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Previous maltreatment literature examining child physical abuse potential relied heavily upon maternal only samples, limiting our understanding of paternal risk factors. Moreover, the extent to which relationship and individual factors interact to impact abuse risk is not well known. The current study examined whether couple level functioning (i.e., relationship quality and coparenting) moderated the relation between stress and measures of physical abuse risk for parents (i.e., spillover) and their partners (i.e., crossover). Questionnaires assessing parental subjective appraisal of stress, relationship quality, perceptions of a parenting team, and abuse risk were administered to 81 parents from the community. As expected, for both parents, higher stress strongly predicted elevated abuse potential (BCAPI) and more reactive parenting discipline styles (PS) and, for fathers only, negative parenting beliefs (AAPI), and more physically aggressive discipline strategies (CTSPC). More functional couple relationships (e.g., more satisfying and supportive coparenting) directly predicted elevated parental abuse potential. Maternal AAPI and CTSPC scores were predicted by demographic factors, while a novel analog measure of parental response to noncompliance (ReACCT) was not predicted by any factors considered in the present study. Overall, the findings partially supported the hypotheses and indicated that the extent to which strong and supportive relationships buffer stress in the prediction of abuse risk is inconsistent, if not limited. Future work discussed the need for disentangling distress from abuse risk measures and to identify the potential contribution of couple functioning, apart from reduced distress.

PERSONAL AND COUPLE LEVEL RISK FACTORS: MATERNAL VS. PATERNAL PHYSICAL CHILD ABUSE RISK

by

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CHAPTER I

INTRODUCTION

Child physical abuse or maltreatment is defined as the intentional use of physical force with the potential for causing injury or harm (DHHS, 2007). Physical abuse in childhood disrupts socio-emotional development and is associated with significant psychological and behavioral difficulties which can persist into adulthood and may impact future relationships, including the future parenting role (for review, see Runyan, Deblinger, Ryan, & Thakkar-Kolar, 2004). In the hope of preventing negative outcomes, previous literature has attempted to utilize findings from cases of substantiated abuse to identify risk factors for engaging in physical abuse. Although the current study focuses on child physical abuse, overlap with other forms of maltreatment (i.e., neglect, psychological abuse) suggests findings of this review may provide insight beyond physical maltreatment risk alone.

In 2011, the United States Department of Health & Human Services (DHHS) reported over 681,000 substantiated cases of child maltreatment in the US (DHHS, 2012). Of these validated cases, nearly 18 percent of children were victims of physical abuse, or *child physical maltreatment* (DHHS, 2012). However, underreporting and biases in reporting indicate that substantiated reports vastly underestimate national prevalence rates (Sedlak et al., 2010). Severe parent-child aggression is reported more often and substantiated more easily, contributing to an overrepresentation of severe cases of

physical abuse in agencies and subsequently in literature using agency or court referred samples (Sedlak et al., 2010). Relying upon samples from protective services calls to question the validity of past research that will be discussed in greater detail below.

Physical Discipline-Abuse Continuum

The varying degrees of parent-child aggression are best represented along a physical discipline-abuse continuum, upon which physical abuse arises from parents' inadvertent escalation of physical discipline (Gershoff, 2002; Straus, 2000). *Sub-abusive physical discipline* refers to that which is socially acceptable in frequency and severity. Physically abusive parents initially begin in the sub-abusive end of the spectrum (Graziano & Namaste, 1990), but at some point transition into the more abusive range (Whipple & Richey, 1997), wherein discipline frequency or degree is no longer socially acceptable. However, determining where along the continuum physical discipline becomes physical abuse is difficult as this line is often blurred (Gershoff, 2002; Graziano, 1994). Although previous literature has focused on risk factors for abuse, the overrepresentation of severe, substantiated cases has limited our understanding of factors related to the transition to abuse on this continuum for sub-abusive or at-risk parents (e.g., those evidencing a multitude of psychosocial indicators considered to facilitate the escalation toward abuse). In response, consistent with a prevention approach, more recent work has focused on identifying factors relevant to sub-abusive parents, which provide insight into the context surrounding the escalation toward abuse.

To assist in assessing non-abusive samples, previous research sought to create a risk assessment tool capable of predicting parenting violence (Milner, 1986, 1994). The

concept of *child abuse potential* provides a reliable estimate of parental abuse risk (Milner, 1994). Child abuse potential includes personal and interpersonal factors that characterize the beliefs, attitudes and behaviors observed in physically abusive parents and indicates the likelihood a parent will engage in physical abuse (Milner, 1994). Past research has identified factors associated with elevated abuse risk, or child abuse potential specifically (for reviews, see Black, Heyman, & Smith-Slep, 2001 or Stith et al., 2009), with the focus of risk research expanding from being solely perpetrator or child-oriented to more ecologically-oriented (Hilson & Kuiper, 1994). Similarly, conceptual models of abuse risk have expanded to include factors within several domains, including the individual, family, and environmental levels, demonstrated to increase risk. As a result, physical child abuse reflects a complex etiology wherein factors at various ecological levels influence, and are influenced by, parents.

Theoretical Considerations

Current ecological perspectives of child abuse, derived from Bronfenbrenner's (1979) seminal work, expand the parameters in which factors are considered, including the various, nested contexts within which an individual is embedded (Belsky, 1980, 1993; Garbarino, 1977). Belsky's ecological model of child physical maltreatment specifically considers abuse risk to be determined by transactions between the parent and proximal and/or distal risk factors within these various levels. An ecological model of abuse risk supports that exposure to and interaction with factors that promote either positive or negative outcomes can maintain or derail the developmental trajectory of parenting. The extent to which one's developmental outcome is impacted depends upon the number and

degree of risk (cumulative burden) and protective (cumulative buffer) factors within one's environment (Shonkoff & Phillips, 2000). This view allows for a more complex and comprehensive understanding of physical maltreatment as a psychosocial phenomenon that is influenced by a combination of individual, family, community, and cultural forces (National Research Council, 1993).

Child maltreatment is best understood, and better predicted, by models that accept that this phenomenon is determined by multiple risk factors simultaneously impinging upon the parent (Sidebotham, 2001; Windham et al., 2004). Although engaging in physical abuse is impacted by transactions between intra- and interpersonal factors, ultimately the parent is accountable for the escalation to abuse. As a result, ecological models of abuse risk can be considered as centering on the parent-child unit and, thus, also includes factors related to parents' personal development and functioning (Sidebotham, 2001). At the closest level are ontological qualities that represent the mechanism via which past historical life experiences (e.g., personal childhood abuse, education level) and intrapersonal functioning (e.g., psychopathology, substance abuse) impact adult perceptions and responses. In addition to these personal vulnerabilities, abuse risk is further compounded when contextual factors, external to the parent, threaten normative functioning. The next ecological level (microsystem) acknowledges the immediate environment within which a parent-child unit and other family members are embedded. Within this level of interest, abuse risk research has largely focused on relationships between parents and close sources of support. The exosystem considers the context that surrounds the entire family unit and includes factors that indirectly impact

the parent-child unit (e.g., work and neighborhood characteristics). Lastly, the macrosystem includes factors, such as cultural beliefs and values that shape societal conceptualizations of family roles and processes (e.g., attitudes toward and expectations of children), parental responsibilities, and child-rearing practices (e.g., disciplinary strategies).

Although ecological models of abuse risk are accepted as providing a comprehensive picture of child abuse risk, few studies meet the necessary conditions (e.g., sample size, multiple indicators) to adequately analyze the complex multifactor, multi-level models yielded from this approach (Sidebotham, 2001; Stith et al., 2009). As a result, there is much to be learned about how potential risk and protective factors, in combination, affect abuse risk. More recent work has demonstrated that a greater number of psychosocial stressors are associated with physical abuse (i.e., cumulative burden), but these studies have largely focused on the more severe substantiated samples (Brown, Cohen, Johnson, & Salzinger, 1998; Wekerle, Wall, Leung, & Trocme, 2007; World Health Organization, 2006). Although, the cumulative effects of these factors suggest physical maltreatment results when stressors outweigh supports (Belsky, 1993), sampling issues within this literature may limit the applicability to unsubstantiated parents.

Issues within Current Child Maltreatment Literature

Overrepresentation of Substantiated Cases. Historically, research has relied upon samples of confirmed cases of abuse, despite that they may only represent the smaller fraction of parents engaging in severe parent-child aggression (Sedlak et al., 2010). Although this sampling method has contributed to a better understanding of

factors related to past, current, or recurrent physical abuse, identifying risk factors to predict future abuse—or factors related to the initiation of abusive parenting—is limited when abuse has already occurred (Stith et al., 2009). As a result, the extent to which findings from previous research on substantiated cases generalizes to parents within the sub-abusive, at-risk, or unsubstantiated range (i.e., parents engaging in abuse who have yet to be identified by authorities) remains unclear.

Arguably, previous findings with abusive parents may inform factors that maintain abuse (e.g., poor parent-child relationship, family conflict, child behavior problems), but may not reliably capture factors that may be most, or perhaps only, influential to sub-abusive parents (i.e., during the initial escalation or transition to abuse). For example, certain risk factors (e.g., unwanted pregnancy, period of increased stress, post-partum distress) may not only directly influence the initial escalation to abuse but also indirectly influence or elicit other factors that continue to maintain that degree of discipline (e.g., greater acceptability of harsh physical discipline, heightened familial conflict, child behavior problems). However, understanding the nuances of the transition to abuse remains limited as research examining sub-abusive parents represents a small, yet growing, portion of the child maltreatment literature.

Community samples address these concerns as a broader range of parents are captured, contributing to variability regarding the degree of parent-child aggression (for examples of sample variability, see Brown et al., 1998 or Lansford et al., 2009). A heterogeneous sample provides the opportunity to evaluate whether risk factors previously identified in abusive parents indeed generalize to increase abuse risk for sub-

abusive parents. Additionally, estimating child abuse potential for community parents provides an opportunity to identify whether specific factors pose greater risk to sub-abusive parents specifically but affect abusive parents less. Moreover, examination of parents on the less severe end of the physical discipline spectrum is likely to provide insight into protective factors that potentially maintain their lower risk status. Findings from these investigations represent a contribution to the literature as previous research demonstrating a compensatory or protective effect on abuse risk has been largely limited by the focus on confirmed perpetrators. Our understanding of which factors promote appropriate physical discipline has been limited by the over-reliance upon substantiated cases, as protective factors appear to be less available, accessible, or influential to parents for whom physically abusive discipline is already established. As a result, etiological models of abuse risk are often "deficit" based and do not consider potential strengths within the family environment which could be enhanced by prevention-focused intervention (Counts, Buffington, Chang-Rios, Rasmussen, & Preacher, 2010).

Comment on Demographic Risk Factors. Biases in reporting to protective services have contributed to an over-representation of parents with a shared demographic (Sedlak et al., 2010) and previous models of abuse risk have included background factors (e.g., income, ethnicity, region; Black et al., 2001; Stith et al., 2009; Lee & Goerge, 1999) that cannot be modified by clinical intervention (Counts et al., 2010). Although demographic, or descriptive, factors can be useful in identifying those for whom prevention efforts should be targeted (e.g., impoverished, single mothers; large or blended families), all too often these findings are misinterpreted by the media or the

public resulting in the belief that child abuse occurs within specific neighborhoods or family types, which does not convey the true pervasiveness of this phenomenon. Often, these factors are discussed as correlates of established risk factors (e.g., socio-economic status (SES) as it relates to stress, ethnicity as it relates to parenting attitudes; Waldfogel, 2000) that impact parents regardless of race or socioeconomic class. Importantly, research has demonstrated how economic and social stressors elevate distress which directly impacts parenting discipline strategies (Conger, Ge, Elder, Lorenz, & Simons, 1994). Ethnicity is important but researchers often fail to recognize the likely mechanism by which culture impacts abuse risk as cultural influences on parenting and discipline attitudes are not as frequently examined (Ferrari, 2002).

Importantly, past findings have yet to consistently support demographic factors as *directly* impacting abuse risk in community samples (Chaffin, Kelleher, & Hollenberg, 1996; Lee, Guterman, & Lee, 2008; Guerrero, 2009). These findings suggest that factors in the context surrounding sub-abusive parents may protect or compensate for demographic qualities. Although public policy and government spending may be served by using past findings to identify indicated groups for intervention, information regarding how to prevent or address physical abuse must continue to unpack how demographic factors influence parents' physical discipline strategies. Although such demographic factors are clearly important in abuse risk, this review will concentrate on areas that are more clinically modifiable. Static variables like SES may be better represented as covariates while ethnicity should be considered in terms of the impact on parenting attitudes.

Over-reliance on Maternal Report. All but a small portion of the child maltreatment literature has been drawn from samples including mothers only. The underrepresentation of fathers in past research has been a chronic concern (Behl, Conyngham, & May, 2003). Despite frequent calls for correction (Guterman & Lee, 2005; Haskett, Marziano, & Dover, 1996; Martin, 1984; Phares, 1996), this issue continues to plague current research (Coohey, 2000; see also Stith et al., 2009). Review of the limited literature sampling both parents highlights that insufficient power often prevents the examination of gender differences (Haskett et al., 1996; Stith et al., 2009). Power issues, due to low paternal participation, have contributed to the assumption that fathers are not available or interested in participating in research and thus are too difficult to recruit. However, mothers and fathers do not significantly differ in participation rates when both groups are actively recruited (Phares, 1996).

Young fathers are typically well represented within a subsection of the literature examining adolescent parenthood given the increased attention and incentives offered. However, great caution is given when extrapolating findings to adult parents as developmental and environmental stressors specific to young parenthood limit the applicability of these results (Becker-Lausen & Rickel, 1995). Although research using samples of adult-aged fathers only can be found, they also often rely upon court or agency referrals (Martin, 1984; Haskett et al., 1996) and include more severe cases of physical abuse (e.g., Schaeffer, Alexander, Bethke, & Kretz, 2005) or multiple types of family violence (e.g., couple violence and child abuse; Coohey & Braun, 1997) and therefore may not generalize to sub-abusive fathers. Although researchers have

encouraged and identified steps to increase paternal participation in research (Martin, 1984), the contribution of fathers to paternal, or more broadly parent or family level, risk continues to be largely ignored. As a result, our limited understanding of paternal abuse risk has contributed to ecological models of abuse risk that may be more representative of maternal or adolescent parent risk only.

Need for Paternal Models of Abuse Risk. Mothers have been relied upon in research as they are often considered to be the primary caregiver and a more convenient informant. However, the over-representation of maternal report in the child maltreatment literature erroneously conveys the message that fathers are not (or are less) relevant to abuse risk research. Given the past justification for maternal only sampling, one may conclude that fathers do not frequently engage in physical abuse or are less important as they do not typically represent primary caregivers; however, both interpretations are far from true. National statistics from 2011 confirm a high rate of father, or father and mother, perpetrated physical abuse, accounting for nearly 40 percent of substantiated cases that year (DHHS, 2012). Clearly, father perpetrated abuse is prevalent and is likely occurring more frequently than national statistics reflect, underscoring the need for further examination of paternal abuse risk.

Regarding claims that only primary caregivers (i.e., spend more time caring for the child directly) are at risk for engaging in physical abuse (Ferrari, 2002; Margolin, 1992; Stith et al., 2009), societal and economic trends have prompted a greater sharing of parenting responsibilities (Bianchi, Milkie, Sayer, & Robinson, 2000). Specifically, this shift has resulted in increased paternal involvement in child rearing (Cabrera, Tamis-

LeMonda, Bradley, Hofferth, & Lamb, 2000), especially for ethnic minority fathers (Hofferth, 2003). The need to determine the role of fathers in abuse research is further supported by this and other findings that highlight the unique threat of male-perpetrated abuse as well as the potential collective abuse risk within two parent homes. For example, adolescent retrospective reports of discipline within the family of origin suggest that although both parents engage in physical abuse, paternal perpetrated abuse occurred more often (Sunday, Labruna, Kaplan, Pelcovitz, Newman, & Salzinger, 2008).

Although single parent families have been examined as a risk group, 66 percent of American children reside in two parent homes (Nobes, Smith, Upton, & Heverin, 1999) wherein both parents act as disciplinarians. Moreover, there is evidence that abuse risk should be examined at a broader parent level as residence in a two parent home has not been shown to be a significant protective factor (Griffin & Amodeo, 2010) and may in fact pose a comparable if not greater risk to children. Married mothers engage in spanking (considered appropriate physical discipline) at greater rates than non-married mothers, but do not differ in their use of other physical aggression (Guterman, Lee, Lee, Waldfogel, & Rathouz, 2009). Importantly, the ethnic and economic diversity within the sample used by Guterman and colleagues (subsample of the Fragile Families and Child Wellbeing Study) suggests that previous discrepancies that ascribed greater abuse risk to single mothers may be confounded by other contextual factors (e.g., income, increased levels of distress). In their discussion of these points, they argue that two parent households have fewer financial constraints that may reduce family time together is single parent homes and thus increase their exposure to direct child rearing, including

increased physical discipline encounters (Guterman et al., 2009). In a community sample of British parents that compared discipline across two parent and single parent homes, physical discipline occurred more frequently and was harsher in two parent homes (Nobes & Smith, 1999). These results suggest the potential of a cumulative effect of physical discipline for households wherein both parents are disciplinarians.

Importantly, although both mothers and fathers have been shown to utilize harsh physical discipline at comparable rates, male-perpetrated physical discipline often includes more severe and potentially life-threatening use of repeated and prolonged force or pressure (Nobes et al., 1999; Pittman & Buckley, 2006). This finding is likely more complex than merely the result of differences in physical strength. When analyses were restricted to comparing fathers who were primary caregivers, sex differences in severity of discipline diminished (Nobes et al., 1999), indicating fathers may overcompensate when in a secondary caregiver role with more harsh physical discipline. This finding could be considered as demonstrating the escalation hypothesis (Gershoff, 2002) as fathers employ harsher strategies in response to child noncompliance to previous discipline attempts from a primary caregiver (i.e., mothers).

Not surprisingly, mothers' and fathers' disciplinary approaches appear to be related such that acceptance and use of more severe physical discipline is more often shared by both parents rather than just one (Muller & Diamond, 1999; Nobes & Smith, 1997). These findings are consistent with others who suggest that mothers and fathers are more similar than dissimilar in terms of frequency and degree of physical discipline employed (Margolin, 1992; Nobes & Smith, 2000). Similarities across parents may not

be limited to discipline strategies only. Much like the bi-directionality expected within the parent-child relationship, paternal qualities have been found to impact maternal abuse risk, demonstrating the interconnectedness of parental abuse risk (Guterman et al., 2009).

Assuming some synchrony between parents' discipline practices provides the opportunity to identify potential shared risk factors which, when modified, could decrease abuse risk for both parents. To capitalize on the potential shared risk, research must continue to examine the extent to which previously identified maternal risk factors generalize to fathers. More broadly, further examination into the paternal caretaker role would also provide a greater understanding of factors that promote appropriate paternal discipline and, thus, maintain a positive father-child relationship. Additionally, prevention efforts would be aided by a better understanding of where risk factors for mothers and fathers converge and potentially diverge.

Previous efforts to somewhat compensate for the underrepresentation of fathers have been attempted, including examining how maternal abuse risk is impacted by paternal demographic or behavioral factors, per maternal report. Using this method, specific paternal factors (e.g., education and level of involvement with child) have demonstrated an indirect effect by contributing to elevated *maternal* abuse risk (Guterman et al., 2009). Retrospective reports from children, adolescents, or adults of parenting behaviors within their family of origin have also been used to inform parental abuse risk and consequences (e.g., Higgins & McCabe, 2000; Pears & Capaldi, 2001). Although the consideration of the role of fathers is commended, this methodology is far from optimal as third party reports of parenting behavior, even of your own spouse, are

often underestimations and vulnerable to biases and inaccuracies (Smith & Nobes, 1997). Unfortunately, the over-sampling of mothers has severely limited our understanding of what factors may serve as risk or protective factors for paternal caregivers. Some theorize that fathers are underrepresented in research and interventions, in part because the lack of representation of father-relevant factors or services discourages their participation (Duggan et al., 2004; Scott & Crooks, 2004). Thus, greater efforts must be made to involve fathers in research to diminish paternal abuse risk and increase engagement and adherence to parenting interventions.

In sum, the relevance of fathers in research has been underestimated and efforts to increase paternal representation in research underutilized. Despite that male-perpetrated child physical abuse appears to represent an equal, and in some cases, a greater threat to a child, the limited knowledge of risks and intervention methods applicable to fathers does little to combat the occurrence of frequent and potentially more severe physical abuse. Research can no longer rely primarily on child protective services identified samples because substantiating factors that decrease physical abuse risk in both parents is necessary to further prevention efforts. Greater examination of paternal relevant factors would complement the extant findings of maternal risk factors and yield more comprehensive models of abuse risk that more closely approximate the accepted conceptual etiology of abuse.

Models of Abuse Risk: Current Findings

Researchers utilizing inclusive samples (community, referred, and abusive parents) have identified factors that contribute to elevated child abuse potential and thus

can be considered risk factors for abuse (Kolko, Kazdin, McCombs-Thomas, & Day, 1993; Milner & Dopke, 1997). Within this literature, dysfunction in specific personal and interpersonal domains has been frequently implicated as contributing to greater abuse risk (for review, see Black et al., 2001, Stith et al., 2009). Factors within the personal domain, the ontological level, have been extensively examined and have included parents' history, pre-existing attitudes towards parenting or children, and personal distress. Within the interpersonal domain, the microsystem level, are family-level factors which impact parent functioning, including the quality of the relationship between parents and other family members.

A small section of literature has attempted to address the gap regarding paternal abuse risk by examining the role of fathers in child physical maltreatment. Interestingly, these findings suggest that specific risk and protective factors may differentially contribute to paternal abuse risk (Dixon, Browne, Hamilton-Giachritsis, & Ostapuik, 2010). For example, fathers' abuse risk is impacted similarly for historical and family-level factors, but dissimilarly for factors indicative of personal distress and non-family social supports. Despite these efforts, the continued reliance upon maternal third person reporter, the use of restricted archival data sets, and the limited efforts to increase paternal involvement in research has prevented the emergence of a more reliable and comprehensive understanding of the role of paternal abuse risk.

The factors selected for this project include those which have been extensively examined and incorporated into maternal abuse risk models and, for the most part, are

clinically modifiable. Factors representing personal vulnerabilities, or burdens, will be discussed first followed by protective factors, or resources.

Individual Level

Stress. The relation between maternal stress and abuse is well established (for review, see Black et al., 2001; Christmas, Wodarksi, & Smokowski, 1996; Stith et al., 2009). For mothers, abusive parenting occurs most often within the context of an environment with many stressors, an assumption consistently demonstrated in past research (Herrenkohl, Herrenkohl, & Egolf, 1983; Margolin & Gordis, 2003; Pianta, 1984). Within general stress literature, abuse risk is greatly impacted by mothers' psychological functioning as well as the ability to adapt to and cope with other stressors (De Longis, Folkman, & Lazarus, 1988; Holden & Banez, 1996). As discussed previously, stressors compound in economically deprived environments which may explain previous relations between SES and abuse risk. Conceptually, higher levels of stress (or distress) interfere with parenting such that ones' ability to adaptively cope with numerous stressors is compromised or depleted. Lacking more adaptive alternatives, mothers rely upon more harsh physical discipline in an attempt to gain control over the perceived chaos of their environment (Cohen, Kamarck, & Mermelstein, 1983; Whipple & Webster-Stratton, 1991). Parents at-risk for abuse may be particularly vulnerable to stress effects due to cognitive biases that may intensify their perception of stressors and/or underlying skills deficits related to stress management that may amplify their experience of stress (Milner, 1994, 2000). To be sure, identifying possible underlying mechanisms for at-risk parents' potential sensitivity to stressors is important. However,

determining the extent to which the stress-abuse risk relation affects both parents rather than mothers alone is prudent and would provide insight into possible mechanisms.

Although previous research supports heightened stress as a significant risk factor for abuse, this relation has been largely validated with mothers only. For example, abusive and non-abusive mothers matched for number of life stressors (i.e., significant life events) differ in terms of the amount of reported stress experienced on a daily basis, indicating a tendency for abusive mothers to be "hyperresponsive" (Bauer & Twentyman, 1985, p. 335) to multiple stressors (Casanova, Domanic, McCanne, & Milner, 1992; Kotch et al., 1997; Milner, 2000). Similarly, mothers who reported feeling overwhelmed by stressors evidence greater abuse potential than those who perceive a more manageable degree of stress (Milner & Dopke, 1997). When examined in fathers, differences in the operational definition of stress as well as likely sampling confounds has contributed to mixed findings regarding the salience of paternal perceptions of stress as a significant predictor of abuse risk (Perez-Albeniz & DePaul, 2004; Pittman & Buckley, 2006).

The Utility of a Broader Conceptualization of Stress. With few exceptions (e.g., Muller, Fitzgerald, Sullivan, & Zucker, 1994), parental stress has been almost exclusively assessed using a measure of stress that is restricted to parenting specifically (Crouch & Behl, 2001; Holden & Banez, 1996). As a result, much of what is known about how physical abuse risk is impacted by parental stress is specific to parents', and most often mothers', report of stress related to the parenting role. There is strong evidence supporting that parenting stress contributes to elevated abuse potential for mothers specifically (Nair, Schuler, Black, Kettinger, & Harrington, 2003; Rodriguez, 2010;

Rodriguez & Richardson, 2007; Schaeffer et al., 2005). However, research supporting a broader measure of stress highlights the potential limitations of parenting stress in terms of best tapping into the stress-abuse risk relation as well as insight as to why parenting related stress may be less influential in the prediction of paternal abuse risk.

Parents' appraisal of personal stress has been found to moderate the relation between child-related stress and abuse risk (Holden & Banez, 1996), supporting that at-risk parents less effectively cope with personal stress and, as a result, are more easily overwhelmed by the additional stressor of raising a child. Thus, research using parenting stress is limited in scope and thus easily captured by broader measures of parents' perceptions of stress that measure the extent to which parents' are overwhelmed by the stressors (from multiple origins) in their life. Moreover, this conceptualization of stress more closely resembles the argument for the stress-abuse risk relation as a parents' sense of feeling overwhelmed undermines discipline quality and results in more aggressive physical discipline (Cohen et al., 1983; Whipple & Webster-Stratton, 1991).

Assessing parenting stress only in fathers may be limited as research suggests potential explanations for why stress has not been consistently implicated in samples of abusive or sub-abusive fathers (Baker, Perilla, & Norris, 2001; Pittman & Buckley, 2006). More traditional gender roles or hyper-masculinity may limit fathers' exposure to child rearing and thus reduce the amount of parenting-related stress experienced (Guerrero, 2009). Thus, perhaps limited exposure to childrearing may serve a protective role against the personal or interpersonal difficulties associated with abuse risk. Alternatively, more stereotypical gendered attitudes may promote minimizing fathers'

reports of stress (Pittman & Buckley, 2006). Other work suggests that a broader conceptualization of stress may better capture the impact on paternal abuse risk. Mothers' and fathers' perceptions of stress were more comparable when paternal perceptions of stress were assessed broadly (e.g., work, family, social) and suggested work related stressors specifically were overwhelming to fathers in abusive (Klevens, Bayon, & Sierra, 2000) and national samples (Almeida, 2005). Chronic, daily stressors predicted harsh physical discipline in an at-risk sample of mothers and fathers with substance abuse histories (Muller et al., 1994), suggesting these stressors erode parenting quality over time. These findings are consistent with other research demonstrating that stressors in other domains "spillover" to impact parenting, in particular for fathers (Repetti & Wood, 1997; Repetti, 1994; Schaeffer et al., 2005).

Overall, the limited findings using fathers' perceptions of stress demonstrate how the focused assessment on parenting stress may explain previous mixed findings about the stress-paternal abuse risk relation. Moreover, assessing parents' experience of stress has been confounded in past samples by additional factors that threaten external validity of the results, including parents with a history of substance abuse and/or dependence (Muller et al., 1994) or those with an atypical degree of work or life stress (e.g., military families, Repetti & Wood, 1997; Repetti, 1994; Schaeffer et al., 2005). Thus, previous difficulties in establishing the role of stress in paternal abuse risk appear to be impacted by assessment and sampling issues. However, the limited presence of both adequate assessment and representative paternal samples makes it difficult to determine whether

stress is merely less salient to paternal abuse risk or if methodological issues are preventing the true relation from emerging.

At present, research examining the relation between perceptions of stress and abuse risk in sub-abusive fathers has been limited, compared to parenting stress specifically, and has yielded mixed results. In sum, previous difficulty establishing the relation between paternal stress and abuse risk may be limited by confounds related to sampling issues, including the over-representation of potentially highly stressed fathers (i.e., substantiated, substance abusing, demanding jobs) as well as questions of relevancy regarding the nature of stressors.

Additional methodological issues may also account for discrepancies in past work. Examining stress in a sample of parents experiencing significant psychological distress (Wekerle et al., 2007), either from persistent or severe mental illness or substance dependence, makes disentangling the unique contribution of parents' perceptions of stress in exacerbating abuse risk from that of possible psychopathology difficult. Apart from questions of generalizability, parents with a significant mental health history are primed to a more amplified stress experience, given the premorbid cognitive and emotional burdens. However, assessing psychological distress in sub-clinical samples may provide an alternative indicator of parents' perception and experience of stressors as overwhelming and thus holds value in future research. Addressing these types of sampling issues is needed to better understand whether stress reliably predicts parental abuse risk.

The current study aimed to examine stress and abuse risk with a focus on parents' perceptions of stress and, specifically, the extent to which a parent is overwhelmed versus competent to manage expected or unexpected difficulties within family, social, and work domains. Stress is one risk factor that research has only now begun to disentangle. The impact of this risk factor is crucial and multifold as the experience of stress may exacerbate other risk factors such that their effects on abuse risk are intensified. However, stress can also be mitigated by other potentially protective factors such that the effects of stress on other risk factors and abuse risk are lessened.

Couple Level Factors

Consistent with family systems theory, the family unit is comprised of several interrelated subsystems, including dyadic (i.e., parent-parent; parent-child) and triadic (i.e., parent-parent-child) relations. Violence within one subsystem affects other family members (Margolin, 1981). However, the abundance of simple statistical models of abuse risk, and the subsequent dearth of ecological or nested etiological models, has prevented the examination of the proposed transactional nature of personal and interpersonal risk factors. Moreover, the absence of fathers in research has also prevented parental dyadic interactions from being examined. Within the maltreatment literature, examination of extra-familial interpersonal risk factors have largely focused on whether one's personal characteristics contribute to the quality of social relationships, but fewer have examined how couple relationship factors may further exacerbate personal level factors and, in the process, elevate abuse risk. Many of these studies have relied

upon samples of adolescent parents perhaps motivated by efforts to maintain a family unit in this high risk group.

Within the broader parenting literature, several conceptual hypotheses have been examined in an attempt to explain how parents' personal functioning (most often parental stress) interferes with interpersonal relationships and, specifically, the parent-child relationship (for review of stress contagion hypotheses, see Bolger, DeLongis, Kessler, & Wethington, 1989). However, research examining the spillover hypothesis (i.e., couple level conflicts affect the parent-child relationships with each parent; Bolger et al., 1989) and crossover hypothesis (i.e., personal functioning of one parent may affect their partner's parent-child relationship; Bolger et al., 1989) has remained surprisingly absent within the child maltreatment literature.

Relationship Quality. In considering abuse risk, marital/relationship status is the most frequently examined relationship factor (Stith et al., 2009). Historically, single parenthood has been considered a risk factor as these parents often bear the burden of being the sole provider and caregiver for their children. Given that physical abuse often occurs within the context of two parent families, relationship status clearly does not protect all parents from escalating to abuse. Although research examining relationship characteristics and abuse risk is limited, some argue that previous findings linking these concepts indicate marital status is merely a proxy for the social, emotional, and economic support the partner relationship provides (Guterman et al., 2009). Thus, abuse risk is diffused when these specific supports are present, but elevated when supports are absent or dissatisfying (Cutrona, Hessling, Bacon, & Russell, 1998). These supports are

considered to improve coping with the stress of parenthood. However, uncertainty regarding the extent to which fathers experience parenthood as stressful call to question the value of these supports.

Although the question remains about the specific benefits being in a relationship serve, the importance of relationship quality and satisfaction is clear. Consistent with a general shift in the literature, relationship quality, rather than presence, has been examined as a correlate of abuse risk. Mothers' report of dissatisfaction with the relationship quality has been found to contribute to greater personal distress as well as elevated abuse risk when examined using cross-sectional (Biehle & Mickelson, 2011; Schaeffer et al., 2005) and longitudinal designs (Cutrona, et al., 1998). Examination of relationship quality has demonstrated that couple level factors can spill over into the personal domain. Although relationship factors can be conceptualized as protective factors, the effect on parenting is stronger when relationship qualities are negative (e.g., relationship dissatisfaction or conflict) rather than positive (relationship satisfaction or warmth; Proulx, Helms, & Buehler, 2007). Florsheim and colleagues (2003) examined whether the transition to parenthood altered pre-existing personal factors (e.g., parenting stress), relationship quality, and later discipline practices in a sample of pregnant ethnic minority adolescent parents (including fathers). These findings revealed that current and historical reports of satisfaction with the relationship quality contributed to less distress during the transition to parenthood, compared to those reporting a negative or inconsistent relationship history.

Parents' report of relationship satisfaction prior to and during pregnancy predicted lower child abuse potential, even for parents no longer romantically involved by the two year follow-up (Florsheim et al., 2003). These findings suggest that relationship factors that contribute to a more positive intimate relationship, either historically or currently, buffer parental stress, facilitate a more successful co-parenting relationship, and guard against the escalation of physical discipline. In support of this logic, abuse risk was greatest for those adolescent fathers who reported poor relationship satisfaction prior to, during, and following childbirth. In contrast, mothers' abuse risk was more significantly impacted by stress related to the steep decline in relationship satisfaction, versus relationship dissatisfaction per se. Thus, although the quality of the couples' relationship appears important to both parents, fathers' abuse risk is perhaps more impacted by the historical and current quality of the relationship while mothers' abuse risk is affected by perceptions of a deteriorating relationship (Florsheim et al., 2003) and the psychological distress this may cause (McHale, 1995).

Consistent with past research, these findings support that relationship quality and satisfaction influences both maternal and paternal parenting behaviors. However, the value of this factor appears to differ for parents. For mothers, relationship satisfaction has been shown to be influenced by perceptions of fathers' parenting involvement (Biehle & Mickelson, 2011). A dissatisfying relationship is associated with elevated maternal distress as well as more demanding and punitive parenting (Webster-Stratton, 1988). Thus, mothers in dissatisfying relationships are stressed and may demand more from their child in an attempt to compensate for the perception of insufficient paternal support. In

the event of child non-compliance, mothers may experience increased stress, perhaps resulting from perceptions their efforts to share the burden were potentially intentionally thwarted. These feelings of stress and anger converge to increase their risk of responding with harsher physical punishment. Hence, abuse risk may be elevated when mothers' perception of an unsupportive partner activates other stress related risk factors. In contrast, mothers' perception of a satisfying relationship with a supportive father not only reduces stress, but the support received can buffer non-relationship related stress as well to maintain lower abuse risk.

For fathers, the association between relationship dissatisfaction and abuse risk could be interpreted with more than one approach. The most simplistic explanation suggests that the same personal and interpersonal difficulties contribute to both relationship and parenting difficulties. Alternatively, relationship quality and satisfaction may be particularly important to fathers because of more complex social and personal expectations. In contrast to mothers, there is greater ambiguity with the responsibilities and expectations for the paternal role. As a result, fathers may rely upon the couple relationship to inform their role as parents (Davies, Sturge-Apple, Woitach, & Cummings, 2009). For fathers, a satisfying and high quality relationship buffers psychological distress (i.e., anxiety) regarding the parenting role (Biehle & Mickelson, 2011). Arguably, fathers' dissatisfaction with the relationship coupled with unresolved distress regarding parenthood may promote withdrawal from the family and compound the relationship problems. This response may be important in the prediction of abuse risk as perception of distant family relationships is associated with elevated abuse risk in a

substantiated sample of abusive fathers (Pittman & Buckley, 2006). Thus, fathers may rely more heavily than mothers on family relationships as they have fewer intimate extra-familial relationships and thus limited sources to receive emotional support. Consequently, dysfunctional family relationships may contribute to an initial degree of distress that is similarly experienced by both parents, but may be more quickly diffused by external social supports for mothers only.

Relationship Conflict. Given the nature of child abuse and the overlap with interpersonal violence (Margolin & Gordis, 2003), examinations of relationship quality and abuse risk has focused on the degree of relationship conflict versus warmth. Overall, findings from this work support both these qualities can spill over to impact parenting quality, and specifically responsiveness to the child (Davies et al., 2009; Stroud, Durbin, Wilson, & Mendelsohn, 2011). Greater partner conflict predicted later observed hostility toward their child two years later (Florsheim et al., 2003; Moore & Florsheim, 2008). In contrast, a higher degree of warmth observed between the couple was predictive of less punitive punishment (per self-report and observation) two years later (Moore & Florsheim, 2008). Similarly, cross-sectional findings support that greater marital conflict observed between adult parents (i.e., verbal disagreement) is associated with more observed hostile and competitive parenting strategies (McHale, 1995) which often place the child in the middle. Overall, couples in relationships with less observed warmth evidence increased marital conflict which spills over to the parent-child domain as discipline becomes more aggressive and punitive. Likewise, marital warmth has been shown to spill over into the parent-child and family subsystems (Stroud et al., 2011).

Given the previous contention that fathers extrapolate cues from within the couple relationship to guide their parenting behaviors, the degree of conflict may be of particular importance. Relationships with high conflict predicted increase use of parental control and insensitivity to the child for fathers, but not mothers, when examined with cross-sectional (McHale, 1995) and longitudinal designs (Davies et al., 2009). Consistent with the above argument regarding mothers' response to relationship dissatisfaction, relationship conflict increases perceptions of an unsupportive partner. However, perceptions of relationship factors spill over to more controlling or aggressive parenting for fathers, more than mothers (Davies et al.; for review, see Krishnakumar & Buehler, 2000). One possible explanation is that fathers tend to withdraw from the family in the face of heightened conflict and, in the process, reduce their opportunity to learn from (i.e., model) mothers who may be better coping with the marital conflict such that parenting quality is less affected. In the absence of alternative adaptive strategies, fathers may default to more coercive physical discipline to force child compliance.

Given the importance of the couple relationship to fathers, disruption within this system is likely to increase distress and compromise the quality of parenting delivered. In addition to contributing to personal distress or perceptions of support, a higher degree of conflict between parents is also associated with attempts to undermine mothers' and fathers' parenting role, contributing to more parenting disagreement and, in the process, results in further conflict (McHale, 1995).

Parenting Alliance and Coparenting. The extent to which parents are capable of creating a "parenting team" (e.g., converging on parenting strategies, respecting and

supporting the other in the parenting role) is referred to as parenting alliance (Cohen & Weissman, 1984). Parenting alliance is associated with more positive parent (Abidin & Brunner, 1995) and child outcomes (Hughes, Gordon, & Gaertner, 2004). Parenting alliance is considered to be derived, yet distinct, from relationship quality as parents' contentment with their intimate relationship may not translate into a co-parenting team (Dozier, Sollie, Smith, & Stack, 2011; Floyd, Gillion, & Costigan, 1998). Similarly, parents may have come to a parenting agreement, but be dissatisfied or no longer involved in an intimate relationship (Dozier et al., 2011; Moore & Florsheim, 2008). A relationship with strong parenting alliance would include parents who agree on and value their partner's level of involvement, who respect their partner's parenting judgment, and who desire open and reciprocal communication about parenting with their partner.

The effect of parenting alliance on abuse risk remains unknown as this relation has yet to be examined in the maltreatment literature. However, the potential for this factor to impact abuse risk exists as past research in the broader parenting literature has implicated many identified abuse risk factors as correlates of parenting alliance. Of greatest relevance is previous research demonstrating that perceptions of a parenting team buffer parenting stress (Abidin & Brunner, 1995). Given that previous research suggests that parenting is impacted by parents' perceptions of partner support, as well as maternal distress, the extent to which factors enhance or undermine parents' perceptions of a strong parenting alliance may provide insight into how interactions between personal and couple level factors interact to affect parenting.

Personal vulnerabilities (Hughes et al., 2004) and dyad level functioning (Dozier et al., 2011; Floyd et al., 1998) influences the strength of the parenting alliance. Parents with weak parenting alliance are likely to report increased levels of conflict regarding child-rearing (Dozier et al., 2011). More broadly, parents' acceptance of their partners' positive and negative parenting behavior contributed to their reports of marital satisfaction (South, Doss, & Christensen, 2010). Given that fathers are considered to take cues from mothers regarding their role as parents, mother-specific factors appear to more strongly influence the quality of parenting alliance. For example, maternal but not paternal mental health was associated with weaker parenting alliance, consistent with other work implicating mothers as the gatekeeper of relationships within the family (Biehle & Mickelson, 2011b; Hughes et al., 2004; Khazan, McHale, & Decourcey, 2008). However, given this factor has not been examined in the maltreatment literature, it is unclear whether particular components included in the conceptualization of parenting alliance may have greater implications for abuse risk research. For example, parents' disagreement regarding appropriate discipline strategies may diminish perceptions of support such that relationship conflict and punitive parenting within the family increases. Alternatively, agreement could actually represent a risk factor if both parents support the use of harsh physical discipline, which has been found in past work with abusive parents (Nobes & Smith, 1999). Given the absence of parenting alliance in the maltreatment literature, it is difficult to evaluate whether or how parents' individual or couple level factors may potentially interact to impact abuse risk and, thus, further examination of this relation is warranted.

Parenting alliance provides an interesting opportunity to examine the way in which parents' conceptualize their partners' parenting capabilities and the overall quality or effectiveness of their parenting couple unit. Importantly, it is likely that factors associated with co-parenting are more impactful in the context of dissatisfaction than satisfaction. However, in considering maltreatment, it is unclear the extent to which these factors could serve to buffer abuse risk. For example, the value of co-parenting factors may be limited to low risk parents for whom personal and situational stressors are transient and less severe. In contrast, the presence of other risk factors (e.g., stress) may undermine the development or quality of co-parenting factors such that the benefit is lessened for at-risk or abusive parents.

Unfortunately, co-parenting factors may serve more to maintain other personal and couple level risk factors given their overlap with those discussed as resulting from a weak parenting alliance. Nonetheless, these parenting factors represent a rich opportunity to advance knowledge regarding the dynamic and transactional process that occurs as roles within the couple evolve to include not only the romantic couple but also the parental unit. Given that the strength of a coparenting team is implicated with several previously identified individual risk factors (e.g., stress) and protective (e.g., couple support) factors for abuse, broadening the scope of focus for maltreatment research is pertinent and perhaps necessary in order to further understand the dyadic ecology surrounding maltreatment. Moreover, this work supports the interconnectedness between parents' personal and relationship functioning.

Findings described here have often focused on how relationship characteristics influence the way in which parents relate to one another and to their child in the future. However, further study within the maltreatment literature is needed to better understand what aspects of parents' relationships promote optimal personal and parental functioning. Examination of family-level factors, such as relationship quality, considered to be interactive in nature, have been limited by the reliance upon a single parent report within the maltreatment literature. Thus, greater effort must be made to include both parents in research so that the resulting findings support the conceptual theory that interactions between parents can impact both personal and family level functioning for abuse risk.

The Current Study

Based on the above review of the literature, the following model emphasizes that abuse risk is influenced by factors within the individual level as well as by factors relating to the parenting couple relationship. This model supports that individual level factors are reciprocally influenced by factors specific to the mother-father relationship, thus creating both direct and indirect relations to parental abuse risk. In comparing previous maternal models of abuse risk, stress appears to be less salient to paternal abuse risk. In contrast, mothers' and fathers' risk is influenced by couple level relationship quality factors. Although couple level relationship factors appear to interfere with parenting and personal level factors for both parents, the process by which this occurs appears to differ between mothers and fathers (i.e., stress vs. interpersonal consequence; gate-keeping vs. withdrawing from family). Moreover, although couple relationship factors are influential to both mothers and fathers, past work suggests a stronger relation

to paternal abuse risk. Given that paternal individual level factors have been consistently overlooked, the extent to which the impact of couple level factors on abuse risk is explained or further exacerbates other personal factors, such as stress, remains unknown and warrants further examination. The role of parents' perceptions of the strength of their coparenting also needs further consideration within the maltreatment literature as the impact on abuse risk for either parent has not yet been examined.

The current study addressed the above issues by assessing the following goals, with particular attention to potential areas of convergence and divergence between mothers and fathers:

1. The first goal was to extend previous empirical support that perceived stress directly predicts child abuse potential for both mothers and fathers, such that parents who report higher levels of perceived stress would also evidence elevated abuse potential.
2. The second goal was to examine if the relation between perceived stress and child abuse potential would be moderated by couple level factors, including relationship quality and coparenting. Consistent with a risk and resilience framework, the effect of stress on abuse risk was expected to be weaker for parents reporting stronger relationship quality and coparenting. The extent to which the expected buffering effects would apply to both mothers' and fathers' abuse risk was also examined.
3. The final goal of the study was to explore the potential of crossover effects between individual and couple level factors, such that one parents' perceptions of

stress or couple level functioning were expected to relate to their partner's physical abuse risk.

CHAPTER II

METHOD

Participants

As part of a larger parenting study, parent-child triads were recruited from various sites in the community, including day care centers, local agencies, and via newspaper advertisements. Recruitment targeted cohabitating, first time coparents of 3 to 6 year old children. Children within this age range were targeted for two reasons. First, they represents greater risk for physical abuse (DHHS, 2012) and, second, parents with longer coparenting histories (i.e., parenting children 8 years or more) are more likely to have a long standing, and thus potentially more resilient, intimate relationship (Florsheim et al., 2003; Lindahl, Clements, & Markman, 1997).

Given the study focus, couples' overall adjustment to parenting together as a couple, parents with older children from previous partnerships were eligible, as were non-biologically related parents, such as adoptive, foster, and step-parents, provided they had assumed caretaking responsibilities and had parented the target child for a minimum of one year preceding participation. The current sample included 81 cohabitating parents and their children, of whom 43 were female (53.1%) and 38 were male. Mothers' age ranged from 24 to 46 years (M = 33.9, SD = 5.2) and fathers from 22 to 60 years (M = 35.9, SD = 7.3), whereas children's mean age was 4.4 years (SD = 1.1). Parents primarily self-identified as Caucasian (Mothers, 76.5%; Fathers, 80.2%), followed by African

American (Mothers, 19.8%; Fathers 18.5%) with some further identifying as Hispanic/Latino (Mothers, 6.2%; Fathers, 1.2%). The majority of parents were biologically related to the child (Mothers, 98.8%; Fathers, 92.6%) and reported relationship durations ranging from 1 to 22 years (M = 10.4, SD = 4.6). Mothers reportedly spent more time with their children (*Median*= 10 weekday hours; 17.5 weekend hours) than fathers (*Median*= 4 weekday hours; nearly 15 weekend hours). On average, both parents held a 4-year university degree and financially support 2 children with an average family income averaging $65,000 annually.

Materials

Parent Abuse-Risk Measures.

Brief Child Abuse Potential Inventory (BCAPI; Ondersma, Chaffin, Simpson, & LeBreton, 2005). The BCAPI was constructed from the original 160-item CAPI (Milner, 1986, 1994), a screening tool assessing the extent to which participants identify with factors associated with increased abuse risk. The BCAPI is a 34-item self-report questionnaire that is presented in an Agree (coded as 1) or Disagree (coded as 0), forced choice format. Only 24-items comprise the BCAPI Risk Scale score and its six subscales that assess distress, rigidity, unhappiness, problems with child and self, problems with family, and problems with others. The remaining items are used as to assess potential biases (e.g. lie and random responding). A strong correlation between the BCAPI and CAPI Abuse Scale scores (r =.96) suggests it will perform similarly to the full scale (Ondersma et al., 2005). The full CAPI has been found to correctly classify 89.2% of substantiated abusers and 99% of controls, indicating ability to discriminate between

abusive and non-abusive parents (Milner, 1994). Supporters argue that replication of this finding with a range of samples (see Milner & Wimberley, 1980; Milner, Gold, & Wimberley, 1986) "supports the predictive validity" of the CAPI (Milner, Gold, Ayoub, & Jacewitz, 1984, p. 883). Higher scores on the Risk Scale are associated with greater physical abuse potential. Given the authors' report of good internal consistency for the Risk Scale (α= .89; Ondersma et al., 2005), Cronbach's alpha for the Risk Scale with the present sample was somewhat lower at .80, for mothers, and .78, for fathers.

Adult - Adolescent Parenting Inventory-2 (AAPI-2; Bavolek & Keene, 2001). The AAPI is a 40-item measure that utilizes a 5-point likert (from 1 = strongly agree to 5 = strongly disagree) scale to determine degree of agreement with beliefs and behaviors regarding child-rearing across four domains: inappropriate expectations, lack of empathy, belief in corporal punishment, and parent–child role reversal. Higher AAPI-2 Total scores are associated with more dysfunctional parenting attitudes and beliefs (positive parenting) and is an established indicator of attitudes associated with abusive discipline (Conners, Whiteside-Mansell, Deere, Ledet, & Edwards, 2006). The AAPI-2 was used to identify maladaptive parenting practices associated with child abuse and neglect and has demonstrated discriminative validity, discerning between abusive and non-abusive parents. Internal consistency for the AAPI-2 Total score has been reported as α= .85 (Conners et al., 2006) and, in the present study was high, with α= .89 for both mothers and fathers, respectively.

Parent-Child Conflict Tactics Scale (CTS-PC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). The CTSPC is an adaptation from the broader measure of family

violence, the Conflict Tactics Scale (Straus, 1979) and is used to assess parent-child aggression, including physical assaults, psychological aggression, and non-violence discipline. Respondents rate the frequency that parents have implemented each of the 22 behaviors. Responses endorsing 0, 1, or 2 receive the corresponding score, while more frequent ratings within one year are more heavily weighted (e.g., 3-5 times scored as 4, 6-10 times scored as 8; 11-20 times scored as 15, more than 20 scored as 25). Straus and colleagues (1998) provide support for construct and discriminant validity. The current study utilized the physical assault subscale due to the interest in identifying physical parent-child aggression strategies in particular.

Parenting Scale (Arnold et al., 1993). The Parenting Scale is a 30-item self-report measure wherein parents rate their discipline style in terms of overreactivity, laxness, and verbosity. Ratings follow a 7-point likert scale with higher scores indicating more discipline mistakes were endorsed. The authors describe good internal consistency (α= .84; Arnold et al., 1993). Given the focus on physical discipline, the current study utilized the 10 item Overreactivity subscale to assess the extent to which parents may quickly escalate to excessive physical discipline (see Salari, Terreros, & Sarkadi, 2012 for review). Internal consistency for this subscale was .74 for mothers and .79 for fathers.

Response Analog to Child Compliance Task (ReACCT; Rodriguez, in preparation). ReACCT is an analog for parent-child aggression tactics that uses a computerized task to assess parents' discipline response when faced with child compliance and non-compliance. The task was designed to simulate situations where

being late is both costly and time-consuming. Parents are asked to imagine in the future, they are running late one morning and need to direct their child to get ready to leave home for preschool. Parents read 12 scenes which include an instruction previously provided to the child regarding completing an activity (e.g., get out of bed) that the child is described as either complying or not complying (also includes unintentional non-compliance such as inability to perform task). Following a depicted non-compliant child behavior, a time-clock increments how late they now are while child compliance earns the parent 50 cents that is also depicted. The parent is instructed to imagine they could hypothetically earn up to $0.50 bonus money for each instance of compliance from their child, and warned noncompliance will lengthen the duration of this task. After reading the child response (compliance or noncompliance) to the hypothetical instruction, the parent selects from 16 possible response options, which include adaptive (e.g., praise for compliance) and aggressive (e.g., spanking, hitting with an object) discipline strategies. Scores are weighted and based on the number of non-adaptive or physical strategies used in non-compliant scenes. The present study focused on parents' selected response to each presented act of noncompliance, called the Noncompliance subscale. Internal consistency for the Noncompliance subscale in the observed sample indicated acceptable reliability for mothers (.70) and fathers (α= .77).

Measures of Predictors

Stress.

Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS is comprised of 10-items used to assess the extent to which, within the last month, participants felt their lives

were overwhelming, uncontrollable, or unpredictable. Items are rated on a four point likert type scale ranging from *never* to *very often*. Total scores are generated by summing individual items, with higher scores indicative of greater perceived stress. Coefficient alpha has been reported to range from .84 to .86 across samples for the PSS total score. Internal consistency observed in the current study was high for both mothers, with α=.84, and fathers, with α=.83.

Daily Hassles and Uplifts Scale (DHUS; De Longis et al., 1988). The DHUS was revised from a longer measure of the same name and consists of the 53 most frequently endorsed items. Participants were presented with a split scale, allowing for each item to be rated in terms of the degree to which it represents both a hassle and an uplift. A sample item, "your children" would be rated first on a hassle scale from 0 *(none or not applicable)* to 3 *(a great deal)* and then again on a similar likert scale as an uplift. The items include events related to the household, finances, work, environmental and social issues, home maintenance, health, personal life, and family and friends. Two adjustments were made to the instructions to omit the uplifts scale and extend the time frame for consideration, such that parents' reported on their hassles within the last week. The Hassles scale alpha reliability coefficient ranges from .57 to .83 (Holm & Holroyd, 1992) with observed internal consistency for the current study being high for both mothers, α=.91, and fathers, α=.93.

Revised Symptom Checklist-90 (SCL-90-R; Derogatis, 1977, 1994). The SCL is a 90-item, 5-point Likert scale (from 0 = not at all to 4 = extremely) measure that assesses severity of symptoms across 9 subscales: somatization, obsessive-compulsive,

interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. A measure of overall distress (the Global Severity Index) can also be computed by taking the average of the individual items. The SCL-90-R is a widely used screener for a broad range of psychological problems. The authors provide support of convergent and concurrent validity of the subscales and reliability assessments yield internal consistency (Cronbach's alpha) estimates ranging from .77 to .90 (Derogatis, 1994). Observed values from the present study indicate high reliability with α=.93 for mothers, and α=.92 for fathers.

Relationship Quality.

Couple Satisfaction Index (Funk & Rogge, 2007). The CSI is a 16-item measure of relationship satisfaction, rated on a 6-point scale (0= Not at all/Extremely Unhappy and 6=All of the time/Perfect), which can discriminate between distressed and non-distressed relationships. Individual items are summed to create a Total score, with higher scores indicating greater satisfaction. The authors report a score at or below 51.5 is suggestive of a clinically distressed relationship. Reported Cronbach's alpha range from .94 to .98 (Funk & Rogge, 2007; Graham, Diebels, & Barnow, 2011) and were similarly high in the current study, with α= .98 for mothers, and .97 for fathers.

Revised Conflict Tactics Scale-2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The CTS-2 is a self-report measure of conflict resolution where respondents self-report a frequency count, scored similar to CTSPC wherein more frequent endorsement is weighted more heavily, of 39 conflict resolution strategies involving an intimate partner, including negotiation, psychological aggression, physical assault, sexual coercion, and

injury. Subscales assess the frequency with which parents utilize and are the recipient of these strategies. For the purposes of the present study, 8 items in total across subscales, excluding adaptive negotiation tactics, were collapsed based upon the reported perpetrator, such that the generated total scores (i.e., sum of weighted 8 items) indicate the extent to which a parent was a perpetrator (e.g., "I pushed, shoved, or slapped my partner") or victim (e.g., "My partner pushed, shoved, or slapped me") of these strategies (cf. Regan, Bartholomew, Kwong, Trinke, and Henderson, 2006). Possible total scores ranged from 0 to 200. Analyses utilized the victim subscale to assess the extent to which each parent is a recipient of physically aggressive interpersonal conflict tactics.

Coparenting.

Parenting Alliance Inventory (PAI; Abidin & Konold, 1999). The PAI is a 20-item measure of the degree that parents perceive belonging to a cohesive parenting team with their partner, using a 5-point Likert scale, with 1 =*Strongly Disagree* and 5 =*Strongly Agree*. Items assess perceptions of support received from the spouse and desire to communicate about the child with their spouse. Individual items were summed to create a Total score with higher scores reflecting a stronger parenting alliance. The authors provide support of adequate concurrent and construct validity (Abidin & Brunner, 1995; Abidin & Konold, 1999). Reliability coefficients (Cronbach alpha) have been reported for wives, at .97, and husbands, at .96 (Hughes et al., 2004). Internal consistency was high for the current study, with $\alpha = .96$ for both mothers and fathers.

Coparenting Relationship Scale (CRS; Feinberg, Brown, & Kan, 2012). The CRS is a self-report measure of several coparenting dimensions, including childrearing

agreement, support/undermining, satisfaction with the division of labor, and family management. Individual items are summed to compute a Total score, after reversing items on the negatively worded subscales (e.g., coparenting undermining), such that higher scores indicate a stronger coparenting relationship. The current study utilized the brief version of this measure, 14-items using a 6-point Likert scale, ranging from (1) "*Not true"* to (7) "*Very true of us*," which approximates the full version with a correlation of .97, for mothers, and .94, for fathers. The authors provide support for convergent and discriminant validity (Feinberg et al., 2012). Internal consistency has been reported as ranging from .81 to .89 for the brief CRS (Feinberg et al., 2012). The present study observed adequate reliability, with α= .86 and .88 for mothers and fathers, respectively.

Procedure

Participants were recruited as part of a larger parenting study, using flyers and advertisements distributed in the Piedmont Triad Metropolitan area. Those interested called the contact number provided and scheduled a 90-minute in-home session. Upon their arrival to a participant's home, parents completed consent forms and were brought into separate, private rooms to complete self-report questionnaires on computers that displayed items individually. As part of the programming, responses were automatically stored in a database identified only by a randomly assigned identification number. Participants were informed of the great measures taken to ensure their anonymity and candid responding was strongly encouraged. The protocol for the full parenting study took between 60 to 90 minutes to complete. Each parent received $30 ($60 per couple) as compensation for their participation in the full study.

Analyses

Basic analyses were conducted using SPSS 20 for Windows. After the potential need for covariates and simple bivariate relationships were examined, the predictor and dependent measures were standardized. The standardized measures were summed to create composite variables for Stress (PSS, DHUS, and SCL90), Relationship Quality (CSI and CTS2), and Coparenting (CRS and PAI) for each parent, including standardized multiplicative terms created to test as moderators. Initial analyses revealed Relationship Quality and Coparenting were multicollinear ($r = .70$, $p \leq .001$) and thus, these standardized measures were combined to create a linear composite of Couple Functioning (CSI, CTS2, CRS, and PAI) and the standardized multiplicative term (Stress x Couple Functioning) to test interaction. A series of hierarchical multiple regressions were performed to examine whether the expected moderator (Couple Functioning) reliably contributed, beyond Stress and its independent effect, to the prediction of each parent's report on measures associated with Abuse Risk (i.e., the dependent variables BCAPI Risk, AAPI Total, PS Overreact, CTSPC Physical Assault, and ReACCT Noncompliance). When analyses indicated a significant interaction between factors of interest, simple slopes analysis was utilized to determine whether the relation between the dependent variable and the predictor (Stress) differed at lower, moderate, and higher levels (-1, 0, and +1 *SD*) of the moderating variable (Couple Functioning). The same hierarchical multiple regression approach was taken to examine potential crossover effects, wherein parents' self-report on the dependent variables were regressed onto their partners' self-report of Stress and Couple Functioning.

CHAPTER III

RESULTS

Demographic Comparisons

Preliminary analyses were conducted to assess the need for demographic statistical controls by determining whether predictor or outcome variables differed across demographic characteristics. Household income was coded dichotomously with those earning above the sample median coded as "high" (i.e., 1) and those below that cutoff as "low" (i.e., 0). Education was continuously coded for total completed years. For mothers, income and education level were negatively correlated with BCAPI Risk scores (r = -.32, $p \leq .01$ and r = -.27, $p \leq .01$, respectively) and AAPI Total scores (r = -.30, $p \leq .01$ and r = -.32, $p \leq .01$, respectively). Additionally, for mothers, family size (i.e., number in household) was positively associated with BCAPI Risk (r = .35, $p \leq .01$) and PS Overreact scores (r = .29, $p \leq .01$) whereas child's age was significantly, positively related to AAPI Total (r = .22, $p \leq .05$) and PS Overreact scores (r = .45, $p \leq .01$). For fathers, education was negatively associated with AAPI Total scores (r = -.36, $p \leq .001$) and ReACCT Noncompliance scores (r = -.23, $p \leq .05$). Additionally, fathers' AAPI scores were also positively correlated with weekday hours spent parenting (r = .26, $p \leq .05$). Fathers' age was negatively associated with CTSPC Physical Assault scores (r = -.29, $p \leq .01$) and ReACCT Noncompliance scores (r = -.25, $p \leq .05$).

Analyses also revealed significant t-test findings regarding group mean differences based on demographic factors. Potential parent sex differences in outcome variables were first examined using paired sample t-test analysis. Mean scores differed based on parents' sex for both BCAPI (t (80) = -2.85, $p \leq .01$) and AAPI (t (80) = -6.68, $p \leq .001$), such that fathers evidenced higher BCAPI scores (M = 4.32, SD= 3.14) and more dysfunctional parenting attitudes on the AAPI (M = 96.83, SD= 16.83) compared to mothers (M = 3.11, SD= 2.86, for BCAPI; M = 84.32, SD= 16.76, for AAPI). SCL90 mean scores were significantly higher (t (80) = 8.17, $p \leq .001$) for mothers (M = 24.78, SD= 20.38) than fathers (M = 6.06, SD= 10.19), indicating that mothers reported more psychological distress than fathers. Regarding differences based on child's sex, independent t-test analysis showed PS Overreact scores were significantly higher (t (79) = -2.33, p = .05) for fathers, but not mothers, with sons (M = 26.80, SD= 8.39) compared to those with daughters (M = 22.90, SD= 6.64).

Given the limited representation of Hispanic or Asian/Pacific Islander mothers, ethnic group categories were collapsed and a dichotomous variable was created to assess for potential mean differences between Caucasian (i.e., coded as 0) and ethnic minority parents (i.e., coded as 1). The AAPI Total score means were significantly different between ethnic groups (t (79) = -3.51, p = .001, for mothers; t (79) = -3.95, $p \leq .001$, for fathers). Ethnic minority mothers obtained significantly higher AAPI scores (M = 94.67, SD= 16.01, for mothers) than Caucasian mothers (M = 80.70, SD= 15.57). Likewise, ethnic minority fathers obtained significantly higher AAPI scores (M = 109.99, SD= 16.72) than Caucasian fathers (M = 93.33, SD= 15.14). The CTSPC Physical Assault

scores were also significantly higher (t (79) = -2.48, $p \leq .01$) for ethnic minority mothers (M = 11.52, SD= 11.48) than Caucasian mothers (M = 5.82, SD= 8.08). ReACCT Noncompliance scores were significantly higher (t (79) = -2.09, $p \leq .05$) for ethnic minority fathers (M = 8.75, SD= 7.48) compared to Caucasian fathers (M = 5.39, SD= 5.42).

In sum, demographic correlates were examined to determine the potential need for demographic controls in subsequent regression analyses. The bivariate findings indicate that Abuse Risk measures were associated with parent age, ethnicity, education, income, hours spent parenting, and child age. Thus, these demographic characteristics were considered as potential covariates in the subsequent multivariate analyses.

Preliminary Correlational Analyses

The initial correlations among the measures of interest were examined for mothers and fathers (see Table 1). For mothers, BCAPI Risk Scale and PS Overreact scores were significantly correlated with indicators of Stress as well as, CRS, and CTS Victimization scores. For fathers, most abuse risk variables were significantly related to indicators of Stress and Couple Functioning. Examining similarities between maternal and paternal self-report on the same measure indicated a significant degree of agreement between most measures, including: a modest association for Stress, PSS (r = .25, $p \leq .05$), DHUS (r = .25, $p \leq .05$), and SCL90 (r = .23, $p \leq .05$); and for Couple Functioning, CSI (r = .61, $p \leq .01$), CTS2 Victimization/Perpetration (r = .34, $p \leq .01$, for father victims of mother perpetrated tactics; r = .42, $p \leq .01$, for mother victims of father perpetrated tactics), and CRS (r = .53, $p \leq .01$); for measures of Abuse Risk, AAPI (r = .59, $p \leq .05$),

PS Overreact ($r = .32$, $p \leq .001$), CTS Physical Assault ($r = .35$, $p \leq .001$), ReACCT ($r = .27$, $p \leq .05$). The two parents' BCAPI Risk scores were modestly associated ($r = .19$, $p = .08$), and the correlation of the parents' PAI scores was also small ($r = .16$, $p = .16$). Finally, partners' scores on the composite variables for Stress ($r = .28$, $p \leq .01$) and for Couple Functioning ($r = .46$, $p \leq .001$) were significantly correlated.

Multiple Regression Analyses

Separate hierarchical multiple regression analyses were performed to determine the unique role of Couple Functioning, beyond Stress and demographic covariates, in predicting parental measures of Abuse Risk and, specifically, to examine potential interactive effects. Additionally, the extent to which one parent's personal experience of stress and couple level functioning predicted elevated scores on abuse risk measures for their partner (e.g., a crossover effect) was also examined.

Examining Spillover Effects. Initial analyses of the regression models were structured as follows: potential demographic controls [income, parent age, education, ethnic status, years parenting (indicator of child's age), hours spent with child] were entered at Block 1, Stress and Couple Functioning were entered at Block 2, followed by the interaction term in Block 3. Consideration of multicollinearity diagnostics confirmed that all variables across all regressions demonstrated robust tolerance, with no evident multicollinearity (all VIFs < 2). Tables 2 through 6 present the summary regression results for mothers (a) and fathers (b). The Step 3 (full model) results are reported throughout this results section. The tests on the squared semi-partial correlations reported for each block are equivalent to the tests on the R-squared change of the model

shown in the block with the model shown in the previous block. For Step 1, the test compares the model in block 1 to an intercept only model (i.e., a model with no predictors).

Predicting Child Abuse Potential. The regression models for both parents (see Table 2a and b), with variables entered as described above, were evaluated for BCAPI Risk scores. For mothers, only Stress was a statistically significant predictor of abuse potential, as demographic variables, Couple Functioning, and the interaction term did not reach significance. For fathers, the coefficients for ethnicity, Stress, Couple Functioning, and the interaction term were statistically significant (see Step 3 model in Table 2b). Simple slopes analyses confirmed a significant interaction, such that paternal abuse potential had a larger positive relationship with stress when couple functioning was lower and a smaller positive slope when couple functioning was higher (see Figure 2).

Predicting AAPI. The regression models for mothers and fathers are presented in Table 3a and b for the AAPI. For mothers, ethnicity was the only demographic factor entered that reached statistical significance. Coefficients for Stress, Couple Functioning, and the interaction term were not statistically significant. For fathers, coefficients for ethnicity and education level were statistically significant covariates, as was the coefficient for Stress.

Predicting PS Overreact. See Table 4a and b for the regression models for PS Overreactivity scores. For mothers, only the coefficients for years parenting and Stress were statistically significant. For fathers, just the coefficients for Stress (p= .054), Couple Functioning, and the interaction term attained statistical significance. As shown

in Figure 3, simple slopes analyses indicated that, the predicted slope for fathers with weaker couple relationships overall was not statistically significant from zero. As seen in Figure 3, these fathers are predicted to have the highest level of reactive discipline, regardless of stress level. However, the two slopes for fathers with more functional (i.e., moderate and high) relationships did significantly differ from zero, such that reactive discipline was elevated under higher stress conditions. Thus, stronger Couple Functioning did not buffer higher stress.

Predicting CTSPC Physical Assault. The regression models for both parents are presented in Table 5a and b for CTSPC Physical Assault. For mothers, only the coefficient for ethnicity approached conventional levels of statistical significance, indicating ethnic minority mothers utilized harsher physical discipline tactics compared to Caucasian mothers. However, the coefficients for the other variables were not statistically significant. For fathers, only Stress predicted CTSPC Physical Assault scores ($t(71) = 3.17$, $p < .001$). .

Predicting ReACCT Noncompliance. Table 6a and b present the regression models for mothers and fathers. For both parents, Stress, Couple Functioning, and the interaction did not significantly predict ReACCT Noncompliance scores. Maternal age ($p = .06$) and mothers parenting duration (years; $p = .09$) were modestly associated with mothers' response to noncompliance, but did not reach a statistically significant level. For fathers none of the covariates were statistically significant.

Predicting Partners' Abuse Risk (Crossover Effects). To examine the role of potential crossover effects, parents' report on each of the five dependent variables was

regressed on their partners' composite of Stress and Couple Functioning. Parents' self report of each factor was also included in an earlier step to account for the potential dependent variance attributable to the couple. Specifically, parents' self-reported Stress and Couple Functioning were entered in block one with potential demographic covariates and, in block two, their partners' self-reported functioning was entered to determine the extent of the partner's influence above and beyond the parent's own personal and contextual factors. Although crossover effects are more consistently evaluated using multilevel modeling, previous work has substantiated this method of adaptation using hierarchical regression (Desrochers, Sargent, & Hostetler, 2012).

Predicting Child Abuse Potential. The regression models of parent's BCAPI Risk scores regressed on their partners' self-report on Stress and Couple Functioning were examined, as described above. Neither mothers' nor fathers' report of stress or couple level functioning contributed to the prediction of partners' BCAPI risk scores, beyond their own report (all p's > .05). Thus, a crossover effect was not observed.

Predicting AAPI. Regression models of parents' AAPI scores on their partners' report on factors of interest were examined, as described above. Mothers' Couple Functioning did not significantly contribute to the prediction of paternal AAPI scores beyond the paternal factors already in the model. Thus, a maternal crossover effect was not observed. Similarly, a crossover effect was not observed for fathers' scores predicting mothers' AAPI scores as their reported Stress and Couple Functioning did not contribute, beyond maternal factors already in the model, to mothers' AAPI scores (all p's > .05).

Predicting PS Overreact. Parents' report of PS Overreact was regressed onto partners' composite Stress and Couple Functioning, as described above. Crossover effects were not observed for mothers or fathers, as their report on factors of interest did not reliably contribute to the prediction of their partners' PS Overreact scores, beyond partners' own report (all *p*'s > .05).

Predicting CTSPC Physical Assault. Models regressed parents' CTSPC Physical Assault on partners' reported Stress and Couple Functioning, as described previously. Mothers' report on these factors did not cross over to significantly predict fathers' CTSPC Physical Assault scores, beyond fathers' own report (all *p*'s > .05). Similarly for fathers, a crossover effect onto mothers was not observed.

Predicting ReACCT Noncompliance. The models for parents' ReACCT Noncompliance regressed on partners' ratings were examined, as previously described. Significant crossover effects were not observed for either parent (all *p*'s > .05).

CHAPTER IV

DISCUSSION

The current study sought to examine the relation between psychosocial risk factors and physical maltreatment risk, with a specific interest in examining predictive models of factors associated with abuse risk for both mothers and fathers. An ecological approach, considering factors beyond the intrapersonal level, was taken to demonstrate how parental vulnerabilities (e.g., stress) are buffered by the presence of more distal factors, such as relationship quality and perceptions of a stronger parenting team, in a non-identified (i.e., no substantiated abuse cases) sample of cohabitating parents of young children. These specific factors were targeted primarily due to the mixed literature derived largely from maternal samples, regarding the opportunity for family supports, including at the couple level, to contribute to or diffuse parents' stress. However, given the limited presence of fathers in the maltreatment literature, much of what is known about paternal risk stems from previous research on mothers, such that the extent and manner in which paternal abuse risk would be impacted by perceptions of stress and couple level functioning was not well known. The extent to which parents' experience of stress and couple level functioning contributed to their partners' abuse risk (e.g., crossover effect) was also explored. The following discussion will first summarize the results and then focus on more specific empirical, clinical, and real-world interpretations.

The present hypotheses were only partially supported, using 81 coparenting couples recruited from the community. The overall findings contributed to the study's aims underscoring the importance of examining stress and demographic variables that improve the prediction of measures associated with abuse risk for both parents. The present findings indicate that couple level resources predict parents' abuse potential (as measured by BCAPI) and fathers' parenting style (as measured by PS Overreact). Further interpretation, implications, and limitations of the current findings are discussed below. Discussion focuses first on contextual factors, followed by findings of the five different measures of abuse risk regarding abuse potential (BCAPI) and parenting beliefs and attitudes (AAPI), and lastly behavioral measures of discipline responses (i.e., PS, CTSPC, and ReACCT).

The Role of Contextual Demographic Factors

The backdrop against which families live is associated with personal and interpersonal functioning. Parents' ethnicity (ethnic minority membership specifically) predicted elevated scores on measures of abuse risk (i.e., fathers' BCAPI, parents' AAPI, and mothers' CTSPC). The influence of ethnicity in predicting abuse risk may be twofold. First, diversity within a sample introduces differing cultural beliefs and values that more readily accept corporal punishment (Ibanez, Borrego, Pemberton, & Terao, 2006; Wissow, 2001). Second, one cannot deny that the overrepresentation of ethnic minorities in impoverished communities, and potential exposure to and parenting in the context of institutional discrimination, may contribute to minority status serving as a proxy of elevated experience of historical and/or contextual stress. Although, in this

study, ethnicity did not consistently predict abuse risk measures for both parents, past work has demonstrated that it remained a significant predictor of verbal and physical punishment, even after controlling for culturally prescribed parenting beliefs and attitudes (Ferrari, 2002). Thus, the influence of such cultural and sociopolitical stress, in addition to culturally influenced parenting attitudes, affects discipline strategies.

The results also indicated that, for fathers, less education was associated with more negative parenting beliefs. Similarly, mothers who had been parenting longer (i.e., older child age) evidenced more reactive discipline style. Regarding education, past research (c.f., Black et al., 2001) suggests higher education is associated with a greater fund of knowledge regarding discipline strategies, problem solving skill, as well as economic resources. For fathers in particular, higher education may be associated with further attitudinal shifts promoting more adaptive parenting beliefs (Lansford, Bornstein, Dodge, Skinner, Putnick, & Deater-Deckard, 2011). The present findings found no significant association between maternal education and parenting beliefs. Evidence from intervention efforts suggests that providing supplemental education focused on increasing alternative parenting practices is associated with reduced abuse potential (CAPI) and more positive parenting attitudes (AAPI) even in more severe samples of incarcerated or at-risk adolescent substance abusing parents (Bavolek & Hodnett, 2012; Palusci, Crum, Bliss, & Bavolek, 2008).

Spillover to Parental Abuse Risk

Predicting Child Abuse Potential (BCAPI). The present findings indicate that stress contributed to the prediction of abuse potential (as measured by the BCAPI) for

both parents. For fathers, couple level functioning also predicted abuse potential (for mothers the relation did not reach conventional levels of statistical significance, p = .068). Consistent with previous findings (Crouch & Behl, 2001; Curenton et al., 2009; Taylor et al., 2009; Wekerle et al., 2007; Whipple & Webster-Stratton, 1991), parents who report feeling overwhelmed by multiple stressors, including psychological distress, are more likely to resort to physical violence in an attempt to regain control over their environment. This strong relationship observed in the present study extends findings regarding the relation between other types of stress (e.g., life events and parenting stress: Rodriguez & Green, 1997; Rodriguez, 2010; Williamson et al., 1991) by incorporating parents' general perceptions of their management and coping abilities (e.g., presence of psychological distress). Consistent with past work, fathers' reported less psychological distress relative to mothers (Skreden et al., 2012). Despite this, the observed positive relation between paternal psychological adjustment and abuse potential suggests psychological distress may be particularly relevant to the estimation of abuse potential. In comparison to mothers, reducing distress for fathers may be crucial as they evidenced greater abuse potential.

The present findings do not disentangle the nuances of why parents may report greater experience of stress. For example, it's unclear whether parents in the present study are, as some have suggested, hyperresponsive to stressors (c.f., Bauer & Twentyman, 1985). Given the strong relation between stress and abuse potential, some consideration is warranted regarding how these constructs were measured. The magnitude of the relation between indicators of stress and abuse potential is large, but

remains consistent with the range of effect sizes reported in the literature, albeit toward the higher end (see Black et al., 2001). Specifically, the CAPI was designed as a screening tool and, thus, includes various factors considered influential in determining abuse risk so as to best capitalize on factors capable of distinguishing abusive from non-abusive parents (Milner, 1994). In considering this, however, reports of feeling overwhelmed by stressors may reflect shared item content on measures of stress and BCAPI, resulting in an amplified association, although this overlap is reduced in the BCAPI relative to the full CAPI. Conceptually, this finding underscores the importance of understanding the role of stress and abuse potential. As not all stressed parents engage in physical abuse, determining what other factors, in addition to stress, heighten abuse risk for parents is crucial. For example, elevated stress may activate beliefs endorsing corporal punishment, restrict cognitive access to more adaptive discipline responses, and/or undermine parents' ability to accurately monitor discipline severity. However, relatively few studies have examined potential cognitive factors could be associated with elevated stress perceptions and discipline.

Regarding couple functioning, the present findings support that mothers' report of a satisfying relationship and stronger coparenting support was only marginally (p= .07) predictive of lower child abuse potential. Although the expected buffering effect was not observed, past research suggests that the interaction with stress may be limited to those in more dissatisfying relationships (Florsheim et al. 2003). Thus, mothers in the present sample, who reported satisfaction rates well above the clinical cut off scores proposed by the authors, did not experience the added burden of relationship distress.

For fathers, the expected buffering effect was identified such that fathers' reporting higher stress but a satisfying and supportive relationship evidenced lower abuse potential than those with less functional relationships. The present regression findings suggest that there is a significant interaction between Stress and Couple Functioning, as described above. The present study partially supports that stress and relationship support are predictors of parental abuse potential, particularly for fathers.

Regarding clinical implications, the current findings indicate the benefit of Couple Functioning for parental abuse potential (e.g., direct effect for mothers, interactive with stress for fathers). However, due to the expected overlap between distress on measures of BCAPI and measures of couple functioning, future research aimed at further distinguishing relationship factors from personal distress is needed. Considering that the child abuse potential inventory (measure of abuse potential) is utilized to assess change following family therapeutic intervention, determining whether clinical efforts aimed at improving family functioning, rather than solely addressing stress management is prudent.

Predicting Dysfunctional Parenting Beliefs and Attitudes (AAPI). Contrary to expectations, mothers' parenting beliefs and attitudes were not predicted by their report of stress or couple functioning, after accounting for cultural factors. However, greater personal distress relates to fathers' dysfunctional parenting attitudes and beliefs.

As discussed above, cultural experiences shape one's attitudes, beliefs, and expectations regarding parenting (Belsky, 1984), with mothers socialized toward more modern and flexible parenting attitudes (Lansford et al., 2011). However, fathers

generally, as well as mothers in more economically disadvantaged environments, develop attitudes consistent with more authoritarian parenting style (e.g., lower empathy, greater parental control; Bavolek, 1989, Lansford et al., 2011). Mothers in the present sample were well educated and middle-income and thus may evidence long-standing adaptive parenting beliefs and attitudes that are more resistant to transient personal or relational stress, as evidenced by the non-significant correlation between the AAPI and indicators of stress (Table 1). However, fathers, presumably with less exposure to the parenting context and more rigidly-defined parental control based attitudes may be more vulnerable in stressful contexts wherein a destabilization of control is perceived (Lansford et al., 2011).

Couple functioning was not predictive of parenting beliefs and attitudes on the AAPI. Past work has found that the role of couple functioning has a greater influence immediately following childbirth (O'Brien & Peyton, 2002), suggesting that this relation may have stabilized for parents in the current study. Longitudinal examinations of the transition to parenthood would represent a great contribution to the literature by providing further insight into whether pre-parenting attitudes deteriorate (become more negative) in response to more negative parent-child or coparenting interactions and whether this process occurs at a similar rate for both mothers and fathers.

Predicting Overreactive Parenting Style (PS). Overall, the present findings provided only partial support that more distressed parents would endorse a more reactive discipline style. Regarding parents' approach to discipline, both mothers and fathers reporting a higher degree of stress indicated a greater tendency toward over-reactive

discipline, consistent with the hypotheses. Thus, parents overwhelmed with stress may be primed (e.g., coping resources diminished) to overreact when confronted with another stressor like a parent-child conflict.

However, the effect of couple functioning on stress was limited to fathers. Similar to mothers' parenting attitudes (AAPI), discipline reactivity is less influenced by couple functioning in the current context of relatively satisfying relationships for mothers. For fathers, although a significant interaction was found, the interactive effect was not as expected. Specifically, fathers reporting less stress and stronger (moderate to higher) couple level functioning endorsed using less reactive discipline strategies, compared to those in less functional relationships. However, in the context of higher stress, stronger couple functioning did not reduce paternal overreactive discipline. This was particularly surprising given that most couples described largely satisfying and supportive relationships, indicating greater relationship resources relative to parents more typically sampled in the maltreatment literature. Thus, although weaker couple functioning was associated with more reactive discipline, in the context of higher stress, the relationship as a resource (even high functioning couples) is not sufficient to buffer an escalation toward more reactive discipline for either parent.

As noted above, fathers' evidenced greater abuse potential and more dysfunctional parenting attitudes compared to mothers. When experiencing higher stress, fathers' implicit attitudes and/or desire to quickly resolve parent-child conflict may contribute to a more reactive discipline style. Moreover, preliminary findings indicated fathers' of sons utilized a more reactive parenting style, whereas no child sex differences

were found for mothers, indicating factors independent of parenting (e.g., child gender) may further influence fathers reactivity. Given that fathers reported less time overall in the parenting role, future examinations of fathers serving as primary caregivers may be useful in determining whether fathers' reactivity to sons and stressful contexts reflects their typical role as a secondary caregiver. Specifically, these findings may reflect reactivity to perceived noncompliance to primary caregivers' requests (e.g., mothers serving as primary disciplinarians) or rather related to father's potentially limited exposure to or repertoire of alternative discipline strategies.

Predicting Discipline Tactics (CTSPC). The current findings indicate that maternal discipline tactics were not predicted by stress or couple functioning, contrary to expectation. Perhaps past findings relating stress and aggressive discipline are limited to mothers experiencing a greater degree of cumulative personal and relationship stress, such as the samples prevalent in past maltreatment work. Continued efforts to recruit sub-abusive parents from the community would help identify the varying contexts in which stress undermines parenting or discipline quality to the extent that parents utilize more aggressive physical discipline strategies.

Somewhat consistent with the above findings regarding reactive discipline, fathers' report of elevated stress predicted the use of more aggressive discipline tactics. The present finding is consistent with current conceptualizations, noted above, that stressed fathers are considered more likely to utilize harsher physical discipline tactics in efforts to induce child compliance. Moreover, considering that fathers evidenced greater abuse potential, more dysfunctional parenting attitudes, and, under stress, report greater

use of more aggressive discipline tactics, the present findings may exemplify the conceptualization of the escalation hypothesis. Of note, mothers and fathers did not differ in their reported frequency of discipline tactics utilized. Considering the predictive role of stress for fathers, compared to mothers, distressed fathers may engage more in discipline opportunities either reactively (e.g., find it difficult to not intervene), as noted above, or intentionally, in response to maternal request or perhaps in an effort to assert dominance to regain a sense of control. Alternatively, given that fathers spent considerably less time providing childcare, they may also find the process of childrearing, including discipline, more distressing.

Although these speculations suggest processes that might occur at a couple level, the current findings did not identify couple functioning as a significant predictor of discipline tactics for either mothers or fathers. The lack of significance here may be related to the low representation of highly distressed couples in the present sample. Considering past documentation regarding spillover from intimate partner violence to parent-child interactions, poor couple functioning, especially violent relationships, would likely produce more significant findings regarding couple level factors. Additionally, further examination of the influence of couple factors on parent-child conflict tactics with samples of parents of older children may be informative as negotiation of discipline strategies change in response to child's development. For example, considering that fathers' reported using more aggressive strategies with sons compared to daughters may set the expectation of continued escalation as the son ages and is perceived capable of withstanding more aggressive strategies. Potential couple disagreement regarding

acceptable tactics could introduce relationship level discord and distress, further strengthening the relation between paternal stress and aggressive discipline tactics.

Although the CTSPC is a the most frequently utilized measure of actual parent-child discipline aggression, the above noted concerns regarding the prevalence of low base rate behaviors and the lack of significant findings regarding maternal stress further underscores that the utility of this measure may be more limited in sub-abusive samples. Alternative behavioral indicators of the frequency and intensity of utilized discipline strategies is needed to provide a more accurate and comprehensive view of the range of strategies utilized by sub-abusive parents.

Predicting Response to Child Noncompliance (ReACCT). In contrast to expectations, the current findings did not indicate that stressed parents or those with less functional relationships would be more likely to use less adaptive physical discipline strategies when presented with noncompliance. Mothers' reaction to the presented scenarios were not predicted by stress level or couple functioning indicating that, consistent with CTSPC findings, mothers' selection of physically aggressive discipline strategies is not associated with personal or couple level stress. Perhaps previous evidence more readily observed a spillover to physical discipline due to the cumulative stress, including domestic violence, commonly endorsed by abusive mothers sampled throughout maltreatment literature. For fathers, considering the significant stress effect observed with the CTSPC, the absence of significant predictors of ReACCT was unexpected. Perhaps, the presented scenarios feature content less relevant to fathers serving as secondary caregivers (e.g., dressing, carpooling children) and thus were less

responsive to stress effects. Alternatively, replication indicating the utility of this measure is still emerging and future work may provide further support regarding the validity of ReACCT. Moreover, as abuse is considered to occur within the context of stress, future work is needed to clarify whether ReACCT is more resistant to stress effects or perhaps limited to parents for whom reactive parenting (i.e., application of harsher discipline in context of stress) has become normative.

Despite the lack of predictive findings, there was a significant correlation between ReACCT scores and more dysfunctional parenting attitudes as well as elevated paternal abuse potential. This association with the two most empirically supported measures of abuse risk suggests some potential utility worthy of further empirical consideration.

Given the novelty of this measure and the value in creating a less obtrusive measure of abuse risk, future examinations should explore whether this measure may be more informative for at-risk or abusive parents who may be more reactive in response to these common parenting scenarios. Alternative scenarios or strategies to increase the salience of scenarios in responding may also improve the relation between ReACCT and other abuse risk factors of interest.

The Role of Couple Level Functioning

Given the role of stress in the prediction of parental abuse potential (BCAPI) and parenting style (PS, for mothers only) and, for fathers, parenting attitudes (AAPI) and discipline tactics (CTSPC), identifying factors external to the parent capable of compensating for or reducing the effect of stress is needed. The current study sought to identify the protective quality of couple level functioning, such that a relationship

described as satisfying and supportive of one's parenting efforts would buffer parents' experience of stress.

Interestingly, for the present study, relationship satisfaction and coparenting were much more related than distinct for both parents (see Table 1 correlations between CSI, CTS2, CRS, and PAI). Despite this case in the present study, past research indicates these factors may be more associated for parents of younger children but distinguish themselves as separate constructs for families with older children (e.g., Kwok, Cheng, Chow, & Ling, 2013; Morrill, Hines, Mahmood, & Cordova, 2010). One possible explanation for the overlap between relationship and coparenting factors is that the distinction between "partner" and "parent" may be heavily blurred for primary caregivers of young children (average age of 4 in the present sample), most of whom reported spending up to 8 hours parenting on weekdays. Thus, the four measures were combined to create Couple Functioning, as these factors are more similar for the present sample. Although unexpected, past evidence indicates s that parents with more satisfying romantic relationships also evidence more cohesion as parents and vice versa (Kwok et al., 2013). Extending this logic, parents of young children may experience a shift in their priorities such that they are more preoccupied with the parenting role. In other words, indicators of what it means to be a supportive or satisfying wife/husband are primarily defined by their role as coparent. Thus, during this developmental period (i.e., parenting young children), satisfaction for a couple may be better nurtured by acts of instrumental support, such as sharing in parenting behaviors, further blurring the lines between partner and parent role. For example, mothers' report of relationship satisfaction has been shown

to improve as fathers increased their involvement in parenting (Kwok et al., 2013). Overall, the present findings suggest that the couple level factors considered appear to be so intertwined for mothers at this stage in family development that distinguishing between the partner and parent role proves difficult.

Comment on Maternal Couple Spillover. The present findings indicate that mothers' parenting attitudes, approach to discipline, and discipline tactics are not predicted by couple functioning. Although unexpected, past evidence has suggested that mothers may have greater defense against a spillover effect when compared to fathers (Davies et al., 2009, Krishnakumar & Buehler, 2000; McHale, 1995). Examination of the means and standard deviations for CSI in Table 1 indicates that parents in the present sample were relatively satisfied in their relationship, scoring well above the suggested clinical cut off for distressed couples. Considering findings from Florsheim and colleagues (2003), mothers may be less influenced by relationship functioning until a significant deterioration in quality is perceived. Thus, as the literature suggests, mothers may be more sensitive to burden resulting from a negative couple interaction and more resistant to the protective quality of a positive interaction. Perhaps the proposed protective quality of couple functioning is also limited to mothers with histories of long-standing relationship distress, such that abuse risk is only impacted by significant improvement in relationship satisfaction or coparenting.

Additionally, future work should examine whether a buffering effect emerges for couples who spend equal time in the parenting role. The present study was also limited in that parents' employment was not assessed and thus it is unclear whether the reported

hours spent parenting by the present sample is reflective of dual earner households or an artifact of potential high participation by stay-at-home mothers. Such family dynamics may also explain some of these findings as one could argue stay-at-home mothers may be more hesitant to ask for parenting assistance and thus even less impacted by this factor.

In sum, although the expected buffering effect was not found for mothers, past research (Florsheim et al., 2003) suggests that the spillover effect is likely amplified in the context of a stressful and deteriorating couple relationship. However, the current findings call to question the extent to which satisfying and supportive intimate relationships can protect against elevated maternal abuse risk factors.

Comment on Paternal Couple Spillover. Unlike mothers, a spillover effect was observed for paternal abuse potential. Past evidence suggests that fathers' parenting behavior erodes in the presence of poor marital relationship quality, termed the "father vulnerability hypothesis" (Cummings, Merrilees, & George, 2010; see Krishnakumar & Buehler, 2000 for meta-analysis). As discussed earlier in this paper, these findings are perhaps related to fathers' reliance upon mothers for cues regarding the provision of childcare. For fathers in relationships that could be characterized as minimally supportive, contentious, or undermining (e.g., poorer satisfaction or weaker coparenting team) greater stress led to greater predicted abuse potential compared to fathers in more supportive relationships. Overall, the current findings regarding the role of stress and couple support on measures of abuse risk were mixed despite the strong literature basis particularly in support of strong stress-abuse risk measure associations. Given the limited representation of fathers and lack of couple level considerations in maltreatment

literature, further examination is prudent. Future work must give careful consideration to measurement selection to reduce the significant overlap between relationship and parenting factors as well as stress. Further examination of a wider range of parents (e.g., sub-abusive) than typically captured in maltreatment literature may also help to identify specific contexts in which couple quality is more distinct from the parenting role (e.g., not collinear) and stress.

The extent to which the present findings are the result of gender differences in parenting or better explained by differences between the primary and secondary caretaker role remains unclear. For example, fathers who are primary caregivers may have more confidence in their parenting role and a diminished need for validation from and cohesion with mothers. Given that the majority of parents were first time parents, it would be interesting to know whether the salience of these factors change with subsequent children, or as children age. Future studies should examine the role of relationship satisfaction and coparenting and abuse risk in families of different compositions, including same sex couples, and at various developmental stages. Lastly, some of the weaker effects observed in the present study may be due to limited variance given parents' general satisfaction, limited sample size, or an artifact of the selected measures (e.g., multiple measures assessing satisfaction). The present study does not wish to ignore the consistent findings implicating the importance of relationship satisfaction in past research. However, since many studies have not included coparenting, perceptions of parenting support possibly played a crucial role in previous conceptualizations of relationship satisfaction. Future examinations should be mindful that assessing

satisfaction with relationship and coparenting may only further blur the lines between parenting and partner roles.

Crossover Effects

The present study sought to examine the extent to which parents' stress crossed over to influence their partners' abuse risk. Ecological models of abuse risk suggest that discipline is impacted by the family system. However, less work has examined whether parents' personal experiences indirectly influence partners' abuse risk. The present analyses controlled for parents' own report of stress and couple level functioning first to determine whether the inclusion of their partners' experiences explained additional variance.

Overall, child abuse potential, dysfunctional parenting attitudes, discipline reactions and tactics, were not uniquely predicted by partners' stress and couple functioning. In contrast to the crossover theory, the current findings did not indicate that parents' reactions to couple functioning permeate the dyadic system to influence partners' personal parent-child functioning. The potential for a crossover effect was likely limited by the moderate to high agreement between parents' report of couple functioning, with the exception of parenting alliance reports, and the overall degree of couple satisfaction reported. Although parents' within a system are assumed to directly and indirectly influence one another, the potential for such couple-level effects to be detected may not be sufficient strong to be identified given these sample characteristics.

Summary of Child Abuse Risk Findings

The present findings indicated mixed findings regarding the extent to which stress spills over to influence measures of abuse risk for parents. Moreover, the current findings are inconsistent with past claims, discussed earlier, that fathers under-report or are more resistant to the effect of stress on abuse risk as distressed fathers evidenced elevated scores on measures of abuse risk, excluding an analog measure of maladaptive discipline strategies. In contrast, for mothers, stress exacerbated abuse potential and predicted more reactive discipline, but did not significantly predict parenting attitudes, frequency of discipline tactics, or maladaptive discipline reactions to noncompliance.

As discussed above, the emphasis on personal functioning within the BCAPI, as a comprehensive measure of abuse risk, naturally evidences a significant relation to stress and couple functioning, especially in the context of a distressing relationship. In contrast, the AAPI, representing more abusive attitudes and beliefs, overlaps less with distress compared to BCAPI but captures features associated with significant parenting stress, such as lower empathy, and cultural values such as acceptability of corporal punishment and children's perceived roles within the family (e.g., "seen not heard"). Considering the current findings, fathers' parenting attitudes may be more vulnerable to shift in response to negative parent-child interactions due to their experience as a secondary caregiver (e.g., endorsing less time spent in parenting role).

In terms of measures assessing discipline reactions or tactics, the Parenting Scale represents a unique measure as the focus in the extent to which parents tend toward overreactive parenting styles. This conceptualization includes a distress component,

presumably as imminent discipline is deemed necessary, although item overlap is not apparent. As expected, stress predicted more reactive discipline for both parents. Although not shown in the present study, one could imagine that couple functioning, especially in the context of a higher degree and expression of partner conflict, would spillover to the parenting domain more so than couples reporting satisfying relationship, as in this case in this study.

The CTSPC is considered a necessary indicator of frequency of aggressive parent-child discipline tactics. More consistent findings predicting CTSPC and ReACCT scores were expected given the focus on reported discipline strategies. However, given the inconsistency, with only paternal stress predicting more frequent use of aggressive discipline tactics, it may be that the hypothetical scenarios presented with ReACCT may not be as relevant to the present sample or may require further validation with a broader range of mothers and fathers (e.g., relatively high functioning sub-abusive sample). Future examination aimed at determining the extent to which parents' response to scenarios aligns with their reported discipline tactics is needed to validate this measure as a strong predictor of abuse risk

The present study cannot rule out that parents may be poor at forecasting their discipline response (e.g., consistent with escalation process wherein parents unexpectedly and unintentionally escalate). Assessing parents' insight into the escalation process may be useful in determining under which conditions (e.g., low versus high insight) parents' responses on ReACCT more closely relate to real-life discipline reactions. Although couple functioning was expected to influence discipline tactics, potentially via modeling

or as representing an additional stressor, the present findings did not support this hypothesis.

Overall, considering the conceptualization of a multifaceted construct of abuse risk, the inclusion of multiple measures capable of capturing the breadth of risk factors commonly identified in the literature was prudent. However, the mixed pattern of results that emerged indicates a greater distinction between these factors than previous literature, again inclusive of at-risk or abusive samples, would suggest. Although a multi-measure design closely approximates the current conceptualization of abuse risk, greater effort should be made in determining the manner or contexts in which these largely supported measures of abuse risk converge. Although some variability in the findings was expected, the nature and degree of the mixed findings evidenced in this study necessitates discussion of each of the components, perhaps at the cost of having more cohesive and clinically actionable findings.

Additional Limitations

As with any research endeavor, additional limitations to the present study warrant mention. Although the current sample represented diversity on a variety of demographic variables, the study was limited from more sophisticated analyses of cultural considerations due to the modest sample size. Future investigations should employ a larger sample to improve reliability of models derived from multivariate and hierarchical linear modeling analyses. Moreover, the analyses used in the present study were limited in their ability to fully address the likely dependent nature of the constructs of interest. However, considering the relatively small sample size and the somewhat exploratory

nature of the research questions (i.e., much of paternal literature is mixed or unknown), the decision was made to proceed with hierarchical regression. Given that the present study focused on a sub-abusive, convenience sample from the community, the current findings may not generalize to families wherein abuse has been substantiated or to parents of lower educational or income level. Additionally, future investigations should examine whether the pattern of findings generalize to households wherein fathers represent the primary caregiver as well as same sex or non-cohabitating parents. Due to the cross-sectional design, the present findings were correlational, not causal, in nature.

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APPENDIX A

TABLES AND FIGURES

Table 1.

Means, Standard Deviations, and Correlations Between Parent Measures.

	M (SD)												
	Mom	Dad	1	2	3	4	5	6	7	8	9	10	11	12
1. BCAPI	3.11 (2.86)	4.32 (3.14)	---	.42**	.29*	.27*	.37**	.48**	.43**	.65**	-.44**	-.46**	-.54**	.52**
2. AAPI	84.32 (16.76)	96.83 (16.83)	.24*	---	.17	.33**	.37**	.27*	.18	.12	-.14	-.32**	-.15	.15
3. PS	24.41 (7.23)	24.73 (7.72)	.22*	.38**	---	.26*	.18	.34**	.37**	.11	-.51**	-.35**	-.28*	.23*
4. CTSPC	7.30 (9.35)	9.75 (15.97)	.18	.30**	.08	---	.11	.15	.20	.07	-.07	-.01	-.08	.16
5. ReACCT	6.50 (6.36)	6.09 (6.02)	.15	.44**	.33**	.36**	---	.22	.09	.18	-.22	-.15	-.10	.09
6. PSS	23.39 (5.13)	22.58 (5.08)	.58**	.21	.44**	.05	.24*	---	.42**	.43**	-.31**	-.44**	-.36**	.20
7. DHUS	80.91 (15.93)	80.73 (16.54)	.64**	.09	.35**	.02	.18	.71**	---	.51**	-.28*	-.28*	-.38**	.23**
8. SCL90	24.78 (20.38)	6.06 (10.19)	.62**	-.03	.28*	-.01	.10	.58**	.73**	---	-.36**	-.25*	-.55**	.56**
9. CRS	84.53 (12.51)	86.86 (11.00)	-.38**	-.07	-.34**	-.15	-.19	-.40**	-.35**	-.24*	---	.68**	.73**	-.59**
10. PAI	87.93 (13.72)	89.50 (10.42)	-.12	.02	-.07	-.19	-.11	-.19	-.10	-.01	.70**	---	.65**	-.38**
11. CSI	63.37 (17.06)	64.92 (14.42)	-.43**	-.05	-.15	-.21	-.15	-.42**	-.39**	-.24*	.79**	.59**	---	-.71**
12. CTS2	5.75 (8.71)	5.32 (7.21)	.33*	.08	.19	.02	.21	.36**	.29**	.18	-.58**	-.40**	-.47**	---

Note: * p ≤.05; **p ≤.01; Fathers correlations are presented above the diagonal.

1: Brief Child Abuse Potential Inventory; 2: Adult-Adolescent Parenting Inventory-2 3: Parenting Scale, Overreact; 4: Parent-Child Conflict Tactics Scale, Physical Assault; 5: Response Analog to Child Compliance Task, Noncompliance; 6: Perceived Stress Scale; 7: Daily Hassles; 8: Revised Symptom Checklist; 9: Coparenting Relationship Satisfaction; 10: Parenting Alliance Inventory; 11: Couple Satisfaction Inventory; 12: Revised Conflict Tactic Scale.

Table 2a. Full Regression Model Predicting Mothers' BCAPI

													Parsimonious Model			
	Step 1				Step 2				Step 3							
DV: BCAPI	B	β	T	sr^2	B	β	t	sr^2	B	B	t	sr^2	B	β	T	sr^2
Block 1				.15				.15				.15				.08*
Ethnicity	.27	.12	1.08		.20	.09	1.07		.20	.09	1.06		---	---	---	
Education	-.06	-.16	-1.28		-.07	-.17	-1.92		-.07	-.17	-1.90		-.08	-.19	-2.44*	
Income	-.47	-.23	-1.95		.03	.01	.14		.02	.01	.13		---	---	---	
Age	.00	.00	.05		-.02	-.08	-.98		-.02	-.08	-.96		---	---	---	
Yrs Parenting	.06	.06	.54		-.10	-.10	-1.18		-.10	-.10	-1.18		---	---	---	
Wk Hrs Parenting	.03	.05	.47		.07	.15	1.89		.07	.15	1.87		.08	.16	2.04*	
Block 2								.43***				.43***				.48***
Stress					.25	.65	7.49***		.25	.65	7.41***		.23	.62	7.48***	
Couple Fncting					-.05	-.16	-1.87		-.05	-.17	-1.85		-.05	-.17	-2.10*	
Block 3												.00				
StressXCouple									.01	.02	.20					
Intercept	.68				1.41				1.41				.62			
	R = .39, F (6, 74) = 2.16 R^2 = .15 (Adjusted R^2 = .08)				R = .76, F (8, 72) = 12.38*** R^2 = .58 (Adjusted R^2 = .53)				R = .76, F (9, 71) = 10.86*** R^2 = .58 (Adjusted R^2 = .53)				R = .75, F (4, 76) = 23.86*** R^2 = .56 (Adjusted R^2 = .53)			

Table 2b. Full Regression Model Predicting Fathers' BCAPI

													Parsimonious Model			
	Step 1				Step 2				Step 3							
DV: BCAPI	B	β	T	sr^2	B	B	t	sr^2	B	B	t	sr^2	B	β	T	sr^2
Block 1				.06				.06				.06				.03
Ethnicity	.35	.14	1.12		.27	.11	1.33		.46	.19	2.27*		.48	.20	2.47*	
Education	-.01	-.03	-.26		-.04	-.11	-1.31		-.04	-.12	-1.43		---	---	---	
Income	-.05	-.03	-.20		.05	.02	.28		.10	.05	.61		---	---	---	
Age	-.02	-.13	-1.13		-.01	-.06	-.72		-.01	-.07	-.83		---	---	---	
Yrs Parenting	.09	.11	.90		-.10	.11	-1.38		.11	.13	-1.62		---	---	---	
Wk Hrs Parenting	.00	.00	.02		-.02	-.05	-.60		-.03	-.03	-.39		---	---	---	
Block 2								.49***				.49***				.50***
Stress					.21	.50	5.15***		.18	.44	4.62***		.18	.44	4.83***	
Couple Fncting					-.09	-.31	-3.17**		-.05	-.17	-1.64		-.05	-.16	-1.64	
Block 3												.06**				.05**
StressXCouple									.02	-.31	-3.25**		-.02	-.30	-3.10**	
Intercept	.41				.60				.39				-.19			
	R = .24, F (6, 74) = .76 R^2 = .06 (Adjusted R^2 = -.02)				R = .74, F (8, 72) = 10.97*** R^2 = .55 (Adjusted R^2 = .50)				R = .78, F (9, 71) = 12.21*** R^2 = .61 (Adjusted R^2 = .55)				R = .76, F (4, 76) = 25.65*** R^2 = .57 (Adjusted R^2 = .55)			

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Table 3a. Full Regression Model Predicting Mothers' AAPI

	Step 1				Step 2				Step 3				*Parsimonious Model*			
DV: AAPI	B	β	T	sr^2	B	B	t	sr^2	B	B	t	sr^2	B	β	T	sr^2
Block 1				.26***				.26***				.26***				.14***
Ethnicity	.65	.29	2.77**		.67	.30	2.77**		.67	.30	2.75**		.83	.37	3.51***	
Education	-.07	-.17	-1.51		-.07	-.16	-1.41		-.07	-.16	-1.39		---	---	---	
Income	-.29	-.15	-1.31		-.32	-.16	-1.35		-.33	-.16	-1.35		---	---	---	
Age	-.02	-.10	-.94		-.02	-.09	-.87		-.02	-.09	-.85		---	---	---	
Yrs Parenting	.17	.17	1.66		.18	.18	-1.65		-.17	-.17	-1.63		---	---	---	
Wk Hrs Parenting	.02	.04	.43		.02	.04	.35		.02	.04	.34		---	---	---	
Block 2								.00				.00				
Stress					-.00	-.00	-.04		-.00	-.00	-.01					
Couple Fncting					.02	.05	-.43		.01	.04	.36					
Block 3												.00				
StressXCouple									.00	.02	.21					
Intercept	.81				.74				.75				-.22			
	R = .51, F (6, 74) = 4.37*** R^2 = .26 (Adjusted R^2 = .20)				R = .51, F (8, 72) = 3.22** R^2 = .26 (Adjusted R^2 = .18)				R = .51, F (9, 71) = 2.83** R^2 = .26 (Adjusted R^2 = .17)				R = .37, F (1, 79) = 12.34*** R^2 = .14 (Adjusted R^2 = .12)			

Table 3b. Full Regression Model Predicting Fathers' AAPI

	Step 1				Step 2				Step 3				*Parsimonious Model*			
DV: AAPI	B	β	T	sr^2	B	B	t	sr^2	B	B	t	sr^2	B	β	t	sr^2
Block 1				.24**				.24**				.24**				.24**
Ethnicity	.81	.33	3.12**		.81	.33	3.20**		.81	.33	3.06**		.81	.33	3.43***	
Education	-.09	-.26	-.242*		-.11	-.31	-.290**		-.11	-.31	-2.88**		-.11	-.32	-3.23**	
Income	-.04	-.02	-.18		-.00	-.00	-.01		-.00	-.00	-.01		---	---	---	
Age	-.01	-.06	-.57		-.00	-.01	-.13		-.00	-.01	-.13		---	---	---	
Yrs Parenting	.03	.04	.38		.03	.03	.32		.03	.03	.32		---	---	---	
Wk Hrs Parenting	.01	.02	.19		.01	.01	.11		.01	.01	.11		---	---	---	
Block 2								.07**				.07**				.08**
Stress					.11	.27	2.24*		.11	.27	2.16*		.12	.28	2.96**	
Couple Fncting					-.01	-.02	-.13		-.01	-.02	-.12		---	---	---	
Block 3												.00				
StressXCouple									.00	-.00	-.01					
Intercept	1.44				1.50				1.50				1.62			
	R = .49, F (6, 74) = 3.99** R^2 = .24 (Adjusted R^2 = .18)				R = .56, F (8, 72) = 4.19*** R^2 = .32 (Adjusted R^2 = .24)				R = .56, F (9, 71) = 3.67*** R^2 = .32 (Adjusted R^2 = .23)				R = .56, F (3, 77) = 11.85*** R^2 = .32 (Adjusted R^2 = .29)			

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Table 4a. Full Regression Model Predicting Mothers' PS Overreact

	Step 1				Step 2				Step 3				*Parsimonious Model*			
DV: PS Overreact	B	β	T	sr^2	B	B	t	sr^2	B	B	t	sr^2	B	β	t	sr^2
Block 1				.22**				.22**				.22**				.21**
Ethnicity	.01	.00	.03		-.05	-.02	-.20		-.05	-.02	-.21		---	---	---	
Education	-.04	-.10	-.89		-.05	-.12	-1.06		-.05	-.12	-1.04		---	---	---	
Income	.05	.02	.21		.31	.16	1.35		.31	.15	1.32		---	---	---	
Age	.00	-.00	-.01		-.01	-.05	-.44		-.01	-.04	-.41		---	---	---	
Yrs Parenting	.43	.43	4.13***		.12	.36	3.52***		.35	.35	3.47***		.38	.38	3.91***	
Wk Hrs Parenting	-.02	-.04	-.36		-.04	.02	.15		.01	.01	.14		---	---	---	
Block 2								.11**				.11**				.10**
Stress					.12	.31	2.83**		.12	.32	2.85**		.12	.32	3.26**	
Couple Fncting					-.04	-.12	-1.12		-.04	-.13	-1.19		---	---	---	
Block 3												.00				
StressXCouple									.01	.05	.45					
Intercept	-1.14				-.73				-.72				-1.73			
	R = .47, F (6, 74) = 3.40** R^2 = .22 (Adjusted R^2 = .15)				R = .57, F (8, 72) = 4.40*** R^2 = .33 (Adjusted R^2 = .25)				R = .58, F (9, 71) = 3.89*** R^2 = .33 (Adjusted R^2 = .25)				R = .55, F (2, 78) = 16.72*** R^2 = .30 (Adjusted R^2 = .28)			

Table 4b. Full Regression Model Predicting Fathers' PS Overreact

	Step 1				Step 2				Step 3				*Parsimonious Model*			
DV: PS Overreact	B	β	T	sr^2	B	B	t	sr^2	B	B	t	sr^2	B	β	t	sr^2
Block 1				.08				.08				.08				---
Ethnicity	.38	.16	1.32		.30	.12	1.14		.13	.05	.47		---	---	---	
Education	-.00	-.01	-.10		-.01	-.04	-.35		-.01	-.04	-.33		---	---	---	
Income	.04	.02	.16		.09	.05	.41		.04	.02	.19		---	---	---	
Age	-.01	-.10	-.81		-.01	-.08	-.71		-.01	-.07	-.68		---	---	---	
Yrs Parenting	.12	.14	1.22		.13	.16	1.49		.12	.15	1.42		---	---	---	
Wk Hrs Parenting	.05	.11	.91		.03	.06	.59		.02	.05	.43		---	---	---	
Block 2								.17***				.17***				.19***
Stress					.08	.31	1.44		.10	.25	1.96		.11	.27	2.26*	
Couple Fncting					-.09	-.12	-2.34*		-.13	-.43	-3.18**		-.13	-.45	-3.59***	
Block 3												.05*				.08**
StressXCouple									.02	.30	2.32*		.03	.34	2.84**	
Intercept	-.34				-.23				-.03				.10			
	R = .27, F (6, 74) = 1.00 R^2 = .08 (Adjusted R^2 = .00)				R = .50, F (8, 72) = 2.93** R^2 = .25 (Adjusted R^2 = .16)				R = .55, F (9, 71) = 3.36** R^2 = .30 (Adjusted R^2 = .21)				R = .51, F (3, 77) = 9.20*** R^2 = .26 (Adjusted R^2 = .24)			

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Table 5a. Full Regression Model Predicting Mothers' CTSPC Physical Assault

													Parsimonious Model			
	Step 1				Step 2				Step 3							
DV: CTSPC	B	β	T	sr^2	B	β	t	sr^2	B	B	t	sr^2	B	β	t	sr^2
Block 1				.16*				.16*				.16*				.07*
Ethnicity	.53	.23	2.11*		.47	.26	1.84		.46	.20	1.83		.61	.27	2.48*	
Education	.05	.12	1.01		.04	.05	.82		.04	.10	.86		---	---	---	
Income	-.29	-.15	-1.24		-.21	.25	-.84		-.23	-.12	-.94		---	---	---	
Age	-.03	-.15	-1.30		-.03	.03	-1.40		-.03	-.15	-1.31		---	---	---	
Yrs Parenting	-.12	-.12	-1.11		-.14	.12	-1.21		-.15	-.15	-1.31		---	---	---	
Wk Hrs Parenting	.07	.15	1.37		-.08	.06	1.52		.08	.16	1.48		---	---	---	
Block 2								.02				.02				
Stress					-.00	.05	-.01		.01	.02	.18					
Couple Fncting					-.04	.04	-1.17		-.06	-.19	-1.57					
Block 3												.03				
StressXCouple									.02	.18	1.62					
Intercept	.09				.29				.34				-.16			
	R = .40, F (6, 74) = 2.36* R^2 = .16 (Adjusted R^2 = .09)				R = .42, F (8, 72) = 1.95 R^2 = .18 (Adjusted R^2 = .09)				R = .46, F (9, 71) = 2.06* R^2 = .21 (Adjusted R^2 = .11)				R = .26, F (1, 79) = 6.17* R^2 = .07 (Adjusted R^2 = .06)			

Table 5b. Full Regression Model Predicting Fathers' CTSPC Physical Assault

													Parsimonious Model			
	Step 1				Step 2				Step 3							
DV: CTSPC	B	β	T	sr^2	B	β	t	sr^2	B	B	T	sr^2	B	β	t	sr^2
Block 1				.04				.04				.04				---
Ethnicity	-.18	-.08	-.60		-.17	.28	-.63		-.30	-.12	-1.04		---	---	---	
Education	-.01	-.02	-.12		-.03	.04	-.68		-.03	-.08	-.67		---	---	---	
Income	.01	.00	.03		.06	.23	.25		.02	.01	.10		---	---	---	
Age	-.02	-.17	-1.37		-.01	.02	-.86		-.01	-.10	-.83		---	---	---	
Yrs Parenting	-.06	-.07	-.59		-.07	.09	-.72		-.08	-.09	-.80		---	---	---	
Wk Hrs Parenting	-.01	-.02	-.12		-.01	.05	-.23		-.02	-.04	-.35		---	---	---	
Block 2								.14**				.14**				.15**
Stress					.16	.06	2.87**		.18	.43	3.17***		.16	.39	3.78***	
Couple Fncting					-.00	.04	-.11		-.03	-.11	-.76		---	---	---	
Block 3												.03				
StressXCouple									.02	.21	1.54					
Intercept	1.21				1.30				1.44				.00			
	R = .19, F (6, 74) = .46 R^2 = .04 (Adjusted R^2 = -.04)				R = .42, F (8, 72) = 1.94 R^2 = .18 (Adjusted R^2 = .09)				R = .45, F (9, 71) = 2.02* R^2 = .20 (Adjusted R^2 = .10)				R = .39, F (1, 79) = 14.31*** R^2 = .15 (Adjusted R^2 = .14)			

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Table 6a. Full Regression Model Predicting Mothers' ReACCT Noncompliance

													Parsimonious Model			
	Step 1				Step 2				Step 3							
DV: ReACCT	B	B	T	sr^2	B	β	t	sr^2	B	B	T	sr^2	B	β	t	sr^2
Block 1				.13				.13				.13				.09*
Ethnicity	.25	.11	.97		.24	.11	.92		.24	.11	.91		---	---	---	
Education	.04	.09	.74		.04	.09	.72		.04	.09	.72		---	---	---	
Income	-.23	-.12	-.97		-.17	-.08	-.65		-.17	-.09	-.65		---	---	---	
Age	-.04	-.22	-1.88		-.04	-.23	-1.95		-.04	-.23	-1.91		-.04	-.22	-2.06*	
Yrs Parenting	.22	.22	2.02*		.20	.20	1.77		.20	.20	1.74		.21	.21	1.94	
Wk Hrs Parenting	.05	.11	.98		.06	.12	1.07		.06	.12	1.06		---	---	---	
Block 2								.01				.01				
Stress					.04	.09	.76		.04	.10	.77					
Couple Fncting					-.00	-.01	-.12		-.01	-.02	-.17					
Block 3												.00				
StressXCouple									.00	.02	.21					
Intercept	-.60				-.51				1.38				.50			
	R = .36, F (6, 74) = 1.88 R^2 = .13 (Adjusted R^2 = .06)				R = .38, F (8, 72) = 1.47 R^2 = .14 (Adjusted R^2 = .05)				R = .38, F (9, 71) = 1.29 R^2 = .14 (Adjusted R^2 = .03)				R = .30, F (2, 78) = 3.80* R^2 = .09 (Adjusted R^2 = .07)			

Table 6b. Full Regression Model Predicting Fathers' ReACCT Noncompliance

													Parsimonious Model			
	Step 1				Step 2				Step 3							
DV: ReACCT	B	B	T	sr^2	B	β	t	sr^2	B	B	T	sr^2	B	β	t	sr^2
Block 1				.14				.14				.14				.05*
Ethnicity	.42	.17	1.52		.41	.17	1.47		.48	.20	1.65		.56	.23	2.09*	
Education	-.05	-.14	-1.18		-.06	-.17	-1.40		-.06	-.17	-1.41		---	---	---	
Income	-.15	-.08	-.66		-.13	-.06	-.54		-.11	-.05	-.46		---	---	---	
Age	-.03	-.21	-1.82		-.02	-.18	-1.55		-.03	-.18	-1.57		---	---	---	
Yrs Parenting	.10	.11	-1.02		.10	.11	1.01		.10	.12	1.04		---	---	---	
Wk Hrs Parenting	-.01	-.02	-.15		-.01	-.03	-.25		-.01	-.02	-.18		---	---	---	
Block 2								.04				.04				
Stress					.07	.17	1.26		.06	.14	1.03					
Couple Fncting					-.02	-.05	-.39		.00	.00	.02					
Block 3												.01				
StressXCouple									-.01	-.12	-.86					
Intercept	1.41				1.46				1.38				-.12			
	R = .38, F (6, 74) = 2.07 R^2 = .14 (Adjusted R^2 = .07)				R = .43, F (8, 72) = 1.99 R^2 = .18 (Adjusted R^2 = .09)				R = .44, F (9, 71) = 1.84 R^2 = .19 (Adjusted R^2 = .09)				R = .23, F (1, 79) = 4.36* R^2 = .05 (Adjusted R^2 = .04)			

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Figure 1. Model Under Investigation.

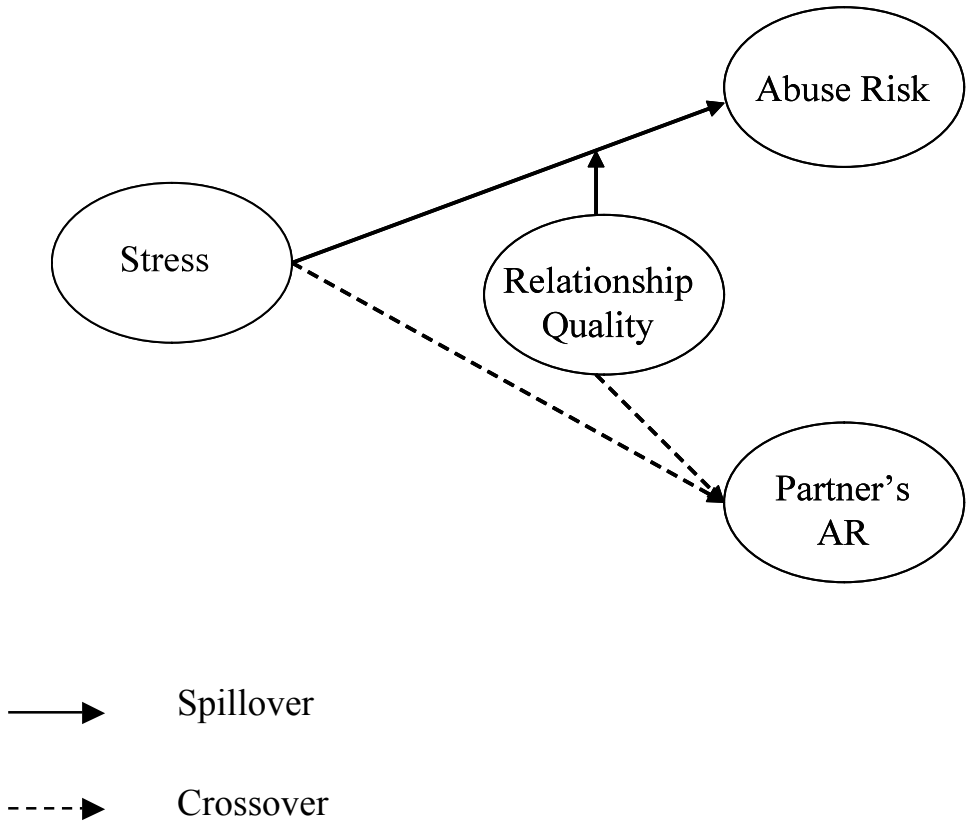

Figure 2. Simple Slopes Analysis of Paternal BCAPI. Analysis was conducted to determine the effect of couple functioning (moderator) on the relation between stress and paternal abuse potential.

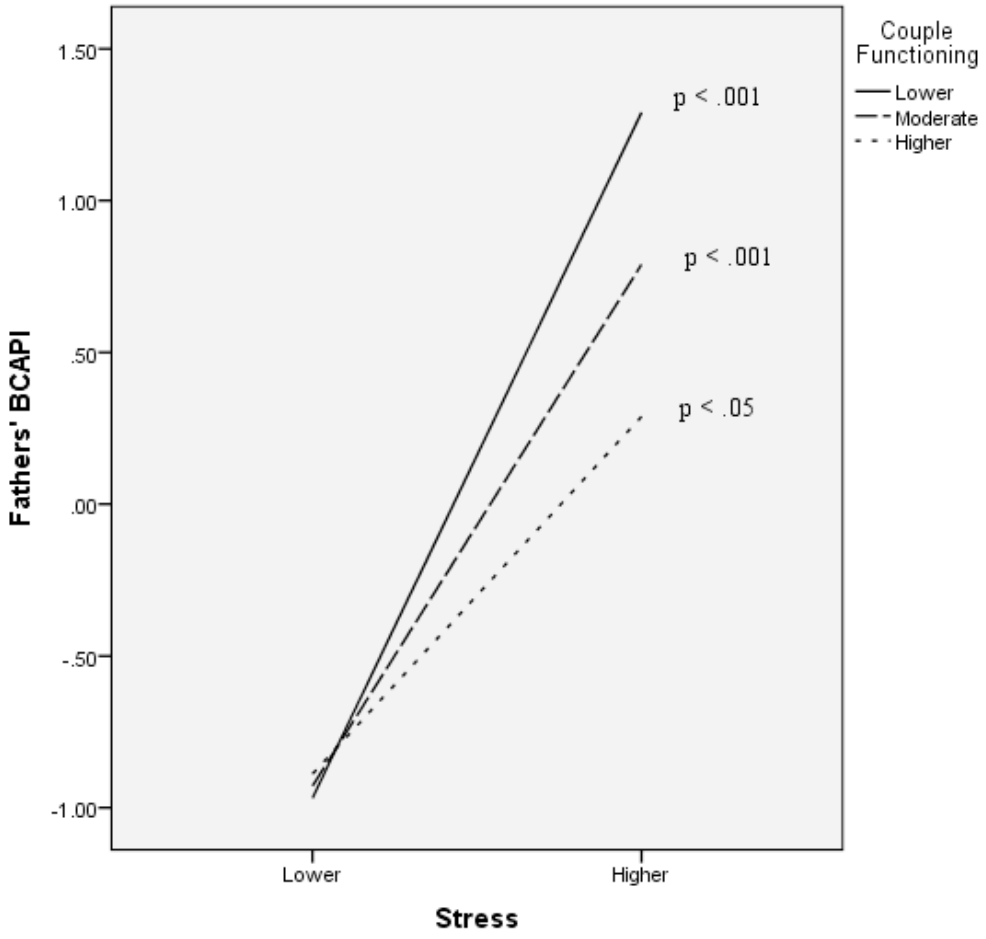

Figure 3. Simple Slopes Analyses of Paternal PS Overreact. Analysis was conducted to determine the effect of couple functioning (moderator) on the relation between stress and paternal parenting style (parenting scale, overreact)