INFORMAL SOCIAL SUPPORT AND PARENTING STRESS IN MOTHERS AND FATHERS OF CHILDREN WITH AND WITHOUT DEVELOPMENTAL RISK

A Thesis Presented to the Faculty
of
California State University, Stanislaus

In Partial Fulfillment
of the Requirements for the Degree
of Master of Arts in Psychology

By
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April 2019

CERTIFICATION OF APPROVAL

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Signed Certification of Approval page
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Dr. Anita Pedersen Assistant Professor of Psychology	Date
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DEDICATION

But thanks be to God, who gives us the victory through our Lord Jesus Christ.
(1 Corinthians 15:57, ESV)

Bear one another's burdens, and so fulfill the law of Christ
(Galatians 6:2, ESV)

Bless the Lord, O my soul, and forget not all his benefits, who forgives all your iniquity, who heals all your diseases, who redeems your life from the pit, who crowns you with steadfast love and mercy, who satisfies you with good so that your youth is renewed like the eagle's. The Lord works righteousness and justice for all who are oppressed. He made known his ways to Moses, his acts to the people of Israel. The Lord is merciful and gracious, slow to anger and abounding in steadfast love. He will not always chide, nor will he keep his anger forever. He does not deal with us according to our sins, nor repay us according to our iniquities. For as high as the heavens are above the earth, so great is his steadfast love toward those who fear him; as far as the east is from the west, so far does he remove our transgressions from us. As a father shows compassion to his children, so the Lord shows compassion to those who fear him. For he knows our frame; he remembers that we are dust. As for man, his days are like grass; he flourishes like a flower of the field; for the wind passes over it, and it is gone, and its place knows it no more. But the steadfast love of the Lord is from everlasting to everlasting on those who fear him, and his righteousness to children's children, to those who keep his covenant and remember to do his commandments.

(Psalm 103:2-18; ESV)

ACKNOWLEDGEMENTS

I wish to express my deepest gratitude Dr. Anita Pedersen for acting as the chair for this thesis project. Thank you for providing me an opportunity to finish my degree and for your patience, mercy, and time. I also wish to thank Dr. Gary Williams and Dr. Aletha Harven for serving as committee members for this project, as well as the entire faculty of the Psychology department at CSU, Stanislaus for the gracious opportunity to be a part of the Master of Arts in Psychology program.

I am also extremely grateful for my Grandmother, Mother and Sister for their unending love, encouragement, patience and support throughout my time as a graduate student. I would also like to thank all of my brothers and sisters in Christ for their love and encouragement.

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ABSTRACT

Decades of research have shown that parenting stress has the potential to have negative consequences on the wellbeing of the entire family. Parents of children with developmental risk frequently report high levels of stress, but less is known about differences between mothers' and fathers' experiences of parenting stress, nor how variables such as social support may affect parents' experience of stress. This cross-sectional study examined whether social support served as a moderator in the relation between developmental risk and parenting stress in parents of 3-5-year-old children with and without developmental risk. Results indicated that, contrary to hypotheses, parenting stress (daily hassles) of parents of children with developmental risk did not differ significantly from parents of typically developing children. No support was found for the hypothesis that informal social support would moderate parenting daily hassles. Also, no significant differences were found between mothers and fathers in perceptions of parenting daily hassles. The implications of these findings, as well as possible directions for future research in this area, are discussed.

INTRODUCTION

Parenthood poses unique demands that non-parents do not experience, which may serve as risk factors for stress (Crnic & Low, 2002; Deater-Deckard, 2005). While the experience of stress is normative for most parents (Crnic, Gaze, & Hoffman, 2005), parents are differentially affected by stress according to individual differences in parent characteristics (e.g., gender; Vilaseca, Ferrer & Olmos, 2014), child characteristics (e.g., age, presence of developmental risk; Crnic et al., 2005; Baker, Blacher, Crnic, & Edelbrock, 2002; Willinger et al., 2011), and contextual factors, such as social support (Crnic & Low, 2002; Woodman, Mawdsley, & Hauser-Cram, 2015). Moreover, parents are presented with new and complex demands from the birth of a child onward, including providing food, shelter, clothing, education, comfort, and attention (Crnic & Low, 2002). In addition to continuing to meet their own needs, parents are also faced with unique social expectations which may serve as sources of stress, such as raising a child who is well-behaved, performs well in school, and is a benefit to society (Alexander & Higgins, 1993; Deater-Deckard, 1998). While all parents face these expectations, the stress associated with them may be compounded for parents of children with developmental risk (Woodman et al., 2015) due to increased caregiving demands (Baker et al., 2002), financial strain (Bonis, 2016), negative responses or attitudes from professionals (Blacher & Hatton, 2007), or the parent's social network (Davis & Gadivia-Payne, 2009).

While research on the experience of daily parenting stress in mothers of typically developing children has seen growth in the past few years (Boehm & Carter,

2016), an understanding of how this experience differs for both mothers and fathers, and for parents of children with developmental risk, is somewhat deficient (Crnic & Low, 2002; Pedersen, Crnic, Baker, & Blacher, 2015). Specifically, research regarding the daily experience of stress in fathers of children with developmental risk is greatly lacking, but this information is important to better understand how developmental risk affects the entire family.

As will be discussed further in the following literature review, the evidence for the impact of parenting stress on child, parent, and family outcomes indicate that it is important to better understand the resources which may help protect parents from stress (Boehm & Carter, 2016). One resource that has been shown to protect parents from stress is social support (Crnic & Low, 2002; Dyson, 1997; Sharpley, Bitsika & Efremidis, 1997), but few studies have directly compared the experience of social support and daily parenting stress in mothers and fathers of children with and without developmental risk (Boehm & Carter, 2016; Crnic & Low, 2002). This information is valuable to those in the field of child development, who wish to better understand the experience of parents and their children and to those who work directly with families (e.g., social workers, family therapists), who wish to aid parents and children in adapting to the challenges they face.

REVIEW OF THE LITERATURE

Conceptualizing and Measuring Parenting Stress

The conceptualization and measurement of parenting stress has advanced greatly since it became a topic of interest over 50 years ago. One of the earliest conceptualizations of stress, derived from the work of Holmes and Rahe (1967), posited that the experience of stress is the result of significant changes in life. In the 1980's, Lazarus and colleagues began to question whether the assessment of major life events served as the most appropriate means of studying the construct of stress, given that the experience of such events is not normative for all people (Kanner, Coyne, Schaefer & Lazarus, 1981; Lazarus & Folkman, 1984). An additional major limitation of the assessment of major life events in relation to parenting stress is that such an approach fails to take into account most everyday parenting and family processes (Crnic et al., 2005; Quittner, Gluekauf & Jackson, 1990) or any individual differences that affect such processes (Crnic & Low, 2002), bringing into question the validity of using major life events as predictors of family, child and parenting adaptation and adjustment (Crnic & Greenberg, 1990; Quittner et al., 1990). Although the limitations of using a life-events model were noted decades ago, a substantial amount of research involving the construct of parenting stress has nevertheless included only the assessment of major life events (Abidin, 1990; Crnic & Low, 2002; Deater-Deckard, 1998; Quittner et al., 1990). While there is indeed evidence to suggest that stressful life events, especially negative life changes, impact well-being (Dohrenwend, 1973; Sarason, Johnson & Siegel, 1978), the growing body of

evidence which shows the impact of parenting-related stress on parent and child well-being begets doubt as to the appropriateness of only studying discrete life events in parenting and child development research (Crnic & Booth, 1991; Serido, Almeida, Wethington, 2004).

In the early 1990's, parenting stress research began to move away from the focus on discrete, major life events, and new models were developed to include variables more relevant to the parenting context. One such model is Abidin's Parenting Stress Model (1983, 1990), which focuses on the importance of understanding parent and child characteristics thought to promote parent distress (Smith, 2011; Johnson, 2015). This paradigm is typically tested using the Parenting Stress Index (PSI, Abidin, 1995), which measures the amount of stress in the parent-child relationship. The PSI consists of two subscales, measuring child characteristics (i.e., adaptability, mood, hyperactivity, demandingness), and parent characteristics (i.e., depression, attachment, sense of competence). Many studies (e.g., Cuzzocrea, Murdaca, Costa, Filippello, & Larcan, 2016; Long, Gurka & Blackman, 2008; Spratt, Saylor & Macias, 2007) have used the Parenting Stress Model and PSI (Abidin, 1990, 1995), significantly contributing to our understanding of parenting stress (Smith, 2011). It is important to note, however that the constructs measured in the PSI are mostly focused toward the "pathological spectrum" (Crnic & Low, 2002, pg. 249) and as such, effect sizes have been found to be quite small (but significant) in parents who are more typical, and not distressed (Deater-Deckard & Scarr 1996, as cited in Crnic & Low, 2002). Johnson (2015) noted in a review that although there is strong

evidence for the content validity of the PSI, there is little evidence for construct validity in the most recent version of the measure (Abidin, 2012). Finally, while the understanding of how problematic child and parent characteristics serve as predictors of stress is important (Abidin, 1995; Crnic & Low, 2002), a comprehensive understanding of parent stress also involves the consideration of normative stress constructs, such as the every-day experience of parents caring for children (Coplan, Bowker, & Cooper, 2003; Crnic & Low, 2002; Gerstein, Crnic, Blacher, & Baker, 2009).

In response to the need to develop a greater understanding of parent's daily experience of stress, the Parenting Daily Hassles model was developed by Crnic and Greenberg in 1990. In the Parenting Daily Hassles model, the conceptualization of stress differs from other models in several important ways (Deater-Deckard, 1998; Crnic & Low, 2002; Smith, 2011). As opposed to models which focus upon broader contexts of stress (i.e., major life events and parent-child relationship), the Parenting Daily Hassles model is focused exclusively upon parent's perception of typical stressful daily events (hassles) associated with parenting (Crnic & Greenberg, 1990; Crnic & Low, 2002). Specifically, the Parenting Daily Hassles model defines daily hassles as "typical, normal events" parents have with their children (Crnic & Low, 2002, p. 3) which, depending on frequency and intensity can serve as a source of parental stress (Crnic & Greenberg, 1990).

Typical daily parenting events may plague parents. These include hassles such as being interrupted by their child, finding themselves frequently cleaning up after

them, being badgered or whined at, running errands to meet the child's needs, having difficulty securing privacy for themselves, or having little time to spend alone with their partner, friends, or extended family (Crnic & Booth, 1991; Crnic & Greenberg, 1990; Crnic & Low, 2002). While the above-mentioned events (hassles) may be typical occurrences for most parents (Crnic & Low, 2002), Crnic and Greenberg (1990) posit that the cumulative effect of daily parenting hassles has the potential to greatly impact the relationship between parents and their children, as well as family functioning. Patterson (1983) acknowledged the circular process involved in parent-child transactions in his theory regarding parent stress, and posited that stress experienced by parents (particularly in the form of minor, everyday experiences; Crnic & Low, 2002) is important to consider in family and child development research, because it may serve as an agent of change for specific processes in families (e.g., parent-child interactions, child development). Daily parenting hassles are typically assessed using the Parenting Daily Hassles (PDH) questionnaire (Crnic & Greenberg, 1990). In the PDH, parents are given examples of typical parenting tasks and child behaviors which may be challenging (hassles) and are asked to identify the frequency and perceived intensity of the hassles they experience (Crnic & Greenberg, 1990; Gerstein et al., 2009, and while this measure has not been used as extensively as others such as the PSI (Abidin, 1990), research in which it has been utilized has revealed that daily parenting stress impacts not just parents, but children and the family unit as well (Crnic & Low, 2002).

Impact of Parenting Stress on the Family

Proponents of the Daily Hassles model report that daily hassles have a "proximal effect on psychological and physiological well-being" (Serido et al., 2004, p. 20) because they are associated with daily increases in arousal, aggravation or distress (Serido et al., 2004). Early observational research regarding parent-child interactions and daily hassles indicated that parents who perceive greater frequency of parenting daily hassles tend to act more irritably toward their children (Dumas, 1986; Patterson, 1983). Crnic and Greenberg (1990) reported that mothers' perceptions of daily hassles in parenting 5-year-old children significantly predicted psychological well-being in mothers, family functioning, and other aspects of the parent-child relationship. Specifically, parents who perceived more frequent and intense daily hassles were less satisfied with parenting, reported more negative family relations, and were generally more distressed than parents who experienced less frequent and intense daily hassles (Crnic & Greenberg, 1990). Later studies (e.g., Pett, Vaughan-Cole, & Wampold, 1994) revealed that mothers who experience fewer daily hassles act less controlling toward their preschool children and are more supportive of them than are mothers who experience more daily hassles.

In a study of the mediating roles of transient mood and daily hassles on the expression of parent personality traits (agreeableness, neuroticism and extraversion) in parenting behavior, Belsky, Crnic, and Woodworth (1995) found through observation and parent self-report that parenting daily hassles predicted both parent and child behavior in the home, over and above the contribution of maternal mood.

More recent longitudinal and observational research conducted by Crnic et al. (2005) that assessed the cumulative impact of daily parenting stress and major life events on parent-child relationships and behavior of mothers and children found that parenting daily hassles were associated with less dyadic pleasure, and with more negative parenting behavior. There is evidence to suggest if the frequency and intensity of daily parenting stress remains high, parents and children may experience greater conflict and problems in their relationships with each other than parents who do not experience as frequent or intense parenting hassles, potentially decreasing parents' sense of competence and responsiveness to their child, which may in turn lead to problematic child behavior over time (Crnic & Low, 2002). Moreover, several studies have highlighted the reciprocal relationship between parental stress and child behavior, in that child behavior problems serve to increase parent stress, which in turn tends to exacerbate child maladaptive behavior (Komsi et al., 2008; Neece, Green, & Baker, 2012). Other child-related outcomes associated with parenting stress include difficulty in adjustment (Thompson, Merritt, Keith, Bennett & Johndrow, 1993), and less secure attachment to their parents (Jarvis & Creasey, 1991).

Predictors of Parenting Stress

According to several developmental and clinical models, parenting stress is determined by a multitude of factors (Abidin, 1995; Crnic & Low, 2002), as families are “interconnected…independent systems,” (Crnic & Low, 2002, pg. 5). While parents certainly face stressors from a variety of life domains (e.g., occupational, financial), the factors which appear to most contribute to the experience of daily

parenting stress include specific parent factors, specific child characteristics, and broad, systemic family-level processes (Crnic & Low, 2002). Further, Belsky's (1984) ecological framework suggests that the ability of parents to successfully cope with the daily hassles of parenting is influenced by specific parental resources, child characteristics, and contextual sources of stress and social support.

Parent Factors

Individual differences in parents have been shown to be related to the experience of daily parenting stress (Deater-Deckard, 1998, Crnic & Low, 2002). This is understandable, given that the experience of stress is a function of individual assessment (Gerstein et al., 2009). There is ample evidence that individual differences in parent personality, mood, child-rearing beliefs and level of parent education impact the perception of parenting stress (Deater-Deckard, 2005; Crnic & Low, 2002), but another salient difference that has not received as much empirical attention, particularly in parents of children with developmental risk, is parent gender (Crnic & Low, 2002; Gerstein et al., 2009).

In a review, Vilaseca et al. (2014) noted that historically, research regarding parenting stress has focused on the experience and well-being of the mother (Boehm & Carter, 2016; Crnic & Low, 2002) and although the inclusion of fathers has improved (e.g., Glidden & Nathcher, 2009; MacDonald, Hastings, & Fitzsimons, 2010), "very little has been published on the well-being of fathers" (Vilaseca et. al., 2014, pg. 2). Some research which has included fathers indicates that there are significant differences between mothers and fathers in factors that predict stress. For

example, Gerstein et al. (2009) compared mothers and fathers' perceptions of daily parenting stress and found that for mothers, daily parenting stress was predicted by father-child relationships (with more positive relationships predicting lower stress), whereas for fathers, daily parenting stress was predicted by mother's well-being. Both mothers' and fathers' marital adjustment also predicted parenting stress. However, other studies have found more similarities than differences in the perception of daily parenting stress in mothers and fathers (Pedersen et al., 2015; Woodman, 2014). Specifically, in a longitudinal study conducted by Woodman (2014), mothers and fathers of children aged 3 to 15 years with developmental delay reported similar levels of parenting stress over time. Similarly, Pedersen et al. (2015) found that when compared, mothers and fathers of both typically developing children and children with developmental risk aged 3 to 8 years were more similar than different in perceived intensity of daily parenting hassles. Thus, though biological or social factors may determine gender differences in the experience of daily parenting stress (Deater-Deckard, 1998), the issues which contribute to possible gender differences in the perception of daily parenting stress are complex, poorly understood, and would benefit from further exploration (Crnic & Low, 2002).

Child Factors

Child development research has revealed several factors related to children which influence the perception of daily parenting stress, including child temperament (Coplan et al., 2003; Crnic & Low, 2002), child demandingness (Brown, McIntyre, Crnic. Baker, & Blacher, 2011), and child behavior problems (Robinson & Neece,

2015; Woodman, 2014). In addition, results of research (Boehm & Carter, 2016) has indicated that an important predictor of parenting stress is the age of the child. Further, there is evidence that parents of typically developing (Crnic & Booth, 1991; Deater-Deckard & Scarr, 1996) and non-typically developing (Woodman et al., 2015) preschoolers (aged 2-5 years) experience more general stress and parenting hassles than parents of infants, or children who are in elementary school (Woodman et al., 2015). Pre-school is often a difficult period of transition for both parents and children, as parents may assume a more authoritative role, and children develop a greater sense of independence and self-identity, which commonly results in conflicts over power, control, and limits (Crnic et al., 2005). The aforementioned child factors are relevant sources of stress for all parents, but there is evidence that certain conditions, such as the presence of developmental risk, serve to exacerbate these factors (Woodman, 2014).

Children with developmental risk. Thus, one child characteristic that is most relevant to the present study, and which serves as predictor of parenting stress, is the presence of developmental risk (i.e., Abbeduto et al., 2004; Lanfranchi & Vianello, 2012). Research indicates that parents of typically developing children experience significantly less stress than parents of children with a development disability, learning disability, attention deficit disorder, emotional and behavioral disorders, or other health problems (Kirby, White, & Baranek, 2015). Indeed, parents of children with developmental risk often report higher levels of stress than parents of typically developing children across infancy, early childhood, and adolescence (Baker et al.,

2002; Britner, Morog, Pianta & Marvin, 2003; Cuzzocrea et al., 2016), and there is evidence that high levels of stress for these parents tend to remain stable or even increase over time (Gerstein et al., 2009; Hauser-Cram et al., 2001).

There are several specific child factors related to developmental risk which appear to be associated with increased parent stress, such as severity of disability (e.g., Lanfranchi & Vianello, 2012). Other research has shown that specific characteristics associated with a child's disability such as poor communication and social skills (Neece et al., 2012), as well as deficits in child adaptive functioning (Baker et al., 2002), predict greater parenting stress (Frey, 1989; Hassall, Rose & McDonald, 2005; Woodman et al., 2015). Another significant predictor of stress in parents of children with disabilities is the level of behavior problems exhibited by the child (Konstantareas & Homatidis, 1989; Hassall et al., 2005); compared with typically developing children, children with developmental risk typically experience greater levels of behavior problems (Robinson & Neece, 2015), although severity and type of maladaptive behavior has been shown to vary among diagnostic groups (Fidler, Hodapp & Dykens, 2010).

Further, results of several studies (e.g., Abbeduto et al., 2004; Kirby et al., 2015) suggest that parenting stress differs significantly as a function of diagnostic group. For example, Lanfranchi and Vianello (2012) compared parental stress in families of children with four different genetic disorders (Down, Williams, Fragile X, and Prader-Willi syndromes) and found that parents of children with Down Syndrome reported significantly less stress than parents of children with Prader-Willi syndrome

(Kirby et al., 2015). This finding may be related to the generally cheerful demeanor, intact social skills, and lower rate of behavior problems among children with Down Syndrome as compared to children with other types of developmental risk (Hodapp, Ricci, Ly, & Fidler, 2003; Fidler et al., 2010). This finding could also be related to the fact that Down syndrome is much more well-known and socially accepted than other syndromes (Hodapp et al., 2003; Fidler et al., 2010), which provides parents greater access to resources that enable them to cope with stress, such as increased social support, and also access to well-established programs related to rehabilitation and education (Lanfranchi & Vianello, 2012).

Another diagnostic group of interest in parent stress research is children with autism spectrum disorder (ASD) (Estes et al., 2013). Compared to parents of typically developing children, and parents of children with non-autism spectrum developmental disorders, such as Down Syndrome (Estes et. al., 2013), parents of children with ASD experience greater levels of stress, with some studies showing that stress in these parents can climb to clinical rates (e.g., Davis & Carter, 2008; Davis & Neece, 2017). There is evidence to suggest that increased stress in parents of children with ASD may be related to the tendency of these children to display more problematic behaviors than typically developing children or children with other types of developmental risk (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Estes et al., 2013), which may be due to the factors specifically related to ASD such as poor adaptation to changes in routine, unusual food preferences, environmental sensitivity, and difficulty communicating with parents (Dunn et al., 2001).

While research regarding parents of children with well-known conditions such as Down Syndrome, ASD, and general intellectual disabilities has seen tremendous growth in the past years, little is known about parents of children who experience learning difficulties, but who do not meet diagnostic criteria for intellectual disability (Fenning, Baker, Baker, & Crnic, 2007). Parents of children with borderline intellectual functioning (defined by IQ scores ranging from 71-84; American Psychiatric Association, 2000, as cited in Fenning, Baker, Baker, & Crnic, 2014) may also be at risk for increased stress (Fenning, Baker, Baker & Crnic, 2007). Although research on parents and children with borderline intellectual functioning is scarce, there is evidence that the experiences of such parents differs significantly from parents of typically developing children. Fenning et al. (2007) reported that mothers of children with borderline intelligence were less responsive to their young child than parents of typically developing children or parents of children with significant developmental risk, and that they also were observed to be less positive in interactions with their child than other mothers. In a more recent study conducted by Fenning et al. (2014), mothers and fathers of children with borderline intellectual functioning were compared to parents of typically developing children and parents of children with significant developmental risk. Results indicated that mothers and fathers of children with borderline intelligence showed more controlling and negative behavior toward their children. Given the evidence that borderline intellectual functioning in children appears to negatively influence the parent-child relationship, further research regarding the experience of these parents (particularly their daily

experience of stress), is needed to further understand the importance of diagnostic thresholds and provide information as to how to help these parents cope with the demands they face (Fenning et al., 2014).

Contextual Factors That Contribute to Parenting Stress

Several contextual factors have been identified as contributing to the experience of parent stress in caring for a child with developmental risk. One contextual factor that is relevant to the present study is the perceived struggle in completing parenting tasks (parenting daily hassles, Crnic & Greenberg, 1990), as this perception been identified as a contributing factor to the experience of stress (Crnic & Low, 2002; Plant & Sanders, 2007). Other contextual factors have been shown to predict parent stress, including socio-ecological factors such as socio-economic status, and level of maternal education (i.e., Abbeduto et al., 2004). Most relevant to the present study is the contextual factor of social support (e.g, Ekas, Lickenbrock & Whitman, 2010; Hassall et al., 2005; Plant & Sanders, 2007), as there is evidence that this factor can serve as a potential resource for coping with parenting stress (Woodman, 2014).

Conceptualizing Social Support

Broadly, social support is one byproduct of personal relationships, naturally arising as an expression of fondness and connectedness between people (Gottlieb & Bergen, 2010). Cohen and Willis (1985) defined social support as "the social resources that persons perceive to be available or that are actually provided to them by nonprofessionals in the context of both formal support groups and informal

helping relationships (p. 4)." Social support is derived from a persons' social network, which is a unit of social structure that consists of the person’s social connections (Gottlieb & Bergen, 2010).

Research reveals that the construct of social support is both complex and multidimensional (Geens & Vandenbroeck, 2014). Several different conceptualizations of social support have been created to explain the construct and its effects on perceived stress. The transactional model of stress and coping (Lazarus & Folkman, 1984) posits that stress results when an individual is faced with a stressor, and after appraisal of the stressor, feels that they do not have adequate resources (i.e., finances, social support) to cope with the stressor. The buffering effects model stems from this transactional model, in that social support affects an individual's appraisal of a stressor by promoting coping through supportive actions (i.e., providing financial support in times of need) or, by positively affecting one's appraisal of the stressor (i.e., a person perceives social support is available to help them cope; Cohen & Willis, 1985). Thus, the buffering effect model posits that social support operates by protecting individuals from the adverse effects of stress (Cohen, Underwood & Gottlieb, 2000). Supporters of the buffering effects model posit that social support is not always beneficial, particularly in the context of parenting stress. For example, social support may serve to increase parent stress if advice is given inconsistently, if a supporter questions the parent's child-rearing, or if support is inadequate, excessive, or poorly timed (Crnic & Low, 2002; Geens & Vandenbroeck, 2014). Indeed, the

impact of social support on stress varies according to various factors, including type and source of support (Fordham, Gibson, & Bowes, 2011).

There are various types of social support (Tardy, 1985) including emotional support, which involves listening, empathizing and providing sympathy; instrumental support, which involves providing practical help (e.g., assisting with transportation, childcare, care of children); informational support, which involves providing problem-solving wisdom (i.e., guidance as to alternative choices in a situation, sharing information about child-care or child rearing practices); and companionate support, which involves an individual being available to another person for participation in social, leisure, or cultural activities (i.e., going to the movies, hiking; Cohen et al., 2000; Tardy, 1985, Zimet, Dahlem, Zimet & Farley, 1988). Social support can be derived from various sources, which are typically divided into two categories: formal (e.g., professionals, such as therapists) and informal (e.g., friends, family, neighbors, coworkers, community; Cohen et al., 2000; Zimet et al., 1988).

With regards to parenting, informal social support has received increasing attention because it is a potential resource for coping, and thus is a potential point of intervention for parents at risk for high levels of stress (Boehm & Carter, 2016; Woodman, 2014). There is evidence that, in general, people who perceive social support to be readily available respond more positively and experience less stress in the face of adversity than those who do not perceive support to be available (Gottlieb & Bergen, 2010). According to socio-ecological theorists, (e.g., Crnic & Greenberg, 1990; Crnic & Booth, 1991) social support is an important factor in the face of

stressors, as adequate social support serves to increase personal resources (e.g., greater self-esteem, feelings of self-efficacy), which help reduce the perceived demands associated with stressors. In addition, there is evidence that social support reduces the harmful influence of various types of stressors (Sepa, Frodi & Ludvigisson, 2004).

Informal Social Support and Parent Stress

As previously mentioned, Belsky's (1984) Determinants of Parenting model posits that social support is one of the key determinants in the quality of parenting, as it serves as a major source of coping with daily parenting stress (BeLue, Halgunseth, Abiero, Bediako, 2015; Crnic & Low, 2002). This makes social support highly salient for child development research. Social support can serve to buffer parents from adverse effects of stress (Crnic & Greenberg, 1990; Crnic & Low, 2002). Research indicates that social support is generally associated with better mental health in parents (less depression and anxiety), increased feelings of well-being, and greater parent efficacy (Boehm & Carter, 2016; Crnic & Low, 2002). Koeske and Koeske (1990) found that social support appeared to have a moderating (buffering) effect on parenting stress in that parents in low support conditions reported more negative consequences of stress, such as less role-satisfaction, maternal self-esteem and increased psychological and somatic symptoms than those in high support conditions (Sepa et al., 2004). Moreover, Dunst, Trivette, and Hamby (2007) noted in their review of social support and parenting outcomes that emotional support (e.g., active listening, empathy reflection) and instrumental support (e.g., help-giving practices)

were directly related to positive outcomes for parents, children and the family unit (Davis & Gadivia-Payne, 2009). Similarly, when Knox et al. (2000) (as cited in Davis & Gadivia-Payne, 2008) interviewed families of children with intellectual disability, informational support about their child's condition was strongly associated with the parents' sense of control and helped to increase perceived quality of life (Davis & Gadivia-Payne, 2009). These results show support for the moderating effect of social support on family adaptation by altering parents' perception of the stressors. Therefore, a greater understanding of how informal sources of social support serve to protect parents from various sources of stress could prove beneficial.

Differences in Social Support for Mothers and Fathers

Research regarding social support and parenting stress has generally focused exclusively on mothers of young children, leaving the understanding of the influence of social support on father's stress lacking (Melson, Windeckernelson & Schwartz, 1998; Crnic & Low, 2002). However, studies including fathers have revealed several differences (Gerstein et al., 2009) between mothers and fathers. In 1991, Crnic and Booth compared the experience of parenting daily hassles and social support in both mothers and fathers of typically developing children and found that social support operated differently between mothers and fathers in reducing perceived stress: for mothers, support from family served to lessen the experience of daily hassles, but for fathers, support from friends was more important than family to lessen parent stress. Further, in a study conducted by Melson et al. (1998) mothers and fathers were interviewed regarding their social support network and parenting stress using the

Parenting Daily Hassles scale (Crnic & Greenberg, 1990) and Perceived Difficulty at Parenting Tasks scale (Melson et al., 1993b). Higher social support from family (in-laws and other relatives) was found to be more strongly associated with lower parenting daily hassles for mothers than for fathers. In addition, conflict with social support providers served to predict increased parenting hassles for mothers. Interestingly, for fathers, a larger social network predicted more parenting hassles (Melson et al., 1998). Although these studies give evidence for differences in mothers and fathers in the perception of daily parenting stress and social support, the underlying mechanisms behind these discrepancies are not yet well understood (Crnic & Low, 2002; Woodman, 2014), and could thus benefit from further exploration in empirical research (Hartley & Schultz, 2015).

Social Support and Stress in Parents of Children With Developmental Risk

Research regarding the role of social support in alleviating parent stress has grown (Glidden, 2010). Moreover, informal social support has received increasing attention because it is a potential resource for coping (Woodman, 2014) and is therefore a potential point of intervention for parents who experience high levels of stress, such as parents of children with developmental risk (Boehm & Carter, 2016). However, there is evidence of differences in the perception of social support in parents of children with developmental risk as compared to parents of typically developing children (Cuzzocrea et al., 2016). Parents of children with developmental risk report fewer visits from friends than parents of children without a disability (Seltzer, Greenberg, Floyd, Pette, & Hong, 2001). In addition, Heiman and Berger

(2008) examined the relationship between family environment and perceived social support in parents of children with Asperger's syndrome, learning disability, and no disability. When compared to parents of children without disabilities and children with learning disabilities, parents of children with Asperger's syndrome perceived significantly less social support (particularly from friends) than other diagnostic groups, and parents of the children with no disability reported significantly more social support (particularly from family) than the parents of children with Asperger's disorder or learning disability. Further, researchers have also found that parents perceive low to moderate levels of emotional support from friends and community, and higher levels of emotional support from relationships with other parents of disabled children (Song, Giannotti, & Reichow, 2013). However, social support is an important resource for parents of children with developmental risk as informal social support has been shown to be significantly correlated with parents' perceptions of optimism and confidence (Bailey, Nelson, Hebbeler & Spiker, 2007) and also, informal support which is perceived as helpful has been shown to be associated with lower levels of stress in these parents (Smith, Oliver & Innocenti, 1999). Results such as these highlight the differences in social support that parents experience when they have children with developmental risk and provide a better understanding of the current lack of research regarding social support and its relation to daily parenting hassles in this group.

It is important to understand the factors which help parents cope with the demands of parenting, particularly parents who may face greater demands, such as

parents of children with developmental risk. Woodman (2014) noted that there is significant variability in parenting stress among mothers and fathers who care for a child with developmental risk. This aligns with the social role hypothesis (Deater-Deckard & Scarr, 1996), which posits that mothers are more likely to experience stress related to parenting tasks because they engage in such tasks more frequently than fathers, and there indeed is evidence that the additional struggles involved in caring for a child with developmental risk may fall excessively on mothers (Rowbotham, Carroll, & Cuskelly, 2011). This was supported in the results of a study conducted by Vilaseca et al. (2014) in which differences between parents of children with intellectual disabilities were examined. Mothers and fathers reported significantly different perceptions of anxiety, depression and positive perceptions of their child. Specifically, mothers who reported greater responsibility for caregiving tasks than fathers reported greater perceptions of unity in the family as a result of the child's disability, but also reported significantly greater anxiety and depression than fathers, consistent with earlier studies (Hastings & Beck, 2004). On the other hand, Hyde (2005) notes in the gender similarities hypothesis that mothers and fathers are more similar psychologically than they are different, which has been demonstrated by research on families of parents of children with developmental risk where no differences were found in parental stress or depression as compared to families of typically developing children (Hastings et al., 2005). Therefore, further research which includes both mothers and fathers is needed to help clarify discrepancies in findings (Pedersen et al., 2015; Vilasecaet al., 2014).

Present Study & Hypotheses

As parenting stress strongly impacts the lives of parents, children, and the family system, a better understanding of parenting daily hassles, and what variables intervene in predicting those hassles, is an important consideration for the field of family research (Crnic & Low, 2002). While studies have shown that all parents experience some stress in caring for their children, and that parents of typically developing children experience stress differently than parents of children with developmental risk (Estes et al., 2013), few studies have directly compared the experience of daily hassles between these two groups of parents, and this information would help further the understanding of the similarities and differences that exist between them (Pedersen et al., 2015). Even fewer studies have examined differences in these experiences in relation to parent gender, and to the reviewer's knowledge, only one other study (Woodman, 2014) has directly examined the moderating impact of social support on parenting stress in mothers and fathers. Thus, a greater understanding of the predictors of parenting stress for mothers and fathers of children with developmental risk is needed (Boehm & Carter, 2016; Crnic & Low, 2002).

The purpose of the present study is to examine the relationship between perceived informal social support and perceived intensity of daily parenting stress in mothers and fathers of children with and without developmental risk. Specifically, the goal of the present study is to examine whether or not informal social support serves to moderate the relation between a child's developmental risk and parents' perceived stress. Existing research has shown that parents of children with developmental risk

experience higher levels of parenting stress (Cuzzocrea et al., 2016; Estes et. al., 2009).

Therefore, it was hypothesized that there would be a significant relationship between child developmental risk and parenting hassles (parenting stress), such that children experiencing developmental risk would have parents with higher perceived parenting hassles (hypothesis 1).

Given the existing literature showing that social support moderates the perception of parent stress in typically developing children, it was hypothesized that social support would significantly moderate the relation between child developmental risk and parenting stress, such that as parents experienced less social support, they would in turn experience more daily hassles, and that the magnitude of this effect would be stronger for parents of children of developmental risk than for parents of typically developing children (hypothesis 2, Figure 1).

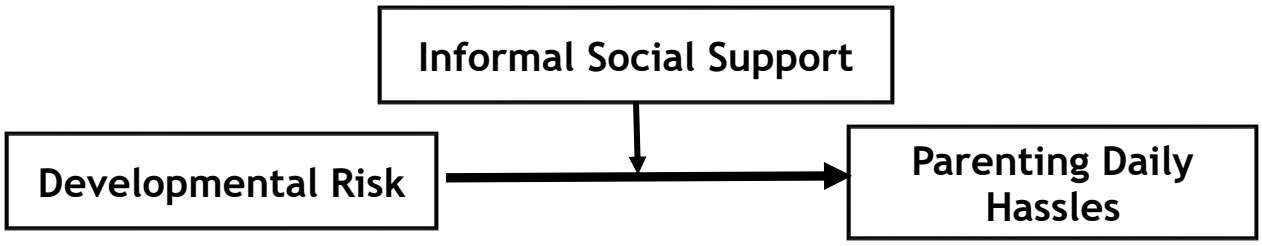

Figure 1. A model of the moderating role of informal social support in the relationship between child developmental risk and the experience of parenting stress.

Finally, because of the existing literature that suggests that fathers perceive and experience social support and parenting stress differently than mothers, as well as the relative dearth of information regarding how fathers of children with developmental risk experience their families in a unique way, the moderation model will be tested separately for both mothers and fathers of children with and without developmental risk. Though there is little existing information regarding how fathers of children with developmental risk may experience these factors, it is hypothesized that mothers will perceive greater intensity of parenting daily hassles than fathers, and that social support will moderate this perception to a greater extent in mothers than in fathers (hypothesis 3).

METHOD

Participants

Participants included families of a preschool aged "focal child" (aged 3-5 years) and all other members of the focal child's household (e.g. mother, father, siblings). For the current study, families with a mother and father currently living in the home were included, as well as several families in which only the mother currently lived in the home. For the typically developing group (*n* = 29), the focal child had an IQ of 85 or greater on the Wechsler Preschool and Primary Scale of Intelligence, 4th edition (WPPSI-IV), and no diagnosed or identified disabilities or other diagnoses, per parent report. Children in the developmental risk group (*n* =28) met criteria for this group in one of several ways: they had an identified cognitive delay as defined as an IQ of less than 85 on the WPPSI-IV, or they had an IQ higher than 85, but had a diagnosis or a suspected diagnosis of a developmental delay or disability per parent report (e.g., Autism Spectrum Disorder, sensory processing disorder, Down Syndrome, intellectual disability, speech delay, etc.). Specific descriptive information related to each focal child group can be found in Table 4 of the results section. To participate, focal children had to be physically mobile, have full use of their arms and hands, and use at least single words to communicate.

A variety of methods were used to recruit participants, including flyers (containing detailed information about the research study) distributed to preschools and local agencies providing services for children with special needs, flyers posted at various public locations throughout the Central Valley, and information about the

research study posted on social media websites such as Facebook. Families received 3 forms of incentives to encourage participation in the study. Families received gift cards for participation in each phase of the study: $40 for participation in the initial intellectual assessment, $20 for completion of parent questionnaires, and $40 for participation in the family visit. In addition to monetary incentives, a brief written summary of the child's intellectual functioning (written by supervised and trained research assistants) was provided, and focal children and their siblings were allowed to pick from a "prize bin" of small toys or stickers (each with a value of less than $1) each time they visited the university. As no deception was involved, debriefing was minimal, and only provided to families who did not agree to continue in potential future phases of the study (as the study is predicted to be a longitudinal study). The procedure for this study was approved by the Stanislaus State University Psychology Internal Review Board (IRB Approval #P-16-24).

Measures

Wechsler Preschool and Primary Scales of Intelligence, 4th Edition (WPPSI-IV; Pearson, 2012)

The WPPSI-IV is a test of intelligence used in children ages 2 years, 6 months to 7 years, 7 months. Specifically, the WPPSI-IV measures cognitive development for preschoolers and young children. There are two age bands; (2:6-3:11 and 4:0-7:7) and, three levels of interpretation for each age band (Full scale, Primary Index scale, and Ancillary Index). In order to obtain a Full-Scale IQ, children are administered a series of subtests pertaining to verbal (e.g., identifying words when provided with a

series of pictures, answering questions such as “what animal has feathers”) and non-verbal cognitive skills (e.g., recognizing patterns, making puzzles) as well as processing speed (e.g., quickly and accurately completing grapho-motor tasks) and working memory (e.g., accurately identifying shapes shown to the child a few seconds before). Correct responses by the child are used to obtain raw scores for subtests (e.g., “Information,” “Bug Search”), which are then converted to scaled scores using norms for same-aged peers. Scaled scores range from 1-19 and have a mean of 10 and a standard deviation of 3, with scores between 7-13 considered average. Scaled scores are then summed and compared to peer norms in order to obtain a Full-Scale IQ (FSIQ) score. FSIQ scores range from 40 to 160, have a mean of 100, and have a standard deviation of 15 points, indicating that scores between 85 and 115 are considered average.

The WPPSI-IV has been shown to be both reliable and valid according to multiple research studies (Wechsler, 2012). Internal consistency of the Full-Scale IQ score is high (α =.88), indicating adequate reliability, and this measure has also shown strong validity when compared earlier versions of the measure (Canivez, 2013a).

In the current study, the WPPSI-IV Full-Scale IQ (FSIQ) test results were used, along with parent report of disability, to group children into either the “developmental risk” or “typically developing” group. WPPSI-IV scores of less than 85 grouped a child into the “developmental risk” group, though a child may also have met criteria for this group if they had an IQ at or above 85, but their parent reported a

diagnosed or suspected condition such as ASD, sensory processing disorder, speech delay, or other developmental delay or disability.

Demographic Questionnaire

The Family Information Form is a demographic questionnaire with common demographic elements such as: age, gender, race/ethnic background, household income, and education level (See Appendix A). The questionnaire was created for use in the current study.

Parenting Daily Hassles (PDH; Crnic & Greenberg, 1990)

Parenting stress was assessed using the Parenting Daily Hassles questionnaire, developed by Crnic & Greenberg (1990). This is a 20-item questionnaire designed to assess frequency and intensity of everyday parenting hassles. Question items relate to typical events associated with parenting (e.g., “continually cleaning up messes or food”) and challenging child behavior (e.g., “kids won’t listen or do what they are asked without being nagged”). Two summary scores are computed (there are no reverse-scored items) from this measure: frequency of hassles and intensity of hassles. Both scales demonstrated adequate reliability in the present sample of mothers (α =.83 for frequency scale and α = .87 for intensity scale) and fathers (α =.84 for frequency scale α = .88 for intensity scale). For the frequency scale, parents are asked to give ratings of the frequency of events mentioned in the items on a scale from 1-5 (1 = never, 5= constantly), and this scale is scored by summing responses (score rage = 0-80), with a score of over 50 indicating high frequency of hassles. In the intensity scale, parents are asked to rate the perceived hassle of each item on a

scale from 1-5 (1= no hassle, 5 = big hassle), and total score of this scale is obtained by summing participant responses (score range = 1-100), with a score of 70 or greater indicating significant stress related to parenting tasks. In the current study, both the frequency and intensity scales were used (See Appendix B).

Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988)

The MSPSS is a 12-item self-report inventory which assesses perceived social support from friends, family and significant others. Participants use a Likert-type scale ranging from 1 to 7 (e.g., 1 = very strongly disagree, 7 = very strongly agree) to indicate how much they agree with each of the 12 items, some of which include: "there is a special person who is around when I am in need" (significant other support item), "my family really tries to help me" (family support item)," and "I can talk about my problems with my friends" (friend support item). Zimet et al., (1988) reported good internal consistency for the three subscales (α = .91 for significant other, α = .87 for family, and α = .85 for friends) and for the total scale (α = .88), as well as good internal reliability for the subscales (α = .72 for significant other, α= .85 for family, and α = .75 for friends) and for the total scale (α = .85).

This measure contains no reverse scored items. The MSPSS is scored either by calculating the average score related to each type of support (significant other subscale, friends subscale and family subscale) or, a global social support score can be obtained by calculating the average score for all 12 items. In the current study, the global social support score was used, with high scores on this scale indicating high levels of perceived social support (See Appendix C). The global social support scale

demonstrated good reliability in the present sample of mothers (α= .96) and fathers (α=.95).

Child Behavior Checklist (CBCL; Achenbach, 2000)

Parents' report of child behavior was obtained using the Child Behavior Checklist 1 ½ - 5 (CBCL 1 ½ - 5; Achenbach, 2000). In this 99-item measure, mothers and fathers provide ratings of child problem behaviors (e.g., anxiety, withdrawal, depression, aggression, rule-breaking, attention problems, etc.) for their children aged 18 months to 5 years by indicating on a 3-point scale how true the particular behavior listed in each item is for the focal child (0 = not true, 2 = often true). Raw scores are calculated by summing all items that are scored for each of the subscales (internalizing, externalizing, and total behavior). Raw scores can then be compared to average scores based on child age to create t-scores for internalizing, externalizing and total behavior. For the present study, the t-score for total child behavior was used as a covariate in relevant analyses. Widely used in child development research, the CBCL has consistently demonstrated good reliability and validity in measuring parent perceptions of child behavior (e.g., Baker et al., 2003; Crnic, Gaze & Hoffman, 2005).

Design

The present study was correlational and cross-sectional in nature. The main independent (predictor) variable was child developmental risk group, which was a categorical variable coded so that "0" was used to identify parents of typically developing children and "1" was used to identify parents of children with

developmental risk. Children were assigned to the typically developing group if the focal child had an IQ of 85 or greater on the WPPSI-IV, and also had no diagnosed or identified disabilities or other diagnoses. Children were assigned to the developmental risk group if they had an identified cognitive delay as defined by an IQ of less than 85 on the WPPSI-IV, or if they had an IQ higher than 85, but had a diagnosis or a suspected diagnosis of a developmental delay or disability per parent report. Informal social support served as the other predictor and moderating variable, and was defined and measured using parents' total score on the MSPSS. The dependent variable of the study was parent stress, which was defined and measured using parents' frequency or intensity subscale scores on the PDH questionnaire in separate analyses.

Procedure

The current study was derived from a larger study of family interactions in families of children with and without developmental risk, and IRB approval was obtained prior to conducting this research. In the larger study, there were three steps of research participation: 1) Intellectual assessment of the focal child using the WPPSI-IV; 2) Video-recorded observation of the family, and 3) Parents and sibling of the focal child completing a series of questionnaires. In the current study, only data from the intellectual assessment and parent questionnaires were used. Thus, only those phases of the procedure will be described here.

After initial recruitment, families were contacted by the laboratory coordinator to schedule each visit to the university. At the initial visit, one parent and the focal

child were present. The research assistant or principal investigator obtained informed consent from the parent, then provided the parent with questionnaires for the mother and father to complete. The parent was instructed to complete questionnaires separately from the other parent, without discussing their responses. Parents were encouraged to return their questionnaires at their following visit. After the parent signed the consent form, informal assent was obtained from the child, then testing with the WPPSI-IV commenced. Testing with the WPPSI-IV was performed either by the principal investigator (a licensed clinical psychologist), or by trained research assistants (masters-level graduate students in either behavior analysis or counseling, trained and supervised by the principal investigator).

Parents completed a packet of several questionnaires, three of which were used in the current study (PDH, MSPSS, and demographic questionnaire). Parents were encouraged to return their completed questionnaires when they arrived for their second university visit. Questionnaires were then checked for completion by trained research assistants. Any incomplete items, or items for which the response was unclear, were addressed immediately with the parent at their second visit. If items were left incomplete after the visit, the principal investigator made attempts to collect any remaining questionnaire data by phone.

Data Analysis Plan

Questionnaire data were scored and entered by trained and supervised research assistants, with regular checks for reliability and accuracy. Subscales and total scores were calculated as appropriate. The “developmental risk” variable was

dummy-coded, with 0 representing “typically developing” and 1 representing “developmental risk.” Zero-order correlations were used to identify relevant covariates, which were then included in analyses. In order to minimize data deletion, missing data were excluded pairwise in analyses.

To test hypothesis 1 (that developmental risk group would predict parent stress), multiple regression analyses were run with developmental risk as the predictor, and either mother or father-rated frequency or intensity of daily hassles as the outcome (measured by the Parenting Daily Hassles measure, hereafter referred to as PDH). Separate regression analyses including relevant covariates were run for parents’ PDH frequency and intensity scores.

To test hypothesis 2 (that social support moderates the relation between developmental risk group and parent stress), several moderation analyses were conducted using the PROCESS macro for SPSS (Hayes, 2013). The PROCESS macro utilizes regression to test for moderation, which involves entering the main predictor variable (developmental risk group), moderator variable (MSPSS total score), dependent variable (PDH frequency or intensity score), and relevant covariates into the model. The PROCESS macro creates an interaction term which is included as a separate variable in the regression by multiplying the main predictor variable and moderator variables together after the variables have been mean-centered. The dependent variables of the regression were perceived frequency and intensity of parenting daily hassles (as measured by the PDH), which were analyzed independently for both mothers and fathers.

To test the first part of hypothesis 3 (that mothers would perceive significantly greater intensity of parenting daily hassles than fathers), independent samples t-tests were conducted comparing mother and father ratings on the PDH (intensity and frequency ratings). To test the second part of hypothesis 3 (that social support would moderate the relationship between developmental risk and parenting daily hassles differently in mothers than in fathers), the moderation model was run separately for mothers and fathers, and relevant results were compared qualitatively.

RESULTS

Descriptive statistics for the main variables in the study are presented in Table 1, and selected demographic information related to the sample is presented in Tables 2, 3 and 4. The sample consisted of 57 total families, with 29 families of typically developing children, and 28 families of children with developmental risk. The average FSIQ score for children in the typically developing group was 106, and the average FSIQ score for children in the developmental risk group was 82. In the developmental risk group, 23 children were diagnosed or were suspected of having Autism Spectrum Disorder, 1 child was diagnosed as having Down Syndrome, 1 child was diagnosed or suspected as having Sensory Processing Disorder, 1 child was suspected or diagnosed with having a speech delay, and 2 children had no identified disorder, but had lower than average FSIQ scores.

There were 28 mothers and 22 fathers in the developmental risk group, and 29 mothers and 22 fathers in the typically developing group. Of the 57 families, 46 reported mother and father living in the same house as the focal child, and 11 reported being single-parent homes with only the mother living with the focal child. The average age for mothers in the present sample was about 32 years, 34 years for fathers, and the average age of all focal children was about 4 years. Both mothers and fathers reported having approximately 15 total years of education, with an average yearly family income of approximately $67,000. In regards to participant race, the sample was predominately white or Hispanic. About half (51%) of mothers reported that their child receives special services outside of the home. When mothers were

asked about whether or not they had a psychiatric diagnosis, 62% responded “no” and about 15% responded “yes.”

Table 1

Descriptive Statistics for Main Study Variables

	Typically Developing				Developmental Risk			
Variable	*N*	*M*	*SD*	Range	*N*	*M*	*SD*	Range
Mother PDH Frequency	29	59.17	9.63	41	28	63.18	12.12	52
Mother PDH Intensity	29	43.93	10.81	38	28	46.29	14.55	57
Mother MSPSS	29	5.82	1.17	6	28	5.39	2.27	6
Father PDH Frequency	26	57.58	8.47	39	22	59.27	12.04	52
Father PDH Intensity	26	44.77	11.84	54	22	42.68	12.07	41
Father MSPSS	26	5.81	.94	4	21	5.23	1.29	4

Table 2

Selected Demographic Descriptive Statistics for Present Sample

Characteristic	*M*	*SD*	Range
Mother Age	32.82	15.49	41
Mother Total Years of Education	15.49	2.93	15
Mother CBCL T-score total	52.36	13.79	62
Father Age	34.40	6.24	33
Father Total Years of Education	14.86	2.87	13
Father CBCL T-score total	52.30	10.73	46
Yearly Family Income	67269.09	39977.09	170000

Table 3

Descriptive Statistics for Focal Children by Developmental Group

	Typically Developing				Developmental Risk			
Variable	*N*	*M*	*SD*	Range	*N*	*M*	*SD*	Range
FSIQ Score	30	106.43	9.88	35	26	82.38	18.27	74
Age in Years	29	3.82	.72	2	28	3.92	.77	2

Note. FSIQ score = Focal Child’s Full Scale IQ Score according to WPPSI-IV

Table 4

Selected Categorical Descriptive Statistics for Present Sample

Characteristic	*N*	Total %
Mother Race		
Hispanic/Latino	15	20.3
African-American	3	4.1
Asian	2	2.7
White (Non-Hispanic)	31	41.9
Other	6	8.1
Father Race		
Hispanic/Latino	19	25.7
African-American	4	5.4
Asian	1	1.4
White (Non-Hispanic)	31	41.9
Whether or not Mother has a Psychiatric Diagnosis		
No	46	62.2
Yes	11	14.9
Whether or not Child Receives Special Services		
No	38	51.4
Yes	19	25.7
Child Gender		
Male	31	41.9
Female	26	35.1

Note. Total % columns do not add to 100% due to missing data, which were deleted pairwise due to small sample size.

Correlation analyses were conducted separately for mothers and fathers to determine which demographic and participant variables served as significant covariates to the dependent variable, parenting stress (PDH frequency or intensity scores, analyzed separately). Based on prior research in the field of parenting stress, parent race, level of education, whether or not the child receives special services outside of the home (as a measure of formal social support), and family income were included as covariates (e.g., Boehm & Carter, 2016; Valicenti-McDermott et al., 2015; Woodman et al., 2015). In addition, based both on prior research (Baker et al.,

2003; Crnic et al., 2005) as well as results of correlation analyses, parents' ratings of child behavior problems (as measured by parent's total score on the CBCL) were included as a covariate in mother and father analyses (see Tables 5 and 6) as this variable was significantly associated with PDH frequency and intensity scores. Also, whether or not the mother had a psychiatric diagnosis was included in mother analyses, as this factor was revealed to be significantly associated with mothers' PDH intensity scores (see Table 5).

Analyses revealed that for mothers, developmental risk group was not associated with PDH frequency or intensity scores, nor MSPSS scores. Developmental risk group was significantly associated with several covariates, including CBCL ratings, as well as mother's years of education, family income, and whether or not the child receives special services. MSPSS was associated with PDH frequency, but not PDH intensity. Further exploration of which subscale of MSPSS (friends, family, significant other) was most strongly related to PDH frequency revealed that MSPSS family support ratings were significantly correlated with PDH frequency (r = -.34, p<.01), such that higher MSPSS ratings were associated with lower PDH frequency scores. MSPSS friends and significant other ratings were not significantly related to PDH frequency.

For fathers, analyses revealed neither developmental risk group nor MSPSS to be related to PDH frequency or intensity. But, father's perceptions of child behavior problems were significantly correlated with PDH frequency (see Table 6) in that increased behavior problems were associated with more frequent parenting daily

hassles. In regard to father's perceived intensity of parenting daily hassles, neither developmental risk group nor MSPSS were related to perceived intensity of parenting daily hassles, although perceived social support did approach significance in relation to intensity of daily hassles (see Table 6). Child behavior problems were not significantly correlated to fathers' perceived intensity of parenting daily hassles.

Table 5

Results of Correlation Analyses for Mothers' Frequency & Intensity of Parenting Daily Hassles

	1	2	3	4	5	6	7	8	9	10
1. Developmental Risk	1									
2. Mother MSPSS Total Score	-.16	1								
3. Mother PDH Frequency Score	.18	-.29*	1							
4. Mother PDH Intensity Score	.09	.02	.62**	1						
5. Whether or not Child Receives Special Services	.72**	-.16	.05	.05	1					
6. Whether or not Mother has Psychiatric Diagnosis	.05	.11	.23	.38**	-.06	1				
7. Mother CBCL Total Score	.47**	-.14	.49**	.34*	.31*	.47**	1			
8. Mother Race	.12	-.27*	-.13	-.15	.13	-.07	.06	1		
9. Total Years of Education	-.44**	.27*	.01	.10	-.30*	-.05	-.26	-.16	1	
10. Yearly Family Income	-.35**	.30*	-.11	-.07	-.23	-.08	-.25	-.21	.69**	1

Note. ***p < 0.01*
**p < 0.05*

Table 6

Results of Correlation Analyses for Fathers' Frequency & Intensity of Parenting Daily Hassles

	1	2	3	4	5	6	7	8	9
1. Developmental Risk	1								
2. Father MSPSS Total Score	-.25	1							
3. Father PDH Frequency Score	.08	-.18	1						
4. Father PDH Intensity Score	-.09	-.25	.69**	1					
5. Whether or not Child Receives Special Services	.72**	-.24	.09	.03	1				
6. Father CBCL Total Score	.50**	-.45**	.43**	.18	.49**	1			
7. Father Race	-.09	-.07	.18	.21	-.09	-.17	1		
8. Total Years of Education	-.29*	.30*	-.07	.03	-.32*	-.34*	.19	1	
9. Yearly Family Income	-.35**	.22	.07	.16	-.23	-.13	.14	.58**	1

Note. ** *p< 0.01*
* *p< 0.05*

Several statistical analyses were used to test the first hypothesis that developmental risk group would predict PDH scores. First, independent samples t-tests were conducted separately for mothers and fathers to determine whether or not parents of children with developmental risk differed from parents of typically developing children in their experience of PDH frequency and intensity. For mothers, Levene's test for equality of variances was met for both perceptions of daily hassle frequency (F [55] = 0.53, p=.468) and intensity (F [55] = 2.17, p=.147) and as such, t-tests assuming homogeneity of variances were used. Contrary to the hypothesis, analyses revealed no statistically significant difference between mothers of typically developing children (n = 29, M = 43.93, SD = 10.81) and mothers of children with

developmental risk (n = 28, M = 46.29, SD = 14.55) in perceptions of frequency (t [55] = -1.38, p =.172) or intensity of parenting daily hassles (t [55] = -.70, p = .490).

For fathers, Levene's test for quality of variances were also met for perceptions of frequency (F [46] = 1.825, p=.183, and intensity (F [46] = 2.17, p = .147) of parenting daily hassles, and so t-tests assuming homogeneity of variance were also used. Also contrary to the hypothesis, fathers of children with developmental risk (n = 22, M = 42.68, SD = 12.07) did not report significantly more frequent (t [46] = -.57, p = .571) or intense (t [46] = .60, p =. 549) parenting daily hassles than fathers of typically developing children (n = 26, M = 44.77, SD = 11.84).

To further examine any potential differences in perceived parenting stress, multiple regression analyses were conducted separately for both mothers and fathers. Contrary to the hypothesis, analyses revealed that developmental risk did not significantly predict either PDH frequency or intensity for mothers (see Tables 7 and 8) or fathers (see Tables 9 and 10).

Table 7

Results of Linear Regression to Test Hypothesis 1, That Developmental Risk Group Would Predict Mothers' Frequency of Parenting Daily Hassle Scores (N = 57)

Variable	*B*	*SE B*	β	*t*	*p*
Developmental Group (*N* = 66)	2.23	4.44	.10	.50	.618
Whether or not Child Receives Special Services (*N* = 57)	-2.77	4.19	-.13	-.66	.513
Whether or Not Mother has Psychiatric Diagnosis (*N* = 57)	1.28	3.69	.05	.35	.731
Mother CBCL Total Score (*N* = 55)	.39	.12	.49	3.29	.002*
Mother's Race (*N* = 57)	-3.16	2.81	-.14	-1.13	.277
Mother's Total Years of Education (*N* = 57)	.95	.67	.25	1.42	.163
Yearly Family Income (*N* = 55)	-5.02E-5	.00	-.18	-1.05	.299

*Note.**p < 0.01*
Outcome Variable = Mothers' Total Score on PDH Frequency Scale
Missing data were deleted pairwise, resulting in a different (N) for each variable
Whole Model $R^2 = .31$

Table 8

Results of Linear Regression to Test Hypothesis 1, That Developmental Risk Group Would Predict Mothers' Intensity of Parenting Daily Hassle Scores (N = 57)

Variable	*B*	*SE B*	β	*t*	*p*
Developmental Group (*N* = 66)	.02	5.23	.00	.00	.997
Whether or not Child Receives Special Services (*N = 57*)	1.44	4.94	.05	.29	.771
Whether or Not Mother has a Psychiatric Diagnosis (*N* = 57)	9.34	4.35	.29	2.15	.037*
Mother CBCL Total Score (*N* = 55)	.25	.14	.27	1.76	.085
Mother Race (*N* = 57)	-3.72	3.31	-.15	-1.12	.268
Mother Total Years of Education (*N* = 57)	1.47	.79	.34	1.86	.069
Yearly Family Income (*N* = 55)	-7.37E-5	.00	-.23	-1.31	.197

*Note. **p< 0.05*
Outcome Variable = Mother's Total Score on PDH Intensity Scale
Missing data were deleted pairwise, resulting in a different (N) for each variable
Whole Model $R^2 = .28$

Table 9

Results of Linear Regression to Test Hypothesis 1, That Developmental Risk Group Would Predict Fathers' Frequency of Parenting Daily Hassle Scores (*N* = 48)

Variable	*B*	*SE B*	β	*t*	*p*
Developmental Group (*N* = 66)	-1.81	4.35	-.09	-.41	.679
Whether Child Receives Special Services (*N* = 55)	-1.86	4.42	-.09	-.42	.675
Father CBCL Total Score (*N* = 47)	.53	.16	.56	3.28	.002**
Father Total Years of Education (*N* = 54)	-.07	.65	-.02	-.11	.910
Father Race (*N* = 55)	5.10	2.86	.25	1.79	.082
Yearly Family Income (*N* = 55)	1.79E-5	.00	.07	.39	.699

*Note. ** p<0.01*
Outcome Variable = Father's Total Score on PDH Intensity Scale
Missing data were deleted pairwise, resulting in a different (N) for each variable
Whole Model R^2 *=.28*

Table 10

Results of Linear Regression to Test Hypothesis 1, That Developmental Risk Group Would Predict Fathers' Intensity of Parenting Daily Hassle Scores (*N* = 48)

Variable	*B*	*SE B*	β	*t*	*p*
Developmental Group (*N* = 66)	-6.35	5.51	-.27	-1.15	.256
Whether Child Receives Special Services (*N* = 55)	2.99	5.60	.12	.53	.597
Father CBCL Total Score (*N* = 47)	.33	.21	.30	1.62	.114
Father's Total Years of Education (*N* = 54)	-.03	.82	-.01	-.03	.975
Father's Race (*N* = 55)	5.53	3.62	.24	1.53	.134
Yearly Family Income (*N* = 55)	3.00E-5	.00	.10	.52	.608

Note. Outcome Variable = Fathers' Total Score on PDH Intensity Scale
Missing data were deleted pairwise, resulting in a different (N) for each variable
Whole Model $R^2 = .15$

Linear regression analyses were conducted via the PROCESS macro for SPSS (Hayes, 2013) to test the second hypothesis that MSPSS scores would moderate the relation between child developmental risk and PDH scores. To reduce multi-collinearity, the PROCESS macro mean-centers predictor variables (developmental risk group and mother and father total scores on MSPSS). The PROCESS macro creates an interaction variable by multiplying the centered developmental risk group variable by the centered MSPSS variable, which is included in the regression model to test for the moderating role of social support on parenting stress in relation to child developmental risk. Analyses for mothers and fathers were run separately, with the developmental risk group variable entered as the predictor variable, mother or father MSPSS score entered as the moderator variable, mother or father PDH frequency and intensity score entered as the dependent variable, and relevant covariates entered as covariates. Results of the regression analyses for mothers are depicted in Tables 11 and 12, and in Tables 13 and 14 for fathers. Contrary to the hypothesis, results revealed that the interaction between social support and child developmental risk was not statistically significant for mothers or fathers, providing no support for the hypothesis that social support moderated the relationship between child developmental risk and parenting stress.

Table 11

Results of Linear Regression to Test Hypothesis 2, That Informal Social Support Would Moderate the Relationship Between Child Developmental Risk Group and Mothers' Frequency of Parenting Daily Hassle Scores (N= 53)

Variable	*B*	*SE B*	*t*	*p*
Developmental Group	2.09	4.02	.52	.606
Mom MSPSS Score	-2.84	1.02	-2.7	.007**
Interaction Developmental Risk Group & Mom MSPSS Score	1.79	1.92	.93	.356
Whether or not Child Receives Special Services	3.04	3.76	-.81	.423
Whether or Not Mother has a Psychiatric Diagnosis	9.89	4.37	2.26	.029*
Mother CBCL Total Score	.35	.11	3.15	.003**
Mother's Race	3.09	2.66	1.16	-.251
Mother's Total Years of Education	1.11	.60	1.83	.073
Yearly Family Income	.00	.00	-.86	.399

*Note:**p < 0.01, *p < 0.05*
Outcome Variable = Mothers' Total Score on PDH Frequency Scale
Whole Model $R^2 = .40$

Table 12

Results of Linear Regression to test Hypothesis 2, That Social Support Would Moderate the Relationship Between Child Developmental Risk Group and Mothers' Intensity of Parenting Daily Hassle Scores (N = 53)

Variable	*B*	*SE B*	*t*	*p*
Developmental Group	.15	5.20	.03	.976
Mom MSPSS Score	-.16	1.32	-.12	.903
Interaction Developmental Risk Group & Mom MSPSS Score	-2.54	2.49	-1.02	.313
Whether or not Child Receives Special Services	.72	4.86	.14	.883
Whether or Not Mother has a Psychiatric Diagnosis	9.89	4.37	2.26	.032*
Mother CBCL Total Score	.23	.143	1.61	.115
Mother Race	3.31	3.43	-.96	.341
Mother Total Years of Education	1.43	.78	1.84	.073
Yearly Family Income	-.00	.00	-1.14	.257

*Note. *p< 0.05*
Outcome Variable = Mothers' Total Score on PDH Intensity Scale
Whole model $R^2 = .29$

Table 13

Results of Linear Regression to Test Hypothesis 2, That Informal Social Support Would Moderate the Relationship Between Child Developmental Risk Status and Fathers' Frequency of Parenting Daily Hassle Scores (N = 44)

Variable	*B*	*SE B*	*t*	*p*
Developmental Group	-5.47	5.25	-1.04	.305
Father MSPSS Score	.38	1.61	.23	.813
Interaction Developmental Group & Father MSPSS Score	-.70	2.89	-.24	.810
Whether Child Receives Special Services	2.25	5.36	.42	.678
Father CBCL Total Score	.54	.18	3.01	.005*
Father Race	6.39	3.21	1.99	.054
Father Total Years of Education	-.140	.71	-.20	.844
Yearly Family Income	000	.00	.16	.873

*Note. *p< 0.05*
Outcome Variable = Fathers' Total Score on PDH Frequency Scale
Whole Model $R^2 = .30$

Table 14

Results of Linear Regression to Test Hypothesis 2, That Informal Social Support Would Moderate the Relationship Between Child Developmental Risk Status and Fathers' Intensity of Parenting Daily Hassle Scores (N = 44)

Variable	*B*	*SE B*	*t*	*p*
Developmental Group	-10.56	6.43	-1.64	.110
Father MSPSS Score	-1.93	1.96	-.98	.333
Interaction between Developmental Risk Group & Father MSPSS Score	.43	3.54	.12	.903
Whether Child Receives Special Services	8.34	6.56	1.27	.211
Father CBCL Total Score	.29	.22	1.33	.191
Father Race	6.98	3.93	1.78	.084
Father Total Years of Education	.21	.87	.24	.811
Yearly Family Income	0000	.000	.160	.873

Note. Outcome variable = Fathers' Total Score on PDH Intensity Scale
Whole Model $R^2 = .22$

There were two components of hypothesis 3; the first part of the hypothesis was that mothers and fathers would report significant differences in PDH scores, and the second part was that social support would serve to moderate the relationship between developmental risk and parenting stress more in mothers than in fathers. Because no evidence was found for the moderating role of social support, only the first part of hypothesis 3 (mother and father differences in parenting stress) was tested. Independent samples t-tests assuming homogeneity of variances were used given that Levene's test for equality of variances was met for mother (n = 57) and father (n = 48) frequency (F [103] = 1.10, p=.296) and intensity (F [103] = .08, p = .775) PDH scores. Contrary to the hypothesis, analyses revealed no statistically significant difference in perception of PDH frequency (t [103] = .53, p=.599) between mothers (n = 57, M = 61.14, SD = 11.01) and fathers (n = 48, M = 58.35, SD = 10.18). Also contrary to the hypothesis was the finding that mothers (n = 57, M = 45.09, SD = 12.73) and fathers (n = 48, M = 45.09, SD = 12.73) did not significantly differ from each other in PDH intensity (t [103] = .1.34, p=.184).

DISCUSSION

The purpose of the present study was to examine whether developmental risk predicted parenting stress, to explore whether informal social support moderated the relation between child developmental risk group and daily parenting stress, and to investigate potential differences in mothers' and fathers' experiences of daily parenting stress. The results of the present study did not provide support for the proposed hypotheses, as developmental risk was not found to predict parenting stress, nor was social support found to act as a moderator. In addition, mothers and fathers were not shown to have significant differences in their experience of stress. However, the results did reveal several interesting details about informal social support and parenting stress in parents of children with and without developmental risk.

One aim of the present study was to examine the construct of stress from the perspective of parents' daily experiences of hassles in caring for their children. To do this, parents were asked to give self-reports of the frequency and intensity of daily parenting hassles they experience via the Parenting Daily Hassles questionnaire (Crnic & Greenberg, 1990). While previous research (Barroso et al., 2018; Crnic & Low, 2002) has indicated most parents experience some stress in the process of caring for their children, some parents (particularly parents of children with developmental risk) are more likely to experience greater stress than others (Barroso et al., 2018; Dunn et al., 2001). As most prior research has indicated that parents of children with developmental risk (particularly parents of children with autism) tend to report higher stress than parents of typically developing children (e.g., Dunn et al., 2001, Lindsey

& Barry, 2018), it was hypothesized that parents of children with developmental risk would report greater intensity of daily parenting hassles than parents of typically developing children. This hypothesis was not supported, as no statistically significant relationship between developmental risk group and daily parenting stress was found, and parents in the developmental risk group did not differ significantly in their report of frequency or intensity of parenting daily hassles than parents of typically developing children.

Indeed, parents did not appear to show high levels of stress in the current study, as indicated by their mean PDH scores. Scoring instructions provided for the PDH indicate that a score of 70 or above on the intensity scale suggests that the "parent is experiencing significant pressure over parenting" (instruction #20, page 2b; Crnic & Greenberg, 1990). Interestingly, the average score for both groups of parents on the PDH intensity scale was well below this score for mothers and fathers, suggesting that for this sample, neither parents of typically developing children nor children with developmental risk perceived significant pressure in daily parenting, and therefore did not significantly differ from each other in perceptions of daily parenting stress. It is surprising that parents of children with developmental risk in the present study did not experience significantly more stress in daily parenting tasks than parents of typically developing children, as the majority of previous literature has found that these parents report significantly high levels of stress (Peer & Hillman, 2014; Kasari & Sigman, 1997).

The first possibility to be considered as to the reason the present results differ from prior research is statistical power, in that the small sample size of the present study may have had a detrimental effect on the ability to detect significant differences between parents of typically developing children and children with developmental risk. Another possible reason for the discrepancy in findings from the present study as compared to others may be due to the method of defining developmental risk. That is, studies which have identified significant differences in parenting stress between parents of children with and without developmental risk have tended to define comparison groups by the nature or specific type of disability (i.e., diagnosis), IQ level, (Barroso, 2018) or severity (i.e., high functioning versus low functioning autism; Rivard et al., 2014). Indeed, in a recent review of parenting stress, Barroso (2018) noted that differences in severity in parenting stress can be seen more clearly when distinction is made between different clinical groups, which is understandable given the variability and uniqueness of challenges presented by each group (i.e., ASD/DD vs. chronic illness). This differs from the approach of the present study, which defined the group more generally as “developmentally at risk,” and did not have sub-groups related to specific disability or level of functioning. In another study that defined developmental risk similarly, Pedersen et al. (2015) also did not detect a significant difference in perceived intensity of parenting daily hassles between parent groups over time. Therefore, it may be that the heterogeneous method of grouping of participants only by whether or not the child had developmental risk may have negatively impacted the ability to detect significant differences between groups of

parents. Future studies may wish to make greater distinction between typically developing and developmental risk groups, perhaps by delineating developmental risk group by type of diagnosis, level of impairment (i.e., high functioning versus low functioning autism), or severity (mild, moderate, severe). It is worth noting that the majority of children in the developmental risk group (85%) met the criteria for ASD diagnoses, and the small number of other participants who met the criteria for other types of developmental disability did not allow for the parsing out of children into different categories (i.e., high functioning vs. low functioning autism; intellectual disability vs. Down Syndrome vs. ASD) due to concerns of low power in statistical analyses. To explore this issue further in the current study, bivariate correlation analyses were performed between child IQ and parent PDH scores. Results did not reveal a significant relationship between child IQ and parenting stress and as such, parents were not separated into groups according to level of child IQ.

Another potential contributing factor to the discrepancy between the results of the present study and the majority of previous literature is the issue of instrumentation. As stated previously, studies related to the topic of parenting stress have historically measured and defined stress either according to the parent's experience of stressful major life events (Deater-Deckard, 1998, 2005), or according to parent's perception of general parenting stress as defined by the Parenting Stress Index (PSI, Abidin; 1990). In contrast, for the present study, parenting stress was conceptualized, defined, and measured from the context of the parents' experience of daily hassles in caring for their children (PDH, Crnic & Greenberg, 1990). It has been

noted that differences in the measurement of parenting stress across studies can lead to difficulty in comparing results (Rivard et al., 2014). So, it may be that the results found in the present study are not directly comparable to some previous research because of the differences in the conceptualization and measurement of the parenting stress construct. Clearly, the lack of consistency in the present results with studies that have used other types of measurement highlights that the construct of parenting stress is complex and influenced by a variety of factors. It is important to note, however, that the present study is the not the first to find stress in parents of children with developmental risk to be lower than expected (Teehee, 2009), or to not differ significantly from parents of typically developing children (Graungaard, Andersen & Skov, 2011; Pedersen et al., 2015, Peer & Hillman, 2014). This brings into question other factors which may have influenced these parents' perception of stress.

Several different child factors have been shown to be significantly related to parent stress (e.g., maladaptive behavior, level of cognitive or social impairment; Boyd, 2002), with child behavior being revealed as consistently related to parent stress in both typically and non-typically developing children (Boehm & Carter, 2016; Boyd, 2002). Therefore, parents' perceptions of child behavior were included in the present analyses as a relevant covariate. Consistent with prior research, children whose parents rated them as exhibiting more behavior problems (such as anxiety, depression, attention or aggression problems) also reported experiencing more frequent and intense parenting daily hassles. Exploration of whether parent perceptions of child behavior varied between developmental risk groups was outside

the scope of the present study, but present knowledge suggests that parents of children with developmental risk frequently report more behavior problems than parents of typically developing children (e.g., Baker, McIntyre, Blacker & Crnic, 2003; Woodman, et al., 2015). The present results show that child behavior problems were a strong predictor of parent stress, but child developmental risk was not associated with parent stress. This finding may highlight the need for future research to include child behavior as a relevant predictor, in addition to child developmental risk status, in order to more fully understand how each of these child factors relate to the daily experience of parenting.

It is important to note that while parents' reports of stress were not consistent with the hypothesis of the present study, the moderate levels of stress reported by these parents are in-line with some previous research, in particular studies which have used the parenting daily hassles model (Crnic & Greenberg, 1990) to conceptualize and measure parent stress. For example, previous longitudinal studies (e.g., Crnic Gaze & Hoffman, 2005 Pedersen et al., 2015) have found daily parenting stress to be low or moderate and remain stable over time. Further, in the study conducted by Crnic et al. (2005), only a small portion of mothers of typically developing children aged 3-5 years reported high levels of parenting stress across the pre-school period, with the majority of mothers reporting "stably low" intensity of parenting daily hassles across time (p. 123). In a more recent study conducted by Pedersen et al. (2015), intensity of parenting daily hassles for mothers and fathers of both typically and non-typically developing children aged 3-8 years remained moderate and stable

over a 6-year period. Thus, it may be that the levels of perceived daily stress reported by parents in the present sample may actually be representative of the experience of parenting young children. The fact that other studies have reported higher levels of stress parents of children with development risk gives further credence to the understanding of parenting stress as a complex construct, and also highlights the importance of examining factors which may have served to reduce parent perceptions of daily stress in the present sample.

The desire to better understand the factors that protect parents from the stress of parenting daily tasks led to the examination of informal social support as a potential buffer or moderator of parenting stress in the present study. Based on prior research which has shown that social support influences the relationship between parent stress and various negative outcomes (e.g., depression, anxiety, maladaptive child behavior, parent-child relationships; Deater-Deckard, 2005), it was hypothesized that informal social support (as measured by the MSPSS; Zimet et al., 1990) would serve to moderate the relationship between child developmental risk status and perceived frequency and intensity of parenting daily hassles, in that parents who reported higher perceived levels of informal social support would also report lower stress in completing daily parenting tasks. It was also hypothesized that parents of children with developmental risk would report lower levels of perceived social support than parents of typically developing children. Surprisingly, a ceiling-effect was apparent in both mother and father MSPSS scores, as most mothers and fathers in both groups of parents reported high levels of social support (as defined by MSPSS

scoring guidelines, Zimet et al., 1988). Regression analyses failed to reveal a significant interaction for informal social support and child developmental risk status, giving no support for the hypothesis that informal social support moderated parent's experience of stress as a function of child developmental risk.

However, interesting relationships between social support and perceived parenting stress were found. Specifically, a higher level of informal social support was a significant predictor of less frequent parenting daily hassles for mothers, but not for fathers. Also intriguing was the finding that for mothers, social support from family was significantly related to the perception of less frequent parenting daily hassles, but social support seemed to be unrelated to father’s perceptions of PDH frequency. The present results also suggest that for this sample of parents, informal social support was not a significant predictor of intensity of parenting daily hassles for mothers or fathers in either developmental risk group. The difference in the relationship between informal social support and parenting daily hassle frequency and intensity brings to light the complexity of the role of social support in parents’ daily lives in caring for their children regardless of child developmental risk status. It appears that for mothers, having family members available for help and support significantly reduced perceptions of parenting daily hassle occurrence, and perhaps this indirectly impacted subsequent perceptions of daily hassle intensity.

Parents can derive social support from either informal or formal sources, and as noted by Peer and Hillman (2014) in a review of resilience and coping in parents of children with disabilities, results of several studies have revealed that formal social

support can also serve to protect parents from stress associated with parenting. For example, formal social support in the form of professionally organized parent support groups allows parents to have candid discussion with other parents who are able to provide empathy and informational support, which can help reduce distress (Heiman & Berger 2008) and help with stress management (Freedman, Litchfield, & Warfield, 1995). An additional source of stress relief for parents of children with developmental risk may be found in formal respite care (Peer & Hillman, 2014), as significant reduction in stress levels have been seen after parents were given brief opportunities to allow others to help care for their children (Cowen & Reed, 2002). Conversely, there is also research (e.g., Boehm & Carter, 2016) which suggests that formal social support is not always helpful, so it may be that other parent characteristics like coping style (Smith, Seltzer, Tager-Flusberg, Greenberg & Carter, 2008) sense of optimism (Baker, Blacher & Olsson, 2005), and other forms of support such as religious faith (Lee, 2009) served to moderate perceived stress in the present sample of parents of children with developmental risk. Clearly, the relationship between parenting stress, informal and formal social support, and relevant parent characteristics such as coping style are not yet fully understood. While the present study attempted to control for the influence of formal social support by including information about whether or not the child received special services outside of the home in analyses, future studies regarding social support may wish to further elaborate on the topic by specifically asking parents which particular forms of formal support they find to be available and helpful.

There are other important considerations to be made in understanding the lack of evidence for social support as a moderator of stress in the present sample of parents. While there is indeed evidence for the moderating effect of social support in reducing the negative effects of stress (e.g., Boyd, 2002; Cohen & Willis, 1985), it is important to note the such effects are typically only observed under specific conditions in data analysis which were not found in the present sample. That is, the moderating effects of social support on stress and negative outcomes associated with stress are typically revealed under conditions of high stress (Quittner, Glueckauf & Jackson, 1990), which for the most part was not reported by either group of parents in the present study. It has been noted (e.g., McClelland & Judd, 1993;Whisman & McCelland, 2005) that individual predictor variance is reduced in the event there is a "clustering of cases in the center of a distribution" (e.g., Whisman & McCelland, 2005, p. 7), as was seen in the present sample of PDH scores, and McClelland and Judd (1993) noted that "jointly extreme observations are crucial for detecting interactions" (pp. 382-382), which were not evidenced in either the PDH or MSPSS scores for either groups of parents. Thus, it may be that because both groups of parents (developmental risk and typically developing) reported relatively high levels of informal social support, the moderating role of such support on parenting stress could not be detected due to parent's reports of mostly average levels of parenting stress and high levels of perceived social support.

Other factors related to the study may have contributed to the relatively small effect sizes found in moderation analyses ($R^2 = .30$ for mothers, $R^2 = .22$ for fathers)

and inability to detect a significant interaction effect between social support and developmental risk group It is well-known that sample size plays a vital role in the ability to detect certain outcomes such as main effects, but the role of sample size on statistical power to detect interaction effects is noted to be a crucial factor in moderation analyses (e.g., Aiken & West, 1991, Whisman & McClelland, 2005), and it may be that the relatively small sample size of the present study did not provide enough statistical power to detect a significant interaction between social support and developmental risk on the experience of daily parenting stress. Low sample size is a problem faced by many family and child development researchers, as Whisman and McClelland (2005) noted in a general review of the complexities which surround testing for moderation. Obtaining large sample sizes in child development research can prove to be problematic for researchers, as it has been noted that recruitment and retention of this population in research can be difficult (Cleaver, Ouellette-Kuntz, Sakar, 2010; Taua, Neville & Hepworth, 2014). Still, it is worthwhile to conduct research which has small sizes, as sample size is not the only factor which contributes to the statistical power necessary to detect significant interactions.

Another final aim of the present study was to examine whether or not there are significant differences in mother's and father's perceptions of parenting stress, as mother's perceptions have been predominantly addressed in previous research (Hayes & Watson, 2013). The present study added to this understanding by comparing mother's and father's perceptions of parenting daily hassles. It was hypothesized that mothers would perceive greater intensity of parenting daily hassles than fathers, and

that social support would serve to moderate the perception of stress in mothers more so than in fathers. As previously mentioned in the results, only differences in mother and father perceptions of stress were tested, as there was no evidence to support social support as a moderator for either mother of father parenting stress.

Interestingly, mothers and fathers did not differ significantly from each other in their perceptions of parenting stress. While this contradicts the hypothesis, the present results add to a growing number of studies that have also found mother and father experiences of parenting stress to be more similar than different (e.g., Hastings, 2003; Davis & Carter, 2008). The lack of a significant difference in parents' reports of stress may be due to actual similarities in parenting perceptions for mothers and fathers, or may be due to the inequality of mother and father participants. Future research which includes father perceptions is thereby important to further understand whether or not mothers and fathers are truly more similar than different in perceptions of daily parenting stress. Sufficient father participation still proves to be a problem in family and child development research (Johnson & Simpson, 2013; Pedersen, et al., 2015), and it is worth noting that much effort was made to ensure equal participation on behalf of fathers in the present study. The understanding of fathers' perceptions in parenting children with developmental risk (and ASD in particular), is still lacking, and the inclusion of fathers in the present study does therefore greatly add to the understanding of fathers' experiences in parenting both typically developing and non-typically developing children, irrespective of whether or not their experiences aligned with proposed hypotheses.

Limitations

There are other important limitations that have not yet been mentioned, but are relevant to consider in the discussion of the results of the present study. First, the cross-sectional nature of the study design means that results are therefore correlational, which limits generalizability and reduces ability to infer causality. However, while cross-sectional research may not provide as in-depth an understanding as longitudinal research, the present study does offer a unique glimpse of parent's experience in parenting young children, and also their perceptions of informal social relationships. Future multi-modal research is warranted to more fully comprehend parents' perceptions of daily stress and informal social support at different times in their child's development, and to understand how these perceptions change across time.

Other limitations to note are that the sample was that of convenience, and all variables aside from child IQ were provided by parent self-report. The lack of report of high levels of stress in either group of parents on the intensity subscale of the PDH may indicate some form of response bias, in that perhaps parents are more comfortable honestly reporting how frequently parenting daily hassles occur, but are less inclined to report accurate perceptions of how stressful these daily hassles are. In a similar fashion, parents' reports of high levels of informal social support on the MSPSS may reflect a desire to avoid being perceived as lacking in social contacts. However, while social desirability may well have impacted parents' responses on

these measures to some extent, it is worth noting that these measures did demonstrate good reliability and therefore may well reflect actual parent perceptions.

Implications and Future Directions

Despite limitations, the present study contributes to the growing understanding that while many parents of children with ASD and other types of developmental risk report increased stress, this is not a universal phenomenon. As shown in the current study, some parents of children with developmental risk do not report feeling more frequent or intense pressure in completing their daily parenting tasks. Most research has only included the intensity score to operationally define and measure stress, however the present study found that social support significantly predicted mothers' perceptions of parenting daily hassle frequency, not intensity. Thus, future research grounded in the parenting daily hassles model may wish to include the frequency score in analyses as well as the intensity score. While these two aspects of stress are clearly related to each other, they do represent different aspects of the experience of daily stress for parents, and the difference in relation to social support may be better understood if both scales were to be included in future analyses.

Future research regarding families of children with developmental risk should include comparison groups to further comprehend what similarities and differences actually exist between these families and families of typically developing children. Although the hypothesis that families of children with developmental risk would experience greater stress than typically developing families was not supported, these

results are consistent with some previous research related to resilience in families of children with developmental risk (e.g., Baker, Blacher & Olson, 2005; Blacher & Baker, 2007; Glidden, Billings & Jobe, 2006), which has revealed that many families of children with developmental risk in fact “do well” (McConnell, Savage, Breitkreuz, 2014; p. 834). To elaborate, Bayat (2007) concluded, from a study regarding resilience in 175 families of children with ASD, that many factors appear to increase the family's ability to view the child's diagnosis and the experience of caring for the child in a positive manner. Some of these factors included spiritual growth (e.g., increased trust in God's sovereignty over the child's condition), decreased judgmental thoughts about others, increased compassion and sociability toward other families of children with developmental risk, and feelings of increased personal strength.

Peer and Hillman (2014) noted that coping styles, optimism and social support tend to protect parents from experiencing severe stress. In particular, problem-focused styles of coping tend to be associated with less stress in parents of children with ASD and other developmental disabilities (Smith et al., 2008) than parents who have more emotion-focused coping styles. Optimism has also shown to moderate parent stress, in that parents of children with developmental risk who are able to identify positive contributions and experiences from their child tend to report significantly lower levels of distress, fewer marital problems, and less depression than parents who are not as optimistic (Kayfitz, Gragg & Orr, 2010). Much work is still needed to understand positive outcomes in families of children with developmental risk, but it is clear that

while many parents do indeed experience greater stress as a result of a child with developmental risk, some parents and families actually perceive the situation positively, and derive benefit from having a child with a disability.

Along those lines, it is interesting to see that, as defined by the creators of the PDH (Crnic & Booth, 1991) and MSPSS (Zimet et al., 1990), the present sample of parents of children with developmental risk reported feeling only moderate levels of stress but high levels of social support. It may be that the results of present study represent positive changes in parents' experiences of raising a child with developmental risk. In the United States, awareness and advocacy for developmental disabilities, particularity related to ASD, has changed dramatically in the past few decades (McKeever, 2013). Research regarding stress in parents of children with developmental risk began to increase in the early 1990's, and since that time, legislation (e.g., Combatting Autism Act passed in 2006; McKeever, 2012) has led to increased funding for research related to autism diagnosis and treatment. Cultural awareness of autism has changed since the 1990's as well. Specifically, news media coverage on the topic has moved away from a science-focused (e.g., cause of ASD) framing of information, to a more human-focused (e.g., experience of living with ASD) and solution-focused framing of information (e.g. necessary changes to community resources for those with ASD and their families; McKeever, 2013). It is possible that increased awareness and advocacy for children with developmental disability (particularly children with ASD) and their parents in recent years may be

serving to decrease stigma and stress, and also increase support for families from informal sources.

Conclusions

In summary, the present study brings to light many important facets of family adaptation for parents of typically developing children and children with developmental risk. While past literature indicates that parents of children with developmental risk experience greater stress in caring for their children than parents of typically developing children, the present study shows that this is not always true. Regardless of whether or not a child has developmental risk, the daily experience of parenting is influenced by a number of factors; perhaps the parenting experience is more similar than previously assumed. Clearly, future research should consider the complexity of parenting stress as we move forward in understanding how to help parents address and respond to relevant sources of stress in their lives. As opposed to the majority of research in this area which has examined social support and parenting stress from the conceptualization of either stressful major life events or parent/child psychopathology, the present study contributes to our understanding of the experience of parenting from the context of everyday events, which has been lacking in empirical research.

Also shown is the multifaceted nature of informal social support, and the relationship between such support and stress associated with daily parenting tasks. While the results of the present study did not find informal social support to be a moderator of parent stress for either parents of typically developing or children with

developmental risk, there was evidence for a direct effect of informal social support in decreasing mothers' perceptions of daily hassle frequency regardless of developmental risk status. This suggests that informal social support does appear to directly decrease mothers' perception of daily hassle occurrence and may therefore be an important resource in promoting resilience. Professionals working with families of children with developmental risk may wish to utilize tools such as the MSPSS to better understand whether parents perceive informal social support to be available and encourage them to seek support that may be beneficial when appropriate. The inclusion of father perceptions in the present study aids in the comprehension of the experience of parenting stress for both parents, which is important to truly understand the entire family's adaptation to developmental risk. Clearly, larger longitudinal studies are needed to truly ascertain the role of informal and formal social support on parent's perceptions of daily stress as children, parents, families, and the societies in which they live change over time.

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APPENDICES

APPENDIX A

FAMILY INFORMATION FORM

Family Information Form
(To be completed by the primary caregiver)

Note: In this survey, "focal child" means your preschool-aged child who is the focus of the research study.

Regarding Mother (Parent 1, Primary Caregiver)

1. Gender (circle one):
    a. Female
    b. Male
    c. Other: _____

2. Caregiver status (circle one): Primary Caregiver Other: _____

3. Relation to child (circle one):
    a. Biological parent
    b. Step-parent
    c. Adoptive parent
    d. Foster parent
    e. Other: _____

4. Age (in years): _____

5. Date of Birth (MM/DD/YYYY): _____

6. Race/ethnicity (circle one):
    a. Hispanic/Latino, any race
    b. African-American
    c. Asian
    d. Native American/Pacific Islander
    e. White (non-Hispanic)
    f. Other: _____

7. Marital status (circle one):
    a. Married to biological father
    b. Separated/Divorced from biological father

c. Widowed by biological father
d. Cohabitating (living together) with biological father but never married

8. Married or in a long-term relationship with a partner other than the biological father:
(circle one)
a. Yes
b. No

9. Length of time lived in the home with the focal child (in years): _____

Regarding Mother (Parent 1, Primary Caregiver), continued

10. Years of education (total years): _____
Note: High School = 12 years; College = 16 years; Masters ± 18 years, Ph.D ± 20 years

11. Highest degree earned (circle one):
a. None
b. HS Diploma/GED
c. AA/Vocational Degree
d. Bachelor's degree (BA, BS)
e. Graduate degree (Master's, Doctoral, MD, JD)

12. Employment Status (circle one):
Note: "Employed" includes self-employment as well as employment outside the home
a. Employed full-time (approx. 40 hrs/week)
b. Employed part-time (approx. 20 hrs/week)
c. Stay-at-home caregiver
d. Unemployed

13. General health (circle one):
a. Excellent
b. Good
c. Fair
d. Poor

14. Psychiatric diagnosis (circle one):
Note: please answer "yes" if a doctor or mental health professional has diagnosed Parent 1 with a current psychiatric disorder (depression, anxiety, bipolar disorder, schizophrenia, etc.)
a. Yes Please specify: _____

b. No

Regarding Father (Parent 2, Secondary Caregiver)

15. Gender (circle one):
    a. Female
    b. Male
    c. Other: _____

16. Relation to child (circle one):
    a. Biological parent
    b. Step-parent
    c. Adoptive parent
    d. Foster parent
    e. Other: _____

17. Age (in years): _____

Regarding Father (Parent 2, Secondary Caregiver), continued

18. Date of Birth (MM/DD/YYYY): _____

19. Race/ethnicity (circle one):
    a. Hispanic/Latino, any race
    b. African-American
    c. Asian
    d. Native American/Pacific Islander
    e. White (non-Hispanic)
    f. Other: _____

20. Marital status (circle one):
    a. Married to biological mother
    b. Separated/Divorced from biological mother
    c. Widowed by biological mother
    d. Cohabitating (living together) with biological mother but never

       married

21. Married or in a long-term relationship with a partner other than the biological mother:
    (circle one)
    a. Yes
    b. No

22. Length of time lived in the home with the focal child (in years): _____

23. Years of education (total years): _____
Note: High School = 12 years; College = 16 years; Masters ± 18 years, Ph.D ± 20 years

24. Highest degree earned (circle one):
    a. None
    b. HS Diploma/GED
    c. AA/Vocational Degree
    d. Bachelor's degree (BA, BS)
    e. Graduate degree (Master's, Doctoral, MD, JD)

25. Employment Status (circle one)
Note: "Employed" includes self-employment as well as employment outside the home
    a. Employed full-time (approx. 40 hrs/week)
    b. Employed part-time (approx. 20 hrs/week)
    c. Stay-at-home caregiver
    d. Unemployed

Regarding Father (Parent 2, Secondary Caregiver), continued

26. General health (circle one):
    a. Excellent
    b. Good
    c. Fair
    d. Poor

27. Psychiatric diagnosis (circle one):
Note: please answer "yes" if a doctor or mental health professional has diagnosed Parent 2 with a current psychiatric disorder (depression, anxiety, bipolar disorder, schizophrenia, etc.)
    a. Yes Please specify: _____
    b. No

Regarding focal child (the preschooler who is the focus of the research study)

28. Child's gender (circle one):
    a. Female
    b. Male
    c. Other: _____

29. Child's age (in years): _____

30. Child's date of Birth (MM/DD/YYYY): _____

31. Child's race/ethnicity (circle one):
    a. Hispanic/Latino, any race
    b. African-American
    c. Asian
    d. Native American/Pacific Islander
    e. White (non-Hispanic)
    f. Other: _____

32. Was the child exposed to toxins during the mother's pregnancy?
Note: this includes (but is not limited to) alcohol, illegal drugs, cigarette smoke, etc.
    a. Yes Please specify: _____
    b. No

33. Were there complications during the child's birth?
    a. Yes Please specify: _____
    b. No

<u>Regarding focal child (the preschooler who is the focus of the research study),</u>

<u>continued</u>

34. Did the child meet developmental milestones on time (sitting, crawling, walking, talking)
    a. Yes
    b. No Please specify: _____

35. Does the child currently receive special services at home or outside the home?
    a. Yes
        Please length of time services have been/were provided, and type of service provided:
        _____
    b. No

36. Child's psychiatric or developmental diagnosis (circle one):
Note: please answer "yes" if a doctor or mental health professional has diagnosed the focal child with a current psychiatric or developmental disorder (autism, intellectual disability, Down's Syndrome, depression, anxiety, ADHD, etc.)
    a. Yes Please specify:
        _____

b. No

37. Child's general health (circle one):
    a. Excellent
    b. Good
    c. Fair
    d. Poor

38. What is the child's school placement? (circle one)
    a. Elementary School
    b. Preschool (not Headstart)
    c. Headstart or Early Headstart
    d. Daycare or home childcare
    e. None

Additional Questions

39. Estimated yearly family income (before taxes and other expenses):

    $_____

40. Number of biological, adopted or step-siblings living in the home:

    _____

    Note: do not include the focal child, and do not include foster children

41. Psychiatric or developmental diagnosis in one or more siblings (circle one): Note: please answer "yes" if a doctor or mental health professional has diagnosed one or more siblings [NOT the focal child] with a current psychiatric or developmental disorder (autism, intellectual disability, Down's Syndrome, depression, anxiety, ADHD, etc.)
    a. Yes Please specify sibling birth order (1st, 2nd, 3rd, etc.) and diagnosis:

       _____

    b. No

APPENDIX B

PARENTING DAILY HASSLES SCALE

ID#:_____

PDH

The statements below describe lots of events that routinely occur in families with young children. These events sometimes make life difficult. Please read each item, and circle how often it happens to you (never, rarely, sometimes, a lot, or constantly), and then circle how much of a "hassle" you feel that has been for you FOR THE PAST FEW WEEKS. If you have more than one child, these events can include any or all of your children.

	HOW OFTEN IT HAPPENS					HOW MUCH OF A HASSLE				
	never	rarely	sometimes	a lot	constantly	no hassle				big hassle
1. Continually cleaning up messes of toys or food.	1	2	3	4	5	1	2	3	4	5
2. Being ragged, whined at, complained to.	1	2	3	4	5	1	2	3	4	5
3. Mealtime difficulties (picky eaters, complaining, etc.)	1	2	3	4	5	1	2	3	4	5
4. The kids don't listen—won't do what they are asked without being nagged.	1	2	3	4	5	1	2	3	4	5
5. Babysitters are difficult to find.	1	2	3	4	5	1	2	3	4	5
6. The kid's schedules (e.g., preschool, school naps, other activities) interfere with meeting your own or household needs.	1	2	3	4	5	1	2	3	4	5
7. Sibling arguments or fights which require a "referee".	1	2	3	4	5	1	2	3	4	5
8. The kids demand that you entertain or play with them.	1	2	3	4	5	1	2	3	4	5
9. The kids resist or struggle over bedtime with you.	1	2	3	4	5	1	2	3	4	5
10. The kids are constantly under foot, interfering with other chores.	1	2	3	4	5	1	2	3	4	5
11. The need to keep a constant eye on where the kids are and what they're doing.	1	2	3	4	5	1	2	3	4	5
12. The kids interrupt adult conversations or interactions.	1	2	3	4	5	1	2	3	4	5
13. Having to change your plans because of an unpredicted child need.	1	2	3	4	5	1	2	3	4	5
14. The kids get dirty several times a day requiring changes of clothes.	1	2	3	4	5	1	2	3	4	5
15. Difficulties getting privacy (e.g., like in the bathroom.)	1	2	3	4	5	1	2	3	4	5
16. The kids are hard to manage in public (grocery store, shopping center, restaurant).	1	2	3	4	5	1	2	3	4	5
17. Difficulties in getting kids ready for outings and leaving on time.	1	2	3	4	5	1	2	3	4	5
18. Difficulties in leaving kids for a night out or at school or daycare.	1	2	3	4	5	1	2	3	4	5
19. The kids have difficulties with friends (e.g., fighting, trouble getting along, or no friends available.)	1	2	3	4	5	1	2	3	4	5
20. Having to run extra errands to meet kids' needs.	1	2	3	4	5	1	2	3	4	5

APPENDIX C

MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS)

ID#:_____

MSPSS

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2.	There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
3.	My family really tries to help me.	1	2	3	4	5	6	7
4.	I get the emotional help and support I need from my family.	1	2	3	4	5	6	7
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6.	My friends really try to help me.	1	2	3	4	5	6	7
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7