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The Effect of Child Characteristics and Environmental Demands on Parenting Across  
Intact and Divorced Families: An Exploratory View

A thesis submitted in partial fulfillment of the requirement for the degree of Master of  
Science at Virginia Commonwealth University.

by  
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## Abstract

### THE EFFECT OF CHILD CHARACTERISTICS AND ENVIRONMENTAL DEMANDS ON PARENTING ACROSS INTACT AND DIVORCED FAMILIES: AN EXPLORATORY VIEW

by Jennifer Lyn Stevenson, B.A.

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2007

Major Director: Arnold Stolberg, Ph.D., Professor, Department of Psychology

Minimal attention has been directed toward learning how children may influence parenting practices and styles within a divorce setting, and – more significantly – how children may influence the co-parenting practices and behaviors of divorced parents. The roles of child temperament, parenting, and their reciprocal interaction were reviewed as they relate to the development of externalizing and internalizing problems in childhood. Literature regarding the impact of divorce on the parent-child relationship was also discussed. A cluster analytic approach was utilized in order to identify three

groups of individuals with internalizing, externalizing, and adaptive characteristics.

Parenting features were then evaluated across both intact and divorced family settings to explore for any influence of the child and the environmental demands on parenting. Only one significant interaction was revealed between marital status and child characteristics in relation to maternal discipline. Significant findings were discussed within light of prior literature.



## Introduction

A child's developmental progress is substantially influenced by parenting practices and styles, but is in turn influenced by the child's innate temperament and his or her responses to the parents. Research has long focused on the former developmental pathway, emphasizing the direct effect of parenting on a child's development (Baumrind, 1991; Finkenauer, 2005; Spera, 2005). Fortunately, research is now beginning to consider the complex bi-directional influence that child characteristics have on parenting (Collins, Maccoby, Steinberg, Hetherington, and Bornstein, 2003; Lengua & Kovacs, 2005; Maccoby & Martin, 1983; Morris, Silk, Steinberg, Sessa, Avenevoli, & Essex, 2002). Specifically, transactional models that emphasize the mutual influence of parenting and child characteristics are increasingly implicated as crucial to understanding the development of psychological and behavioral problems in children (Brody, Flor, Hollett-Wright, & McCoy, 1998; Lengua & Kovacs, 2005). As such, research concerning the development and maintenance of internalizing and externalizing problems in early-to-middle childhood must consider specific parenting practices, styles, and dimensions, as well as the specific demands the child places upon these parenting features.

Within this framework, it is also important to recognize that the parent-child relationship does not operate within a closed system, but is influenced by many variables external to the relationship. Research has indicated that even minor, temporary external stressors (i.e. parental preoccupation with a cognitive task) can negatively affect the quality of the parent-child interaction (Zussman, 1980, as cited in

Maccoby & Martin, 1983). As such, one may expect that more significant, chronic, and/or permanent external stressors may impair the child-parent relationship, thereby creating a developmental risk for later internalizing and externalizing difficulties.

It may be useful to imagine a comprehensive model incorporating child temperament, parenting characteristics, and external stressors and/or supports as they relate to overall child adjustment. Such a model would consider the bidirectional interaction between child temperament and parenting, each affecting and changing the other continuously over time. At the same time, any stressors or available supports external to the parent-child relationship will also undeniably affect both child and parent, thereby moderating the parent-child relationship. These interactions will then act in concert, each moderating aspects of the overall parent-child relationship, to either ultimately impinge upon and/or foster levels of child adjustment and parenting style. This model would then emphasize the importance of examining each level of influence at play: child temperament, parenting features, and external stressors and/or supports.

The occurrence of a divorce causes major stress upon all individuals within the family unit. Divorce has been associated with increased levels of externalizing and internalizing disorders/problem behaviors in children, as well as problematic parent-child relationships (Amato & Cheadle, 2005; Cohen & Finzi-Dottan, 2005; DeGarmo & Forgatch, 2005; Doherty & Beaton, 2004; Feinberg, 2003; Garber, 2004; Garon, Donner, & Peacock, 2000; Katz & Woodin, 2002; Macie & Stolberg, 2003; Wood, Repetti, & Roesch, 2004; Ruschena, Prior, Sanson, & Smart, 2005). Parents, of course, are also negatively affected by the occurrence of divorce, and research has suggested

that their ability to parent effectively is also negatively impacted (Hetherington, Bridges, & Insabella, 1998). The stress that divorce places on adults indirectly affects their capacity to parent, as the now-single parent is often faced with multiple demands, but fewer resources (i.e. new/more jobs to make ends meet, dealing with household responsibilities as a single-parent, decreased social support, and/or potentially increased emotional and legal conflict with the co-parent) (Wood, Repetti, & Roesch, 2004). Unfortunately, this often results in a parent who is suddenly physically and/or emotionally absent from their child's life. Keeping in mind the bi-directional nature of the parent-child relationship, researchers must seek to understand the manner in which child characteristics influence (co)parenting practices and styles, while simultaneously examining the changes in both parenting and child psychosocial adjustment brought about by divorce. Doing so will greatly inform current developmental literature, as well as assist in the application of clinical interventions within this population.

#### *The Role of Child Temperament*

Children's temperament is one of the more critical concepts when considering the bi-directional influences of the child on the parent(s) (Lengua & Kovacs, 2005). Temperament has been conceptualized as "a set of individual differences in the way children regulate experience" (Sameroff & MacKenzie, 2003, p. 616), and is generally viewed as "the physiological basis for the affective arousal, expression, and regulation components of personality" (Lengua & Kovacs, 2005, p. 22). As such, a child's temperament will influence how he or she perceives parenting practices and how he or she reacts to various aspects of parenting. Typically, temperament refers to "that

portion of a designated behavioral characteristic that is controlled by genetic (or at least congenital) factors” (Maccoby & Martin, 1983, p. 62); although it is impossible to assess to what degree temperament is purely innate to the child (i.e. genetic) versus the accumulation of multiple life experiences and events. Although temperament has generally been shown to be relatively stable across time, there is evidence that temperament can, and does, change (Collins et al., 2000). Research has shown that neonatal activity levels predicted temperamental style in early childhood (Korner, 1985), but research has also indicated that parenting factors, such as maternal warmth and control, are associated with longitudinal changes in child temperament (Gallagher, 2003). In essence, a child is born with a foundation with which to build upon, but the development of the final structure is potentially modifiable by experience and opportunity. Whether temperament is a product of biology, personal experience, or a combination of both, it undeniably plays a significant role in the development of any individual by influencing the perceptual experience of interpersonal relationships and by eliciting certain reactions within those relationships.

One of the most widely known theoretical models of temperament defines the construct of temperament in terms of two dimensions: reactivity and self-regulation (Rothbart, 1998). This model suggests that the arousal of positive and negative affect is the result of two independent reactive systems, and that self-regulation “includes processes that modulate reactivity, facilitating or inhibiting the affective response” (Lengua & Kovacs, 2005, p. 22). These two dimensions of temperament – the degree of positive and/or negative emotional reactivity and ability to self-regulate - have been

associated with the development of internalizing and externalizing problems in children (Lengua & Kovacs, 2005; Rothbart & Bates, 1991). Children who possess a difficult and/or irritable temperament (i.e. increased negative affect and low ability to self-regulate) have been linked to later externalizing and/or internalizing disorders (Collins et al., 2000). In a similar vein, externalizing problem behaviors have been associated with “early resistance to control, impulsivity, irritability, and distractibility”, while “early shy, inhibited, or distress-prone behaviors” have been associated with anxiety and other internalizing behaviors (Collins et al, 2000, p. 222).

Specifically, negative emotional reactivity has been commonly implicated as one of the crucial features of a ‘difficult temperament’ (Henderson, 2006; Rothbart, Ellis, & Posner, 2004). In general, negative emotionality is defined as the “level of stimulation needed to elicit a negative emotional response, such as anger, fear, or sadness” (Henderson, p. 10, 2006). Children who possess a lower threshold of reactivity, commonly characterized as having a difficult temperament, appear to be highly sensitive to the routine demands of daily life, such as the application of parental rules and expectations, and may typically react to such stimuli with strong, negative emotional outbursts (Davies & Windle, 2001). This would suggest that an intrusion of increased external stressors in the child’s life, such as a parents’ divorce, would create increasingly strong, negative affective responses (i.e. fear, anger, and/or sadness) in children of difficult temperaments.

Longitudinal studies have indicated that measures of personality and behavioral style taken during the early childhood years are often more significantly related to

psychological functioning during young adulthood (Caspi, Harrington, Milne, Amell, Theodore, & Moffit, 2003; Chess & Thomas, 1990; Shiner, 2005; Steinberg, 1985). As child temperament may be viewed as relatively stable over time and across situations, it is logical to consider the manner in which child temperament and adult personality are related. Typically, adult personality is viewed as emerging later than temperament, and is generally thought to be comprised of a wider range of individual differences (Shiner, 2005). However, while these two constructs are sometimes viewed as rather distinct, the literature is beginning to suggest that “temperament traits have much in common with adult personality traits” (Shiner, 2005, p. 203). Both temperament and adult personality are influenced by genetic factors and environmental experiences. Furthermore, many traits from both temperament and personality can be characterized by specific habitual positive and negative emotions (Caspi, et al., 2003; Shiner, 2005). In a longitudinal study spanning 23 years (from ages 3 to 26), researchers revealed significant evidence that “children’s early emerging behavior styles can foretell their characteristic behaviors, thoughts, and feelings as adults” (Caspi, et al., 2003, p. 495), suggesting that the foundations of adult personality exist within the early years of life.

### *The Role of Parents*

While the function of child temperament has become a hot topic in developmental literature, one must also give recognition to the vast amount of research positing the substantial effects of parenting on child characteristics and developmental outcome. A lack of appropriate parental and family support has been found to relate to increased levels of anxiety (White, Bruce, Farrell, & Kliwer, 1998), depression

(Johnson and Kliewer, 1999), externalizing problems (McCarty, Zimmerman, Diguseppe, and Christakis, 2005; Wasserman, Miller, Pinner, & Jaramillo, 1996), juvenile delinquency (Gorman-Smith, Henry, and Tolan, 2004), cognitive problems (Skowron, 2005), and an increased level of difficulty coping with environmental stressors (Duncan, 1996). In contrast, children who experience high levels of emotional warmth, support, supervision/involvement, and open communication from their parents appear to have more positive developmental outcomes (Baumrind, 1991; Cusinato, 1998; Devore & Ginsburg, 2005; Gorman-Smith, Tolan, Henry, & Florsheim, 2000; Kliewer, Fearnow, & Miller, 1996), even when external risk factors threaten to undermine a child's development (Cleveland, Gibbons, Gerrard, Pomery, & Brody, 2005; Gorman-Smith, Henry, & Tolan, 2004; Wallen & Rubin, 1997; Yoshikawa, 1994). Parenting practices and styles have long been proclaimed as playing a crucial role, whether protective or detrimental, in the developmental outcomes of children.

Parenting as a construct can be broken down into three conceptually distinct forms: parenting styles, parenting practices, and parenting dimensions. Parenting styles are generally defined as "constellations of parental attitudes, practices, and nonverbal expressions that characterize the nature of the parent-child relationship across diverse situations" (Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997, p. 507-508). Parenting practices are generally defined as "specific, goal-directed behaviors through which parents perform their parental duties" (Darling & Steinberg, 1993, p. 488), such as spanking a child and/or implementing time-outs for disciplinary purposes. Finally, breaking down the intricate composites of parenting attitudes and beliefs found within

the styles will produce either single dimensions of parenting, such as acceptance-rejection (Rohner, 1986), or orthogonal dimensions, such as warmth-hostility and detachment-involvement (Schaefer, 1965). These three measures of parenting are naturally intertwined, but must be taken as conceptually distinct in their impacts on child outcomes. Parenting practices has immediate consequences for a child while parenting styles and dimensions tend to act as an indirect moderator of the link between parenting practices and child outcome (Brenner & Fox, 1999). Although each form of parenting will be discussed briefly here, for the purpose of the present analysis, only parenting dimensions will be considered.

Contemporary research on *parenting styles* originates from the work of Diana Baumrind, who formulated three distinct parenting archetypes: authoritative, authoritarian, and permissive. Maccoby and Martin (1983) later refined Baumrind's typologies by differentiating between two types of permissive parenting: indulgent and neglectful/uninvolved. The resulting four-fold typology that emerged from Baumrind's and Maccoby and Martin's research has been widely recognized and utilized to examine the effects of parenting on child outcome and adjustment.

In brief, *authoritative* parenting is comprised of a balance between high levels of demandingness and responsiveness. Authoritative parents are those who expect and reinforce mature behavior, foster age-appropriate autonomy, establish and firmly enforce set rules in a nonpunitive manner, closely monitor child conduct, and are warm and supportive. *Authoritarian* parents are demanding and directive, but not responsive. In general, these parents expect orders to be obeyed without explanation, provide an



orderly environment with a clear rules and regulations, and closely monitor their child's activities. *Permissive* parents are much more responsive than they are demanding, showing great lenience and self-regulation and do not expect mature behavior, choosing to avoid confrontation. Finally, *neglectful/uninvolved* parents (also known as rejecting-neglecting) are neither demanding nor responsive. These parents do not structure the child's environment, do not monitor activities, and are not supportive, but may either actively reject or passively neglect their parental responsibilities.

The importance of parenting practices has been noted in research regarding the determinants of parenting practices and their relation to the development of externalizing disorders in children (Brenner & Fox, 1999). Determinants refers to "any multiple demographic and psychological factors that have been correlated with parental behavior" (Brenner & Fox, 1999, p. 343), such as marital satisfaction and status, parenting beliefs and attitudes, history of child abuse, parental psychological status, and maternal age and education, to name a few. These determinants are not only known risk factors for externalizing disorders in children, but are also widely believed to directly predict parenting practices (Brenner & Fox, 1999). It has been suggested that these determinants affect child outcome indirectly by acting directly upon parents, thus affecting the quality of parenting practices (Davies & Windle, 2001). The implication here is that the occurrence of a divorce, a determinant, would indirectly affect a child's psychological adjustment by acting directly upon parenting practices.

In lieu of describing parenting by using specific styles, an alternative method is to take apart these typologies into their component parts (Darling & Steinberg, 1993).

Each dimension of parenting within the typology would be examined separately in terms of its affects on child outcome. This method of analysis is able to clarify which aspect of a parenting style is primarily responsible for child outcome. As is evident in the description above, factor analyses of parenting styles typically yield two important and widely accepted behavioral dimensions of parenting: demandingness and responsiveness (Baumrind, 1991; Maccoby & Martin, 1983). The dimension of demandingness is often described in terms of maturity demands, supervision, and control, while responsiveness is described in terms of warmth, support, acceptance, responsiveness, and attention to a child's special needs and demand. Research has indicated that a strong balance of demandingness and responsiveness across a child's development – as is seen with authoritarian parenting – is often the ideal method of parenting (Baumrind, 1998). Other related parenting dimensions have been suggested in the literature, including warmth, monitoring, discipline, communication, and autonomy granting (Ferrante & Stolberg, 2005). These dimensions describe the general conceptualization of parenting styles broken down into distinct components.

Strongly related to dimensions of parenting, dimensions of co-parenting are also very important when attempting to understand the parent-child relationship and its effect on child outcome. Whether two parents are married and parenting under the same roof, or divorced and parenting from two different states, co-parenting plays a crucial role in determining specific features of the parent-child relationship. Co-parenting dimensions have been clearly correlated with general parenting dimensions (Ferrante & Stolberg, 2005; Macie & Stolberg, 2002), but “focus on the interactions

between parents *about* their children rather than the parent-child relationship” (Ferrante & Stolberg, 2005, p. 10). The most notable co-parenting dimensions found within literature include conflict, cooperation and respect, communication, and triangulation. (Ferrante & Stolberg, 2005; Mullet & Stolberg, 1999)

Interparental conflict has been well-researched and is generally accepted as causing couple negativity which leads to family negativity by disrupting parental competence (Ferrante & Stolberg, 2005). High levels of interparental conflict predict poor young adult adjustment and low intimacy with parents across child gender and marital status (Crockenberg & Langrock, 2001; Ferrante & Stolberg, 2005; Kerig, 1995; Laumann-Billings & Emery, 2000; Martin & Clements, 2002). On the other hand, parental cooperation and respect create positive family interactions and have been shown to decrease maladjusted child outcomes, such as externalizing problem behaviors and predict well-adjusted children, adolescents and young adults (Ferrante & Stolberg, 2005; Schoppe, Mangelsdorf, & Frosch, 2004).

Interparental communication refers to the “frequency and way in which parents talk to each other about their children and childrearing issues” (Ferrante & Stolberg, 2005, p. 12). While parents must communicate with each other about their child regardless of marital status, maintaining high levels of effective, positive and child-focused communication becomes much more difficult in situations of divorce and/or separation. When interparental communication suffers, parents face the problem of maintaining consistent and stable rules and expectations for their child(ren).

Finally, the most recent co-parenting dimension to be introduced is triangulation, which occur "when intergenerational boundaries become blurred, transforming children into allies or pawns in interparental conflict" (Ferrante & Stolberg, 2005, p. 12). Triangulation creates confusions for children about their roles within the family unit, and also creates confusion for both parents, resulting in poor psychological adjustment in children and young adults (Ferrante & Stolberg, 2005; Fivaz-Depeursinge & Favez, 2006; Kerig, 1995; Macie & Stolberg, 2002).

The importance of parenting practices has been noted in research regarding the determinants of parenting practices and their relation to the development of externalizing disorders in children (Brenner & Fox, 1999). Determinants refers to "any multiple demographic and psychological factors that have been correlated with parental behavior" (Brenner & Fox, 1999, p. 343), such as marital satisfaction and status, parenting beliefs and attitudes, history of child abuse, parental psychological status, and maternal age and education, to name a few. These determinants are not only known risk factors for externalizing disorders in children, but are also widely believed to directly predict parenting practices (Brenner & Fox, 1999). It has been suggested that these determinants affect child outcome indirectly by acting directly upon parents, thus affecting the quality of parenting practices (Davies & Windle, 2001). The implication here is that the occurrence of a divorce, a determinant, would indirectly affect a child's psychological adjustment by acting directly upon parenting practices.

Although parenting characteristics are commonly thought to be a major influence on child development, it is important to note that any interpersonal

relationship is intrinsically a ‘give-and-take’ affair, wherein each individual is influenced by and reacts to the other individual. As such, the fundamental concepts underlying transactional theories of development indicate that parents react to child temperament in distinct ways just as children of different temperaments react differentially to similar types of parenting. The developmental literature has focused on the manner in which child temperament influences and shapes parent characteristics and the type of parenting the child receives (Collins et al., 2000; Dodge, 1990; Elgar, Curtis, McGrath, Waschbusch, & Stewart, 2003; Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004; Lengua & Kovacs, 2005; Lytton, 1990; Maccoby, 1992; Maccoby & Martin, 1983). Children with difficult temperaments have been shown to elicit “maladaptive parenting that lead to their later behavioral disturbance”, while children whose parents did not react negatively to temperamental style appeared to lack this negative developmental pathway (Thomas, Chess, & Birch, 1968; as cited in Sameroff & Mackenzie, 2003, p. 615). Furthermore, infants who exhibit increased levels of irritability and are prone to distress have been shown to evoke “hostility, criticism, a tendency to ignore the child, avoidance, coercive discipline, and a lack of playfulness in mothers” (Collins et al., 2000, p. 222). This would suggest that neither parenting nor child temperament may single-handedly explain a child’s developmental trajectory. Indeed, in order to effectively evaluate child developmental trends, researchers must examine the bi-directional influence that exists within the parent-child relationship.

*The Bi-Directional Influence of Child Temperament and Parenting*

The bi-directional impact of temperament and parenting is best demonstrated in some recent research by Morris et al. (2002) which examined the complex interplay between child temperament, parenting characteristics, and the development of internalizing and/or externalizing behavior in childhood. Using a sample of children in their first or second year of schooling, they found that “child temperament is an important moderator of the links between parenting and child psychopathology” (p. 468). Specifically, Morris et al. found that children who are typically more irritable are at much higher risk for developing externalizing problems when they experience maternal hostility, but maternal psychological control resulted in the development of internalizing problems for similarly irritable children. This finding speaks to an essential feature of the bi-directional development between parent and child, in that a child’s temperament (i.e. irritability) will react with parental factors (i.e. hostility and/or psychological control) to produce very different developmental outcomes. Furthermore, the lack of ability to self-regulate one’s emotions and behaviors was also associated with higher levels of externalizing problems in the presence of high maternal hostility, while possessing the ability to self-regulate appeared to be protective for children who experienced negative maternal parenting. In essence, it appears that parenting – even maladaptive parenting – does not always predict childhood development of emotional/behavioral problems – it depends on the child and his or her temperament style.

In one of the few longitudinal studies on the bi-directional influence of parenting and temperament in middle childhood, Lengua & Kovacs (2005) found that child

irritability predicted higher levels of inconsistent maternal discipline, while child fearfulness and positive emotionality predicted higher levels of maternal acceptance. Furthermore, greater levels of inconsistent maternal discipline predicted greater fearfulness and irritability in the child. These findings suggest that “temperament and parenting are additive in their effects on child adjustment” (Lengua & Kovacs, 2005, p. 21), emphasizing once again the bi-directional relationship between temperament and parenting. In other words, while child temperament influences parenting characteristics, specific aspects of parenting simultaneously influence and shape a child’s temperament and personality.

#### *The Effects of Divorce on Child Temperament and Parenting*

Given the trend of research supporting the bi-directional influence of parenting and temperament on children’s developmental and psychological well-being, it is likely that external stressors, such as divorce, may affect not only the parent (and his or her parenting capacity), but “may also be from child to parent, with certain child temperament traits directly contributing towards family stress as well as influencing child behavioral adjustment” (Coplan, Bowker, & Cooper, 2003, p. 378). It has been suggested that a child’s temperament may either buffer against or heighten psychological responses to external stressors, although very little research has been conducted on this topic (Coplan, Bowker, & Cooper, 2003; Rothbart & Bates, 1998). As suggested previously, children who possess “highly reactive, difficult to soothe, active, and/or inattentive” temperaments may be at higher risk and display more “extreme and reactive responses to stress” (Coplan, Bowker, & Cooper, 2003, p. 379).

Research involving the influence of stress on adult temperament suggests that children with difficult and/or irritable temperaments may be more negatively affected by stressors impinging on the parent-child relationship (Coplan, Bowker, & Cooper, 2003; Strelau, 2001). Therefore, when examining stressors that occur external to the parent-child relationship, it is important to examine both child and parental functioning – both individually and as they interact – in order to fully understand the effect such stressors have on child development and (mal)adjustment.

Divorce is a major transition for both the child and the parent, indicating it is also an added stressor to the family unit. Unfortunately, children who possess more difficult temperaments may increase levels of family stress, but may in turn be the most at risk for negative developmental consequences of family stress (Coplan, Bowker, & Cooper, 2003). An already difficult child may react increasingly irritable and demanding during the stressful event of divorce, thereby increasing the stress levels of the emotionally, physically, and/or financially-drained newly-divorced parent(s). Through the eyes of bi-directional influence, this spells trouble. In essence, the parent-child relationship is being indirectly affected by the occurrence of divorce and, in this scenario, would become increasingly negative and maladaptive.



## Statement of the Problem and Hypotheses

Although transactional theories would indicate that examining both child temperament and parenting practices, styles, and dimensions are essential to research regarding the negative affects of divorce on the parent-child relationship, little research is available on this topic. One longitudinal study found that environmental demand of a complex step-family situation was associated with more problematic parent-child relationships when compared to nonstepfamilies and simple stepfamilies (Hetherington, Henderson, & Reiss, 1999). Most recent literature has been devoted to illustrating how the parent-child relationship is negatively affected, in terms of diminished parenting abilities and children's increased distress levels to divorce (DeGarmo & Forgatch, 2005; Garber, 2004; Katz & Woodin, 2002; Wood, Repetti, & Roesch), but no research has directly addressed the parent-child relationship in divorced families within a bi-directional framework. Furthermore, little to no attention has been directed toward learning how children may influence parenting practices and styles within a divorce setting, and – more significantly – how children may influence the co-parenting practices and behaviors of divorced parents. The present study serves as an exploratory first step in uncovering the critical influences of child temperament upon the parent-child relationship within divorced and intact family settings. Using the proposed model presented here, it is likely that an external stressor, such as the occurrence of a divorce, affects the parents, the child, and the child-parent relationship, consequently impinging upon the overall quality of a child's development. Within this model, it is suggested that both the occurrence of a divorce and child characteristics affect parenting behavior.

It is also proposed that both the occurrence of a divorce and child characteristics may influence a parent's ability to co-parent effectively with one another. The present study aims to explore the manner by which parenting is influenced by environmental demands (e.g., occurrence of a divorce), offspring characteristics, and the potential interaction of both environment and child.

Furthermore, as suggested earlier, child temperament has been shown to remain relatively stable across time and situations (Caspi, Harrington, Milne, Amell, Theodore, & Moffit, 2003; Chess & Thomas, 1990; Shiner, 2005; Steinberg, 1985), suggesting that the personality of a young adult finds its origins in child temperament. As such, although the data set used in the present study lacks childhood measures of temperament, several measures of the overall behavioral and emotional adjustment of young adults will be used to represent characteristics are likely associated with childhood temperament. These measures will be used to differentiate individuals who were likely to have easy or difficult temperamental features as children. In essence, while this study is unable to directly examine child temperament as it affects the parent-child relationship, the theorized link between child temperament and young adult personality allows an exploratory analysis that may provide topics for future research in this area.

In utilizing this data set, it is hypothesized that we may differentiate between typical parenting features of young adults who experienced the external stressor of divorce and for those who did not. In doing so, it may be possible to capture and

compare respective pictures of the parent-child relationship within both divorced and intact family environments.

## Method

### *Participants*

Participants were 389 undergraduate students at Virginia Commonwealth University, a large state university in the mid-Atlantic region. Subjects eighteen years and older were recruited via undergraduate introductory psychology courses and received course credit for their participation. Aside from age, no eligibility criteria were in place for recruitment; however, participants will be eliminated from analyses if they were over 30 years old ( $n=14$ ) at the time of the study. Only participants between the ages of 18 and 30 will be considered young adults. As this study will focus solely on the context of divorce compared to intact marriage, subjects also will be excluded from analyses if they reported that their parents had never been married ( $n=31$ ). 342 surveys, 88% of study completers, will be included for statistical analyses. Those who reported that their parents were separated will be grouped together with those reporting divorce for all analyses that include marital status as a variable.

Preliminary analyses have revealed an average participant age of 19.8 years ( $sd = 2.5$ ) within the sample. Ninety percent of subjects were within the traditional college age range, 22 years old or younger. 34.7% of participants were male and 65.3% were female. Subjects were 64.8% Caucasian, 22.3% African-American, and 4.6% Asian. Seven percent reported a racial affiliation other than the three categories mentioned and four participants did not report a racial affiliation. Of the participants whose parents were divorced, 72.9% reported that their mother was their primary caretaker and 18.7% reported that their father was their primary caretaker.

### *Procedure*

Data used in this study were originally collected in fulfillment of a doctoral dissertation, which examined the effects of parental divorce on long-term young adult adjustment. The original study's design separated young adults into two groups by parent's marital status, married and divorced/separated, and compared young adults on several measures of adjustment (Macie, 2002).

Questionnaire packets were distributed to students enrolled in undergraduate introductory psychology courses. All students in these courses were eligible to participate. Completion of this study was an option students could select to fulfill a course requirement for research participation. An alternative to research participation was offered in the form of a short paper. Approximately 475 surveys were distributed and 389 were returned, producing a pre-attrition rate of 82%.

Students provided consent by signing an informed consent form that was attached to the assessment battery. As data were collected, this consent form was immediately removed from the questionnaire packet and was kept in a separate file to ensure anonymity. These consent forms were used by the researcher to appropriately grant course credit to study participants. Names and other identifying information were not recorded on the actual questionnaires and were therefore rendered untraceable.

Data were obtained via questionnaires that tapped a broad range of adjustment factors along with a variety of parenting behaviors from the young adult's perspective. All co-parenting and parenting behaviors were measured by the retrospective report of

young adult participants; subjects were asked to think back to their childhood to respond to these items.

### *Measures*

Each participant completed a battery of self-report questionnaires, which included the following:

(1) *The Co-parenting Behavior Questionnaire (CBQ)*. (Mullet & Stolberg, 1999; Schum & Stolberg, 2003). The CBQ is an 86-item instrument designed to assess the co-parenting interactions and parenting behaviors of divorced parents from the viewpoint of the child. This measure targets children between the ages of 10 and 17 and asks them to reflect the behavior of their parents in the past three months. The CBQ contains 12 scales, indicating Parental Conflict, Co-parental Communication, Triangulation, Co-parental Cooperation, and each of the following parenting skills for both the mother and the father: Discipline, Monitoring, Parent-Child Communication, and Warmth. The 12 scales have good internal consistency, with alpha coefficients reported between .82 and .93. These scales also were demonstrated to have good predictive validity when correlated with measures of child behavior problems and self-esteem.

For the purpose of this study, the items of the CBQ were worded in the past tense and participants were asked to answer based on their memory of their childhood experiences. Therefore, the CBQs administered within this study reflect *perceived* co-parenting and parenting behaviors and are increasingly vulnerable to memory biases. The CBQ was administered to all participants, whether their parents were divorced or

married. 8 items do not apply to children from intact families (e.g., “My parents fought about where I should live”). Young adults from intact families were either given an alternative similar item to which they could respond (e.g., “My parents fought about matters involving me”) or asked to skip them. Skipped items were prorated via mean substitution in order to calculate complete CBQ scores for participants from intact families.

(2) *Brief Symptom Inventory (BSI)*. (Derogatis & Spencer, 1982). The BSI is a 53-item inventory of global psychological symptoms, developed from its longer parent instrument the SCL-90-R. When scored, it yields three global indices: Global Severity Index (GSI), Positive Symptom Total, and Positive Symptom Distress Index. The BSI also yields nine subscale scores for different symptom dimensions. Test-retest reliability coefficients range from .68 to .91. Studies of the BSI have demonstrated good internal consistency and adequate validity (Derogatis, Rickels, & Rock, 1976). For the purpose of comparing groups within this study on this measure, a simple sum score will be calculated to indicate the total endorsement of symptoms.

(3) *Fear of Intimacy Scale (FIS)*. (Descutner & Thelen, 1991). The FIS is a 35-item instrument designed for adults to measure fear of intimacy with significant others. In the development of this instrument, intimacy was defined as the exchange of personal thoughts and feelings with another individual who is highly valued. The mean score for a college-aged sample (mean age = 19.1) has been reported as 78.75 (SD = 21.82). The FIS has an alpha of .93, indicating excellent internal consistency, and a test-retest correlation of .89 over one month. Construct validity has been demonstrated by

positive correlations with the USCL Loneliness Scale and negative correlations with the Jourard Self-Disclosure Questionnaire, Miller Social Intimacy Scale, and Need for Cognition.

(4) *The Achieving Tendency Scale*. (Mehrabian, 1998). The Achieving Tendency Scale is a 3-item measure of motivation to achieve. Individuals respond to items on a 9-point Likert scale indicating agreement-disagreement. The scale has good validity, demonstrated by correlations with levels of performance in simulated work situations, school performance, occupational commitment, and overall life success.

(5) *The Occupational Work Ethic Inventory (OWEI)*. (Hill & Petty, 1995). The OWEI is a 50-item questionnaire consisting of adjectives which respondents rate based on the stem "At work I can describe myself as". Responses are given on a 7-point Likert scale ranging from *Never* to *Always*. The alpha coefficient for this scale has ranged from .90 to .95 in previous use. The items represent key concepts identified in previous research on work ethic and work attitude. Factor analysis has indicated 4 factors: Interpersonal skills, Initiative, Being Dependable, and Reversed items.

(6) *The Young Adult Self Report (YASR)*. (Achenbach, 1997). This instrument is a part of the Achenbach Empirically Based System of Assessment and is used for young adults aged 18 to 30. The instrument obtains self-ratings of behavioral/emotional problems that are reflected in two broad scales (Internalizing and Externalizing) and 8 syndrome scales. Content validity, criterion-related validity, and construct validity have been demonstrated (Achenbach, 1997).



Only the Delinquency syndrome scale was used in this study to measure the relative acting-out and rule-breaking behavior of young adults. For the purpose of group comparison, a simple sum of item values was calculated to reflect the total endorsement of items on this measure.

(7) *Rosenberg Self Esteem Scale*. (Rosenberg, 195). This instrument consists of 10 items rated on a 5-point Likert scale that are tabulated to reflect the individual's sense of self-worth. The original instrument used a Guttman rating, but further research was conducted with the Likert scaling. Within a college sample, mean scores of 36.5 have been found for women and 38.0 for men. Extensive and acceptable reliability (internal consistency and test-retest) and validity (convergent and discriminant) information exists for the Rosenberg Self-Esteem Scale (Blascovich & Tomaka, 1991)

(8) *Paternal Involvement Scale*. (van Schiack & Stolberg, 2001). This scale assesses the level of father involvement with the child via 30 items taken from the "Care" subscale of the Parental Bonding Instrument (Parker, Tupling, & Brown, 1979) and the "Involvement" scale by Ahrons (1983). It uses a 5-point Likert scale format to assess the level of engagement, responsibility, and availability of the father. Ahrons' scale has an alpha coefficient of .87 when fathers rated their own involvement in their child's lives. The subscale of the Parental Bonding Instrument that was used has a split-half reliability of .88 and an inter-rater reliability of .77. The combination scale, used in a study by van Schaick & Stolberg (2001), was reworded to reflect the young adult's perception of father involvement in childhood and has an alpha coefficient of .97. van Schaick and Stolberg found that the scale is most useful when summed to one factor.

(9) *Informational Questionnaire*. (Macie & Stolberg, 2002). Participants also completed a questionnaire indicating demographic characteristics, family status variables, relationship variables, financial responsibility, and work responsibility. This questionnaire was written for the original dissertation study as a means of collecting certain necessary information that was not captured by other measures in battery.

## Statistical Analysis

A cluster-analytic approach was chosen to group the data assessed on young adult characteristics. This approach identifies and describes groups of individual cases by their similarities along multiple dimensions of interest, ultimately producing groups that maximize within-group similarity and minimize between-group similarity (Henry, Tolan, & Gorman-Smith, 2005). In other words, it is a useful approach which allows for the study of profiles of persons in contrast to the use of sample averages and variable main effects. (Thyrian, Hannover, Roske, Rumpf, John, & Hapke, 2005, p. 1789).

The six variables employed in the cluster analysis were the four subscale scores for different symptom dimensions on the BSI (e.g., Anxiety, Depression, Somatization, and Hostility), the Delinquency subscale score from the YASR, and the endorsement of legal problems on the Informational Questionnaire. It was expected that a cluster analysis of these variables would result in three subsets of individuals: those with internalizing features, those with externalizing features, and those who exhibit no extreme levels of either internalizing or externalizing characteristics.

In order to examine whether parenting and/or co-parenting features are significantly different for these subtypes across marital status, a multivariate analysis of covariance (MANCOVA) was used. The variable *time since divorce/separation* was added as a covariate, as it has been shown that the quality of parenting after a divorce is significantly affected by time passed (Kelly, 2003). Post-hoc tests were used to explore any significant differences.

Independent variables were operationalized in the following manner:

- Environmental or Circumstantial demands on parenting
  - Marital status: Divorced/Separated vs. Married (Informational Questionnaire)
  - Demands on parenting resulting from the child's temperament or adjustive characteristics (groups to be determined through cluster analysis)

Dependent variables were operationalized in the following manner:

- Perceived parenting skills during childhood (4 scales each for mother and father on Co-Parenting Behavior Questionnaire: Discipline, Monitoring, Warmth, and Parent-Child Communication)
- Perceived co-parenting skills during childhood (4 scales on Co-parenting Behavior Questionnaire: Conflict, Cooperation/Respect, Triangulation, and Communication)

Measures were selected from the original battery as they related to parenting styles, behaviors, and dimensions and to young adult character features commonly associated with easy or difficult childhood temperament.

## Methodological Considerations

When examining the trend and development of a relationship between two individuals, it is crucial for researchers to recognize that “not only must they trace the direction and influence between partners, but they must also attempt to distinguish between the influence of a partner and the momentum of the individual’s own autonomous behavioral cycles” (Maccoby & Martin, 1983, p. 22-23). In other words, within any interaction each individual reacts to the other as well as in concert with his or her own personality, or temperament, style. An individual will also utilize previous experience they have garnered to inform their reactions, either maintaining or changing their response style to the other individual. As such, parent-child interactions will continually develop and change over time, indicating potential methodological concerns for researchers attempting to describe and understand bi-directional influence between the child and parent. Fundamentally, these methodological issues become a problem of ascertaining how much variance in a person’s behavior can be explained by the characteristics and/or temperament unique to the individual, and how much can be explained by the characteristics and/or influence of the *other* individual.

Longitudinal analysis of both parent and child behaviors and characteristics measured at various time intervals (known as a *panel design*) is an ideal option when attempting to understand the mechanics of a relationship in research. (Maccoby & Martin, 1983). Panel design models allow for the inclusion of “both prior self scores and prior partner scores in longitudinal research” (p. 24). These data may then be used with multiple regressions to partial out the influences of an individual’s unique

temperamental style while searching for the influences of the other individual within the relationship. In this way, the bi-directional influence between parents and children may be revealed in more minute detail as they relate to child outcome.

Unfortunately, when examining a 'snap-shot' picture of the parent-child relationship, the ability to examine unique bi-directional effects is severely diminished. The present study is therefore limited in its scope of causal attribution within the parent-child relationship and child outcome. Within a 'snap-shot' analysis, there is no indication of prior levels of parenting ability and/or child psychological adjustment before the occurrence of a divorce. As such, the present study may assume that the bi-directional influence of parent(s) and child is in action, but the lack of longitudinal data entails a cautious interpretation of results.

Furthermore, the use of young adult participants must be considered a methodological weakness of this study. While it is proposed that child temperament is highly associated with adult personality, and therefore utilizing young adult participants may still allow some inference regarding the parent-child relationship, a cautious interpretation of results is required. In future studies, it will be necessary to focus on parents of children who are currently experiencing the occurrence of a divorce, rather than relying on the recollection of young adults. In addition, ascertaining current measures of child temperament (ideally within a panel design model) will be beneficial to future research within this field.

## Results

### *Cluster Identification*

A two-step cluster analysis procedure was used to group individuals according to similarities across measures of anxiety, depression, somatization, hostility, delinquency, and legal problems using SPSS statistical software version 13.0. First, a hierarchical cluster analysis was applied using Ward's linkage, with the Euclidian distance as the proximity measure. Because response formats differed across the six variables, scores for each measure were transformed into z-scores prior to conducting the cluster analyses. In the full sample, examination of the dendrogram and changes in the agglomeration index indicated two to five possible clusters. To identify reliable clusters, derivation and cross-validation samples were formed by randomly splitting the data in half and a hierarchical cluster analysis was run on each subsample. The initial selection of potential cluster solutions was based on the visual inspection of the dendrogram, examination of incremental changes in the agglomeration index for each sub-sample, and the coherence and degree of replicability of clusters across sub-samples (Crockett, Moilanen, Raffaelli, & Randell, 2006).

In both the full sample and the sub-samples, examination of the dendrogram and changes in the agglomeration index indicated two to five possible clusters. However, the composition of the four- and five-cluster solution was not stable across sub-samples, resulting in different cluster profiles for each sub-sample. In contrast, the two- and three-cluster solution yielded consistent clusters across sub-samples. ANOVAs revealed that the two-cluster solution included one group of individuals with

significantly higher scores on depression, anxiety, somatization, and hostility ( $N = 52$ ; 15.2%) and another group with significantly lower scores on these same variables ( $N = 271$ ; 79.2%). However, no significant differences were revealed across the two groups based on the delinquency and law-breaking behavior (See Table 1). In contrast, the three-cluster solution differentiated the groups across all study variables. This solution included one cluster of individuals with lower scores across all measures ( $N = 224$ ; 65.5%). Another cluster of individuals emerged with higher scores on all internalizing symptoms (i.e., depression, anxiety, and somatization) and hostility and lower scores for delinquency and law-breaking behavior ( $N = 45$ ; 13.2%). Finally, a third group of individuals were identified with higher scores on the externalizing features (i.e., delinquency and law-breaking behavior) as compared to the other groups, moderate levels of hostility, and lower levels of internalizing symptoms ( $N = 53$ ; 15.5%). The summary of ANOVA results differentiating individuals between the three clusters on the chosen variables within the full sample are presented in Table 2. As the table demonstrates, the ANOVAs reveal significant differences between the mean levels of depression, anxiety, somatization, hostility, delinquency, and the presence of legal problems for each cluster of individuals.



Table 1 *Hierarchical Analysis Cluster Solution and ANOVA Results for Two-Cluster Solution in Full Sample*

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Depression			252.87	< .001
Cluster 1	1.51	1.03		
Cluster 2	-.29	.68		
Anxiety			223.56	< .001
Cluster 1	1.46	1.15		
Cluster 2	-.28	.67		
Somatization			240.21	< .001
Cluster 1	1.50	1.21		
Cluster 2	-.29	.64		
Hostility			285.57	< .001
Cluster 1	1.56	.95		
Cluster 2	-.30	.68		
Delinquency			.44	<i>ns</i>
Cluster 1	.08	1.09		
Cluster 2	-.01	.98		
Legal Problems			1.49	<i>ns</i>
Cluster 1	-.15	.83		
Cluster 2	.03	1.03		

Table 2 *Hierarchical Analysis Cluster Solution and ANOVA Results for Three-Cluster Solution in Full Sample*

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Depression			145.73	< .001
Internalizing	1.74	.97		
Adjusted	-.29	.73		
Externalizing	-.13	.61		
Anxiety			96.19	< .001
Internalizing	1.50	1.19		
Adjusted	-.29	.73		
Externalizing	-.08	.62		
Somatization			69.18	< .001
Internalizing	1.37	1.23		
Adjusted	-.21	.77		
Externalizing	-.20	.68		
Hostility			177.22	< .001
Internalizing	1.76	.82		
Adjusted	-.37	.61		
Externalizing	.08	.87		
Delinquency			407.56	< .001
Internalizing	0.17	1.17		
Adjusted	-.46	.00		

Table (continued)

Externalizing	1.87	.79		
Legal Problems			86.10	< .001
Internalizing	-.17	.83		
Adjusted	-.27	.69		
Externalizing	1.34	1.19		

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Thus, the three-cluster solution was chosen for further analysis as it was replicated across the two sub-samples and provided the best profile of three distinct groups defined by all six variables.

An iterative *k*-means cluster analysis with a three cluster solution specified was then run as a cross-check on the hierarchical cluster analyses. The cluster centers generated from the hierarchical cluster analysis were used as the initial cluster centers for this analysis. This analysis resulted in very similar cluster profiles with ANOVAs revealing one group of individuals with lower scores for all variables ( $N = 214$ ; 62.6%), one group with higher scores on internalizing behavior and hostility and low scores on externalizing behavior ( $N = 63$ ; 18.4%), and a final group with higher scores on externalizing behavior, moderate levels of hostility, and low levels of internalizing behavior ( $N = 46$ ; 13.4%) (see Table 2). Kappa coefficients were calculated to compare whether the percentage of agreement between cluster memberships for the Ward's hierarchical linkage and the K-mean analysis were great than would be expected by

chance. Values ranged from .82 to .84, representing very good agreement between cluster memberships.

Table 3

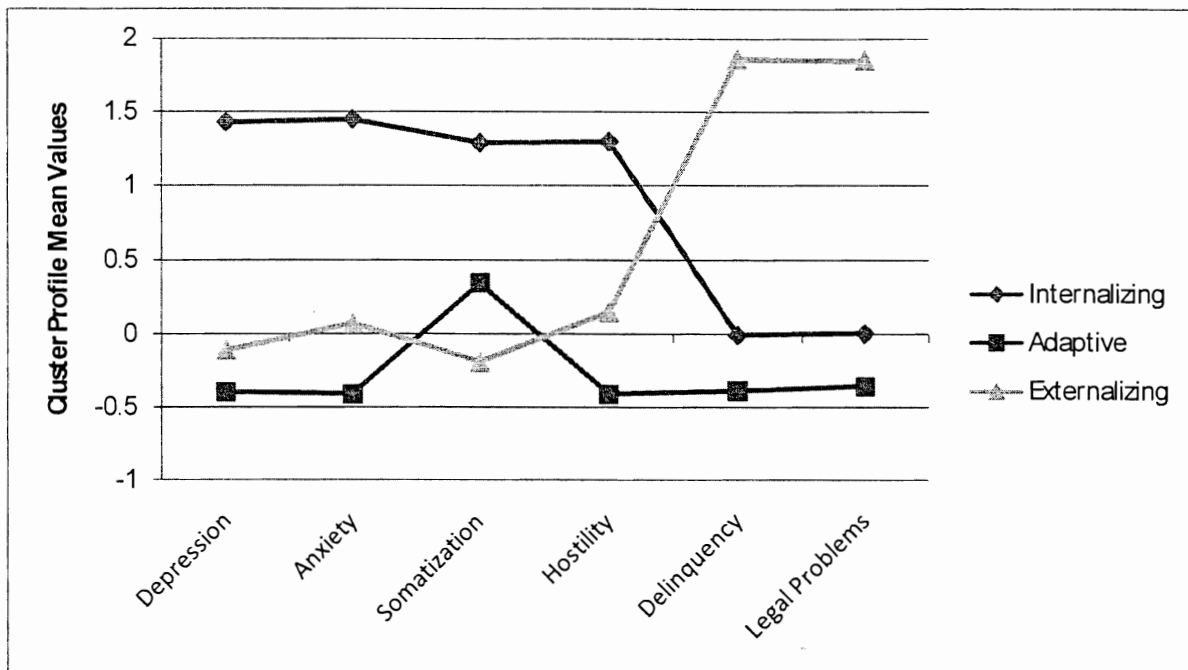
*K-Means Cluster Profiles and ANOVA Results*

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Depression			164.67	< .001
Internalizing	1.43	1.02		
Adaptive	-.39	.60		
Externalizing	-.11	.60		
Anxiety			178.00	< .001
Internalizing	1.45	1.02		
Adaptive	-.41	.57		
Externalizing	-.07	.67		
Somatization			110.78	< .001
Internalizing	1.29	1.19		
Adaptive	-.34	.61		
Externalizing	-.19	.70		
Hostility			129.80	< .001
Internalizing	1.30	1.04		
Adaptive	-.41	.59		
Externalizing	.15	.90		
Delinquency			241.32	< .001

Table (continued)

Internalizing	0.01	.96		
Adaptive	-.40	.36		
Externalizing	1.86	.98		
Legal Problems			216.81	< .001
Internalizing	-.14	.75		
Adaptive	-.36	.57		
Externalizing	1.85	.86		

The cluster profiles for this final solution are presented in Figure 1. As is illustrated, the internalizing cluster consist of high levels of depression, anxiety, somatization, and hostility, while exhibiting low levels of delinquency and legal problems. Conversely, the externalizing cluster shows low levels of depression, anxiety, and somatization, a moderate level of hostility, and high levels of delinquency and legal problems. In comparison, the adaptive group possesses low scores on all variables. Although the visual depiction of these cluster centers may suggest that the externalizing cluster is significantly higher on somatization levels than the adaptive cluster, an ANOVA revealed no significant difference for this variable between the two groups. The cluster membership variable used in subsequent analyses was based on this solution.



*Figure 1.* Cluster profile means across all variables entered into the cluster analysis reveal three distinct cluster profiles: an internalizing group of individuals with high levels of depression, anxiety, somatization and hostility and low levels of delinquency and legal problems, an adaptive group of individuals with lower levels on all variables, and an externalizing group of individuals with low levels of depression, anxiety, and somatization, moderate levels of hostility, and high levels of delinquency and legal problems.

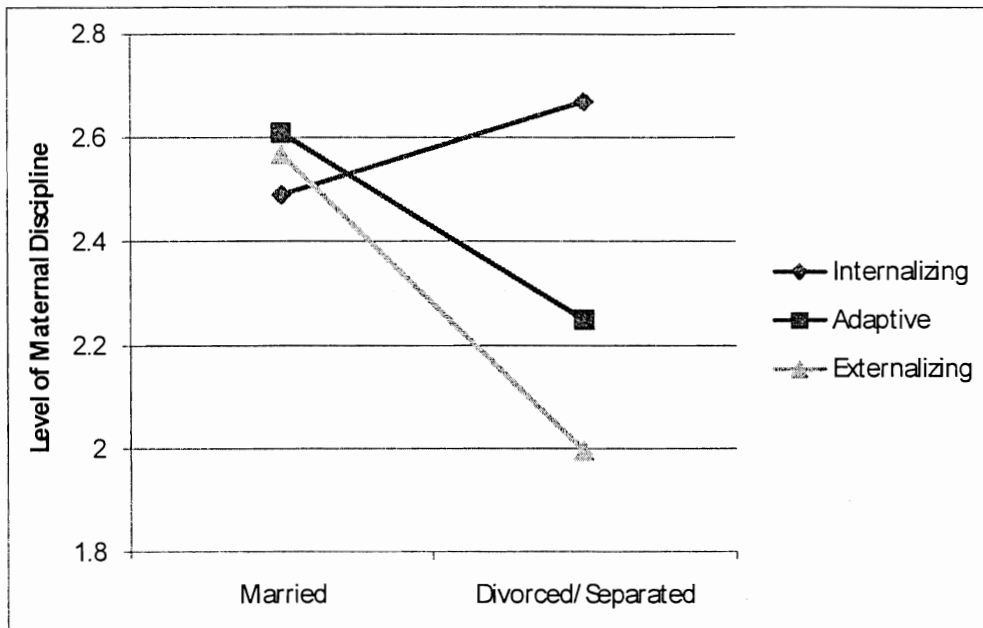
In summary, as was hoped, it was possible to break the sample into three groups consisting of individuals with internalizing features associated with difficult temperaments, a group consisting of individuals with externalizing features associated with difficult temperaments, and a group consisting of individuals with adaptive features (and lacking psychological/behavioral problems) associated with easy temperaments.

In order to examine whether the stressor of a divorce interacts with the demands of the child's characteristics to affect parenting and coparenting behaviors, multivariate Analysis of Covariance (MANCOVA) were used to evaluate for any group differences across intact and separated/divorced families in the areas of parenting and coparenting. The amount of time that had passed since the parents' separation was controlled for as it has been shown that the quality of parenting after a divorce is significantly affected by time passed (Kelly, 2003). The marital status (married and divorced/separated) of the parents and the cluster identification of the participant were included as independent variables. The variables related to characteristics of parenting and coparenting were then broken down and entered into the model. Significant results were further analyzed using simple main effects analysis with least significant difference (LSD) corrections. Significance level was set at  $p < 0.05$ .

The MANCOVAs revealed one interaction effect between environmental demands of a divorce and child demands on parenting. Not surprisingly, several main effects of marital status on parenting and co-parenting behaviors. Specifically, there was a significant interaction revealed for marital status and child characteristics for

maternal discipline and maternal monitoring ( $F_{4,608} = 2.79, p < .05$ ). Univariate analysis of these two outcome measures revealed a significant interaction effect for only maternal discipline,  $F_{2,304} = 5.67, p < .01$ . Simple main effects analyses revealed that the internalizing cluster experienced significantly higher levels of maternal discipline than those within the externalizing cluster when considering both intact and divorced families. The simple main effects analyses revealed no significant differences between levels of maternal discipline for those within the adaptive cluster in comparison to the internalizers and externalizers. When looking at intact families alone, post hoc analyses revealed no significant differences among the three cluster groups, however within divorced/separated families, the internalizing cluster was significantly different from both the externalizing and adaptive clusters; no significant differences were found between the adaptive and externalizing clusters. A graph depicting the interaction between marital status and cluster membership for maternal discipline is provided in Figure 2.





*Figure 2.* The interaction between environmental stressor (marital status of parents) and child characteristics (cluster membership of child) reveals that maternal discipline is significantly higher for internalizing children from divorced/separated families. Visual analysis of the interaction suggests that levels of maternal discipline are lower for externalizing and adaptive children in divorced/separated families but are higher for internalizing children in similar family settings.

Furthermore, the cluster membership of the child (e.g. internalizing, externalizing, or adaptive) had a significant main effect on maternal monitoring ( $F_{2,304} = 4.16, p < .01$ ), with levels of maternal monitoring significantly higher for internalizing and adaptive individuals in comparison to externalizers.

While not speaking to the impact of child and/or environmental demand upon the parent, significant main effects revealed that levels of paternal warmth and communication was significantly higher for those in intact families ( $F_{2,303} = 8.04, p < .001$ ) and paternal discipline and monitoring was significantly lower for divorced fathers ( $F_{2,304} = 3.21, p < .05$ ). Levels of co-parent respect and communication was significantly lower for divorced/separated parents ( $F_{4,608} = 5.19, p < .01$ ), while co-parent conflict and triangulation was significantly higher ( $F_{4,608} = 11, p < .001$ ).

## Discussion

The purpose of this study was to examine the relationship between child personality characteristics and the environment as it affects parenting and co-parenting features. Building on previous theory of the bi-directional influence of child characteristics (e.g., difficult/easy temperaments) on parenting (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2003; Lengua & Kovacs, 2005; Maccoby & Martin, 1983; Morris, Silk, Steinberg, Sessa, Avenevoli & Essex, 2002.), it was possible to identify three groups of young adults with distinct configurations of adaptive styles (e.g. internalizing features, externalizing features, and ‘healthy’ features). The results of the cluster analysis support the presence of identifiable groups of young adults with distinct psychological profiles related to ‘easy’ and ‘difficult’ patterns of child adjustive characteristics. Based on previous research suggesting that child temperament remains stable across time and is related to later personality in adulthood (Caspi, Harrington, Milne, Amell, Theodore, & Moffit, 2003; Chess & Thomas, 1990; Korner, 1985; Shiner, 2005, Steinberg, 1985), it is reasonable to assume that these profiles of young adult characteristics likely have been fairly consistent since childhood.

In recognition of the importance of the environment in any model of human development, the present study also focused on the occurrence of a divorce and/or separation of the parental units, which without doubt places a great deal of external stress on the family unit as a whole. As discussed within the literature, divorce has been associated with increased levels of externalizing and internalizing disorders/problem behaviors in children, as well as problematic parent-child relationships (Amato &

Cheadle, 2005; Cohen & Finzi-Dottan, 2005, DeGarmo & Forgatch, 2005; Doherty & beaton, 2004; Feinberg, 2003; Garber, 2004; Garon, Donner, & Peacock, 2000; Katz & Woodin, 2002; Macie & Stolberg, 2003; Wood, Repetti, & Roesch, 2004; Ruschena et al., 2005). The present study sought to examine whether there are interactions between child characteristics and a chronic external stressor within the environment, such as divorce, which may impact the quality of parenting and co-parenting.

For levels of maternal discipline an interaction between child characteristics and marital status was revealed, suggesting that a bi-directional relationship between child and parent does indeed exist for some measures of parenting. Specifically, within intact families there were no significant differences found between the three clusters of individuals for levels of maternal discipline. In contrast, within divorced/separated families, internalizing individuals were revealed to experience significantly higher levels of maternal discipline in comparison to adaptive and externalizing children.

Although the finding that externalizing children experience lower levels of maternal discipline than do internalizing children within divorced/separated families could be considered surprising, it may be useful to consider previous literature that suggests a process in which an “aggressive child’s coercive behavior is reinforced through repeated instances of nattering on the part of the parent, opposition from the child and the eventual capitulation of the parent” (Hollenstein, Granic, Stoolmiller, & Snyder, 2004, p. 596). In this way, externalizing behavior of the child is negatively reinforced, as this type of behavior may be instrumental in terminating ‘unpleasant’ intrusions of disciplinary efforts of the parent(s) (Patterson, 1982; Patterson,

DeBaryshe, & Ramsey, 1989; Snyder & Patterson, 1986). In light of the present results, it may then be argued that parents who are experiencing the external stressor of a divorce may be even more likely to avoid unpleasant interactions with their externalizing child. In contrast, it is possible to argue that stressed-out parents may, in effect, over-discipline more internalizing children who do not display aversive, externalizing types of behaviors within parent-child interactions. Indeed, consistent with the hypothesis that a child's response to their parents' discipline may serve to punish a parent's efforts (thus causing the parent to seek avoidance of future disciplinary interactions), an internalizing child's compliance with parents' discipline could serve to reinforce their parents' efforts and thus increase the likelihood of similar disciplinary measures in the future.

It is also important to remember that the measures of parenting and coparenting outcomes were based on the recollections and perceptions of young adults, which may create some difficulty when interpreting the significant finding revealed within this study. At surface value, it is possible that perhaps parents who have experienced a divorce and/or separation have fewer resources both physically and emotionally to enforce discipline, specifically when their child displays externalizing characteristics. On the other side of the interaction, parents may react too harshly in terms of discipline towards their potentially more sensitive, internalizing children. However, it is also possible that children with internalizing characteristics may perceive their parents as more disciplinarian while externalizing children perceive their parents as less so during a difficult time of divorce and/or separation. Indeed, without multiple measures across

time, it is impossible to disentangle whether parents' higher levels of monitoring over time causes a child to fall within the internalizing cluster or whether the child is inherently more internalizing irregardless of parental influence. It is quite possible that the child outcome is influenced by both the child's natural adaptive style as well as the parents' parenting style over time. However, without a longitudinal study that would (ideally) begin measurements at the time of a child's birth, it is quite difficult to tease apart the mutual influences at play within the parent-child relationship.

The scarcity of significant results pertaining to the research question presented here may be due to several methodological limitations present within this study. As discussed previously, the very nature of a bi-directional relationship between parent and child would suggest that parent-child interactions will continually develop and change over time, indicating a longitudinal, or panel design approach, is called for. Unfortunately, as this study is a 'snap-shot' picture of the parent-child at one point in time, limiting the ability to both detect true interactions as well as interpret any significant findings. Furthermore, this study is also limited by the retrospective nature of the data, using young adult adaptive characteristics to extrapolate to child temperament characteristics. Although previous research would indicate that adult personality has its origins in child temperament, the lack of current child measurements of temperament may have also obscured significant interactions that may in fact be present within the parent-child relationship across marital status. This limitation also hinders the interpretation of the significant interaction revealed in the present study.

This study should be considered a first exploratory step in examining the bi-directional relationship hypothesized between parent and child, including the added element of environmental influences on this relationship. While limited in scope, it is the author's belief that this study has highlighted an area of interest for further study and has provided some evidence for the existence of a bi-directional relationship between parent and child that may be influenced by external stressors in the environment. It is possible that future research questions may focus on other areas of environmental influence in addition to divorce. However, given the prevalence and significant and detrimental effects of divorce on all members of a family, it is important that this model of the parent-child relationship be inspected again, incorporating the occurrence of divorce and/or separation, within a longitudinal framework and with current measures of child temperament. In this way, the literature available on the effects of divorce on both child development and family systems will be greatly expanded and of significant clinical use.

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## Vita

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