td>
<td>0 – 6</td>
</tr>
</tbody>
</table>

*Note:* BCAP = Brief Child Abuse Potential Scale, MFPS = Mother Father Peer Scale, Ind. = Encourage Independence, Accept. = Accepted, PMES = Prenatal Maternal Expectation Scale, PSSS = Perceived Social Support Scale.
Coleman et al. (1999) originally developed the scale of prenatal maternal expectations used for this investigation with a predominantly middle-class, first-time, married, Caucasian sample of mothers attending Lamaze classes during their third trimester of pregnancy. It is interesting to note that, overall, the current high-risk sample scored higher than the original sample on this measure, indicating more positive expectations about being a mother.

Levels of perceived social support in the current sample were compared to those obtained by Procidano and Heller (1983) in their original study using a sample of undergraduate students who were recruited from an introductory psychology subject pool. Both samples reported essentially the same levels of perceived social support from both friends and family.

Sample characteristics, i.e., characteristics used to describe the current sample above, were also examined in relation to the dependent variable in this study (child abuse potential). ANOVA analyses revealed that child abuse potential did not differ by race (African American, Caucasian, or other), $F(2, 117) = 2.25$, n.s., or relationship status (Married, Single, or Separated/Divorced/ Widowed), $F(2, 117) = .28$, n.s. Bivariate correlations revealed no significant relationships between child abuse potential and age, $r(120) = -.15$, n.s., or income, $r(120) = -.13$, n.s. An independent samples $t$-test revealed that child abuse potential scores did not differ between mothers who had other biological children ($X = 7.0, SD = 4.7$) and those who were first-time mothers ($X = 5.8, SD = 5.3$), $t(118) = -1.24$, $p > .05$. However, an ANOVA analysis revealed significant differences on child abuse potential by education level (high school education or less, some college, or a college degree), $F(2, 117) = 3.65$, $p < .05$. Post-hoc Tukey HSD comparisons revealed that those who had a high school education or less had higher child abuse potential scores ($X = 8.3, SD = 5.4$) than those with a college degree ($X = 4.7, SD = 4.2$).
Hypothesis One

Proposed Hypothesis Testing

The first hypothesis predicted that greater demographic risk would be correlated with greater child abuse potential. A Pearson correlation analysis revealed a strong, significant correlation between demographic risk (DRS) and child abuse potential (total BCAP abuse score), $r (120) = .30, p < .001$.

Subscale Analyses

To better understand the relationship between demographic risk and child abuse potential, further analyses were conducted investigating the correlations between child abuse potential scores (total BCAP, as well as the subscales of: Distress, Rigidity, Happiness, Family Conflict, Loneliness, Feelings of Persecution, and Poverty) and demographic risk scores (total DRS ranging from 0 to 6, as well as all dummy-coded individual risk variables including maternal age less than 20, being below near poverty level, three or more children residing in the home, unmarried, high school education or less, and absence of enrollment in public assistance programs when eligible). Table 3 displays the results of these correlations. As can be seen, higher total demographic risk was correlated with higher child abuse potential total, as well as higher distress, greater rigidity, higher family conflict, and higher poverty. Maternal age under 20 was also correlated with greater family conflict. Being near or below poverty was correlated with greater rigidity and higher family conflict. Having more than 3 children in the home was correlated with greater rigidity. Being unmarried was correlated with higher total child abuse
### Table 3

**Exploratory Analysis of Hypothesis One – Correlations between Child Abuse Potential and Demographic Risk**

<table>
<thead>
<tr>
<th>Variable</th>
<th>BCAP Total</th>
<th>Distress</th>
<th>Rigidity</th>
<th>Happiness</th>
<th>Family Conflict</th>
<th>Loneliness</th>
<th>Persecution</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total DRS</td>
<td>.30**</td>
<td>.19*</td>
<td>.28**</td>
<td>.05</td>
<td>.29**</td>
<td>.17</td>
<td>.14</td>
<td>.18*</td>
</tr>
<tr>
<td>Age</td>
<td>.06</td>
<td>.11</td>
<td>-.07</td>
<td>.03</td>
<td>.23*</td>
<td>-.00</td>
<td>-.00</td>
<td>-.05</td>
</tr>
<tr>
<td>Poverty</td>
<td>.17</td>
<td>.07</td>
<td>.29**</td>
<td>.11</td>
<td>.19*</td>
<td>-.01</td>
<td>.10</td>
<td>.17</td>
</tr>
<tr>
<td>Children</td>
<td>.09</td>
<td>.05</td>
<td>.26**</td>
<td>.04</td>
<td>-.04</td>
<td>.03</td>
<td>.03</td>
<td>.03</td>
</tr>
<tr>
<td>Unmarried</td>
<td>.29**</td>
<td>.20*</td>
<td>.12</td>
<td>-.07</td>
<td>.19*</td>
<td>.29**</td>
<td>.10</td>
<td>.23*</td>
</tr>
<tr>
<td>Education</td>
<td>.19*</td>
<td>.10</td>
<td>.13</td>
<td>.03</td>
<td>.20*</td>
<td>.15</td>
<td>.15</td>
<td>.04</td>
</tr>
<tr>
<td>No Asst.</td>
<td>-.04</td>
<td>-.06</td>
<td>.09</td>
<td>.04</td>
<td>-.05</td>
<td>-.09</td>
<td>-.06</td>
<td>.10</td>
</tr>
</tbody>
</table>

*Note: BCAP = Brief Child Abuse Potential Scale, DRS = Demographic Risk Scale, Age = maternal age less than 20, Poverty = being below near poverty level, Children = three or more children residing in the home, Education = high school education or less, and No Asst. = absence of enrollment in public assistance programs when eligible.

* * p < .05. ** p < .01.
potential, greater distress, higher family conflict, more loneliness, and more poverty. Finally, less education was correlated with higher total child abuse potential and greater family conflict.

**Hypothesis Two**

**Proposed Hypothesis Testing**

The second hypothesis proposed that positive perceptions of childhood relationships with mothers would predict lower child abuse potential and that less maternal acceptance (greater rejection), in particular, would predict greater child abuse potential. A multiple regression analysis was used to test this hypothesis; demographic risk (DRS) was entered first as a covariate. After controlling for demographic risk, there was a significant, negative relationship between perceptions of childhood relationships with mothers (total maternal MFPS score) and child abuse potential (total BCAP abuse score), indicating that recollections of more positive relationships with mothers were related to lower child abuse potential (see Table 4). Results also confirmed a significant negative association between maternal acceptance (converse of rejection) and child abuse potential, after controlling for demographic risk (see Table 5).

**Subscale Analyses**

To explicate the relationship between perceptions of relationships with mothers and fathers and child abuse potential, analyses were conducted investigating the correlations between the child abuse potential scores (total BCAP as well as the subscales of Distress, Rigidity, Happiness, Family Conflict, Loneliness, Feelings of Persecution, and Poverty) and recollections of quality of relationships with one’s own parents [total MFPS, as well as the subscales of Encouraged Independence vs. Overprotected, Accepted vs. Rejected, and Idealization for Mother and Father separately (8 scales total with 4 for each parent)]. Table 6 displays the results of these
Table 4

*Summary of Multiple Regression Analysis for Hypothesis Two, Part 1*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standard Error</th>
<th>Standardized Coefficients</th>
<th>F Value</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step One</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.30</td>
<td>.40</td>
<td>.29*</td>
<td>10.52*</td>
<td>.07</td>
</tr>
<tr>
<td>Step Two</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.13</td>
<td>.36</td>
<td>.25*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MFPS</td>
<td>-.14</td>
<td>.02</td>
<td>-.44**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* DRS = Demographic Risk Scale, MFPS = Mother Father Peer Scale - Total Mother Score.

* p < .05. ** p < .001.

Table 5

*Summary of Multiple Regression Analysis for Hypothesis Two, Part 2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standard Error</th>
<th>Standardized Coefficients</th>
<th>F Value</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step One</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.30</td>
<td>.40</td>
<td>.29*</td>
<td>10.52*</td>
<td>.07</td>
</tr>
<tr>
<td>Step Two</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.13</td>
<td>.38</td>
<td>.25*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.16</td>
<td>.04</td>
<td>-.35**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* DRS = Demographic Risk Scale, Acceptance = Mother Father Peer Scale - Acceptance vs. Rejection subscale.

* p < .01. ** p < .001.
Table 6

*Exploratory Analysis of Hypothesis Two – Correlations between Child Abuse Potential and Recollection of Parental Relationship Quality*

<table>
<thead>
<tr>
<th>Variable</th>
<th>BCAP Total</th>
<th>Distress</th>
<th>Rigidity</th>
<th>Happiness</th>
<th>Family Conflict</th>
<th>Loneliness</th>
<th>Persecution</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total MFPS</td>
<td>-.50**</td>
<td>-.25**</td>
<td>-.13</td>
<td>.18</td>
<td>-.46**</td>
<td>-.36**</td>
<td>-.53**</td>
<td>-.30**</td>
</tr>
<tr>
<td>Maternal</td>
<td>-.46**</td>
<td>-.24**</td>
<td>-.01</td>
<td>.21*</td>
<td>-.46**</td>
<td>-.35**</td>
<td>-.48**</td>
<td>-.24**</td>
</tr>
<tr>
<td>Ind.</td>
<td>-.41**</td>
<td>-.24**</td>
<td>-.14</td>
<td>.22*</td>
<td>-.26**</td>
<td>-.31**</td>
<td>-.42**</td>
<td>-.19*</td>
</tr>
<tr>
<td>Accept.</td>
<td>-.38**</td>
<td>-.18</td>
<td>.09</td>
<td>.14</td>
<td>-.49**</td>
<td>-.30**</td>
<td>-.40**</td>
<td>-.22*</td>
</tr>
<tr>
<td>Ideal.</td>
<td>-.20*</td>
<td>-.07</td>
<td>.22*</td>
<td>.09</td>
<td>-.44**</td>
<td>-.10</td>
<td>-.33**</td>
<td>-.16</td>
</tr>
<tr>
<td>Paternal</td>
<td>-.29**</td>
<td>-.13</td>
<td>-.11</td>
<td>.03</td>
<td>-.23*</td>
<td>-.21*</td>
<td>-.36**</td>
<td>-.19</td>
</tr>
<tr>
<td>Ind.</td>
<td>-.30**</td>
<td>-.09</td>
<td>-.12</td>
<td>.05</td>
<td>-.27**</td>
<td>-.24*</td>
<td>-.33**</td>
<td>-.21*</td>
</tr>
<tr>
<td>Accept.</td>
<td>-.22*</td>
<td>-.13</td>
<td>-.08</td>
<td>.01</td>
<td>-.15</td>
<td>-.14</td>
<td>-.30**</td>
<td>-.12</td>
</tr>
<tr>
<td>Ideal.</td>
<td>-.09</td>
<td>.00</td>
<td>.07</td>
<td>-.05</td>
<td>-.15</td>
<td>-.03</td>
<td>-.25*</td>
<td>-.14</td>
</tr>
</tbody>
</table>

*Note:* BCAP = Brief Child Abuse Potential Scale, Total MFPS = Total Mother Father Peer Scale (Maternal and Paternal scales combined), Maternal = Total Maternal MFPS, Paternal = Total Paternal MFPS, Ind. = Encouraged Independence subscale of MFPS, Accept. = Accepted subscale of MFPS, and Ideal. = Idealization subscale of MFPS.

* *p < .05. ** *p < .01.
correlations. Results revealed that higher quality of parental relationships with mothers and fathers was correlated with lower total child abuse potential, less distress, less family conflict, less loneliness, less feelings of persecution, and less poverty. Higher quality relationships with mothers in general (used in Hypothesis 2) was correlated with lower child abuse potential, less distress, greater happiness, less family conflict, less loneliness, less feelings of persecution, and less poverty. Higher maternal encouragement of independence was correlated with lower child abuse potential total, less distress, greater happiness, less family conflict, less loneliness, less feelings of persecution, and less poverty. Higher maternal acceptance (less rejection, used in hypothesis 2) was correlated with lower child abuse potential, less family conflict, less loneliness, less feelings of persecution, and less poverty. Higher maternal idealization was correlated with lower child abuse potential, greater rigidity, less family conflict, and less feelings of persecution.

Higher quality relationships with fathers in general, on the other hand, was correlated with lower total child abuse potential, less family conflict, less loneliness, and less feelings of persecution. Higher paternal encouragement of independence was correlated with lower child abuse potential, less family conflict, less loneliness, less feelings of persecution, and less poverty. Higher paternal acceptance (less rejection) was correlated with lower child abuse potential and less feelings of persecution. Higher paternal idealization was correlated with less feelings of persecution only.

**Hypothesis Three**

**Proposed Hypothesis Testing**

Next, it was hypothesized that social support would moderate the relationship between perceptions of childhood relationships with mothers and child abuse potential. It was
hypothesized that a significant and/or stronger relationship between perceptions of childhood relationships with mothers and abuse potential would exist for people with lower social support, while a non-significant or weaker relationship between these variables would be revealed for people with higher social support. This was tested through a multiple regression analysis, as recommended by McCartney, Burchinal, and Bub (2006) and Aiken and West (1991), where all predictors were first centered to reduce multicollinearity and to make interpretation easier. Next, demographic risk (DRS) was entered as a covariate. Then, perceptions of childhood relationships with mothers (total maternal MFPS scores) and social support (total PSSS scores) were entered separately as predictors of child abuse potential (total BCAP scores). A third predictor, the interaction between perceptions of childhood relationships with mothers and social support (maternal MFPS X total PSSS score), was entered next. Though the first two predictors were significant, the interaction term was not. Thus, although perceptions of childhood relationships with mothers and social support each independently predicted child abuse potential, social support did not moderate the relationship between perceptions of childhood relationships with mothers and child abuse potential (see Table 7).

Subscale Analyses

Two more multiple regression analyses were conducted in the same manner to test if social support from friends or family would moderate the association between perceptions of childhood relationships with mothers and child abuse potential. Like the results above using the total social support scale, results from these analyses indicated that neither support from friends nor support from family moderated the association between relationships with mothers and child abuse potential.
Table 7

Summary of Moderation Analyses for Hypothesis Three

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standard Error</th>
<th>Standardized Coefficients</th>
<th>F Value Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step One</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.30</td>
<td>.40</td>
<td>.29**</td>
<td>10.52* .07</td>
</tr>
<tr>
<td>Step Two</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.13</td>
<td>.36</td>
<td>.25**</td>
<td>21.69** .26</td>
</tr>
<tr>
<td>MFPS</td>
<td>-.14</td>
<td>.02</td>
<td>-.44***</td>
<td></td>
</tr>
<tr>
<td>Step Three</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>.93</td>
<td>.35</td>
<td>.20**</td>
<td>19.52** .32</td>
</tr>
<tr>
<td>MFPS</td>
<td>-.08</td>
<td>.03</td>
<td>-.25**</td>
<td></td>
</tr>
<tr>
<td>PSSS</td>
<td>-.20</td>
<td>.06</td>
<td>-.32***</td>
<td></td>
</tr>
<tr>
<td>Step Four</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>.90</td>
<td>.36</td>
<td>.20*</td>
<td></td>
</tr>
<tr>
<td>MFPS</td>
<td>-.08</td>
<td>.03</td>
<td>-.26**</td>
<td></td>
</tr>
<tr>
<td>PSSS</td>
<td>-.21</td>
<td>.06</td>
<td>-.33***</td>
<td></td>
</tr>
<tr>
<td>MFPS X PSSS</td>
<td></td>
<td>.00</td>
<td>-.05</td>
<td>14.63** .31</td>
</tr>
</tbody>
</table>

Note: DRS = Demographic Risk Score, MFPS = Mother Father Peer Scale-Total Mother Score, PSSS = Perceived Social Support Scale Total Score.

* p < .05, ** p < .01, *** p < .001.

Another analysis was conducted investigating the correlations between the child abuse potential scores (total BCAP as well as the subscales of Distress, Rigidity, Happiness, Family Conflict, Loneliness, Feelings of Persecution, and Poverty) and perceptions of social support (total PSSS, as well as the subscales of Friend Support and Family Support). Table 8 displays the results of these correlations. Results revealed that higher total perceived social support from both friends and family combined was correlated with lower child abuse potential, less distress, less
Table 8

*Exploratory Analysis of Hypothesis Three – Correlations between Child Abuse Potential and Perceived Social Support*

<table>
<thead>
<tr>
<th>Variable</th>
<th>BCAP Total</th>
<th>Distress</th>
<th>Rigidity</th>
<th>Happiness</th>
<th>Family Conflict</th>
<th>Loneliness</th>
<th>Persecution</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PSSS</td>
<td>-.51**</td>
<td>-.34**</td>
<td>-.00</td>
<td>.16</td>
<td>-.47**</td>
<td>-.41**</td>
<td>-.47**</td>
<td>-.26**</td>
</tr>
<tr>
<td>Friend Support</td>
<td>-.22*</td>
<td>.11</td>
<td>-.13</td>
<td>-.02</td>
<td>-.21*</td>
<td>-.16</td>
<td>-.24**</td>
<td>-.05</td>
</tr>
<tr>
<td>Family Support</td>
<td>-.56**</td>
<td>-.42**</td>
<td>.11</td>
<td>.26**</td>
<td>-.52**</td>
<td>-.48**</td>
<td>-.50**</td>
<td>-.35**</td>
</tr>
</tbody>
</table>

*Note: BCAP = Brief Child Abuse Potential Scale, PSSS = Perceived Social Support Scale.*

* p < .05, ** p < .001.
family conflict, less loneliness, less feelings of persecution, and less poverty. Higher perceived social support from friends alone was correlated with lower child abuse potential, less family conflict, and less feelings of persecution. Higher perceived social support from family alone was correlated with lower child abuse potential, less distress, greater happiness, less family conflict, less loneliness, less feelings of persecution, and less poverty (see Table 8).

**Hypothesis Four**

**Proposed Hypothesis Testing**

For the fourth hypothesis, it was predicted that a curvilinear relationship between prenatal maternal expectations and child abuse potential would exist, whereby extremely positive and extremely negative prenatal expectations would be related to lower child abuse potential. A quadratic curve estimation regression analysis was conducted to test the relationship between prenatal maternal expectations (total PMES scores) and child abuse potential (total BCAP scores). Results from this analysis did not support this hypothesis, Adjusted $R^2 = -0.002$, $F(2, 120) = 0.863$, $\beta = -1.460$, n.s.

**Subscale Analyses**

To better understand the relationship between prenatal maternal expectations and child abuse potential, further analyses were conducted investigating the correlations between the child abuse potential scores (total BCAP as well as the subscales of Distress, Rigidity, Happiness, Family Conflict, Loneliness, Feelings of Persecution, and Poverty) and prenatal maternal expectations (total PMES, as well as the subscales of Baby, Enjoyment, Partner, Life, and Image). Table 9 displays the results of these linear and quadratic correlations. Results revealed that linear and quadratic correlations were significant in the same manner. More positive maternal prenatal expectations were correlated with greater rigidity. More positive expectations of baby
Table 9

*Exploratory Analysis of Hypothesis Four – Correlations between Child Abuse Potential and Prenatal Maternal Expectations*

<table>
<thead>
<tr>
<th>Variable</th>
<th>BCAP Total</th>
<th>Distress</th>
<th>Rigidity</th>
<th>Happiness</th>
<th>Family Conflict</th>
<th>Loneliness</th>
<th>Persecution</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PMES (linear)</td>
<td>-.08</td>
<td>-.17</td>
<td>.27**</td>
<td>.08</td>
<td>-.13</td>
<td>-.14</td>
<td>-.03</td>
<td>-.09</td>
</tr>
<tr>
<td>Total PMES (quadratic)</td>
<td>-.09</td>
<td>-.18</td>
<td>.27**</td>
<td>.08</td>
<td>-.13</td>
<td>-.15</td>
<td>-.03</td>
<td>-.09</td>
</tr>
<tr>
<td>Baby (linear)</td>
<td>.08</td>
<td>-.02</td>
<td>.33***</td>
<td>-.04</td>
<td>-.07</td>
<td>-.02</td>
<td>.09</td>
<td>-.02</td>
</tr>
<tr>
<td>Baby (quadratic)</td>
<td>.07</td>
<td>-.03</td>
<td>.33***</td>
<td>-.03</td>
<td>-.08</td>
<td>-.02</td>
<td>.08</td>
<td>-.03</td>
</tr>
<tr>
<td>Enjoy (linear)</td>
<td>-.02</td>
<td>-.13</td>
<td>.05</td>
<td>.05</td>
<td>-.02</td>
<td>-.00</td>
<td>.10</td>
<td>-.01</td>
</tr>
<tr>
<td>Enjoy (quadratic)</td>
<td>-.02</td>
<td>-.13</td>
<td>.06</td>
<td>.05</td>
<td>-.03</td>
<td>-.01</td>
<td>.09</td>
<td>-.02</td>
</tr>
<tr>
<td>Partner (linear)</td>
<td>-.22*</td>
<td>-.21*</td>
<td>.23*</td>
<td>.16</td>
<td>-.19*</td>
<td>-.24**</td>
<td>-.22*</td>
<td>-.22*</td>
</tr>
<tr>
<td>Partner (quadratic)</td>
<td>-.21*</td>
<td>-.20*</td>
<td>.24**</td>
<td>.14</td>
<td>-.18*</td>
<td>-.23*</td>
<td>-.21*</td>
<td>-.21*</td>
</tr>
<tr>
<td>Life (linear)</td>
<td>-.20*</td>
<td>-.22*</td>
<td>.12</td>
<td>.09</td>
<td>-.20*</td>
<td>-.23*</td>
<td>-.08</td>
<td>-.15</td>
</tr>
<tr>
<td>Life (quadratic)</td>
<td>-.21*</td>
<td>-.23*</td>
<td>.12</td>
<td>.08</td>
<td>-.20*</td>
<td>-.24**</td>
<td>-.08</td>
<td>-.15</td>
</tr>
<tr>
<td>Image (linear)</td>
<td>.05</td>
<td>-.10</td>
<td>.28**</td>
<td>.02</td>
<td>.01</td>
<td>-.00</td>
<td>.02</td>
<td>.04</td>
</tr>
<tr>
<td>Image (quadratic)</td>
<td>.05</td>
<td>-.11</td>
<td>.29**</td>
<td>.02</td>
<td>.01</td>
<td>-.02</td>
<td>.03</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note: BCAP = Brief Child Abuse Potential Scale, PMES = Prenatal Maternal Expectations Scale.*

* *p < .05. ** p < .01. *** p < .001
characteristics and childcare were correlated with greater rigidity as well. The degree of enjoyment anticipated from mothering was not significantly correlated with any of the child abuse potential scales. More positive expectations of changes in relationships with a significant romantic partner and friends were correlated with lower total child abuse potential, less distress, greater rigidity, less family conflict, less loneliness, less feelings of persecution, and less poverty. More positive expectations of changes in lifestyle and quality of life were correlated with lower child abuse potential, less distress, less family conflict, and less loneliness. More positive expectations of projected self-image were correlated with greater rigidity only (see Table 9).

A multiple regression analysis was conducted to test the linear and quadratic effects of prenatal maternal expectation on child abuse potential, after controlling for demographic risk variables. First, demographic risk (DRS) was entered as a covariate. Then, the linear term of prenatal maternal expectations (total PMES score) and the quadratic term of prenatal maternal expectations (total PMES score multiplied by itself) were entered separately as predictors of child abuse potential (total BCAP scores). Though the first predictor was significant, the second two were not. Thus, prenatal maternal expectations did not evidence a linear or curvilinear relationship with child abuse potential, after controlling for demographic risk (see Table 10).

Hypothesis Five

Proposed Hypothesis Testing

Finally, it was hypothesized that social support would moderate the relationship between demographic risk and child abuse potential. It was hypothesized that a significant and/or stronger relationship between demographic risk and abuse potential would exist for people with lower social support, while a non-significant or weaker relationship between these variables would be revealed for people with higher social support. This hypothesis was tested through a multiple
Table 10

**Exploratory Analysis of Hypothesis Four – The Linear and Quadratic Effects of Prenatal Maternal Expectations on Child Abuse Potential**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standard Error</th>
<th>Standardized Coefficients</th>
<th>F Value</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step One</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.40</td>
<td>.41</td>
<td>.30***</td>
<td>11.78***</td>
<td>.08</td>
</tr>
<tr>
<td><strong>Step Two</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.53</td>
<td>.41</td>
<td>.33***</td>
<td>7.32***</td>
<td>.10</td>
</tr>
<tr>
<td>PMES Linear</td>
<td>-.05</td>
<td>.03</td>
<td>-.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step Three</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>1.50</td>
<td>.42</td>
<td>.32***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMES Linear</td>
<td>.20</td>
<td>.49</td>
<td>.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMES Quadratic</td>
<td>.00</td>
<td>.00</td>
<td>-.76</td>
<td>4.94**</td>
<td>.09</td>
</tr>
</tbody>
</table>

*Note: DRS = Demographic Risk Score, PMES = Prenatal Maternal Expectation Scale.

* p < .05. ** p < .01. *** p < .001

regression analysis, like the one described above, where demographic risk (DRS) and social support (total PSSS scores) were first centered and then entered as predictors of child abuse potential (total BCAP scores). A third predictor, the interaction between demographic risk and social support (DRS X total PSSS score), was entered next. Similar to the results from Hypothesis 3, the first two predictors were significant but the interaction term was not. This indicated that, although demographic risk and social support each independently predicted child abuse potential, social support did not moderate the relationship between demographic risk and child abuse potential (see Table 11). Also of note, once perceived social support was entered into the regression, the direct effect between demographic risk and child abuse potential became
### Table 11

*Summary of Moderation Analyses for Hypothesis Five*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standard Error</th>
<th>Standardized Coefficients</th>
<th>F Value</th>
<th>Adjusted $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step One</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>.33</td>
<td>.11</td>
<td>.28**</td>
<td>9.95*</td>
<td>.07</td>
</tr>
<tr>
<td><strong>Step Two</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>.22</td>
<td>.10</td>
<td>.18*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSSS</td>
<td>-.29</td>
<td>.05</td>
<td>-.47***</td>
<td>23.44**</td>
<td>.27</td>
</tr>
<tr>
<td><strong>Step Three</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS</td>
<td>.04</td>
<td>.20</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSSS</td>
<td>-.34</td>
<td>.07</td>
<td>-.54***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRS X PSSS</td>
<td>.02</td>
<td>.02</td>
<td>.17</td>
<td>15.97**</td>
<td>.27</td>
</tr>
</tbody>
</table>

*Note:* DRS = Demographic Risk Score, PSSS = Perceived Social Support Scale Total Score.

* $p < .05$. ** $p < .01$. *** $p < .001$.

non-significant.

**Post Hoc Exploratory Analyses**

Two more multiple regression analyses were conducted in the same manner to test if social support from friends or family would moderate the association between demographic risk and child abuse potential. Like the results above using the total social support scale, results from these analyses indicated that neither support from friends nor support from family moderated the association between demographic risk and child abuse potential.
Discussion

The present study sought to test factors that may contribute to child abuse potential in a sample of high-risk pregnant women. These factors included (a) perceived quality of childhood relationships with parents, (b) prenatal expectations of motherhood, (c) perceived social support, and (d) six demographic risk variables (maternal age, income, number of children in the household, marital status, maternal education, and participation in public assistance when needed). Overall, findings were mixed in regard to supporting the hypotheses. Each set of results will be discussed next, followed by an overview of the strengths and limitations of the present study.

The Association between Demographic Risk and Child Abuse Potential

Past literature has identified many demographic risk variables that contribute to child abuse potential. The most commonly identified demographic risks for child abuse in previous literature include teenage parenthood or young maternal age (Bethea, 1999, English, 1998 as discussed in Carter, 2005; Wu et al., 2004), low income or SES (Bethea, 1999; Budd, Heilman, & Kane, 2000; English, 1998), greater number of children in the household (Bethea, 1999; Brown et al., 1998; Ethier, Couture, & Lacharite, 2004), single marital status (Bethea, 1999; Nygren, Nelson, & Klein, 2004; Wu et al., 2004), and low maternal education (Nygren et al., 2004; Rodriguez, 2008; Wu et al., 2004). As predicted, single marital status and less maternal education were both significantly associated with greater total child abuse potential in the present study. Out of possible individual predictors, being unmarried seemed to have the greatest impact on child abuse potential. However, since it has been argued that the total number of family risks is a more robust predictor of child abuse than any one specific vulnerability (Wekerle, Wall, Leung, & Trocmé, 2006), these variables were combined to create a cumulative demographic
risk index. As expected, the current results supported previous literature and showed a strong correlation between greater cumulative demographic risk and child abuse potential. Also, an examination of each demographic risk’s effect on child abuse potential further supported previous literature that has found that the total number of family risks may be a more robust predictor of child abuse than any one specific vulnerability. Examination of the interrelationships between risks and specific aspects of child abuse potential also highlighted that demographic risks seemed to be most consistently related to participants’ rigidity and reported levels of family conflict.

However, it was unexpected that the results of the current investigation did not find that maternal age contributed to overall child abuse potential. Though the original hypothesis was supported by some previous research (Bethea, 1999, Connelly & Straus, 1992; Wu et al., 2004), these results may not be surprising in hindsight. In their review of the literature examining the relationship between maternal age and physical abuse towards one’s own children, Connelly and Straus (1992) found this relationship to be unclear. They found that 5 out of 12 previous investigations supported a correlation between these two constructs, 4 were questionable, and 3 failed to show a relationship. Budd, Heilman, and Kane (2000) also failed to find a correlation between maternal age and child abuse potential in a high-risk sample of adolescent mothers.

This relationship may be even more complicated in low income and minority families. Other investigations have demonstrated that these families tend to promote multiple caregivers where family members such as grandparents (Fuller-Thomson, Minkler, & Driver, 1997) and siblings (Romich, 2007) help care for younger family members. Using a subset of the 1992 – 1994 National Survey of Families and Households (NSFH) data, Fuller-Thomson, Minkler, and Driver (1997) found that grandparenting is especially prevalent among single women, African
American mothers, and low income mothers. Similarly, in their 3-year investigation of low-income, single, minority mothers and their adolescent children, Romick (2007) found that the majority of adolescents cared for their younger siblings on a regular basis. Multiple caregiver families may be even more frequent when pregnancy occurs in younger women. Thus, it is possible that younger mothers in the present sample had increased knowledge about children’s development and parenting techniques based on help from other family members, which could have, in turn, decreased the correlation between maternal age and child abuse potential.

Anecdotally, we observed this often to be the case; many of the younger participants in this sample were living with other family members including their siblings and their own parents. Furthermore, since the majority of the participants (70%) had previous children despite their young age, they may have gained adequate parenting skills and knowledge that could have lowered their child abuse potential scores in comparison to same-aged peers. Future studies will need to clarify if maternal age itself is a significant predictor of child abuse potential or if other factors better explain the relationship, or lack thereof, between these two variables. Potential predictors need to be examined in a highly diverse population (with respect to age, race, education, social isolation, understanding of child development, etc.) in order to gain an adequate understanding of how these constructs are related.

In contrast to previous literature involving low-income samples (English, 1998; Rodriguez, 2008), the present results also failed to reveal a significant association between income level and child abuse potential. It is possible that since 75% of participants reported income levels near or below the poverty line, there was not enough variance in the current sample to show a significant relationship between income and child abuse potential. It is also possible that other factors, such as education, knowledge of child development, childhood
parental modeling, parenting style, or other life stressors were more robust predictors of child abuse potential. For example, in their investigation of a diverse, low-income sample, Medora, Wilson, and Larson (2001) found that parenting characteristics such as being rigid and controlling, enforcing rules, and endorsing physical punishment were the most salient predictors of child abuse potential. Future research should investigate this relationship further, especially in low-income samples.

The current investigation also failed to show a significant relationship between the number of children in the home and overall child abuse potential (although number of children in the home was related to greater rigidity). Similar to the considerations made above in regard to young maternal age, the pregnant women in this sample may have been raised in environments (i.e., low-income, minority families) where a high number of children in the home was more normative. The Russell Sage Foundation (n.d.) has reported that, although the average number of children per household has declined, the number of children per household is still higher among lower income than higher income households. According to the United States Census Bureau (1996), the number of people per household and per family is higher in African American than Caucasian families and is expected to remain that way through the year 2010. If a high number of children in the household is more normative, then multiple children in the home may not elicit the emotional stress that may lead to child abuse potential that may be seen in families where many children is more rare. Future research is needed to examine these possibilities.

A failure to enroll in public assistance programs when eligible was also not associated with child abuse potential in this sample. This is likely because 83% of participants were enrolled in assistance programs, and of those not enrolled, two participants were eligible. In other words, a restricted range in the variable of interest made it difficult to detect significant
results. Future investigations should continue to evaluate the relationship between failure to enroll in public assistance programs when eligible and child abuse potential because it is likely that these constructs would be correlated in a more varied sample.

Similar to previous research, results also indicated that demographic risks such as maternal age, number of children in the household, and failure to enroll in public assistance programs when eligible, and their associations with child abuse potential are difficult to define. Wu et al. (2004) found that the severity and accumulation of risk factors are important to measure, rather than the more typical overly simplistic definitions of presence or absence of such factors. Felsky and Jaffee (2006) add that the integration of possible compensatory influences must be considered when predicting outcomes such as child abuse potential. Therefore, more research needs to be conducted on the intricacies of how these risk constructs (developmental knowledge in young, low-income mothers, feelings about having multiple children in the household, if public assistance programs alleviate some of the family stress, etc.) may or may not interact to contribute to child abuse potential in a diverse sample of individuals.

It was also hypothesized that social support would moderate the relationship between demographic risk and child abuse potential. This hypothesis was not supported; however, less social support directly predicted greater child abuse potential. It is possible that the presence or absence of social support may be a particularly important predictor of child abuse potential in lower income samples, such as the one used for this investigation. These individuals were more likely to lack other forms of tangible support (e.g., food, housing, transportation, steady income, medical care, a safe environment, time away from children, and vacation opportunities). An investigation by Garbarino and Sherman (1980) supports this possibility. They compared two low income neighborhoods that differed in levels of social support and found that the
neighborhoods characterized by lower social support had higher child abuse potential scores. These authors suggest that in high-risk neighborhoods, parents are inclined to seek help from others, and such help then protects against the likelihood of harsh parenting or child abuse potential. It is also possible that social support may have a moderating effect on outcomes in populations with fewer risk factors, while it contributes directly to child abuse potential in populations with multiple risk factors such as families in the current study. It is worthy to also note that when perceived social support from friends and family were investigated separately in relation to child abuse potential, current results indicated that perceived support from family had a greater impact on child abuse potential than did perceived support from friends. Again, the quality of relationships with important family members (this time in the present versus during childhood) were particularly important in predicting child abuse potential. These findings have important implications for those working with individuals at risk for abusing their children, especially those with poor family relationships or those whose family provides a negative role model for parenting techniques.

The Association between Perceptions of Childhood Relationship with One’s Mother and Child Abuse Potential

As hypothesized, the perception of participants’ childhood relationships with their own mothers was significantly negatively correlated with child abuse potential, even after controlling for demographic risk factors. Specifically, more positive relationships with their own mothers during childhood were related to women’s lower child abuse potential. This is consistent with many other studies based on attachment theory (Bowlby, 1969) and the general parenting literature. Multiple investigations have found, for example, associations between maternal working models of relationships (i.e., perceptions of how they were raised as a child) and
parenting quality and sensitivity towards their own children (Das Eiden, Teti, & Corns, 1995; Hunter & Kilstrom, 1979; Main, Kaplan, & Cassidy, 1985). Results of this investigation are also consistent with prior investigations suggesting that parenting styles repeat over generations (Cappell & Heiner, 2005; Craig & Sprang, 2007; Pears & Capaldi, 2001), although it is important to note that the current study was a cross-sectional one, and a prospective study design would be needed to confirm this speculation. For example, Bugental and colleagues found a significant difference in observed parenting behaviors between mothers who had been abused themselves during childhood and those who had not. Bugental and Shennum (2002) found that mothers who reported that their parents had used violent tactics or were verbally aggressive to them during parent-child conflicts during their own childhood attributed lower power of control to themselves than those who did not report such abusive behaviors. Low power of control is described as attributing more control to dependent children than that which is attributed to adult caregivers. This construct has been found to increase chances of being abusive to one’s own children (Bugental, Blue, & Cruzcosa, 1989).

Similarly, a significant correlation was also found between perceptions of childhood maternal acceptance (the converse of rejection) and child abuse potential, as expected. Past research has found that maternal rejection, in particular, seems to elicit negative and distorted mental representations of mothers’ own children and of themselves as mothers (Huth-Bocks et al., 2004; Main et al., 1985; Rohner, 1985), which likely decrease sensitive parenting. It has also been found that recall of high parental acceptance from one’s mother is correlated with greater maternal sensitivity towards one’s own infant (Biringen, 1990). Therefore, it is not surprising that the perception of childhood maternal acceptance decreased one’s potential for child abuse (an extreme form of a low sensitive/harsh parenting style) in this study.
Results also revealed significant correlations between perceptions of participants’ childhood relationships with their own parents (maternal and paternal combined scores) and almost all of the child abuse potential subscales of the BCAP. These findings indicate that perceptions of childhood relationships with one’s parents may contribute to a range of factors that puts one at risk for abusing one’s own children. However, this correlation appears to have been predominantly driven by the role of relationships with mothers in particular. Thus, although perceptions of childhood relationships with fathers may impact child abuse potential, the relationship with mothers appears to be more important in predicting who is at risk for child abuse.

It is also notable that, in general, relationships with one’s parents during childhood were correlated with family conflict, loneliness, and feelings of persecution, other indicators of relationship quality that reflect child abuse potential (BCAP subscales). These results imply that childhood relationships are predictive of relational risks for child abuse. There was also a significant correlation between maternal idealization and rigidity (a BCAP subscale), which may indicate that participants who are defensive about the quality of their relationships with their mothers also tend to display rigid thinking.

Although previous theoretical and empirical literature supports the current findings, this is the first known study to examine the correlation between perceptions of one’s childhood relationship with one’s parents and child abuse potential in pregnancy, whereas other studies have primarily examined actual parenting styles. This association may partially explain the propensity for abused individuals to become abusers themselves. Thus, the present results indicate that the evaluation of perceptions of childhood relationships with mothers may be an important factor to consider when working with those at risk for child abuse.
Finally, similar to the association between demographic risk and child abuse potential, social support did not moderate the association between perceptions of childhood relationship with one’s mother and child abuse potential. Instead, social support was an additional significant predictor of child abuse potential after accounting for demographic risks. Though social support has been found to moderate the relationship between a parent’s own history of child abuse and child abuse potential (Egeland et al., 1988; Litty et al., 1996; Zuravin et al., 1996) and between stressful life events and child maltreatment in prior studies (Kotch et al., 1995), there has also been a significant amount of research that supports the current findings as well. For example, a lack of social support has been correlated with greater child abuse potential (Budd, Heilman, & Kane, 2000; Hall, Sachs, & Rayens, 1998; Rodriguez, 2008; Zelenko, Huffman, Lock, Kennedy, & Steiner, 2001) and more actual child abuse (Bethea, 1999; English, 1998; Kinard, 1996; Moncher, 1995) in a variety of high-risk samples including low-income, minority, adolescent, and pregnant mothers.

Thus, results from prior studies (e.g., Edin & Lein, 1997; Harknett, 2006), as well as the current investigation, suggest that social support may be especially beneficial to low-income parents and single mothers and may provide a possible intervention point for high-risk individuals, i.e., increasing women’s access to other role models or to a wider support network. This study also demonstrates that it is possible to assess these constructs in a relatively short amount of time, as the constructs of interest were measured using relatively brief instruments compared to most prior studies (Rodriguez, 2008; Zelenko et al., 2001). Reducing the time spent on paper measures, especially in a population with a generally low literacy rate, can be very valuable by focusing resources on those in need and allowing time for intervention. It will be
important for future research to continue to examine both the direct and indirect role of social support on child abuse potential in different types of samples.

**The Association between Prenatal Maternal Expectations and Child Abuse Potential**

It was hypothesized that both extremely positive and extremely negative prenatal expectations would be related to higher child abuse potential, while moderate and more realistic expectations would be related to lower child abuse potential. The results did not reveal a curvilinear relationship between these global constructs. The association between prenatal maternal expectations (as defined by the negative versus positive anticipations about what will transpire during the first few months following the birth of the baby) and adjustment to parenthood (e.g., exhaustion and fatigue, confidence as a parent, interference from others, lack of social life, less time available for partner, etc.) has been supported in previous literature (Kach & McGhee, 1982; Kalmuss, Davidson & Cushman, 1992). However, this investigation is the first to attempt to link prenatal expectations directly to child abuse potential.

The developers of the measure of prenatal maternal expectations used in this investigation (PMES; Coleman et al., 1999) also predicted a curvilinear relationship between prenatal expectations and postnatal parental attitudes (e.g., satisfaction in parenting, emotional and cognitive connection to one’s infant, and personal adjustment to parenting) in a sample of predominantly middle-class, first-time, married, Caucasian mothers attending Lamaze classes during their third trimester of pregnancy. Instead, they found a linear relationship between their constructs of interest. Since postnatal attitudes, such as those stated above, are related to child abuse potential (Florsheim et al., 2003), a post hoc analysis of the current data was conducted to test the possibility of linear relationships between prenatal maternal expectations and child abuse potential scales. Results did not reveal a linear relationship between these two global constructs,
possibly because the current sample was so different than Coleman et al.’s sample, i.e., it was made up of predominantly low-income, multiparous, single, minority mothers recruited from the community.

However, subscale correlations between prenatal maternal expectations (PMES) and child abuse potential (BCAP) revealed two broad findings of importance. The linear and quadratic correlations showed the same pattern of significance, and therefore, will be discussed here together. The first major finding of importance was that participants’ expectations about changes in relationships with partners, as well as friends, was correlated with almost all of the child abuse potential subscales, more than any other dimension of the prenatal maternal expectations measure (PMES). Thus, anticipated changes in significant relationships may play an important role in putting one at risk for abusing one’s own children. There has been a considerable amount of research which has found correlations between the quality of mothers’ relationships and attachment to their children (Frosch, Mangelsdorf, & McHale, 2000) and coparenting behaviors (McHale, Keursten-Hogan, Lauretti, & Rasmussen, 2000; Schoppe, Sullivan, Mangelsdorf, Frosch, & McHale, 2004). However, little investigation of mothers’ expectations about relationships and child abuse potential has been conducted.

Another major finding was that rigidity (one of the BCAP subscales) was positively correlated with almost all types of prenatal maternal expectations, indicating that greater rigidity was associated with better prenatal maternal expectations. It was expected that this correlation would be negative, such that greater rigidity would be associated with less positive prenatal maternal expectations. However, in hindsight, perhaps rigid thinking does not allow one to contemplate any non-ideal outcomes (negative prenatal maternal expectations). Further
investigation of prenatal maternal expectations are needed to determine how they are related to rigidity.

Although unexpected, it is possible that there is, in fact, no relationship between global maternal expectations of parenthood during pregnancy and global child abuse potential. However, this seems unlikely as there were many subscale correlations between these two constructs, and previous literature has shown that prenatal maternal expectations are related to parenting constructs such as problems adjusting to parenthood (Kach & McGhee, 1982; Kalmuss, Davidson & Cushman, 1992), and adjustment to parenthood has been found to be related to child abuse potential (Florsheim et al., 2003). It seems more likely that expected results were not found because of difficulties in measuring the construct of prenatal maternal expectations in this sample, i.e., differences between unrealistic/maladaptive versus realistic/adaptive expectations. For example, in the low-risk population used to develop the measure of prenatal maternal expectations, Coleman et al. (1999) reported a mean total score of 169.03 (SD = 14.40) with a range of 141 to 196, while in the current, high-risk population, the mean was 187.1 (SD = 15.0) with a range of 142 to 227. It is remarkable that the scores from the current high-risk sample exceed those from a low-risk one (indicating more positive maternal expectations as a group). Scores from the current sample were not that variable and were positively skewed, which could have impacted the ability to detect a significant correlation. Positively skewed scores may have been due to the high face validity of this measure. Women, particularly those involved in social service programs, may be hesitant to express any negative (or even uncertain) feelings towards their baby, especially late in their pregnancy (third trimester), out of fear that they may be looked at negatively by others. Alternatively, they may need to defensively prepare for an uncertain or anxiety-provoking experience. Anecdotally,
many women shared with our research staff that their pregnancies were unplanned and they had contemplated terminating the pregnancies early on, but had decided to keep the baby later in the pregnancy. Though initially appearing defensive, later positive attitudes may, in fact, be beneficial for some mothers during this stressful period of their lives. Further exploration of these possibilities is needed using other questionnaires and interviews or through observation of actual behaviors.

Finally, it is important to note that this particular measure of prenatal maternal expectations differs from other measures in the literature in that it attempts to measure a broad spectrum of expectations that pertain to general changes in relationships and lifestyle, child care tasks, and the potential enjoyment inherent in the role of motherhood. The measure was also designed for use with first-time mothers. Since only 30% of the present sample were first-time mothers, it is possible that this instrument is not a valid measure of prenatal expectations for multiparous mothers, many of whom have well-developed attitudes about motherhood. Further research is needed in order to determine if either of these possibilities are truly limitations of the current investigation, or if indeed, there is no relationship between the global constructs of prenatal maternal expectations and child abuse potential. Perhaps specific aspects of these constructs should be the focus of future investigations.

**Strengths**

Overall, the present study contributes to existing knowledge by examining several different supported, yet less frequently examined, variables which potentially contribute to child abuse potential in a high-risk sample of pregnant women. In addition to those noted above, one important strength of this study was that it examined these associations among a sample considered to be at high-risk for child abuse potential because of the general economic
disadvantage and resulting characteristics reflected by most of the sample. Such populations tend to have more difficulties obtaining transportation, often change contact information, tend to be less able to keep scheduled appointments due to varying work schedules and a need to focus on obtaining basic needs, and may be less trusting of authority figures such as researchers. Therefore, they are less likely to enroll in research studies overall and are also more difficult to collect data from because they are hard to contact and often need to reschedule appointments. Thus, they tend to be minimally represented in the literature. Though many previous studies have examined risks for child abuse and child abuse potential in lower risk populations and have identified various factors that contribute to child abuse potential, it is possible that these constructs do not operate in the same manner in a higher risk population with multiple co-existing risk factors.

Another important strength of the present study is the examination of the variables of interest during pregnancy, a critical time during which ideas and feelings about parenting and the infant begin to form and solidify. Further understanding of how potential risks for child abuse potential develop during this time has critical implications for intervention programs that can begin during pregnancy before child abuse actually occurs.

Finally, the associations between constructs that were tested and particular measurements chosen for this investigation were unique, and, therefore, contribute to knowledge gained by previous literature. For instance, this is the first known study to directly examine correlations between child abuse potential and the following: perceptions of childhood relationship with one’s mother and prenatal maternal expectations.

The specific measures chosen for this investigation are also a strength. For example, both measures used to examine perceived social support and child abuse potential are significantly
shorter than the ones used to measure these constructs previously. Also, the measure of prenatal maternal expectations was unique in that it assessed a broader range of expectations than measures used in the past. This was the first investigation to use this particular instrument with a low-income population and with multiparous mothers. Due to the uniqueness yet significance of these results, future investigations will be needed to determine whether these results can be replicated in other samples.

**Limitations**

Despite these strengths, there were also some limitations to this investigation. One was that the sample size was relatively small, limiting the number of statistical analyses that could be conducted. Another limitation was that the sample was recruited from a small, Midwestern urban area, which may limit the generalizability of these findings to other communities. Third, due to the complexity of child abuse potential, there are likely other variables, not examined in this study, which could reduce, exacerbate, or interact with the predictors used in this investigation. Also, the problems noted above with the measure of prenatal maternal expectations may have limited the ability to understand relationships with this construct adequately. Fifth, the cross-sectional nature of the study prevented the ability to determine any cause and effect or temporal relationships.

Finally, a more complex look at the marital status construct would have been helpful; the current investigation only differentiated married from non-married participants. Though this method has been used in previous literature, and this variable predicted child abuse potential as expected, anecdotal evidence indicates that this construct is much more complex than originally predicted. For example, many single participants lived with partners and reported that these partners contributed to the family on a regular basis through financial and household support.
the other hand, there were married individuals whose partners were incarcerated or no longer lived with them and therefore offered little or no support. Though the construct relates to child abuse potential, perhaps because of some emotional security associated with being married, it is likely that there are other ways to evaluate this predictor in similar samples in order to understand the construct and its relationship to child abuse potential better.

**Conclusion**

In conclusion, the findings of the present study showed that positive perceptions of childhood relationships with mothers, especially feelings of acceptance, were associated with less child abuse potential in a sample of high-risk pregnant women. Furthermore, cumulative demographic risk factors were significantly associated with child abuse potential. Social support, especially support from family, had a surprisingly strong direct relationship with child abuse potential as well, above and beyond the effects of other predictors. Surprisingly, prenatal maternal expectations showed complicated associations with child abuse potential in this investigation, perhaps due to the complex nature of this construct and the difficulty measuring variations in expectations. Thus, the discrepant results in the literature suggest the need for further evaluation of the construct, how to measure it, and its effect on mothers and babies. Overall, constructs which measured past and present relationship dynamics were the strongest predictors of child abuse potential.

Taken together, findings support previous literature on child abuse, which has found that evaluating predictors of child abuse potential is an extremely important yet strikingly complex task. Results have very important implications for interventions designed to prevent or reduce child abuse potential in primarily low-income, single pregnant women. For instance, it may be possible that community support groups could address high-risk women’s needs for social
support during this important time in their lives. Both individual and group interventions could also address women’s own childhood experiences of being parented, as well as provide education about parenting and appropriate developmental expectations regarding young children. Current findings also support helping children through increasing their parents’ access to educational opportunities and economic resources. As is true for any complex social problem, future research should continue to examine factors that contribute to child abuse potential, especially among families already known to be high-risk, including how such knowledge can be used to develop effective intervention programs.
References


Alvarez, K. M., Kenny, M.C., Donohue, B., & Carpin, K. M. (2004). Why are professionals failing to initiate mandated reports of child maltreatment, and are there any empirically based training programs to assist professionals in the reporting process? Aggression and Violent Behavior, 9, 563-578.


http://www.aafp.org/afp/990315ap/1577.html


http://www.childwelfare.gov/pubs/factsheets/long_term_consequences.cfm#societ


Appendix A: Written Informed Consent Agreement

The EMU Parenting Project

Investigator: Alissa Huth-Bocks, Ph.D.

WRITTEN INFORMED CONSENT AGREEMENT

Description of the Research Study:

You are being asked to participate in a research study about women’s experiences during and after pregnancy, as well as how these experiences influence mothers and babies after birth. This research will help psychologists and other health service workers better understand mothers’ and babies’ well-being during the transition to parenthood.

As part of this study, you will be asked to fill out a number of questionnaires during your last trimester of pregnancy; these questionnaires will ask you about a variety of experiences including childhood experiences, current relationships, your mental health, important life events, and social support. You will also be interviewed about your feelings about your pregnancy, motherhood, and your infant; this interview will be audio-recorded so that research assistants may better understand your responses at a later date. The entire procedure will last approximately 2 ½ to 3 hours. At the end of this interview, we will ask your permission to stay in contact with you so that we may see how you and your baby are doing around 3 months and 1 year after birth. These follow-up interviews will take approximately 30-45 minutes at 3 months and 2 ½ to 3 hours at 1 year.

Participation is Voluntary:

Your participation in this study is completely voluntary. You may refuse to answer any questions and may choose to withdraw from the study at any time with no penalty or negative consequences. You will be informed if significant new findings develop during the course of this research that may impact your willingness to continue in the study.

Confidentiality:

You will be assigned an identification number, which will be used instead of your name, on all of your questionnaires and interviews to protect your confidentiality. Your name or other identifying information will never be placed on any of your materials so that your responses will
be kept completely private. All responses will be stored in a locked research office which is located in a locked hallway of our building. Similarly, audio- and video-tapes will be placed in a locked cabinet in the same locked office immediately after the interview is completed to ensure confidentiality of these data. A log of names and identification numbers will be locked in a separate cabinet in a separate office; only the principal investigator and project managers will have access to this log. Results from the study will only be reported or published about groups of participants at professional conferences or through publications in scientific journals; individual responses will never be reported. Individual audio- or video-tapes will never be disseminated.

If, during the course of the interview, project staff learns that your safety is in jeopardy, we may be required to seek outside help in order to keep you safe. If we learn that your infant’s safety is in danger, we are required to make a report to Child Protective Services. These are the only exceptions to complete confidentiality.

Risks and Benefits to Participation:

There are no known or anticipated risks from participating in this study. However, some participants may find answering certain questions uncomfortable or distressing. If you experience any distress, project staff will help direct you to appropriate referrals in the community. All women will be given a comprehensive list of referrals that are designed for mothers and young children at the end of the interview.

Your participation in this study will help researchers better understand the unique experiences that women and babies go through during and after pregnancy. Some participants will find discussing these important life events with project staff relieving and enjoyable. You will be given a $25.00 Target gift card at the end of this interview, and if you choose to participate in future interviews, you will be compensated with gifts, gift cards, or cash.

Future Questions:

If, at any time, you have questions or concerns about study procedures or your participation in the study, please contact the principal investigator, Dr. Alissa Huth-Bocks, at (734) 487-0112 or ahuthboc@emich.edu.

Human Subjects Review:

This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee for use from 9/26/08 to 9/26/09. If you have questions about the approval process, please contact Dr. Deb de Laski-Smith (734.487.0042, Interim Dean of the Graduate School and Administrative Co-chair of UHSRC, human.subjects@emich.edu).”
CONSENT TO PARTICIPATE: I understand my rights as a research participant and I voluntarily consent to participate in this study. I understand the purpose and procedures of the study. I will receive a copy of this consent form for my future reference.

__________________________________________  ______________________
Participant Signature                          Date

__________________________________________
Participant Name

__________________________________________  ______________________
Witness Signature                             Date
Appendix B: Brief Child Abuse Potential Inventory

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 D for disagree. Be honest when giving your answers. Remember to read each statement; it is important not to skip any statement.

A      D      1. I am a happy person.
       CAP 14
A      D      2. I know what is the right and wrong way to act.
       CAP 31
A      D      3. People have caused me a lot of pain.
       CAP 67
A      D      4. I sometimes act without thinking.
       CAP 12
A      D      5. I am often lonely inside.
       CAP 23
A      D      6. My family fights a lot.
       CAP 83
A      D      7. Everything in a home should always be in its place.
       CAP 19
A      D      8. I often feel very upset.
       CAP 105
A      D      9. Sometimes I have bad thoughts.
       CAP 57
A      D     10. I sometimes worry that I will not have enough to eat.
11. I am easily upset by my problems.

12. Sometimes I feel all alone in the world.

13. My family has problems getting along.


15. I sometimes lose my temper.

16. I often feel worthless.

17. My family has many problems.

18. It is okay to let a child stay in dirty diapers for a while.

19. I am often upset and do not know why.

20. Children should be quiet and listen.

21. I sometimes fail to keep all of my promises.

22. I often feel very alone.
23. My life is good.
   CAP 107
24. I am often upset.
   CAP 120
25. Other people have made my life unhappy.
   CAP 100
26. I sometimes say bad words.
   CAP 146
27. I am often depressed.
   CAP 118
28. Children should not learn how to swim.
   CAP 61
29. My life is happy.
   CAP 75
30. I sometimes worry that my needs will not be met.
   CAP 153
31. I often feel alone.
   CAP 145
32. A child needs very strict rules.
   CAP 132
33. Other people have made my life hard.
   CAP 151
34. People sometimes take advantage of me.
   CAP 106
Appendix C: Mother-Father-Peer Scale

Indicate the extent to which the following statements describe your childhood relationship with the people indicated by using the following scale:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Uncertain</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</table>

When I was a child, my MOTHER (or mother substitute):

1. encouraged me to make my own decisions
   1 2 3 4 5

2. helped me to learn to be independent
   1 2 3 4 5

3. Felt she had to fight my battles for me when I had a disagreement with a teacher or friend
   1 2 3 4 5

4. was close to a perfect parent
   1 2 3 4 5

5. was overprotective of me
   1 2 3 4 5

6. encouraged me to do things for myself
   1 2 3 4 5

7. encouraged me to try things my way
   1 2 3 4 5
<p>| | | | | | |</p>
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<tbody>
<tr>
<td>8.</td>
<td>had not a single fault that I can think of</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>9.</td>
<td>did not let me do things that other kids my age were allowed to do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>10.</td>
<td>sometimes disapproved of specific things I did, but never gave me the impression that she disliked me as a person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>enjoyed being with me</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>was an ideal person in every way</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>13.</td>
<td>was someone I found difficult to please</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>14.</td>
<td>usually supported me when I wanted to do new and exciting things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>15.</td>
<td>worried too much that I would hurt myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>16.</td>
<td>was never angry with me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>17.</td>
<td>was often rude to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>18. rarely did things with me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>19. didn’t like to have me around the house</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>20. and I never disagreed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>21. would often do things for me that</td>
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<tr>
<td>I could do myself</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. let me handle my own money</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. could always be depended upon when I</td>
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<tr>
<td>really needed her help and trust</td>
<td>1</td>
<td>2</td>
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<td>4</td>
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<td>24. gave me the best upbringing anyone</td>
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<tr>
<td>could ever have</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. did not want me to grow up</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>26. tried to make me feel better when I</td>
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<tr>
<td>was unhappy</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>27. encouraged me to express my own</td>
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<tr>
<td>opinion</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</table>
28. never disappointed me

29. made me feel that I was a burden to her

30. gave me the feeling that she liked me as I was; she didn’t feel she had to make me over into someone else

When I was a child, my FATHER (or father substitute)

31. encouraged me to make my own decisions

32. helped me learn to be independent

33. felt he had to fight my battles for me when I had a disagreement with a teacher or friend

34. was close to a perfect parent

35. was overprotective of me

36. encouraged me to do things for myself
37. encouraged me to try things my way

38. had not a single fault that I can think of

39. did not let me do things that other kids my age were allowed to do

40. sometimes disapproved of specific things I did, but never gave me the impression that he disliked me as a person

41. enjoyed being with me

42. was an ideal person in every way

43. was someone I found difficult to please

44. usually supported me when I wanted to do new and exciting things

45. worried too much that I would hurt myself or get sick

46. was never angry with me
47. was often rude to me
48. rarely did things with me
49. didn’t like to have me around the house
50. and I never disagreed
51. would often do things for me that I could do myself
52. let me handle my own money
53. could always be depended upon when I really needed his help and trust
54. gave me the best upbringing anyone could ever have
55. did not want me to grow up
56. tried to make me feel better when I was unhappy
57. encouraged me to express my own opinion  1  2  3  4  5

58. never disappointed me  1  2  3  4  5

59. made me feel that I was a burden to him  1  2  3  4  5

60. gave me the feeling that he liked me as I was; he didn’t feel he had to make me over into someone else  1  2  3  4  5
Appendix: D Prenatal Maternal Expectations Scale

Please circle the response that most accurately describes your level of agreement with each of the following statements using the following scale:

SA = strongly agree
A = agree
N = neutral
D = disagree
SD = strongly disagree

1. I imagine myself holding and cuddling my baby for long uninterrupted periods of time.
2. The birth of my baby will make my relationship with my boyfriend/husband more meaningful.
3. This child will make my life complete in a way that no other life event can.
4. My boyfriend/husband will find me less physically attractive after the birth of our child.
5. When my child is born I may have to give up many activities that I enjoy.
6. I have trouble picturing myself as a mother.
7. I worry about my ability to be an adequate mother.
8. If I am relaxed with my child, he or she will eat and sleep well.
9. When my child cries, I expect to be able to identify the problem and console him or her quickly.
10. The physical care of an infant requires so much time that I doubt there will be much time left to enjoy my child.
11. Sometimes I worry about the responsibility involved in raising a child.
12. The birth of my baby will restrict my lifestyle.
13. My social life will be ruined when the baby is born.
14. My baby will help me to appreciate simple pleasures.
15. The birth of my baby will place a large strain on my relationship with my boyfriend/husband.
16. It will be fascinating to watch my baby’s developing awareness of the world.
17. I feel as though I must put my life on hold while the baby is young.
18. It is sometimes difficult for me to imagine being on call 24 hours a day to meet the needs of another person.
19. I expect that the joys of motherhood will generally outweigh any inconveniences.
20. Other things in life will seem unimportant in comparison to mothering a child.
21. I know exactly the type of mother I will be for my baby.
22. I expect my boyfriend/husband to be jealous of the attention I give our child.
23. Sometimes I am fearful of the lifelong commitment that raising a child represents.
24. I seriously doubt whether anyone thoroughly enjoys the care of a newborn.
25. I see the birth of my child as the opportunity to enter an exciting and new stage of life.
26. My boyfriend/husband will find me less interesting to talk to after our baby is born.
27. My husband/boyfriend will respect me more after I give birth.
28. Once our baby is born, my husband/boyfriend will love me more.
29. Babies who feel loved are generally happy, and therefore, are easy to care for.
SA A N D SA 30. People exaggerate the difficulty involved in caring for infants.
SA A N D SA 31. Children are not much fun until they are able to talk.
SA A N D SA 32. The raising of a child provides the unique opportunity to journey though childhood again.
SA A N D SA 33. The addition of a baby makes a home warm and loving.
SA A N D SA 34. The complete and pure love that one receives from a child is unequaled in other relationships.
SA A N D SA 35. I have a vision of the ideal mother that I plan to try to live up to.
SA A N D SA 36. I believe I will grow a great deal after the experience of giving birth.
SA A N D SA 37. My friends will probably find me less fun to be with after I have my baby.
SA A N D SA 38. I find that my daily thoughts frequently involve fantasies in which I see myself enjoying caring for my child.
SA A N D SA 39. I often think about how beautiful my baby will be.
SA A N D SA 40. I have ideas about the type of personality that I hope my baby will have.
SA A N D SA 41. Sometimes I feel so impatient for the moment when I can finally hold my baby in my arms.
SA A N D SA 42. While watching other mothers, I try to anticipate how similarly or differently I will react to certain situations.
SA A N D SA 43. I expect to feel a great deal of love for my baby at birth.
SA A N D SA 44. Sometimes I think that motherly feelings will not come naturally to me.
SA A N D SA 45. I now watch children closely, trying to image how mine will be similar or different.
SA A N D SA 46. I worry that my boyfriend/husband will feel that I love the baby more than I love him.
Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with friends. For each statement there are three possible answers: Yes, No, and Don’t Know. Please circle the answer you choose for each item.

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<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>My friends give me the moral support I need.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Most other people are closer to their friends than I am.</td>
<td></td>
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<tr>
<td>4.</td>
<td>Certain friends come to me when they have problems or need advice.</td>
<td></td>
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</tr>
<tr>
<td>5.</td>
<td>I rely on my friends for emotional support.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>If I felt that one or more of my friends were upset with me, I’d just keep it to myself.</td>
<td></td>
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<tr>
<td>7.</td>
<td>I feel that I’m on the fringe in my circle of friends.</td>
<td></td>
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<tr>
<td>8.</td>
<td>There is a friend I could go to if I were just feeling down without feeling funny about it later.</td>
<td></td>
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</tr>
<tr>
<td>9.</td>
<td>My friends and I are very open about what we think about things.</td>
<td></td>
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</tr>
<tr>
<td>10.</td>
<td>My friends are sensitive to my personal needs.</td>
<td></td>
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</tr>
<tr>
<td>11.</td>
<td>My friends come to me for emotional support.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>My friends are good at helping me solve problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>I have a deep sharing relationship with a number of friends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>My friends get good ideas about how to do things or make things from me.</td>
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</table>
15. When I confide in friends, it makes me feel uncomfortable.

16. My friends seek me out for companionship.

17. I think that my friends feel that I’m good at helping them solve problems.

18. I don’t have a relationship with a friend that is as intimate as other people’s relationships with friends.

19. I’ve recently gotten a good idea about how to do something from a friend.

20. I wish my friends were much different.

Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with families, including husband/partner. For each statement there are three possible answers: Yes, No, and Don’t Know. Please circle the answer you choose for each item.

1. My family gives me the moral support I need.

2. I get good ideas about how to do things or make things from my family.

3. Most other people are closer to their family than I am.

4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.

5. My family enjoys hearing about what I think.

6. Members of my family share many of my interests.

7. Certain members of my family come to see me when they have problems or need advice.

8. I rely on my family for emotional support.
Yes  No  Don’t Know  9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.

Yes  No  Don’t Know  10. My family and I are very open about what we think about things.

Yes  No  Don’t Know  11. My family is sensitive to my personal needs.

Yes  No  Don’t Know  12. Members of my family come to me for emotional support.

Yes  No  Don’t Know  13. Members of my family are good at helping me solve problems.

Yes  No  Don’t Know  14. I have a deep sharing relationship with a number of members of my family.

Yes  No  Don’t Know  15. Members of my family get good ideas about how to do things or make things from me.

Yes  No  Don’t Know  16. When I confide in members of my family it makes me uncomfortable.

Yes  No  Don’t Know  17. Members of my family seek me out for companionship.

Yes  No  Don’t Know  18. I think that my family feels that I’m good at helping them solve problems.

Yes  No  Don’t Know  19. I don’t have a relationship with a member of my family that is as close as other people’s relationships with family members.

Yes  No  Don’t Know  20. I wish my family were much different.
Appendix: F Exploratory Factor Analysis of the BCAP

Rotated Component Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>Loneliness/Depression</th>
<th>Happiness</th>
<th>Family Conflict</th>
<th>Feelings of Persecution</th>
<th>Distress</th>
<th>Rigidity</th>
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Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.