



eCOMMONS

Loyola University Chicago
Loyola eCommons

Dissertations

Theses and Dissertations

2012

The Relationship Between Infant Crying and Father Well-Being

Leslie Katch
Loyola University Chicago

Recommended Citation

Katch, Leslie, "The Relationship Between Infant Crying and Father Well-Being" (2012). *Dissertations*. Paper 306.
http://ecommons.luc.edu/luc_diss/306

This Dissertation is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Dissertations by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License](https://creativecommons.org/licenses/by-nc-nd/3.0/).
Copyright © 2011 Leslie Katch

LOYOLA UNIVERSITY CHICAGO

THE RELATIONSHIP BETWEEN INFANT CRYING
AND FATHER WELL-BEING

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN CHILD DEVELOPMENT

BY

LESLIE E. KATCH

CHICAGO, ILLINOIS

MAY 2012

Copyright by Leslie E. Katch, 2012
All rights reserved

ACKNOWLEDGEMENTS

I will be forever grateful for the brave, honest and thoughtful fathers who participated in this study. Their willingness to share the struggles, joys and concerns of fatherhood made this study a success and has changed my perspective on ‘fathering’.

I would like to thank my dissertation committee for their guidance and support towards making this dissertation study possible. I would like to specifically thank my dissertation chair, Dr. Jon Korfmacher for his enduring patience and support during times of struggle, confusion and frustration. His guidance and encouragement was key to completing this dissertation successfully. Dr. Linda Gilkerson, my mentor, friend and teacher helped me to develop this dissertation before I knew I would ever write a one. Her enduring support for my academic, professional and personal life has meant more to me than I can express. I would also like to thank Dr. Alan Levy for his willingness to support my efforts on this dissertation study. His clinical acumen was a necessary and valued addition to this process.

The seeds of this dissertation developed while working with the Fussy Baby Network, and for that I am grateful. I am thankful for the support and friendship of Nancy Mork, Marsha Baker, Michelle Lee, Sinane Goulet, Karen Benson, Margret Nickeles, and Larry Gray. The work of Fussy Baby Network will forever be an inspiration in my research and clinical pursuits. I am grateful for the support of National Louis University while I completed this process and for my students who inspired me to

keep going. I would also like to thank my friends and fellow doctoral students for their ever-available ears and hearts. A special thank you to Tiffany Burkhardt and Diana Schaack for lending me their statistics hats and holding my hand through the scary parts. I have learned so much from my Erikson colleagues and faculty and am grateful to have walked this path alongside them. My non-doctoral student friends, Emily Lawrence and Kari Wall, have supported me from Soule to Elm and will forever share in my accomplishments.

Finally, I would like to thank my family for their love and support. I am thankful for the support of my brother Jesse Katch, my sister Erika Boehnke and her family that brought inspiration and joy: Chris, Ryan, Cameron and Ella Bohenske. My parents, Victor Katch, Heather MacKenzie, Judith Hommel and Mike Hommel, provided me with the unconditional love and support I needed to embark on this journey. I know this would not have been possible without their influence and for that I will be forever grateful. Their encouragement and ever-present faith in my work helped to push me to the end. I will always strive to make them proud. Lastly, I am indebted to my best friend, editor, coach, shoulder to cry on, and husband Erik Dobos. Thank you for loving me, making me laugh and believing that I could do this.

For Baby Walter, and my parents, Victor Katch and Judith Hommel

There is no such thing as baby, there is a baby and someone.

—Donald Winnicott

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
LIST OF TABLES	x
LIST OF FIGURES	xii
ABSTRACT	xiii
CHAPTER I: INTRODUCTION	1
Central Theme/Background	2
Problem Statement	4
Research Questions	5
Purpose and Significance of Study	6
CHAPTER II: REVIEW OF RELATED LITERATURE	8
Excessive Infant Crying	9
Causes of Excessive Crying	14
Excessive Crying Treatment and Intervention	19
Father and Infants	36
Transition to Fatherhood	41
Maternal Gatekeeping	44
Preparation for Fatherhood	45
Father Parenting Self-Efficacy	47
Paternal Depression	49
Fathers and Excessive Crying/Fussing	53
Personal Accounts	61
Summary	64
CHAPTER III: METHODOLOGY	69
Sample	70
Recruitment Procedures	71
Instrumentation	77
Demographic Parent-Infant Questionnaire	77
Co-Parent Confidence Assessment	77
Your Baby’s Crying Questionnaire	78
Edinburgh Postnatal Depression Scale	81
Maternal Efficacy Questionnaire	82
Revised Ways of Coping Checklist	83
Parenting Stress Index – Short Form	85
Parenting Experience Interview	87
Data Collection Procedures	88
Analysis	89

Data Preparation.....	90
Post-Hoc Analysis.....	95
CHAPTER IV: RESULTS.....	97
Descriptive Data Characteristics	97
Quantitative Sample	97
Qualitative Sample	99
Father Well-Being.....	100
Infant Crying and Fussing.....	104
Research Questions One and Two: The Relationship Between Amount and Perception of Infant Crying to Father Well-Being	108
Depression.....	113
Parenting Self-Efficacy	114
Parenting Stress.....	115
Post-Hoc Analysis.....	116
Research Question Three: The Experience of Parenting and Coping with Crying	119
Description of Crying	119
Infant Crying, Coping and Parenting.....	122
Additional Interview Content: Support.....	133
CHAPTER V: DISCUSSION.....	135
Summary	135
Crying: Perception vs. Amount.....	136
Depression.....	138
Parenting Self-Efficacy	139
Parenting Stress.....	141
The Influence of Co-Parenting Confidence	143
Coping and Father Experience of Crying	145
Limitations	151
Study Design.....	151
Sample.....	153
Measurement.....	155
Analysis.....	156
Implications.....	157
Conclusion	164
APPENDIX A: INCOMPLETE SUBMISSION ANALYSIS	169
APPENDIX B: FATHER STUDY WEBSITE.....	172
APPENDIX C: FLIER ADVERTISING SAMPLE	174
APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE	176

APPENDIX E: CO-PARENT AND INFANT INFORMATION	180
APPENDIX F: COLIC QUESTIONS/CRYING PATTERNS QUESTIONNAIRE	182
APPENDIX G: CHI-SQUARE RESULTS FOR CRYING PERCEPTION QUESTIONS	185
APPENDIX H: EDINBURGH POSTNATAL DEPRESSION SCALE	187
APPENDIX I: MATERNAL EFFICACY QUESTIONNAIRE.....	191
APPENDIX J: REVISED WAYS OF COPYING QUESTIONNAIRE	193
APPENDIX K: PARENTING STRESS INDEX	297
APPENDIX L: PSI/SF SUB-SCALE CORRELATIONS TO STUDY VARIABLES	202
APPENDIX M: PARENTING EXPERIENCE INTERVIEW	204
APPENDIX N: ELECTRONIC CONSENT FORM	207
APPENDIX O: PHONE INTERVIEW CONSENT FORM	210
APPENDIX P: INTER-CORRELATIONS: INDEPENDENT VARIABLES.....	213
APPENDIX Q: DEPRESSION CRITERIA ASSOCIATIONS	215
REFERENCES	218
VITA.....	242

LIST OF TABLES

Table 1: Cronbach's Alpha Modified RWCC Subscales (n=172).....	85
Table 2: Cronbach's Alpha PSI/SF Subscales (n=167)	86
Table 3: Frequency Distributions of Sample	98
Table 4: Characteristics of Qualitative Interviewee Subjects (N=10)	100
Table 5: Descriptive Statistics: Dependent Variables.....	100
Table 6: ANOVA Results for Depressed Fathers Versus Non-Depressed Fathers and Well-Being Variables.....	102
Table 7: Correlations Between Father Well-Being (Dependent) Variables	102
Table 8: Correlations Between Independent Characteristics and Dependent Well-Being Variables.....	103
Table 9: Comparisons of Well-Being Variables by Father Group	105
Table 10: Chi-square Results for Report Crying Concern and Colic Criteria	108
Table 11: Correlations Between Amount of Crying and Father Well-Being Variables	109
Table 12: ANOVA Results for Crying Variables and Father Well-Being	109
Table 13: MANOVA Results for Effects of Colic x Crying Concern Interaction for Father Well-Being	110
Table 14: ANOVA Results for Father Well-Being Based on Crying and Depression Variables	112
Table 15: Predicting Depression Scores from Amount and Perception of Crying	114
Table 16: Predicting Parenting Self-Efficacy Scores from Amount and Perception of Crying	115

Table 17: Predicting Parenting Stress Scores from Amount and Perception of Crying 116

Table 18: Predicting Co-Parenting Confidence Scores from Amount and Perception of Crying 118

Table 19: Qualitative Analysis of Crying Experience Response (N=123) 121

Table 20: Qualitative Interview Topics and Themes 123

LIST OF FIGURES

Figure 1: Mean minutes of infant crying/fussing by infant age	106
Figure 2: Observed mean plots for father well-being by colic criteria and report of crying problem.....	110
Figure 3: Mean well-being plots by depression and crying variable	112
Figure 4: Percent of fathers reporting problematic crying qualitative bother question response	122

ABSTRACT

Infant excessive crying and fussing has been linked to adverse maternal outcomes such as increased depression and stress, and decreased feelings of parenting self-efficacy. Infant crying has also been identified as the number one trigger caregivers report prior to an abusive action, placing infants who cry excessively at risk. Fathers and male caregivers have been identified as the primary offenders in the majority of infant abuse cases, suggesting a particular risk between fathers and infants who cry excessively. However, the relationship between excessive crying and fathers has not been explored to the same extent as mothers. In an effort to address the identified risks of infant crying and fathers, the aim of this study was to investigate how fathers' well-being¹ is impacted by infant crying and fussing. Fathers' experience of crying and how they cope when caring for an inconsolable infant was also explored.

One hundred and ninety-two fathers of infants under one year of age completed online measures of depression (EPDS), parenting stress (PSI/SF), parenting self-efficacy (MSE), and coping (RWCC). Fathers reported amount of infant crying (categorized adhering to Wessel's Rule of Three for colic criteria) as well as concern about their infant's crying and fussing. Ten fathers participated in a semi-structured phone interview about the experience of and coping with infant crying and parenting in general.

¹In this document, "father well-being" is referring to parenting stress, depression and parenting self-efficacy.

Sixteen percent of fathers met criteria for depression based on a cut-off score of 10 or greater on the EPDS. Based on Wessel's criteria, 20% of infants were categorized as having "colic." Thirty percent of fathers indicated that they were finding their infant's crying and fussing to be a problem or upsetting. Of these fathers, approximately 50% did not meet criteria for colic, suggesting over half of these fathers have a problem with the crying, but did not report 'excessive' amounts of crying.

Results indicated significant relationships between infant crying and father depression, parenting stress and parenting self-efficacy. Perception of a crying was a significant predictor of parenting stress, depression and parenting self-efficacy, and colic was only a significant predictor for parenting stress. Taken together, these results suggest that fathers' perception of infant crying has a greater impact and is a stronger predictor of father well-being than the amount of crying reported (i.e., colic criteria). In addition, fathers who met criteria for depression, reported a crying problem, *and* their infant met colic criteria had the highest parenting stress and depression scores and the lowest parenting self-efficacy scores compared to all fathers in the study.

Fathers most often described problematic crying in terms related to how the crying behavior personally impacts them, or using descriptions including feelings of helplessness. Coping explored in semi-structured interviews revealed a theme of 'cognitive reappraisal'. Fathers confronted with inconsolable crying described feelings of 'losing control' and a process of cognitively reappraising the situation and the infant's behavior as a method of coping. Interview results also revealed a heavy reliance on fathers' co-parent as a source of support. Interview fathers had little to offer in regards to suggested support services for fathers.

The findings of this study offer evidence towards the importance of incorporating parent perception into research on infant crying. Study results also indicate that fathers report on their infants' crying similar to mothers, suggesting that fathers can and should be included in research on infant crying as primary reports. Findings also suggest that providers working with families and infants pay particular attention to the well-being of fathers and incorporate more systematic screening and involvement related to father perception of their infant behavior, especially if a crying problem is reported. Finally, the results of this study offers theoretical explanations of the risk associated with infant crying and fathers.

CHAPTER I

INTRODUCTION

This document contains five chapters. The present chapter provides an introduction to the study, which is a brief review of the background and central themes related to the proposed study, a statement of the problem being addressed by this research, a presentation of the research questions, and a statement of the purpose and significance of the study. Chapter II presents an in-depth review of the literature related to this study topic and includes five sections: (1) a review of research on excessive crying including what is known about the causes, treatments, and the long-term outcomes for children and caregivers, (2) a brief review of the literature pertaining to fathers and infants, (3) a review of the transition to fatherhood research which provides a background to the unique experience of fathers during the post-partum period, and includes discussions on maternal gatekeeping, paternal depression and father self-efficacy, (4) a presentation and discussion of available studies specific to fathers caring for fussy and excessively crying infants, and finally (5) a concluding discussion summarizing the reviewed literature and suggestions for further study. Chapter III provides a detailed description of the methodology, including the sample, research design, description of the instrumentation, and the analysis conducted. Chapter IV presents the results of the analysis, which is organized according the research questions guiding this study. Finally, Chapter V concludes this document with a summary of the findings, discussion of the

limitations, and a series of suggested theoretical and practice implications related to the overall findings of this study.

Central Theme/Background

All infants cry, some cry more than others, and some continue to cry despite efforts to soothe them (Long & Johnson, 2000). Crying is a means of communication and is often the infant's only, and most powerful means of interacting with caregivers. However, infants who cry more than average present a unique set of challenges for parents. Many of the standard care giving practices of comforting and soothing do not work for these infants and can leave parents feeling inadequate, rejected and frustrated. Infant excessive crying is the most common parental concern reported in the first year of life, and occurs in about one and five Western infants (Keefe, Karjlsan, Lobo, Kotzer, & Dudley, 2006). Excessive infant crying tends to occur in the early months, peaking around six weeks of age (Barr, 1990). This crying peak coincides with the period when parents are forming perceptions about themselves as parents and their infant, and these perceptions can persist for many years (Edhborg, Seimyr, Lundh, Widstrom, 2000).

Excessive crying has been linked with feelings of parental anger, guilt, despair, and has been suggested as the proximate cause of infant abuse (Barr, 1998; Ellet, Appleton, Sloan, 2009; Long & Johnson, 2000). There is ample evidence suggesting excessive infant crying can pose serious challenges for caregivers, negatively affecting parenting confidence, mental health and the overall health of early relationships. When caregivers are unable to feel like effective parents and experience repeated failed attempts at soothing their crying infant, a pattern of dysfunction between parent and infant can

develop (Stifter & Bono, 1998). These risks to the infant and the parent-infant relationship associated with infants who cry more than average has increased attention on excessive crying in infancy. However, studies of infant crying and early relationships have predominately focused on the mother-infant dyad, and few studies of excessive infant crying include the father.

There are an estimated 66.3 million fathers in the United States. Seventy three percent of these fathers are present in U.S. households, and it is estimated that fathers provide one-third of total childcare (Ellet et al., 2009; U.S. Census Bureau, 2005; U.S. Department of Commerce, 2001). The meaning of fatherhood has changed over time and shifted from that of a moral, breadwinning provider to a new ideal of a nurturing father expected to take an active part in childcare and household work (Barclay & Lumpton, 1999; Lamb, 2004). Thus, the importance of considering fathers in the context of infant and child development has become increasingly important.

We know from mother-focused research that infant excessive crying and fussing negatively impacts caregivers. Fathers are increasingly present and involved in the lives of their infants. They participate in daily infant care routines, have emotional relationships with their infants, and (similar to mothers) are impacted by feelings of depression and parenting efficacy.¹ The research on infant crying however, does not reflect the changing role of fathers and how their involvement may impact infant crying, or how the crying impacts fathers.

¹ Parenting self-efficacy has been defined as the degree to which parents expect to competently and effectively perform their roles as parents (Teti & Gelfand, 1991), and is rooted in general self-efficacy theory. General self-efficacy refers to the belief in one's ability to perform behaviors successfully (Bandura, 1977).

Problem Statement

Studies on the transition to parenthood² offer an indication of how fathers experience the early postpartum period, and suggest fathers may experience this period differently and perhaps more negatively than mothers (Bartlett, 2004; Condon, Boyce, & Corkindale, 2004). The increase of mothers in the workforce combined with a change in cultural perspectives on fathers has increased the expectation that fathers take on a more active role with their infants. However, men often receive little preparation for fatherhood, can receive ambivalent signals from mothers about their involvement (Schoppe-Sullivan et al., 2008), and are exposed to other cultural messages that reinforce a sense of incompetence and inability to parent (Daly, 1993). These circumstances have the potential to increase stress as fathers attempt to meet these expectations during this early part of infancy, and increase their reactivity to difficult to sooth infants.

Mothers of excessively crying infants experience high levels of depression, and fathers' depression during the postpartum period is highly correlated with mother depression (Matthey, Barnett, Ungerer, & Waters, 2000; Maxted et al., 2005). Furthermore, there is some indication that depressed fathers have less optimal interactions with their infants, and that depression in fathers during the post partum period has deleterious effects on infant and child outcomes (Atella, DiPietro, Smith, & St. James-Roberts, 2003; Ramchandani, Stein, Evans, & O'Connor, 2005).

²The time period associated with "the transition to parenthood" is typically confined to the prenatal months prior to the birth of an infant and the first year after birth, making this research particularly relevant to issues of infant crying. The majority of research on the transition to parenthood is conducted with first time parents, but not exclusively. Originally defined as a "crisis" (LeMasters, 1957), it has since been argued that because the event is a part of normal life process, it should not be describe as a crisis event.

Perhaps most importantly, crying is a proximate cause of physical infant abuse (e.g., Shaken Baby Syndrome) and fathers are the primary perpetrators (Sinal et al., 2000). This is also important to consider because parents of infants who cry and fuss excessively have increased stress levels, and heightened levels of stress have been linked to a greater likelihood of abuse (Rodriguez & Green, 1997). These circumstances combined with other research on excessive infant crying has prompted some scholars of infant crying to note the importance of considering the perspective and experience of fathers of excessively crying infants (Guterman & Lee, 2005; Keefe, Kotzer, Froese-Fretz, Curtin, 1996; Stifter, Bono, Spinrad, 2003), yet few have specifically studied this population (Ellet et al., 2009; Raiha, et al., 2002; Wilke & Ames, 1986).

Research Questions

Given the extensive research documenting the adverse impact of excessive infant crying on mothers, the link between infant crying and abuse, and the overrepresentation of fathers as perpetrators of abuse, this study sought to explore possible relationships between infant crying and father well-being. Additionally, this study aimed to gather a description of coping mechanisms used by fathers when confronted with an excessively crying/fussing infant. Therefore, the overarching goal of this study was to produce a comprehensive understanding of the experience of fathers caring for fussy/excessively crying infants. It was expected that the results of this study would: (1) offer new insights into the coping and well-being of fathers caring for infants who cry and fuss more than normal, and, (2) provide a series of practical implications for professionals working with families and their infants.

This study was guided by three central research questions:

1. Is there a relationship between the amount of infant crying/fussing and father depressive symptoms, parenting self-efficacy, and parenting stress?
2. Is there a relationship between fathers' perception of infant crying/fussing as a problem and father depressive symptoms, parenting self-efficacy, and parenting stress?
3. How do fathers experience and cope with infant crying and fussing?

Purpose and Significance of Study

Literature from transition to parenthood and infant crying research (as reviewed in the proceeding section) indicates that during the post-partum period fathers experience significant distress, including increased depression, stress and low parenting self-efficacy. Infant crying research has repeatedly demonstrated the negative consequences of excessive infant crying and fussing on mothers, but less is known about impact of infant excessive crying/fussing on fathers.

The lack of research specific to fathers in the infant crying literature is surprising given that the risk of abuse is routinely mentioned in discussions of infant excessive crying, and often used as the feature justification as to why excessive crying is important to examine. Mentioned less frequently however, is the evidence suggesting that fathers and male caregivers represent the primary perpetrators of infant abuse. Specifically, it has been reported that crying is most often reported by caregivers as the antecedent to an incidence of infant abuse, placing infants who cry excessively and their male caregivers at significant risk.

This study was not intended to provide an answer as to why fathers are the main perpetrators of abuse. However, the intention was to explore father reports of coping with their crying infant, and how infant crying impacts father mental health and parenting efficacy, allowing for the opportunity to consider how these variables may or may not contribute to increased risk and how positive coping strategies can be supported. The findings of this study generated possible clinical implications for child abuse prevention programs and for general health professionals working with families and infants.

Inclusion of the ‘whole family’ in infant social and health programming has improved greatly over the last decade with attempts to include father-specific language, activities and recognition of the fathers’ roles. However, social expectations and attitudes regarding the fathers’ roles and decision-making abilities about infant care and socialization are still most often deferred to the mother. This focus on the mother during the postpartum period is also seen in many organizations that routinely screen for postpartum depression in mothers as a part of well-baby checks, but not for fathers. This study offers increased evidence to the importance of including consideration of fathers’ health and well being more routinely in the early postpartum period.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents a review of the available data on fathers and infant excessive crying. However, because there is little research explicitly examining this dyad, information will be gathered through review of other research, offering some possible perspectives on fathers and infant excessive crying. To provide background to this review, how crying research is approached and what we have learned from these studies will be reviewed. This includes a discussion on what we know about the cause, treatment, and consequences of excessive crying. This section will also review possible short- and long-term outcomes for infants and caregivers, with a specific focus on how infant crying impacts mothers.

Following this review is a brief discussion on what we know about fathers and infants. This section on fathers and infants highlights how the culture of fatherhood has changed over time and how this might impact the father-infant experience. To further evaluate the unique concerns and experiences of this dyad, the discussion moves to a review of the transition to fatherhood literature. This discussion presents some perspectives on how fathers experience caring for a new infant and offers speculations on how this experience might be influenced by the mother, the infant, and the father's mental health.

Finally, a review of research that includes fathers and excessive crying infants provides a discussion on what is known about how fathers experience this crying. A final discussion concludes this review with additional questions and suggestions for further study of fathers and infant crying.

Excessive Infant Crying

From birth, normal infant crying and fussing increases in amount week by week, peaking, on average, sometime in the second month to an average of two and a half hours per day, and decreasing to an average of one hour per day around third or fourth month (Brazelton, 1962; Hunzinkar & Barr, 1986). This pattern of infant crying is referred to as the “normal crying curve” and has been replicated in most Western societies (Barr, 1990). The same pattern has also been documented in other cultures where care giving practices are dramatically different from Western practices, such as those that employ constant carrying, feeding and soothing of infants (e.g., the !Kung San of Africa). As a result of the constant carrying, these infants cry less in overall amount than Western infants, but they also demonstrate a pattern of increasing and then decreasing in crying, suggesting a normal biobehavioral characteristic of infant crying (Barr, Konner, Bakeman, & Adamson, 1991).

Most infants will conform to this normal curve of crying, with some variation in amount of crying and timing of the increase/decrease. Infants who do not conform to this normal pattern of crying, and demonstrate increased crying beyond the average peak amount of crying have been a source of clinical and research consideration for some time (Wessel, Cobb, Jackson, Harris & Detwiler, 1954). We know that infant crying is a

necessary source of communication, will elicit caregiver response when needed, and can be an adaptable mechanism for the survival and health of the infant (Small, 1998). In contrast, infants who cry and fuss at excessive levels and whose crying is inconsolable, tend to elicit less advantageous responses from caregivers, and this increased crying does not appear to be an adaptable mechanism for survival. In fact, excessive crying has been cited as the source and proximate cause of several negative infant outcomes, most notably infant abuse (Barr, 1998; Frodi, 1985; Holliday-Hanson, Barr, & Trent 2001; Morris, Smith, Cressman & Ancheta, 2000).

The terminology and definitions used to describe and measure crying and fussing that is considered to be above average presents a confusing picture. In general, infants who demonstrate more unexplained, excessive crying in the first three months of life are often said to be “colicky” or as “having colic.” These infants cry in a way that conforms to the same curve as normal crying (also ending by the third or fourth month), but spend more time per day in crying states (fussing, whining, etc.), have longer bouts of inconsolable crying, and are harder to soothe (Lehtonen & Korvenranta, 1994; Wessel et al., 1954). Although widely used, the term colic is a poorly defined concept fraught with conflict regarding its meaning and definition. Derived from the Greek word for colon, there has been a long-standing misconception that an infant described as “having colic” is crying as the result of intestinal pain. However, there has been no conclusive evidence to support the claim that most infants who cry and fuss more than normal during the first three months of life are crying due to an organic medical condition (St. James-Roberts, 2001).

Despite the confusion associated with the term colic, it continues to be used by researchers and clinicians alike. This informal diagnosis was originally discussed by Wessel and colleagues (1954) who defined a fussy baby as: “an otherwise healthy, well-fed infant that has paroxysms of irritability, fussing or crying lasting for a total of more than three hours a day and occurring on more than three days in any one week” (p. 426). Wessel’s paper clearly indicates this is the definition of a ‘fussy baby’, not the definition of ‘colic’ (which Wessel refers to as a condition related to allergies or intestinal problems). Despite the original intention of Wessel, this definition has become the most recognized way to measure colic, and has come to be known as “Wessel’s rule of three.” The criteria has been expanded to include three weeks of crying, as opposed to one, and reduced by dropping the descriptors of irritability and fussing, so that a standard measure of infant crying determined to be colic is typically gathered by reports of (1) crying for three hours a day, (2) for more than three days a week, and (3) for more than three weeks. This criterion has been used extensively in research and clinical settings to determine if an infant can be considered as having colic.

Colic is the most common term used when discussing infants who cry more than average in the first three months of life. However, not all researchers and clinicians employ this terminology or use the criteria in relationship to problematic infant crying (e.g., Papousek & Hofacker, 2001; St. James-Roberts, 2001). Some of the other terms used to describe infants who cry and fuss above average in the literature are: excessive crying, persistent crying, unexplained crying, irritability, and unsoothability, among others. These terms are used based on the suggestion that the criteria for colic is too

limiting and does not consider other characteristics of the crying or other infant states, specifically fussing (Long, 2001). Fussing is generally defined as an unsettled and irritable state that may or may not include short bouts of vocalizations, does not include continuous crying, but conveys discontent to caregivers (St. James-Roberts, 2007). In studies of infant crying, parents find the inconsolable and unsoothable nature of both crying and fussing equally distressing (Teti & Gelfand, 1991).

This suggests that not all infants about whom parents report concern about crying will meet the Wessel's rule of three criteria for colic, despite a reported parent concern. Parents might continue to report increased crying and a general state of on-going fussiness, yet this will not match the conditions for colic. More difficult to define, these infants may still cry more than average, be hard to soothe, fuss more than other infants and cause significant caregiver stress (Stifter, 2004). Many infants who are determined to cry above average amounts will spend the majority of their time fussing, intermixed with periods of continuous intense crying (Papousek & von Hofacker, 2001).

Parents may report more fussing than intense crying because they are spending extensive amounts of time trying to soothe the infant to prevent full scale crying. And it is despite these attempts at soothing that the infant may continue to fuss and remain in a general discontented state. An infant who is consistently resistant to soothing can cause significant caregiver stress, fostering a sense of ineffectiveness as a parent (Teti & Gelfand, 1991). Infants who demonstrate normal cry patterns will also engage in fussing, yet they do it less and are often able to be soothed successfully during this period before escalating to a full cry.

In effort to address this issue of terminology and definition, and in order to include infants who might not fit into the Wessel's criteria for colic, some researchers refrain from drawing arbitrary thresholds of hours of crying to be considered abnormal or a problem. Rather, they have looked to the parent's definition and perception of the infant - if the crying and fussing is perceived to be problematic to the parent, then it is considered problematic, and therefore worth examination (Barr, Rotman, Yaremko, Leduc & Francoeur, 1992; Gilkerson, Gray, & Mork, 2005; Long & Johnson, 2000; St. James-Roberts, 1993; Wade, Black, & Ward-Smith, 2005). Clinicians and researchers alike have acknowledged that parents' perception of the infant directly impacts the experiences of parenthood and therefore merits attention (e.g., Edhborg, Seimyr, Lungh, & Widstrom, 2000).

It is commonly stated that in the United States about 20% of infants have colic or cry excessively in the first months of life. However, prevalence estimates vary widely depending on who reports the crying and how it is defined (Reijneveld, 2001). For example, determination of crying as a problem is typically collected either by the amount of crying (gathered by researcher audio recording or through the use of a parent completed 'cry diary') or by parent concern/complaint of a problem around crying behavior. If gathered by amount of crying, roughly 9-12% of infants meet criteria, whereas 14-28% do if reported by parent concern or complaint (Reijneveld et al., 2002). The variation in collection and definition of crying has been cited as the main reason for the conflicting evidence surrounding increased infant crying (St. James-Roberts, 2001).

For parents confronted with the challenge of excessive crying, the following questions often arise: (1) What is causing the crying?, (2) What should I do about it?, and (3) what does this mean for my child's future and for me as a parent? (St James-Roberts, 2001). Literature on infant excessive crying can be divided into several categories of inquiry, and tend to mirror the underlying themes in these questions: (1) cause of excessive crying, (2) treatment/intervention, (3) long-term child outcomes, (4) impact on caregiver/ing (maternal outcomes), and 5) long-term family outcomes.

For purposes of this discussion, the term fussy and excessive crying will be used to encompass the many infant crying related behaviors that cause caregiver concern. Consistent with Wessel et al.'s pioneering paper on infant crying, the term "fussy" was originally used to discuss this problem, and suggests that it is not only the crying that is difficult for caregivers, but also the general state of fussiness that often accompanies and is intermixed with the crying. Additionally, the term "excessive", although a rather subjective term, perhaps best implies an amount that goes beyond what might be average or tolerable without suggesting specific amounts or criteria.

Causes of Excessive Crying

The confusion and tension surrounding the terminology and definition of problematic crying is likely an outcome of the lack of understanding of what actually causes the crying. One consistent finding across infants defined as excessively crying during infancy is the unexplained nature of the crying. Parents, understandably concerned by the crying, turn to their pediatrician for answers. Medical professionals often have little answers to give parents and tend to use a "wait and see" approach to the

problem, anticipating that the crying will diminish over time. For example, Gatrad and Sheikh's (2004) short paper for medical professionals, offers advice on how to proceed in a 10-minute consultation when confronted by a complaint of persistent infant crying. The authors list a series of possible medically related causes of the crying such as skin rashes, hernias, and exploration of possibly allergies. They go on to state, "In most cases no underlying cause will be found. In such cases the problem will probably subside with time, and other than reassurance, no further investigations are warranted" (p. 330).

Literature addressing possible explanations or causes of excessive crying has tended to suggest that the origin of the problem resides in one of the following, (1) the infant, (2) the parent, or (3) the parent-infant relationship.

The infant. Perhaps the greatest amount of literature addressing the cause of excessive crying is focused on possible organic/physiological disturbances within the infant. It has been suggested that an underdeveloped autonomic nervous system adversely affects the infant's ability to properly respond to stimuli (DeGangi, Dipietro, Greenspan, & Porges, 1991). Similarly, it has been proposed that infants who cry excessively are less able to regulate themselves once they start crying, making it extremely difficult to stop (Barr et al., 1999). Gastric problems related to lactose intolerance, amino acid deficiency and infant reflux have also been suggested as the main contributor to excessive infant crying. Despite a plethora of studies investigating factors related to aspects of gastrointestinal pathology however, no conclusive evidence has emerged (Estep & Kulczycki, 2000; Jakobsson et al., 2000; Long, 2001). A review of studies investigating possible causes to infant excessive crying found that in only 5 to

10% infants the crying can be attributed to an organic or medical disease (Gormally & Barr, 1998).

The notion of individual predisposition to behaviors such as infant crying suggests that temperament influences infant early excessive crying and fussing. “Difficult” temperament is characterized by irritability, unpredictability, and lack of adaptability. The main features of difficult temperament in infancy include negative mood, fussing/crying and difficulty soothing (Bates et al., 1979). Temperament is generally thought to be constitutionally based, heritable, and rather stable across the life span. The description of difficult temperament describes many of the behaviors reported by parents of fussy and excessively crying infants. However, some scholars of infant crying caution that although excessively crying infants may demonstrate many of the traits of difficult temperament, a causal relationship should not be assumed (Barr et al., 1992; St. James-Roberts, 1993). Excessive crying in infancy tends to diminish by the third or fourth month of life. After the crying has decreased, infants are not rated with as many traits associated with the label of a difficult temperament, suggesting against making such direct associations.

The parent. Other literature has investigated a possible link from maternal prenatal circumstances such as stress, anxiety, depression, and “risky” behavior such as smoking as possible causes of excessive crying and fussiness. For example, Sondergaard et al. (2001) found that mothers who smoked more than fifteen cigarettes a day while pregnant were two times as likely to have an infant that was considered to cry excessively. A similar study found little association between prenatal factors such as

alcohol or maternal prenatal anxiety and concluded no direct link from prenatal variables to excessive crying could be confirmed (Clifford et al., 2002).

Van der Wal et al. (2007) found associations between stress and emotional problems during pregnancy and excessive infant crying. They collected data on women during the first trimester of pregnancy, followed by a measure of infant crying at three months. While the associations to excessive crying for individual prenatal factors were weak, the most significant finding in the study was the strong association between women with 3 or more prenatal risks (such as job strain, parenting stress and anxiety) and excessive crying.

Similarly, a recent prospective study of Dutch families indicated a link between both maternal and paternal depression during the prenatal period to increased infant crying at six weeks postpartum (van den Berg et al., 2009). The authors suggest that the prospective design of their study rules out a child-to-parent effect and claim to have found a parent-to-child effect of prenatal depression on infant excessive crying. They hypothesize that maternal and paternal depression during the prenatal period is likely to persist postpartum (although they did not measure postpartum depression), and that these depressive symptoms might cause the excessive crying. They also suggest a possible genetic transmission of depression, manifested as increased crying in infants.

In review of these findings, the percent of parents reported as depressed during the prenatal period and the prevalence rates of excessive crying were significantly lower than general population estimates (only 2% of infant were considered excessively crying), making these results difficult to generalize. Additionally, there is very little data

to support the assumption that prenatal depression will persist into the postnatal period for men (Areias et al., 1996; Field et al., 2006).

Parent-infant relationship. A dysfunctional parent-infant relationship has also been suggested as a possible cause or catalyst to excessive crying. Mothers who experience depression have been said to be less responsive to their infant's cues and therefore create increased crying (Beck, 1999; St James-Roberts et al., 1998). It has also been suggested that excessive crying may evoke a maladaptive response from mothers and set up a cycle of parent-infant distress. In a study of self-referred mothers for concerns related to infant excessive crying, interactional failures were found twice as often in the excessively crying-mother dyads than controls (Papousek & von Hofacker, 1998). These failures were marked by infant withdrawal, gaze avoidance, and hyperarousal. Further, these patterns of dysfunctional interaction were present significantly more often for mother-infant dyads if the infant had continued to excessively cry and fuss in the past three months, suggesting a cumulative interactional effect of the crying and maternal response.

In contrast, several studies have suggested that excessive crying will continue despite parent response, even in the most optimal conditions. St James and colleagues used a longitudinal study to examine links between maternal care and excessive crying. By comparing the care giving behaviors of mothers of excessive infant criers and more moderate criers, the authors found little difference in maternal behaviors between groups. The authors conclude that excessive crying often occurs in spite of sensitive, responsive care giving (St James et al., 1998). Similarly, Keefe et al. (1996) suggested that behavior

observed by mothers of excessively crying infants that might appear dysfunctional is actually adaptive and an effort to avoid overstimulation.

In general, these studies of possible parent or parent-infant relationship contributions to increased infant crying struggle to provide solid evidence regarding the direction of effect. More specifically, it is nearly impossible to untangle the interactional effects of parent response to infant behavior – is the crying causing the parent response, or is the parent response causing the infant crying? This question is revisited in later discussion of the relationship between maternal post-partum depression and excessive crying.

In summary, the cause of infant excessive crying remains unknown. Associations from organic/physiological, parent, and parent-infant relationship to excessive crying have been suggested but there exists no substantial evidence of a causal relationship in any domain.

Excessive Crying Treatment and Intervention

Given the lack of consensus on the definition of excessive crying and inconsistent findings regarding the cause, it is not surprising that the literature examining possible treatments and interventions also reveals conflicting results. Mirroring the categories examined in the search for the cause of infant crying, proposed treatments for excessive crying tend to be based on either the relief of infant related physiologic conditions or behavioral interventions for parents.

Treatments based on the assumption that excessive crying is caused by a medically related or organic condition in the infant focus on dietary or pharmaceutical

interventions. For example, formula changes and dietary restrictions for mothers of breastfed infants are commonly prescribed to rule out possible allergies. For infants suspected of struggling with reflux, prescriptions will be administered in hopes of reducing the painful consequence of reflux that may be contributing to the increased crying. Simethicone (a medication used to combat excessive intestinal gas), has also been used for symptom relief related to increased crying. Despite the data suggesting little improvement of crying symptoms from use of Simethicone (Metcalf, Irons, Sher, & Young, 1994), it has been marketed widely and in non-prescription form, such as the popular products Grip Water and Colic Drops.

Overall, pharmaceutical and dietary interventions have been shown to be effective for a subset of infants who cry excessively (Hill et al., 1995; Oggero et al., 1994). However, it has been suggested that those infants who are helped by such interventions fall into the category of the 5-10% of infants who are afflicted by an organic physiological condition, and cannot be generalized as an effective treatment for all excessively crying infants (Wolke, 2001).

A review of treatments for excessive crying (Michelle et al., 2000) examined 22 randomized controlled studies focused on pharmaceutical, dietary, behavioral, and naturopathic interventions. For the pharmaceutical, dietary and naturopathic interventions, the authors concluded that the evidence for the intervention was inconclusive or proved to be generally ineffective. The behavioral intervention studies reviewed offered some support for interventions that used increased motion such as those employing the use of an instrument that vibrates or simulates a car ride (Huhtala,

Lehtonene, Heinonen, & Korvenranta, 2000; Parkin, Schwarts, Manuel, 1993), but concluded that increased (or supplemental) carrying of the infant has very little impact on reducing total time of infant crying. Very few behavioral interventions are randomized controlled studies, and therefore only five studies were included in this review.

A behavioral intervention study (also reviewed in Michelle et al., 2000) that is frequently cited used increased infant carrying as the intervention for excessive crying (Barr et al., 1991). Parents self-referred for problems related to infant crying were randomly selected to receive standard pediatric care or the standard care plus a recommendation to increase their carrying of the infant by 50%. The authors found that despite a significant increase in carrying there was no difference between groups in the duration or frequency of crying. This study has received particular attention because in other cultures where infants cry less than Western infants, increased carrying has been suggested as the main reason for the differences in amount of crying. These results did not support this theory, but perhaps suggested that increased carrying is only effective when beginning at birth (and in particular cultural contexts).

More recent intervention studies have focused less on primarily pharmaceutical and dietary interventions and have investigated the impact of support and counseling for parents in combination with behavioral or pharmaceutical interventions. In a comparison study, Jordan et al. (2006) randomly assigned mothers and infants under three months of age to either receive anti-reflux medication, a placebo, or infant mental health consultation. Results indicated no difference in crying reduction in any of the groups. However, the mothers who received infant mental health consultations were less likely to

subsequently return to the hospital, suggesting that increased parenting confidence and knowledge of infant crying allowed the mothers to problem solve without needing further medical consultation.

Keefe et al. (2006) conducted a randomized home-based intervention study using a combination of behavioral modifications to infant care and therapeutic parent support. The intervention was based on the authors view that excessively crying infants have difficulty self-regulating and that this can be exacerbated by parental inconsistency. Parents (all mothers) were given tips on how to promote infant self-regulation through a series of steps such as preventing overstimulation, watching for infant cues, keeping structure, and specific ways to hold and touch the infant that can decrease crying. Parents were also provided with support and opportunities to discuss stress and frustration related to caring for an excessively crying infant. Over the 8-week intervention, crying in both treatment and control groups decreased. However, the infants in the treatment group cried 1.7 hours less per day and were rated by their parents as less fussy at study completion than control infants.

Recent comments from scholars of infant excessive crying and fussiness have suggested that once an organic disturbance in the infant is ruled out, the focus of any intervention should be on supporting, empathizing and empowering parents to find positive coping strategies (Barr et al., 2001; Gilkerson et al., 2005; St. James-Roberts, 2007). These recommendations also suggest that a significant outcome of excessive crying and fussiness is the impact of caregivers. This will be discussed in detail in a proceeding section. In summary, the majority of interventions and treatments that target

excessive crying have not proven effective. Instead, the growing body of recommendations for interventions focuses on providing caregivers with information and support around the crying.

Outcomes for child. Longitudinal studies examining possible child outcomes of excessive crying in infancy have revealed conflicting results. A recent theme in infant crying outcome studies is the growing consensus that infants who continue to cry and fuss beyond four months of age may be at particular risk for negative long-term outcomes (Papousek et al, 2001; St. James-Roberts, 2007). For example, a study specifically focused on prolonged excessive crying found at five years of age children with a history of prolonged excessive crying had significantly poorer fine motor abilities and an adjusted mean IQ that was nine points lower than the control group (Rao, Brenner, Schisterman, Vik, & Mills, 2004). Preliminary estimates suggest that about six percent of infants considered fussy and excessively crying at 12 weeks will continue to cry beyond four months (Clifford et al., 2002).

Another recently published prospective study on outcomes of infant excessive crying and preschool cognition reported a small, but significant negative effect of early excessive crying on cognitive development (Wolke et al., 2009). This study only measured excessive crying reports at five months of age, two months past what is considered the peak of crying for normal and excessively crying infants, and when crying in most infants will have diminished. Because excessive crying and fussing tend to diminish by three to four months, the majority of studies measure infant crying no later

than 12 weeks of age, which represents the largest collection of research on child-outcomes.

Some long-term studies of infants who cry and fuss excessively before four months have also indicated the presence of negative long-term outcomes. Specifically, hyperactivity (Wolke, Rizzo & Woods, 2002), sensory processing difficulties (Desantis, Coster, Bigsby, & Lester, 2004), and difficulty in emotion regulation (Canivet, Jakobsoon, & Hagander, 2000; Neu & Robinson, 2003) have all been cited as long-term consequences of early excessive crying. A ten-year prospective study on children who were diagnosed with “severe colic” reported associations to several common childhood disorders such as atopic eczema, food allergies, sleep disorders, and recurrent abdominal pain (Savino et al., 2005).

In contrast, a review of 12 longitudinal studies examining outcomes of infant colic noted that while several of the studies raise concerns about the long-term consequences, the author concluded by indicating that most infants with colic have a good prognosis for normal physical, cognitive, and behavioral development (Lehtonen, 2001). Other studies not reviewed by Lehtonen also indicate minimal long-term child-specific difficulties with formerly fussy and excessively crying infants (Barr, 1998; Ellett, Schuff, & Davis, 2005; Stifter & Braungart, 1992).

In summary, there is some evidence to suggest that infants who cry excessively develop negative consequences in early childhood, and particularly for those infants who continue to cry and fuss past four months. Yet other research suggests relatively no long-term consequences. It is difficult to discuss long-term child outcomes of infant crying

without consideration of how caregivers might be influenced by the crying and in turn influences these outcomes.

Crying impact on caregiver/ing. Research on infant crying has consistently shown that an infant's excessive crying negatively affects caregivers. Parents confronted with normal patterns of crying still report crying as the single most concerning and troublesome problem during the infancy period (McKim, 1987). But for caregivers dealing with an excessively crying infant, the immediate negative consequences are intensified. The lack of evidence explaining the cause of excessive crying and fussing further compounds concern for parents.

Additionally this unexplained nature of the crying combined with an inability to soothe the infant, thought to be the cornerstone of parenting in infancy affects feelings of efficacy and can lead to a cycle of parent-infant distress (Stifter, Bono & Spinrad, 2003). Research has revealed that infant excessive crying can lead to maternal depression, feelings of helplessness, anger, exhaustion, and sometimes rejection of the infant (Barr, 1998; Ellett, et al., 2005; Long & Johnson, 2000; Papousek & Hofacker, 1998; Raiha, Lehtonen, Huhtala, Saleva, & Korvenranta, 2002; Wilkie & Ames, 1986). Mothers of excessively crying infants tend to rate their infants as less adaptable, less cuddly, and more vulnerable (Forsyth & Canney, 1991; Schuetze & Zeskind, 2003). These mothers also report significantly less parenting confidence, less sensitivity towards their infant, increased anxiety, and more stress than mothers of less fussy, more soothable infants (Cutrona & Troutman, 1986; Hubert, 1989; Murraray, Stanley, Hoper, & King, 1996;

Papousek & von Haofacker, 2001; St. James-Roberts, Conroy & Wilsher, 1998; Teti & Gelfand, 1991; Ventura & Stevenson, 1986).

A consistent finding is the high prevalence of depression in mothers of excessive crying and fussy infants (Maxted et al., 2005). It is well documented that maternal post-partum depression can compromise many dimensions of infant development such as social and cognitive development as well as negatively impact the mother-infant relationship (Beck, 1999; Field, 1995; Tronick & Weinberg, 1997). Additionally, a fairly large body of research has suggested a link between maternal post-partum depression and later behavioral and emotional problems in children (Goodman, Bougan, & Lynch, 1993; Seifer & Dickstein, 2000; Sinclair & Murray, 1998).

Other research has examined the co-occurrence and possible transactional impact of post partum-depression and excessive crying. This research has demonstrated that mothers of excessively crying infants tend to have less optimal communication with their infants (Lester & Barr, 1997), have altered perceptions and responses to their infants cry signals (Schuetze & Zeskind, 2003), and have demonstrated a relationship between increased infant crying and increasing maternal depressive symptoms (Stifter & Bono, 1998; Miller & Bar, 1993; Vik et al., 2009).

For example, in a study of clinically referred infants for concerns related to crying, 45% of these mothers had moderate to severe depressive symptoms. Severe depressive symptoms were related to ratings of fussiness and difficulty soothing, among other personal and familial concerns (Maxted et al. 2005). While no direct causal relationship has been made between crying and depression, the increased risk of the

combined effect of excessive infant crying and maternal postpartum depression has certainly been acknowledged (Oberlander, 2005).

A number of studies have also indicated a reverse relationship, suggesting that infant excessive crying and fussing are outcomes of maternal depression (Beck, 1999; St. James-Roberts, Conroy, & Wilsher, 1998). As mentioned earlier, the direction of effect is a complicated, but worthy topic for discussion. The existence of maternal depression in combination with an excessively crying and fussing infant elicits a question similar to the “chicken and egg” quandary - what came first? Does a mother’s depression cause the crying, or does the crying cause the depression? One possibility is that because some women are more vulnerable to having postpartum depression (e.g., women who have had past episodes of depression), the added stress of an excessively crying infant might increase the chances of postpartum depression. Conversely, an infant that might not cry excessively, but demands more caregiver attention and needs more help with self-regulation, might cry and fuss more than normal if these needs are not met due to depression in the mother. Suggestions of directional effects have certainly been suggested (Schuetze & Zeskind, 2003; Stifter, Bono & Spinrad, 2003; Vik, et al. 2009), yet no evidence of causality has been clearly supported.

Elevated stress and frustration in caregivers has also been indicated as a result of excessive crying (Ellet et al., 2005; Long & Johnson, 2001; Wade, Black & Ward-Smith, 2005; Wilkie & Ames, 1986). One study indicated that mothers who reported rates of excessive crying (defined as more than three hours a day) during well-child visits were five times more likely to score high on the Parent Stress Index (Abidin, 1986) compared

to mothers who reported less crying (Bebe, Casey, & Pinto-Martin, 1993). This impact on caregivers is particularly important to consider given that heightened levels of stress have been linked to an increased likelihood of abuse (Rodriguez & Green, 1997).

One provocative qualitative study of mothers caring for excessively crying infants investigated the impact of infant excessive crying on the emotional states of mothers and revealed a high incidence of maternal fantasies of aggression and infanticide towards their infants (Levitzky & Cooper, 2000). The authors reported some mothers expressed thoughts of smothering their infant with a pillow, shaking the infant and cutting the infant with a knife in response to the excessive crying. A more in-depth qualitative study also revealed expressions of frustration and fears of “losing control” or harming the infant because of the elevated stress caregivers experienced during crying episodes (Long & Johnson, 2001). These findings have been cited as additional evidence for the complex and often negative impact of infant crying on caregivers, which includes an increased risk for abuse (Helseth, 2002; Keefe et al., 2006).

It is widely accepted that crying is the trigger and proximate cause of infant abuse, and it has been well documented that crying contributes to the frustration caregivers experience (American Academy of Pediatrics, 2009; Bar, Trent, & Cross, 2006). An early analysis of 24 cases of fatal infant abuse revealed that in all cases of infants under 12 months of age, the predisposing infant-factor was inconsolable crying (Krugman, 1983). It has also been suggested that the unexplained nature, prolonged bouts and unpredictability of the crying seen in excessively crying infants are all

properties that might be the trigger to serious consequences such as physical abuse or Shaken Baby Syndrome (SBS)¹ (Barr, 2006).

Unique to SBS is the evidence that indicates a clustering of incidences around 12 weeks of age. As mentioned previously, the peak of infant crying occurs around the sixth week during infancy, indicating a six week delay of incidence after the crying has reached maximum duration and intensity (Barr, Trent, & Cross, 2006). However, contrary to speculations, shaken baby syndrome is unlikely to be an isolated event (Caffey, 1972). Investigations of infant deaths that were determined to be the result of shaking have indicated previous cranial injuries (e.g., old intracranial hemorrhages) from shaking episodes in some cases (Alexander, Crabbe, Sato, & Bennet, 1990; Guterman & Lee, 2005). For example, in 40% of diagnosed SBS cases, the American Academy of Pediatrics (2001) reports evidence of previous intracranial hemorrhages in these infants. This might suggest that there is actually no lag in the peak of crying and abuse, but that repeated incidence of shaking were occurring throughout the period before death.

These incidences may go unnoticed because the shaking of an infant can induce a short-lived unconsciousness and listless behavior immediately after the shaking, with no external evidence of injury (American Academy of Pediatrics, 2001). It has been suggested that caregivers who shake an infant once to stop the infant's cry may perceive the shaking as an effective technique and use it in the future (Russel & Britner, 2006).

¹Shaken Baby Syndrome (SBS), also called Abusive Head Trauma (AHT), is the result of vigorous manual shaking of an infant with or without impact resulting in head trauma. SBS is a form of maltreatment that most often involves children younger than two years of age. The act of shaking an infant is particularly damaging to the brain due to the size ratio of the head to the rest of the body and underdeveloped neck control which, during shaking, causes the brain to shift front to back in the skull causing multiple intracranial injuries. Intracranial head injuries resulting from abuse are the leading cause death in infants under one year of age (American Academy of Pediatrics, 2001/2009).

No consistent evidence is available to explain the clustering of incidence at twelve weeks and the apparent delay after the peak of crying. However it has been hypothesized that this delay may be the result of parent exhaustion and depletion of resources shortly after the infant crying peak (Nash, Morris & Goodman, 2008). These are speculative hypotheses, and no direct link has been identified between the lag in incidence and the peak of crying. Caregivers convicted of abuse by shaking an infant report the incident as an attempt to respond to the infant, and crying has been only child specific variable consistently identified in the escalating factors before shaking (Lazoritz & Palusci, 2001).

As indicated in studies such as Levitzky and Cooper's (2000), mothers will admit to feelings of harming their excessively crying infant. However, the statistics on the perpetrators of infant abuse indicate that fathers as well as father figures are highly overrepresented. A review (Sinal et al., 2000) of shaken baby syndrome cases in North Carolina reported that 44% were perpetrated by fathers and 20% were perpetrated by mothers' boyfriends, in contrast to 7% perpetrated by mothers. Another review not specific to SBS cases indicated that males make up an estimated 70% of the perpetrators in infant abuse leading to death cases (Lazoritz & Palusci, 2001). Given that fathers and male caregivers often provide substantially less childcare than mothers, these statistics are quite remarkable. Unfortunately, research on the impact of excessive crying on fathers is scarce, leaving the link from crying to abuse by fathers only speculative. Thus, little can be understood about why an overrepresentation of fathers as perpetrators of infant abuse exists. Research that is available on fathers of fussy and excessively crying infants will be discussed in more detail in a subsequent section.

Despite this focus on the impact of crying on the primary caregivers as it relates to infant abuse, it is also important to note that other caregivers such as daycare providers and babysitters as well as extended family are also at risk of becoming stressed and frustrated by a fussy, excessively crying infant. It has been suggested that because caring for the infant has been difficult for the parent, they often worry that other caregivers will also struggle, lose their patience, or might not even want to care for their infant because of the crying and fussing (Baker & Jurie, 2008). Therefore finding childcare for an infant who cries and fusses more than normal can be challenging for parents, and also might prevent parents from having a break, representing yet another consequence of excessive crying.

In summary, this research shows that excessive crying is a major challenge for mothers and is associated with several negative consequences such as maternal depression, decreased self-efficacy, less marital satisfaction and increased stress and frustration. The interactional effects of depression and self-efficacy on infant excessive crying have also been suggested as possible contributors to increased crying. Additionally, increased feelings of stress and frustration as the result of infant crying in caregivers has been hypothesized as leading to more serious deleterious outcomes such as infant abuse.

Long-term outcomes for caregivers and families. Few studies have examined the long-term consequences of excessive crying on families or caregivers. Given the substantial research documenting the adverse impact of excessive crying on caregivers, it is surprising more research has not explored whether these adverse effects continue to

persist. The dearth of long-term follow up studies may be due to the fact that in most cases, excessive crying and fussing tends to diminish in the third or fourth month of life. Therefore, it might be assumed that since the crying is transient for the majority of infants, the caregiver consequences related to the crying (such as stress, depression and lowered self-efficacy) will also decrease.

However, research investigating the long-term impacts of excessive crying suggests that some of the negative consequences of excessive crying (such as lowered parenting self-efficacy) continue to be a problem for parents even after the crying has subsided. One study hypothesized that after the crying subsides, mothers of excessively crying infants would have more experience with successfully soothing their infant and therefore parenting-efficacy would return to normal levels. This was not the case when parenting-efficacy was assessed at five months and again at ten months. Mothers were more likely to rate themselves lower on parenting efficacy than controls, indicating that even though excessive crying had resolved by three or four months, there existed a long-term impact on self perceptions of parenting (Stifter, 2001; Stifter & Bono, 1998).

Parent perception of excessively crying and fussy infants has also been shown to persist into childhood. A recent follow up study of Australian school-age children found that mothers of children who were admitted to the hospital for concerns related to excessive crying (and no medical cause to the crying was found), later rated their children as significantly more vulnerable than controls (Brown, Heine, & Jordan, 2009). These mothers rated their children as more likely to get sick, as having more accidents than other children, as looking unwell more often, and as having less energy than other

children. These findings are consistent with earlier reports of a lasting perception of child vulnerability in parents of excessively crying infants at three and a half years of age (Forsyth & Canney, 1991). This perception of vulnerability was not matched when compared to scores on a child behavior checklist, suggesting that the perception of vulnerability was not related to mothers' ratings of actual child, but a residual effect of the early crying problems in infancy.

In general, available studies on the long-term consequences of infant excessive crying on the family represent a mixed conclusion. There is some indication that the negative effects of excessive crying on the family fade over time (Barr, 1998; Wake et al., 2006). For example, a series of follow-up studies indicate that at one year post the crying period, families demonstrated more difficulty in communication and family functioning, but these problems had diminished by the time the child was three years of age (Raiha et al., 1996/1997).

Other studies have presented evidence supporting the presence of continued family and caregiver dysfunction as a result of the experience (Meijer & van den Wittenboer, 2007; Stifter & Bono, 1998). For example, another Finnish study that also followed families over three years found that families who had an excessively crying infant had more problems with family relationships, parents saw child-rearing more negatively, and viewed housework as more overwhelming than did families who did not have an infant with crying concerns (Rautava, Lehtonen, Hans, & Sillanpaa, 1995).

The authors conclude that families with excessive crying and fussy infants experience more interaction problems, and that the children had more behavior problems

at the age of three. The same interactional problems in these families were found during pregnancy, however, suggesting that the existing problems in the family at age three might have little to do with the impact of an excessively crying infant, and possibly reflect a more stable characteristic of the family. Still, another study corroborated these findings and indicated that while parents do not report lasting problems or concerns with their formerly fussy infants, they cite lasting negative impacts on family communication and chronic relationship strain, especially if support was not perceived during the excessive crying period (Ellet et al., 2005). Similarly, Meijer, Godfiend and van den Wittenboer (2007), also found crying as the main child variable that affected marital satisfaction for both mothers and fathers during the first year after birth.

Different from other research related to infant excessive crying, many of these studies investigating the long-term impact of excessive crying on families have included fathers as study participants. However, when reporting results, authors tend to blend the father in with a general analysis of family functioning, with no indication of how much or little the father participated (e.g., Long & Johnson, 2000; Raiha et al., 1996/1997). One retrospective study (Ellet et al., 2005), reported only one father participant out of 43 mothers, yet still introduced and concluded their study as findings representative of family functioning, generalizing these results based on mother reports only.

Additionally, Rautava and colleagues (1995) failed to indicate how many fathers participated in their study, only stating that they followed, “838 infants and their families” (p. 43), despite mentioning father participation in collection of measures. When father participation is noted, studies consistently report fewer father participants

than mothers. Only one study cited in this review of long-term family outcomes of excessive crying reported equal numbers of fathers and mothers (Meijer & van den Wittenboer, 2007).

In summary, the available literature reflecting the long-term caregiver and family outcomes related to infant excessive crying report some lasting negative consequences for individual caregivers as well as difficulty in family functioning. It remains unclear what specifically about infant excessive crying may contribute to these lasting caregiver and family effects. However, the transition to parenthood research (discussed in more detail subsequently) may offer some insight into how these negative family consequences of excessive crying might affect early family formation and dynamics that influence later functioning.

Considering that the categories of inquiry in the research on excessive crying and fussing infants mirrors the questions most often asked by parents (what is causing the crying, what should I do about it, and what does this mean for my child's future and for me as a parent), it is not surprising that parents continue to struggle with the lack of conclusive evidence. This brief review of crying research has indicated that there exists no clear indication of what causes excessive crying, variable success in the treatment of excessive crying, and mixed conclusions on how crying and fussing might impact later child and caregiver outcomes. More conclusive in this body of research is the evidence suggesting that excessive infant crying and fussing is a source of concern for caregivers and can have negative consequences for the parent-infant relationship. These relationship

consequences might be exacerbated by maternal mental health, maternal self-efficacy, and increased stress related to infant crying.

Fathers and Infants

In general, fatherhood and father involvement has been the focus of considerable research over the last several decades (Lamb, 2004). Specific to infancy, the study of fathers has increased since the recognition that infants can form multiple relationships and attachments to more than one caregiver. Therefore, it is worth a brief review of the literature on fathers of infants in general to provide context for the unique concerns and experiences of fathers of fussy infants.

Fathers are increasingly involved in the care of infants. The passing of the Family and Medical Leave Act in the early 1993 for example, has made it possible for many fathers to be present during the early months of their infant's lives. Additionally, a greater presence of mothers of infants and young children in the workforce has also increased pressure and expectations of fathers to take on more child-care responsibilities. And because of such circumstances, father research has taken on new meaning and direction in an effort to document the changing roles of fathers. This research has suggested that the concept, expectations and "culture" of fatherhood have shifted dramatically over the last several decades (Lamb, 2004; LaRossa, 1997; Pleck, 1987).

This "changing-culture-of-fatherhood hypothesis" has introduced concepts such as "the new father," "the modern father," and "the nurturing father," suggesting that fathers are not viewed in the same one-dimensional characterization as breadwinner, role model, or disciplinarian as they have been in the past. Rather, this hypothesis suggests

that fathers not only spend more time with their infants, but also are also more sensitive and nurturing than fathers of the past (Lamb, 2004). Observational, qualitative and survey data has suggested that the conception and operationalization of fatherhood has, in fact, become more inclusive and complex (Day & Lamb, 2004).

A number of studies have explored the consequences of father involvement for children, with the emerging consensus that (positive) involvement by fathers is generally beneficial to child well-being (Lamb, 2002). Recent research on fathers and infants has indicated that fathers are involved in infant care, demonstrate nurturing care giving behaviors with their infants, and report a higher than expected satisfaction with their role as fathers (Vogel, Boller, Faerber, Shannon, Tamis-LeMonda, 2003).

Several studies have also specifically identified a buffering role that father's support may play in maternal-child relationships. For example, some studies suggest that fathers support can play a protective role in relation to a mother's depression, shielding infants from negative outcomes (Field, 1998), promoting greater maternal responsiveness to their children (Jackson, 1999), and minimizing negative maternal child-rearing attitudes (Brunelli, Wasserman, Rauh, Alvarado & Caraballo, 1995). However, as fathers have been included more in studies of mental health, and their own mental health during the infancy period has been considered, the buffering effect of fathers has also been refuted (Atella et al., 2003; Goodman, 2008). Particularly relevant to fathers of excessively crying infants, these findings will be discussed in more detail in a proceeding section.

It is important to note that the majority of father-infant research has been conducted in Western societies and is reflected in the literature as a collection of generalizations based on white, middle class fathers. This is true despite the well-documented knowledge that most parenting practices, roles, and ideologies are largely determined by social and cultural expectations (LeVine, 1974; Rogoff, 2003). Available cross-cultural research specific to fathers has also revealed how the role of the father in child-rearing and infant care is also determined by cultural underpinnings, and can differ to a great degree with Western ideologies of fathering (Lamb, 1987).

For example, The Aka foragers of Central Africa have been documented as a society exhibiting some of the highest levels of father involvement with infants. Aka fathers spend almost half of the day holding their infant, or within arm's reach of the infant. The care is characterized as intimate and affectionate, with regular kissing and hugging of the infant, and not perceived as 'women's work' by the fathers or mothers (Hewlett, 1992). Generally, it has been suggested that both mothers and fathers are more involved in the care of infants in collectivist societies such as the Aka, and in societies with high infant mortality rates (Keller et al., 2004; LeVine, 1974).

These practices have developed out of a historical need to keep infants close for vigilance on health and also to keep infants off the ground and away from potential predators. In Western societies (which are considered more individualistic), infants are more often contained by devices such as cribs, strollers, or highchairs and are more likely to be put on the floor to play than they are in collectivist cultures (Small, 1998). Thus, the given expectations of infant care in collectivist cultures (i.e., importance of increased

holding), will likely increase father involvement by default. And over time, these practices have become a part of the cultural milieu, and an inherent expectation of men.

Cultural influences in fathering practices and role expectations have also been documented within Western societies. The increasing recognition of ethnic and racial diversity in the United States has prompted cross-ethnic research on fathering. Briefly, this research has revealed notable differences in the cultural expectations and practices of fathering in African American, Hispanic, and European American families (Cabrera et al., 2000). African American and Hispanic fathers tend to report more traditional views of gender roles than European-American fathers (specifically the mother's role as primary caregiver). However, despite reportedly strong belief in gender roles, African-American families and Hispanic families are less likely to match this ideology, and are more likely to have both parents working outside the home, and more shared parenting tasks than European American families (Toth, Jr, & Xu, 1999).

Observational studies have indicated that African American fathers did not differ from mothers with respect to basic care giving, or attempts to sooth or stimulate the infant, when observed with mother present (Roopnarine, Lamb, & Fouts, 2005). These findings are contrary to observational studies in European American families where fathers tend to do less (in vocalizations, affection, attempts to soothe and caretaking duties) when the mother is present (Lamb & Lewis, 2004), suggesting African American parents might have more egalitarian and convergent roles during the early infancy period, despite the expressed gender role beliefs (Roopnarine et al., 2005). Other studies have indicated that Latino fathers spend more time with their infants and have a higher level of

involvement in household activities than do European fathers (Toth, Jr, & Xu, 1999; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001).

Similar to the generalization based on findings of middle class white men, cross ethnic and racial research has been criticized for a tendency to homogenize group characteristics of fathering, and ignoring the socioeconomic and country of origin influences on the role and practice of fathering (Lamb, 2004; Roopnarine et al., 2005). And despite the recognition that acquiring an understanding of the meaning and role of fatherhood requires sensitivity to the cultural expectations and constructions, research focused on cultural variations of fatherhood has been slow to emerge (Cabrera et al., 2000).

Not only has a cultural consideration of fathers and infants been slow to emerge, but in the past, research on fathers and infants has represented a general collection of mother-reported data. While much can be learned about the father from the mother's perspective, we have also learned that fathers and mothers tend to perceive their infants differently, view their role as a parent differently, and express different emotions related to their infant and parenting (Bartlett, 2004; Sadeh, Flint-Ofir, Tirosh, & Tikotzky, 2007). Because of this, research investigating the father's experiences gathered from actual father report has increased over the last several decades (Prem berg et al., 2008). In particular, the transition to parenthood literature has explored the role of the father, his experience of becoming a father and how his experiences might differ from mothers.

Transition to Fatherhood

The transition to parenthood is particularly relevant to the discussion of infant excessive crying and fathers because much of the research is conducted in the first year and early months after the birth of an infant. Additionally, many family dynamics, such as parenting communication style and division of caretaking responsibilities, are formed during the first three months after the birth of a baby and are firmly in place by 16 weeks after birth (Bell, Goulet, Paul, Boisclair, & Tronick, 2007; Fivaz-Depeursinge, 2003; Gable, Belsky, & Crnic, 1995). These dynamics show coherence over time (McHale, 2007), making this period particularly important to consider in the context of excessive infant crying. As indicated previously, long term family outcomes related to excessive crying have demonstrated the existence of some lasting family characteristics, such as poor communication and strained family relationships, which developed during the early period of infancy (and also the period considered the “transition to parenthood”) (Meijer & van den Wittenboer, 2007; Rautava et al., 1995; Stifter & Bono, 1998).

Becoming a parent represents a major life event in which changes must be negotiated personally and within relationships. One review of literature on the transition to parenthood concluded that: (1) the changes that occur in parents' lives during the early postpartum period are more negative than positive; and (2) the transition to parenthood is at least equally disruptive for men, for women, and for the couple (Cowan & Cowan, 2000). Other evidence has suggested that the stress associated with the transition to parenthood may be more severe for fathers than mothers (Ahlborg & Strandmark, 2001).

Some earlier qualitative work on the father's experience of new fatherhood revealed that men felt they were not recognized as parents, but as helpmates or breadwinners. They felt excluded from early childrearing, ignored by health care providers and felt they lacked models from which to learn how to be an active, involved father (Jordan, 1990). In several studies of new fatherhood, fathers expressed how they found fatherhood much more difficult and distressing than anticipated and that their infants were less social and more demanding than they expected before birth (Alhborg & Strandmark, 2001; Barclay & Lupton, 1999). Other qualitative research has revealed that new fathers were surprised by the emotions they experienced when caring for their infants and expressed a desire to be more emotionally involved than their own fathers were (Anderson, 1996).

A comprehensive review of literature pertaining to parenthood experiences during the child's first year revealed different themes for mothers and fathers and one unifying theme of "new and overwhelming." Including both quantitative and qualitative literature in their analysis, Nystrom and Ohrling (2003), found that while mothers and fathers were both strained, their experience differed to a great extent. Fathers' experiences included feeling more confident as a man, feelings of isolation, an increased responsibility as a provider and protector, and that living up to the expectations of fathering caused strain and increased stress. Mothers' experiences included being satisfied and confident as a mother, being primarily responsible for the child is overwhelming and causes strain, and feeling fatigued and drained. The authors note that there were some themes of

satisfaction and confidence in the literature, but that the majority of the studies analyzed show parents overwhelmed by variations of strain.

Additional father-specific literature during the transition to parenthood has also suggested that the post-partum period is particularly difficult, especially for first time fathers (Deave & Johnson, 2008). This has been found across qualitative interviews of first-time fathers in the United States, Canada, and Britain. Fathers reported feelings of disruption, discomfort and exclusion (Henderson & Brouse, 1991), they struggled to receive recognition as a parent by their partners and their greater social network (Jordan, 1990), and they experienced role strain associated with the multiple roles they felt were expected of them (Barclay & Lupton, 1999).

One review of the literature on the impact of fatherhood on men during different stages of the transition (pregnancy, labor and delivery, postpartum period, and parenthood) revealed significant challenges faced by fathers during the postpartum period (Bartlett, 2004). Among the challenges, one theme emerged indicating that fathers felt less involved than they expected, and “left on the fringes” for the first several months. Interestingly, Litton Fox and colleagues (2000) revealed that fathers had expectations of a high level of participation in the care of their newborns during the prenatal period, while the mothers expected much less participation from the fathers. Mothers also expressed doubt in the prenatal period that fathers would be able to handle the infant competently.

Maternal Gatekeeping

Similar research looking at the construct of maternal gatekeeping² has demonstrated that father involvement in infant care is strongly related to pre and postnatal maternal beliefs of father roles and father competence (Schoope-Sullivan et al., 2008). This research has also suggested that criticism by mothers of fathers in general and during routine infant care practices is associated with fathers' beliefs about father roles, level of involvement and identity as a father (or "investment" in fatherhood). That is, fathers who are criticized more and encouraged less by mothers regarding their ability to care for the infant tend to view the role of the father as less important, engage less frequently with their infants and view themselves as less invested in their role as a father (Fagan & Barnett, 2003; McBride, 2005). These findings suggest that mothers determine the level of father involvement, perhaps despite fathers' expectations (Litton Fox et al., 2000).

Qualitative studies during the transition to parenthood with fathers have revealed a theme of "mother-influence" or "mother-led" fathering, indicating significant influence by the mother on father internalization and practice of fatherhood (Cowan & Cowan, 2000; Daly, 1993). For example, several studies have indicated that fathers are more likely to be involved in infant care and engage in more positive and appropriate interactions with their infants when in a positive co-parenting relationship (Cox, Owen, Lewis, & Henderson, 1989; Grych & Clarke, 1999; Lamb, 2002). Fathers who report

²Maternal gatekeeping is typically defined as a collection of beliefs and behaviors of mothers that may inhibit, control, and influence father behavior. These beliefs and behaviors have been described as (a) a reluctance to relinquish family responsibility by setting rigid standards, (b) a desire to validate a maternal identity, and (c) differentiated conceptions of family roles (Allen & Hawkins, 1999).

less support from mothers and lower marital quality are less sensitive and affectionate with their infants. The reverse is not true for mothers however, suggesting that fathers' parenting behaviors are impacted by the mother-father relationship quality to a greater degree than it is for mothers (Feldman, 2000).

The research on maternal gatekeeping and early parenting relationships seems to indicate that fathers rely heavily on mothers to define their fathering behavior and views of fatherhood. Yet, *why* mothers impact father behavior during the transition to parenting so significantly is rarely discussed in this body of literature (Cabrera et al., 2000). It has been hypothesized that fathers will internalize and react to mother behavior and views during the transition to fatherhood because of the stress associated with the changing cultural expectations for fatherhood (Daly, 1993). More specifically, the "changing culture of fatherhood" has heightened expectations of fathers, yet most fathers have had little preparation and few role models to reference in order to meet the expectations inherent of the "new father" (McBride et al., 2005).

Preparation for Fatherhood

Just as women learn to be mothers from their own mother and other female caregivers, fathers "learn" to be fathers based on their own experience of being fathered. Fathers who received care from and had more positive experiences with their own father are more likely to engage and be involved with their infants (Vogel et al., 2003). In the absence of a father or other role model who has demonstrated characteristics of an involved, nurturing father, how do men construct their understanding of how to be a "new father"? In general there is little research on how role models or household division of

labor and child caretaking responsibilities impact the development of the practice of fatherhood (Cabrera et al., 2000).

We do know that men typically have far less opportunities to prepare for fatherhood than women (Parke, 2002), which is not true in all societies, and perhaps a distinct characteristic of Western, individualistic cultures. In many non-western societies, parenting skills are learned in early childhood through sibling care experiences which are often an expected contribution to the family's economic success and a recognized mode of teaching parenting skills (Rogoff, 2003). In contrast, many western parents may be caring for an infant for the first time with the birth of their first child. This might be as true for first time mothers as it is for fathers, yet across cultures women tend to have more experience in the role of caretakers than men. Generally, women are more likely to be actively socialized for such activities during childhood, and gain experience in caring for infants either through actual experience or practice in early pretend play (Whiting & Edwards, 1988).

Not only do many fathers lack the preparation to be involved in infant care, but they are also surrounded by cultural messages that reinforce a lack of parenting self-confidence during the transition to parenthood. It seems that despite the changing conception and culture of fatherhood, which encompasses assumptions of increased involvement in infant care and more sensitive care giving practices, there also exists a representation of fathers as incompetent and less skilled as parents. These images are often portrayed through television characters and other popular media outlets, including

images of fathers represented as irresponsible, inattentive, and incapable of caring for infants and children (Coltrane & Allan, 1994; LaRossa et al., 2000; Miller, 1989).

These ongoing messages of father incompetence combined with a lack of preparation for fatherhood may make living up to the new standards of fatherhood particularly difficult during the transition to parenthood. And in the face of this, fathers may turn to mothers (who are assumed to have more knowledge and experience in care giving) to gain a sense of how to behave with their infants, gauge how competent they are, and ultimately internalize their conception of what a father is.

This set of circumstances might also contribute to difficulty in anticipating what parenthood will be like, causing increased stress in the face of the changes inherent in the transition. During the prenatal period, first time mothers tend to better predict and anticipate what changes and personal demands are associated with becoming a parent than first time fathers (Hackel & Ruble, 1992; Pancer, Pratt, Hunsberger, & Gallant, 2000). This research has demonstrated that individuals who are more aware of the many ways having a child will impact their life, experience a less difficult transition during this period of transition. This might suggest that because fathers are less prepared and have less prior experience on which to develop expectations, they will have difficulty in the transition to parenthood, particularly during the early postpartum period.

Father Parenting Self-Efficacy

Research during the postpartum period indicates that fathers have significantly lower parenting self-efficacy scores, which are also slower to improve over time than for mothers (Hudson, Campbell-Grossman, Fleck, Elek, & Shipman, 2003; Leerkes &

Burney, 2007; Reece & Harkles, 1998). Meijer and colleagues (2007) found that although maternal and paternal parenting self-efficacy increased over the first year after birth, fathers' efficacy had a significantly slower and lower level of increase than mothers', suggesting a continued lack of confidence in parenting over time.

Parenting self-efficacy is rooted in the self-efficacy theory of Bandura (1977), which identifies self-efficacy as the belief in one's ability to perform tasks and behaviors successfully. Thus, parenting self-efficacy is defined as the degree to which parents expect to competently and effectively perform their roles as parents (Teti & Gelfand, 1991). Self-efficacy beliefs are enhanced or decreased, respectively, by success or failure experiences. Feelings of parenting efficacy have been associated with a number of adaptive parental outcomes, including an easier transition to parenthood, lower depression, and greater satisfaction with parenthood (Hess, Teti, Hussey-Gardner, 2004; Teti & Gelfand, 1991). Mothers of excessively crying infants tend to report lower parenting self-efficacy scores (Stifter & Bono, 1998), yet how crying impacts father self-efficacy has yet to be explored.

Given that self-efficacy is enhanced or decreased by experiences, and fathers often have less experience with infant care, it is not surprising that fathers tend to have lower self-efficacy scores than mothers. In fact, one study indicated that the only predictor of father self-efficacy during the postpartum period was father involvement in child-care tasks, suggesting that practicing parenting increases feelings of efficacy via performance attainment (Leerkes & Burney, 2007).

Paternal Depression

Despite the indication that the postpartum period is particularly more difficult for fathers than other time periods during the year after birth, attention to the mental health of fathers has been paid much less attention during the postpartum period than for mothers. As mentioned previously, the deleterious impact of maternal post-partum depression on infancy has been well documented and therefore the focus of much infant research. The prevalence and resulting consequences of father depression during infancy has only recently emerged in the field of infancy.

Literature that has taken into account levels of depression for fathers has indicated that the incidence of paternal depression during the first year after birth ranges from 1.2%-25.5% in community samples (Goodman, 2004). This large range in prevalence rates has been suggested as being due to methodological discrepancies, such as the timing of assessment, and the measure used. Studies that have included a measure of father depression are typically collected during the same time period that mothers are most often assessed for depression, between one and eight weeks after birth. However, unlike mothers, whose onset of depression usually occurs in the early postpartum period, there is some evidence that depression in men begins later, and continues to increase over the first year postpartum. There is also some indication that fathers' depression may be manifested as symptoms of anxiety and anger and not detected in some measures of depression (Matthey et al., 2000; Matthey et al., 2003).

Several studies have shown significant correlations between both parents experiencing depression during the post-partum period (Ballard et al., 1994; Edhborg et

al., 2005; Soliday, McCluskey-Fawcett & O'Brien, 1999). Matthey et al. (2000) found fathers were at significantly greater risk to score high on measures of depression at six weeks and 12 months postpartum if their partners were depressed. Other studies have also demonstrated that among fathers with depressed partners, the incidence of depression ranged from 24% to 50%, a significant increase from fathers with partners not experiencing depression (Areias, Kumar, Barros, & Figueiredo, 1996; Zerkowitz & Milet, 2001).

A recent meta-analysis reviewed 43 studies involving 28,004 participants with the aim of describing the variability and point estimates of paternal prenatal and postpartum depression (Paulson & Bazemore, 2010). Results indicated that depression was present in about ten percent of men during the prenatal and postnatal period, with the highest percentage (25.6%) occurring during three to six months post partum. The analysis also confirmed that paternal depression shows a moderate positive correlation with maternal depression.

Fathers in families with depressed mothers have shown to have more negative interactions with their infants and demonstrate higher levels of depression and stress than in families where mothers are not depressed (Goodman, 2008). Additionally, studies including depressed fathers have reported that depressed fathers rate their infants as lower on social and cognitive competence as well as less cuddly, fussier, weaker, less smart, more difficult, and more inattentive than non depressed fathers (Atella et al., 2003; Hart et al, 1997). These findings refute other studies that have indicated that men act as

buffers against the negative effects of maternal depression (Edhborg et al., 2003; Field, 1998).

The long-term impact of early paternal depression on child outcomes has also been much less studied than that of maternal post partum depression. One longitudinal study indicated that depression in fathers during the postnatal period was associated with a negative impact on emotional and behavioral development in children three and half years of age. These children were more likely to be reported as having emotional or behavioral disturbances than controls. Results remained significant even after controlling for depression in the mothers and father depression after the postpartum period (Ramchandani et al., 2005). A recent longitudinal study demonstrated that children whose fathers were depressed in both the prenatal and postnatal period had the highest risk of subsequent psychopathology both at age three and a half and at seven years of age (Ramchandani et al., 2008).

Similar outcomes have been obtained regarding the long-term impact of maternal depression on child outcomes (Goodman, Brogan, & Lynch, 1993; Seifer & Dickstein, 2000; Sinclair & Murray, 1998), suggesting an analogous trajectory. Also similar to the literature on maternal depression, little attention has been paid the directional and transactional effects of father depression and infant characteristics.

In summary, the transition to fatherhood literature indicates that the early postpartum period is a stressful time, and has been shown to be disruptive and challenging for both fathers and mothers (Bartlett, 2004; Clinton, 1987; Cowan & Cowan, 2000). This literature also suggests that fathers' feelings of parenting self-

efficacy during this transition is lower than mothers, that they experience post partum depression, and are at particular risk of higher rates of depression if their partner is depressed. Additionally, there is some indication that mothers might ultimately determine the involvement fathers will play during this period, that fathers rely heavily on mothers to define their role as fathers, and that fathering behavior is particularly sensitive to the partner relationship. We also know that men often enter fatherhood with less preparation for infant care than mothers. This lack of preparation, together with popular media messages of father incompetence and negative maternal gatekeeping practices, likely contributes to fathers experiencing this period of transition as particularly negative.

Left out of this research is how infant characteristics might influence this transition for fathers. It has been suggested that it is important to consider the unique characteristics of the infant in relationship to how parenthood is experienced (Crockenberg & Leerkes, 2003; Crouter & Booth, 2003). Yet the transition to fatherhood literature tends to include very little about the role the infant. It would seem likely that the infant's unique characteristics, such as infant crying and fussing behavior, would contribute to this period of adjustment for fathers, yet there is little evidence to support (or refute) this presumption. Some studies have included dimensions of infant temperament in their analysis of father functioning during infancy (Atella et al., 2003; Van Egeren, 2004), but less have directly linked father's perception and experience of infant excessive crying to the transition to fatherhood. What then does the existing literature say about fathers of excessively crying and fussy infants?

Fathers and Excessive Crying/Fussing

The evidence suggesting that caring for an excessively crying and fussing infant is challenging for caregivers has been almost exclusively collected based on mothers. There is ample evidence suggesting how excessive crying impacts mothers and how mother characteristics might impact infant crying. However, we know far less about how crying impacts fathers and how fathers might impact infant crying. Although the research examining infant characteristics such as infant crying and fathers is scant, there are some studies that have included fathers in their collection of data, along with mothers, and one study that focuses specifically on fathers and excessively crying infants (Ellet et al., 2009).

Just as there are similarities in how men and women might experience parenthood, the available literature also suggests some similarities in the mother specific research on infant crying and fathers. For example, fathers have increased stress related to crying, feelings of anxiety and frustration, and two studies indicate higher rates of depressive symptoms directly associated with infant crying (Smart & Hiscock, 2007; Wilke & Ames, 1986).

Wilke and Ames (1998) interviewed 30 couples about new parenthood and gathered measures of depression, anxiety, life change concern, and infant crying. Crying was measured using a crying questionnaire, which asked how often the baby cried during an average day, the length of the crying, and the longest episode of crying. The authors added a question to this measure which asked parents to indicate the extent to which they felt incompetent, angry, uncaring, depressed, annoyed, or exasperated when the baby

cried (using a five point scale for each adjective). Interview questions explored feelings related to parenthood such as how the parent viewed parenthood or what supports and advice they were receiving.

The authors found that reports of infant crying correlated positively with fathers' feelings of depression, anxiety and feelings of powerlessness concerning themselves and their wives. As the infant cried more, the father tended to rate his infant less negatively than the mother, but rated himself and his wife as less effective parents, suggesting that fathers might take infant crying more personally than mothers. Mothers seemed to localize the problem in the infant and cope with their crying infants without having negative feelings about themselves or their spouse. Parents' views of how the crying of their infants impacted their experience of parenthood or the extent to which they considered the crying to be a problem was not addressed, but would have added to this study significantly.

In a similar and slightly larger quantitative study, Smart and Hiscock (2007) investigated the impact of infant behavior (sleep and crying) on the mental health of 60 fathers and their partners. Parents in this study had been referred to a clinic for a consultation related to infant sleeping or crying problems. Using the Edinburgh Postnatal Depression Scale (Cox, Holden & Sagovsky, 1987), the authors reported 30% of the fathers and 45% of mothers scored above the cut off for depressive symptoms. At post consultation, fathers continued to rate their infant's problem as more severe than did mothers, who viewed the problem as less severe after intervention. This study is the only study to directly evaluate the impact of infant sleeping and crying problems on fathers,

indicating a high prevalence of depression in this sample. However, it is important to note that while 42% of families reported a problem with crying at intake, the analysis of the overall findings did not distinguish between crying or sleeping, leaving the exact impact of crying on fathers unknown.

In a series of Finish studies, Raiha and colleagues examined the existence of possible lasting impacts of infant excessive crying on family functioning when the infant was one year of age (Raiha, Lehtonen, Korvenranta, 1996) and again three years after the excessive crying period ended (Raiha, Lehtonen, Korhonen & Korvenranta, 1997). At one year past the excessive crying period, 46 couples were interviewed using a family evaluation scale to gather measures of family communication, structure, functioning, and affective state of the family. The families who had moderate and severely crying infants (determined by the researchers based on parent-diaries of infant crying over one week) had more problems with communication, were less flexible, and expressed more unresolved conflicts than control families. These findings indicate the presence of persistent problems in family functioning associated with excessive crying at one year post the excessive crying period.

At the three-year follow up, quantitative measures indicated that the problems in family functioning were much more subtle and did not differ significantly from control families. The family functioning problems that were present at the one year follow up were not reported by families at the three year follow up. This study indicates that while problem related to family functioning are present at one year, over time, these problem diminish. In both of these follow up studies, results about fathers were generally grouped

in with ‘family’ outcomes and little discrete analysis specific to fathers is provided. The only distinct finding about fathers was indicated in the three-year follow-up, suggesting that fathers in the severe crying group reported more difficulties in problem solving and affective involvement in the family, yet even these differences were not significant.

Later research from Finland has presented perhaps the most explicit and concrete findings related to fathers and excessive crying. Raiha et al. (2002) studied mother-infant and father-infant interactions in 32 families with an excessively crying infant and in 30 control families. To further refine the analysis, the excessively crying infants were sub-grouped based on severity of crying (or colic) into two groups (determined first by “Wessel’s Rule of Three,” and then into moderate or severe groups based on the amount of crying in one week of parent cry diaries). Findings suggest that both mothers and fathers of excessive crying infants had less-optimal parent-child interaction compared to control parents. However, the most pronounced interaction problems were between fathers and infants in the severe crying group. These problems were described as including less warmth in vocalizations, less positive effect, less visual contact and displayed more depressed mood in interactions. The fathers also tended to have more anxious mood and expressed less enthusiasm/joy for life compared to mothers in the severe colic group and fathers in all other groups.

This study offers observational evidence of the negative consequences of excessive crying on the father-infant relationship. These results present some possibilities of the experience of fathers of fussy babies. However, it must be noted that the described emotional experiences of the fathers were extrapolated from observations in

interaction, and no confirmation of depressed mood, for example, was collected from the fathers.

Findings indicating difficulties in father-infant interaction such as these reported in Raiha et al. (2002) inspired a recent study investigating fathers' perspectives of living with an excessively crying infant (Ellet et al., 2009). This represents the only study to date that directly addresses the fathers' perspective of caring for a fussy/excessively crying infant without consideration of mother perspective. Findings from a series of in-depth interviews with ten fathers of 'colicky' infants revealed an overall experience as "falling into and arising from the crying abyss together as a family" and four themes: (1) falling into, (2) hitting bottom, (3) weaving strands to make a rope, and (4) climbing out. Interviews were conducted over email with fathers from seven different states, and the age-range of the children was from eleven weeks to six years, indicating some interviews were retrospective (the exact number was not reported).

"Falling into" the crying abyss was characterized by father reports of lack of previous experience with infants who cry excessively, feelings of unpreparedness, helplessness, and a sense of being "thrown" into an experience they did not choose. "Hitting bottom" in the crying abyss was described by fathers as feelings of frustration, aloneness, and despair, and represented the most emotion-focused theme. "Weaving strands to make a rope" was represented by father reports of finding ways of pulling themselves and their families out of the "crying abyss." Fathers reported finding it helpful to focus on the small accomplishments (like a 45 minute nap), or by finding support in family and friends. Finally, "climbing out of the crying abyss", was

characterized by fathers' reports of how they emerged from the abyss. Fathers discussed realizing that they could not change the crying, but they could change their reactions to it, and a few reported new perspectives that were developed out of the experience.

This study offers a perspective into the lived experience of fathers caring for an excessively crying infant and demonstrates fathers have struggles similar to those mothers report, such as stress, frustration and isolation, suggesting a mirroring effect on fathers. What is not captured in these interviews is the ways in which fathers learned to cope with the crying. Discussion of frustration is presented, but what was done to mitigate this frustration was not clear. Additionally, some mention of support found in friends and family was reported, but what specifically about this support was helpful to the father was not indicated. Although it seems more specific information could have been asked (or reported) regarding fathers' experiences with crying, coping and support, this study demonstrates father struggle and indicates the importance of considering the well-being of fathers caring for excessively crying/fussing infants.

Other qualitative studies including fathers and infant crying also use quotes directly from fathers and mothers to support the author developed themes, but often fail to equally represent fathers' and mothers' voices (Helseth, 2002; Long & Johnson, 2000). One retrospective study completely left out the father's voice and made no mention of the father findings reported to have been collected (Ellett et al., 2005).

A qualitative study by Long and Johnson (2000) has been cited by several researchers and practitioners as further evidence of the frustrations and difficulties of caring for an excessively crying infant and therefore the importance of supporting these

families (Clifford et al., 2002; Helseth, 2002; Miller, 2007). The authors conducted interviews with six fathers and 14 mothers who reported having an excessively crying infant. As discussed earlier in this review, parents reported family life disruption, strained relationships, feelings of guilt and concerns about losing control.

The Long and Johnson (2000) study appears to be the only study including fathers which is aimed at eliciting what interventions parents perceived to be effective. Unfortunately, this study also makes no distinction between fathers and mothers experience and categorizes the themes as representing both parents. Of the ten quotes presented, two were represented by fathers in the study; one father commented about the exhaustion and being concerned about driving while sleep deprived (p.159), and the other father discussed his dissatisfaction with the medical staff and his anger that they seemed to believe he was exaggerating his infant's crying (p.160).

Helseth (2002) investigated how nurses deal with colic/excessive crying, how the parents perceive nurses' contributions, and whether the nursing makes a difference to the situation. Twelve fathers and 14 mothers of excessively crying infants were interviewed as well as ten nurses. Parents reported wanting systematic guidelines and advice about how to handle their excessively crying infant, doubts about nurses credibility, and wanting and appreciating the support and encouragement of the nurses (even when no concrete advice was offered). Similar to the Long and Johnson (2000) study, the reported findings did not discriminate between fathers and mothers and only two fathers were represented out of the ten total quotes. One father commented on the desire for more systematic advice (p. 270) and the other discussed how he would have appreciated more

encouragement from the nurses (p. 271). This study also represents one of the few studies to include fathers in an investigation of what parents of excessively crying infants feel would be helpful in their coping.

Also using qualitative measures, a pilot study focus group was conducted with the goal of gathering parent experience of infant crying (Bayat, Hendrick, Kolmodin, Melendez, Perry, & Wilhelm, 2003). These perspectives were gathered from parents of excessively crying infants and were used to inform the development of a new clinical service for parents. Findings indicated that families felt a high degree of emotional stress and physical exhaustion, experienced isolation, criticism, a loss of self and baby, and were constantly searching for answers and solutions. Several fathers were represented in the focus group and made comments about the stress the crying was having on the marriage relationship, how difficult it is to remain patient, and concern for mother. One father described how painful it was to see other new fathers so happy and wondered, “When will this be the best experience of my life?” (Gilkerson, Gray & Mork, 2005). Unfortunately, these reports represent pilot data in an unpublished manuscript, and similar to the previous studies, no discrete analysis of father perspectives and experience was reported; rather, themes were grouped together to represent a general parent perspective.

The studies discussed in this section represent the best available data on fathers and excessive crying. At the very minimum, these studies have indicated that excessive crying impacts fathers. There is some indication that excessive crying can lead to increased depression in fathers, more negative father-infant interaction, and less positive

family functioning. Finding father voices in this research is difficult and gives little insight into how fathers might experience crying, how they cope when stressed by crying, and how they view their relationship with their infant, partner and family as a result of caring for a fussy, excessively crying infant. To date, only one study could be located that focused only on fathers in relationship to excessive/fussing crying (Ellet et al., 2009).

Personal Accounts

Discussions of parent perspective of infant crying and fussing are not limited to formal research and data collection. Because this issue of excessive crying presents a significant concern for parents during the early months of parenting, other sources of information such as parent-accounts of their own experience with excessive crying have been published and are intended to help other parents who might be experiencing the same struggles. There are some books written by fathers about the parenting experience that also include discussions of infant crying. And even though mothers author the majority of books written by parents about their experiences with excessive crying, there is some discussion about the impact of the crying on fathers.

For example, a mother recounted her experience with her “colicky baby” and discussed how helpful a colic support group was to her during this time. She also mentions that this group was for mothers only, and they could not find one for fathers, despite her husband’s desire to talk with other fathers having a similar experience. The only groups they could find for fathers were for single fathers or widowers (Krautter, 2006). The lack of support for new fathers, or fathers struggling with crying, indicates a general view that fathers are not impacted by crying, and that efforts might be better

targeted at mothers. However, some father accounts of crying supports some of the themes in the research suggesting that fathers do in fact struggle with crying.

For example, in one book about the experience of being a new father, the author recounted his struggle when left alone with his son who was excessively crying: “Issac started to cry and when the sling and the hair dryer and pacifier all failed to put out the fire in my arms, I felt myself losing control. My chest was so tight with tension that was hard to breathe” (p.79). This father was eventually able to successfully calm his infant (temporarily), yet the physical and emotional reaction brought on by crying disturbed him greatly, and he later wondered how he could have been so angry with his infant (Apple, 2009). Also indicated in this account of parenting an excessive crying infant, Apple discuss the strain it caused with his wife: “At the moment when we needed to rely on each other the most, we were arguing more than we had in years” (p.170).

In other father accounts of parenting an excessive crying baby, there is some indication that while the experience was extremely difficult, there is also a suggestion that the circumstances brought the father closer to the infant and forced him to be more involved than he might have been otherwise. For example, one father posted an on-line article on a child development website about his experience with early excessive crying and his daughter. He recounts feelings of frustration, how it was hard to feel calm during bouts of crying (particularly late at night), and how isolating the experience was due to lack of understanding from family and friends. However he also suggests that amidst these negative aspects, the experience brought him closer to his daughter and to his wife. Similarly, one father, in recounting the difference in his relationship with his three

daughters, mentions that he bonded more with his first daughter because “she had colic and I was forced to stay up singing to her every night for two or three weeks” (Kenlaw, 2003, p. 39).

Personal accounts of father experience with crying infants help bring attention to a father specific perspective. These narratives suggest that fathers are able reflect on how they are impacted by the crying and how it might impact their relationships. Also evident in this small collection of father accounts is the suggestion of possible outcomes such as increased bonding with their infant. Mentioned previously, Ellet et al. (2009) found some reports of positive family derivatives as reported by the fathers, such as a strengthened bond with his partner and a new respect for her role as a mother. These possibilities of positive family or individual outcomes have not been explored systematically in the crying research, perhaps because the preponderance of data indicates more negative than positive effects of early crying on caregivers (especially mothers).

Despite the missing voice of fathers in formal research, there exist other avenues where fathers might share their opinions and demonstrate that they, too, struggle with excessive crying. For example, it should be mentioned that the existence of father specific web-based support groups and blogs also contain many examples of fathers telling their stories of struggle and reaching out for advice and support around issues on infant crying and fussing (e.g., www.dadlabs.com; www.greatdads.com, etc.). A detailed review of these sites and blogs is beyond the scope of this discussion. However, a brief review of such mediums suggests fathers have powerful experiences and feelings about

caring for their infants, and, they are willing and sometimes eager to share these experiences.

Summary

Infant excessive crying and fussing can have negative consequences for caregivers, including increased stress, depression, and lowered self-efficacy. Blanket statements such as this one are commonly used (and have been stated several times in this review) in discussion of infant excessive crying. However, these kinds of statements are misleading. The “caregivers,” or “parents” described in such statements are almost always mothers. The majority of research on infant excessive crying and fussing is gathered exclusively by and with mothers, suggesting the use of the word “caregivers” inadequate if the intent is to imply applicability beyond the mother. The vast majority of the literature on crying research reviewed for this discussion has included the generalized “caregivers” or “parents” descriptors to describe research that has been predominately collected on mother related dimensions.

In almost all domains of excessive infant crying research, from the cause, treatment and impact on caregivers and families, little insight is offered on the impact or role of fathers. This is despite the available research on excessive crying and data inferred from transition to parenthood literature, which suggests that fathers of excessive crying infants represent a particularly unique and understudied dyad.

Research has clearly demonstrated that caring for an excessively crying infant has the potential to adversely impact mothers in many dimensions. The unsoothable characteristic of infant excessive crying is perhaps the most difficult aspect and has been

shown to lower maternal self-efficacy and increase rates of depression and frustration (Edhborg et al., 2000; Sitfter & Bono, 1998). As fathers have become significantly more involved in the care of their infants they spend more time engaging in daily care routines, including soothing. It would seem that if fathers are spending time with their infants, those fathers with infants who cry excessively will likely be subject to the same adverse outcomes associated with difficult soothing and calming as mothers experience, yet little evidence is available to confirm this.

There is data to suggest that fathers experience significant stress during the transition to parenthood, particularly during the postpartum period. Similar to mothers, fathers during this period are overwhelmed by the new responsibility and pressures of caring for an infant, but it has been indicated that fathers might experience more severe stress during this transition as they struggle to establish their role as a father (Ahlborg & Strandmark, 2001; Bartlett, 2004). Changing economic and cultural norms have increased expectations for fathers to be more involved in the care of their infant. However, when faced with the actual task of caring for infants, they may be unprepared by lack of experience. This lack of preparation might make taking care of an excessively crying infant particularly difficult for fathers.

Fathers also receive cultural messages suggesting they are incapable and incompetent caregivers, which might also be reinforced through maternal behaviors and beliefs. Fathers may want to be more involved, yet they are often pushed out of this role due to mothers own expectations of what fathers can do and what they want them to do. It is clear that mothers are significantly impacted by increased crying (which has been well

documented), but perhaps fathers are impacted to a greater degree due to their general feelings of inadequacy and incompetence. Is it possible these feelings are exacerbated by infant behavior such as inconsolable excessive crying which is reinforced by the inability to soothe the crying infant?

During this postpartum period mothers and fathers show increased levels of depression, which has deleterious effects on infants and later child outcomes. More recent data has indicated a high correlation between paternal and maternal postpartum depression. This finding is particularly salient considering that the rates of depression for mothers increase significantly if she is caring for an excessive crying infant (Maxted et al., 2005; Vik et al., 2009). Therefore, in families with an excessively crying infant and a depressed mother, there is a high likelihood the father's depression is also elevated. It is possible that with further examination of father's depression related to excessive crying, rates of depression similar to those found in mothers and excessive crying infants may be present, revealing significant risk for the infant and the father-infant dyad.

Another important aspect specific to excessive crying in infancy is the risk associated with abuse. Crying is a proximate cause of infant abuse, which places infants who cry more than average at particular risk. Considering these findings, it is also surprising that data regarding the link between infant abuse and crying has not provoked more attention to the experience and coping of fathers of excessively crying infants. Fathers, as well as father figures, are highly overrepresented as perpetrators of physical infant abuse, and specifically Shaken Baby Syndrome (Sinal et al., 2000). Little has been done to understand this association between crying, fathers and abuse. Some researchers

have suggested (but not systematically investigated) that fathers may succumb to abuse more often than mothers because they have less contact with the infant during the day, and when left alone have few strategies for soothing (Brewster et al., 1998; Nash, Morris & Goodman, 2008).

Some literature reviewed in this discussion has suggested that fathers anecdotally report feelings of stress and concerns of “losing control” when reflecting on caring for a crying infant (Apple, 2009; Long & Johnson, 2001). Lacking in those discussions is what exactly contributes to these feelings, how they avoid losing control, and how fathers cope with these feelings. Also lacking in this literature is discussions of positive effects that may arise from caring for an infant who cries more than normal. Although it may seem like a contradiction to the available data on excessive crying, could it be possible that fathers of infants who cry and fuss excessively benefit from the demands by forcing more interaction? Might this positive derivative only be relevant to fathers? Despite mounting evidence suggesting the negative consequences of excessive crying, alternative outcomes such as increased bonding and interaction is worth consideration.

In summary, there are few assumptions that can be made based on the available research on fathers and excessive crying. We might be able to assume that because mothers of excessively crying infants have high rates of distress and depression, fathers of excessively crying infants are likely to mirror this distress pattern. We can speculate that fathers who have less preparation for fatherhood, have lowered parenting efficacy due to mother behaviors (such as gatekeeping) and are vulnerable to the cultural

messages of father incompetence will experience infant excessive crying and fussing to a greater degree and will be more at risk for increased depression and stress.

These assumptions and speculations can be better articulated with further attention to how fathers are impacted by excessive crying and they cope with the experience. Furthermore, because we cannot assume that fathers benefit from the same types of supports and interventions designed for mothers, an understanding of these dimensions will offer the opportunity to create more tailored support for fathers. And perhaps most importantly, understanding the experience of fathers of fussy and excessively crying infants might help us to understand why fathers are more often perpetrators of abuse.

CHAPTER III

METHODOLOGY

This chapter presents a description of the research design, population studied, instrumentation, and analysis techniques used to address the research questions. The overarching question driving this study was, how does infant crying and fussing impact fathers? In approaching this question, the goals of this study were two-fold: (1) to determine if the amount of infant crying and/or perceived crying as a problem effects depression, parenting stress, and feelings of parenting-efficacy in fathers caring for infants and, (2) to describe fathers experience of parenting an infant and the coping techniques used when stressed by infant crying and fussing.

To achieve these study goals a mixed-method sequential explanatory qualitative/quantitative study design¹ was used. Father depression, coping, parenting stress, parenting efficacy, and infant crying/fussing dimensions were assessed using quantitative measures completed by 192 fathers of infants under one year of age. To assist in a deeper analysis and interpretation of the quantitative findings related to fathers' experience of parenting and coping behavior, semi-structured qualitative phone

¹Mixed-method sequential explanatory design is used frequently in social science research and is conducted in two consecutive phases within one study. Quantitative data is collected and analyzed first, followed by qualitative data collection and analysis. In this design, the qualitative data are collected and analyzed second in the sequence to help explain, or elaborate on, the quantitative results gathered in the first phase of quantitative data collection (Ivankova, Creswell, & Stick, 2006). The underlying rationale for this approach is that the quantitative data provide a general understanding of the research problem, and qualitative data and their analysis refine and explain those statistical results by exploring participants views in more depth (Creswell, 2003).

interviews were conducted with 10 fathers. Qualitative interviews were conducted after approximately 60% of the quantitative data was collected, adhering to a modified version of a sequential explanatory study (to account for the time-sensitive nature of parenting during the early infancy period), and informing the development of additional interview questions.

Sample

One hundred and ninety-two fathers completed a series of quantitative questionnaires via an online survey data collection system. Ten fathers completed a semi-structured phone interview. Nine of the ten fathers who completed the phone interview represented a self-selected sub-sample of the larger group of fathers who completed the quantitative portion of this study, and one father was included via an alternative recruitment effort (meaning he did not complete the quantitative questionnaires). Of the 192 electronic entries, 179 fathers completed final submission of the questionnaires. The electronic survey system allowed for partial data collection, meaning that if a participant only answered a portion of the questions and exited out of the survey without pressing the final submit button, the information was still available for download. Over 250 initial entries were attempted, but only entries with at least 20% of questions answered were included for purposes of data analysis. Analysis of available data for incomplete submissions indicated no significant difference in demographics or key variables as compared to fathers who completed the entire questionnaire (see Appendix A).

The quantitative and qualitative sample for this study included English speaking, cohabitating, adult fathers of infants under one year of age. Eligibility into the study included fathers who were over 18 years of age, considered themselves the father or father-figure to an infant under one year of age, and cohabitated with this infant for at least three days a week.

Recruitment Procedures

Because the goal of this study was to investigate the experience and well being of fathers caring for a baby who cries or fusses more than normal, targeted sampling techniques were used. Targeted sampling was developed to address the problem of sampling hidden populations (Watters & Biernacki, 1998). Hidden populations are often socially invisible or “hidden” in that they are concealed from the view of mainstream society. These populations only become more visible when they enter settings such as hospitals, social programs or support groups for example. Fathers of infants who cry or fuss excessively are a hidden population because there is no identified society or group of individual characteristics that makes these fathers visible. Additionally, we know that families struggling with infant crying and fussing tend to stay isolated, making them difficult to identify (Gilkerson et al., 2005).

Recruitment for the quantitative sample of this study was a continuous process that began in October 2010 and concluded in April 2011. Because the main method of data collection was through the use of an online survey system, recruitment efforts were made using electronic techniques with the goal of provide instant access to the survey. A website was designed to serve as the entry point for participants which provided some

background on the study, the link to the survey, and opportunities to invite other fathers to participate using a electronic form embedded within the website (see Appendix B).

Because quantitative data was collected anonymously, and point of entry was not asked, determining how participants found out about the study is not possible. However, it is most likely that the largest proportion of participants were attracted to the study via the electronic recruitment efforts. The majority of these efforts were focused on two main techniques: direct participant solicitation through father-focused social networking sites and groups, and indirect recruitment assistance requests through professional organizations.

Prior to the start of participant recruitment, social networking sites were identified and analyzed for father-focused content and group affiliations. A list of over 60 possible social groups and interactive websites geared to attract fathers of young children was compiled. From this list, an individual or organizational point person was identified and contacted to request permission to solicit for participants, as well as a request to promote the study internally. Over 50 social networks were contacted with requests for recruitment assistance (e.g., Facebook, GoogleGroups, Twitter, blogs, website discussion forums, etc.). Approximately one fourth of these requests resulted in a positive response, and it is estimated that about half of these responses ended with internal promotion (e.g., using internal resources to message members or post messages on a private board). If permission to officially join the group was not granted by the group/site administrator, there was no way to confirm the internal promotion of the study in a closed group.

However, in many cases, membership was granted to the researcher and permission to post tailored information about the study was allowed.

The most positive results from these efforts were obtained when there was a direct endorsement from the administrator of the group or network. For example, permission to post on the father-focused dadlabs.com forum was granted, and was then followed by a personal endorsement by the forum leader who wrote on the study announcement discussion thread: “This looks pretty legit. They only want fathers with babies under one and it can be done anonymously” (www.dadlabs.com, December, 2010). While there is no way to track how many questionnaire entries this posting produced, the discussion thread was viewed over 800 times over two months, and during this time over 40 questionnaires were submitted. Additionally, a popular blogger, Richard Carmichael from *Headsupdad.com* was contacted and agreed to post a story about the study with electronic survey access embedded in his post as well as Tweet about the study to his 600 plus followers on Twitter² (Carmichael, 2010).

Specialized groups that used email list-serves as their primary form of communication with group members were approached with requests to promote the study internally by using pre-collected email addresses. Group members were not always the target participants (e.g., fathers of infants), but were professionals known to work closely with families of young children (e.g., early childhood professionals and social service practitioners). These types of groups were asked to assist in the recruitment efforts by forwarding the initial study invitation email to their respective organizations or

²Twitter is considered a microblogging service that enables users to send and read short, 140 character text-based posts, called Tweets. It is estimated that Twitter has over 200 million users.

professional contacts. On multiple occasions recipients of the study announcement email responded with additional contacts and recruitment ideas. One email sent to an early childhood professional list serve (McCormick Center for Early Childhood Leadership) announcing the study and requesting recruitment assistance resulted in a connection with an Early Head Start center in Florida where they offered to post study fliers and encourage fathers to participate.

In addition to electronic-focused recruitment efforts, participants were recruited through several mail-based and direct-contact methods. Direct recruitment was made possible through a partnership with a Chicago based infant mental health program, The Fussy Baby Network[®] (FBN). The FBN is a support program for families with infants' birth to one year who have concerns about their infants' crying, sleeping, or feeding. Developed in 2003, FBN is based out of Erikson Institute in Chicago, and offers telephone support internationally and home visiting to the local community. Starting in October 2010, FBN home visitors began including a flier in all home-visiting packets inviting fathers to participate in the study. Additionally, families no longer participating in the FBN were mailed a study announcement and invitation to help promote the study to other families with infants. A total of seven fathers indicated their families had participated in FBN services, and one reported he was unsure if his family had been in contact with the program. Given that the FBN averages four to five new home visiting families per month, this recruitment rate would suggest that an average of one father per month elected to participate (based on approximately seven months of active recruitment).

Additionally, in November 2010, study information was included in a mailing to over 1,000 families with infants in the Chicago area as a part of a FBN effort to increase program awareness. Addresses for this mailing were purchased from an external service provider (InfoGroup) and were sent to families who had reported the birth of an infant in the prior ten months. Finally, generalized recruitment efforts were made locally by posting study fliers (see Appendix C) in local businesses, family childcare facilities, public libraries, schools, and pediatric offices.

All recruitment materials informed potential participants of their opportunity to submit their email address into a drawing for \$100 gift card to Target upon submitting a complete questionnaire. Fathers electing into the drawing submitted their email address on a separate questionnaire to protect the anonymity of the answers submitted in the main questionnaire. Of the 179 fathers who submitted complete questionnaires, 141 entered their email into the drawing.

Fathers in the qualitative portion of this study were recruited from the 179 fathers who submitted complete questionnaires. Upon completion of the electronic questionnaire, fathers were asked if they would be interested in learning more about participating in a follow-up 20-minute phone interview, and receive a \$10 gift card to Target for their participation. Solicitation for the qualitative interview was collected on the same questionnaire as entry into the \$100 drawing. Of the 141 entries, 70 fathers elected to receive more information about the interview. Sixty of these fathers submitted their interest in the first two months of data collection.

Once a father elected to receive additional information about the interview, an email with detailed information was sent as well as a request to respond and confirm their agreement to participate in the interview with suggested availability. Response information to the first 30 fathers requesting information was delayed due to the limitations imposed by a sequential mixed-method study design. More specifically, in a sequential mixed-method study design, quantitative data is collected and analyzed prior to the qualitative interview. Because the majority of the fathers elected to learn more about the interview in the beginning phases of data collection, quantitative data was not yet analyzed and therefore qualitative interviews were postponed.

Of the 70 interested fathers who were sent a follow up email with additional interview information, only 20 return responses were generated. This low rate of return was likely due to the delay in follow-up to the first 30 fathers. The 20 return responses to the follow-up email were individually contacted and confirmed for eligibility. Because these fathers had already completed the quantitative portion of the study, their eligibility had already been confirmed. However, depending on the length of time between initial participation and the follow-up interview email, the infant might have exceeded the age cap for eligibility (12 months). After eligibility was confirmed and communication around scheduling had proceeded, 15 fathers were scheduled for interviews from February 2011 to May 2011, and of these, nine were successfully completed. Six of these original 15 fathers were not available at the time of the scheduled interview and never responded to follow up requests to reschedule. One father who participated in an

interview did not complete the quantitative portion of this study and was recruited via informal recruitment.

Instrumentation

Data for this study was collected using a series of questionnaires and a semi-structured interview. The following describes each instrument selected for this study.

Demographic Parent-Infant Questionnaire

Developed for this study, the Demographic Parent-Infant Questionnaire (see Appendix D) was used to gather key demographic characteristics about the father and infant such as age, race, income, and education level. Father past experience with caring for an infant and level of weekly involvement in play and caregiving tasks were also collected. Items were chosen based on previous literature suggesting possible influence on key variables of interests in this study.

Co-Parent Confidence Assessment

The Co-Parent Confidence Assessment is an adapted version of the full length Parenting Alliance Inventory (PAI) (Abidin & Brunner, 1995; Appendix E). The PAI is a 20-item, likert-type self-assessment developed to assess the part of parents' relationship only concerned with child rearing (separate from romantic aspects of the relationship). The assessment addresses four areas considered necessary for a sound parenting alliance to form (as defined by Weissman & Cohen, 1985). These areas are: (1) shares investment in the child, (2) values parents' involvement, (3) respects judgment of parent, (4) desires to communicate about responsibilities. Parents respond on a 5-point scale from strongly disagree to strongly agree to statements such as, "my child's other parent

believes I am a good parent.” McBride and Rane (1998), using a sample of 89 fathers, completed a principal components factor analysis of the PAI items and distinguished three subscales: (1) emotional appraisal of spouses parenting ($\alpha=.87$), (2) shared philosophy and perception of parenting ($\alpha=.84$), and (3) spousal confidence in own parenting ($\alpha=.75$).

For purposes of this study, only the Spousal Confidence sub-scale was included to gather a measure of fathers’ perception of his co-parent’s confidence in his parenting skills, a key component associated with aspects of the maternal gatekeeping theory (see page 42 for a discussion on gatekeeping). The six-item subscale used in this study revealed a Cronbach’s alpha of .83 (N=197).

Your Baby’s Crying Questionnaire

Your Baby’s Crying Questionnaire (see Appendix F) was adapted from the Colic Symptoms Checklist (Lester, Boukydis, Garcia-Coll, & Hole, 1990), and The Cry Patterns Questionnaire (St. James-Roberts & Halil, 1991). Questions four, five and six on this questionnaire are from The Colic Symptoms Checklist which was designed to determine a colic diagnosis based on the Wessel’s Rule of Three criteria (Wessel 1954). The questions that make up Wessel’s Rule of Three gathers the following information: (1) hours of crying and fussing on a typical day, (2) number of days per week of crying and fussing lasting more than three hours, and (3) number of weeks crying and fussing has been more than three hours a day for three days a week. To meet the criteria for colic, the parent must report three or more hours of crying and fussing a day, for three or

more days a week, for more than three weeks. Fussing and crying is defined for the parent at the beginning of the questionnaire for clarity.

As discussed in Chapter II (p. 12), this method of determining excessive crying or “colic” based on hours, days and weeks, is widely used in research. However, a reported disadvantage to using only this method of determining problematic crying is the lack of consideration for parent perspective about the crying (i.e., does the parent find the crying a problem). Therefore, to ensure that father perception of crying was captured, and to gather a more discrete measure of amount of infant crying, questions from the Cry Patterns Questionnaire (CPQ) (St. James-Roberts & Halil, 1991) were added to the Your Baby’s Crying and Fussing Questionnaire. The full version of the CPQ includes questions related to infant medical information, type of formula used, and frequency of methods used to soothe the baby. For purposes of this study, these questions were removed.

The CPQ asks about the infant’s fussing and crying patterns, and associated variables in the previous week. Parents are asked to report actual minutes and hours of crying and divide the day into four, six-hour periods: morning, afternoon, evening, and night. The main purpose of the CPQ is to gather a measure of parental perception of infant crying and to determine a measurement of persistent infant crying itself (i.e., how much the infant actually cries/fusses).

Particularly relevant to this study, the CPQ asks parents if they are finding the crying to be problematic or upsetting. The CPQ also asks about help-seeking for infant crying (i.e., have you approached your healthcare provider with concerns about your

infants crying?). Three questions were added to this questionnaire to provide additional information on father perception of the crying/fussing. The following questions were added: (1) since the birth of your baby has there been a period of three weeks or more when *you* considered your baby very fussy, colicky or difficult to soothe?, (2) since the birth of your baby has there been a period of three weeks or more when *another* caregiver considered your baby very fussy, colicky or difficult to soothe?, (3) what about the crying or fussing is most upsetting? This final question allowed for qualitative text entry and was added to gain a descriptive explanation.

Subsequent analysis of the inter-relationships between the crying perception questions for this study revealed significant inter-item correlations (see Appendix G). Therefore, in an effort to reduce redundancy in variables and avoid issues of multicollinearity, report of current problematic crying was the only question retained for analysis as a proxy for father perception of crying.

There are no psychometric properties associated with CPQ or the Colic Symptoms Checklist because they are intended to be used as clinical tools to incite discussion with caregivers about infant crying. However, the CPQ has been validated against cry diaries as a reliable method of gathering an accurate cry history (St. James-Roberts & Halil, 1991), and the Wessel's Rule of Three is used as the primary determination of excessive amount of crying (or colic) in the majority of infant crying research.

Edinburgh Postnatal Depression Scale

The Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987; Appendix H) was used to assess symptoms of depression. The EPDS is the most widely used screening questionnaire for postpartum depression and has been translated into several languages. The EPDS is recommended for use with diverse populations and demonstrates the most reliable psychometric properties as compared to several other instruments, including well-known measures such as the Beck Depression Inventory (Beck, Steer, & Brown, 1996) and the Center for Epidemiological Studies Depression Scale (CESDS) (Radloff, 1977).

The EDPS is a 10-item self-reporting scale used to examine depressive symptomatology over the time span of the prior week, and was specifically designed to screen for postnatal depression in community samples (Cox et al., 1987). The 10 items are scored on a 4-point scale, from zero to three and the total scores range from zero to thirty. Five of the items concern dysphoric mood, two concern anxiety, and remaining items address guilt, suicidal ideation and an inability to cope. Previous studies have demonstrated good reliability with an alpha coefficient of 0.87 for woman (Cox et al., 1987), and 0.81 for men (Matthey et al., 2001). The current study revealed a Cronbach's alpha of .82 for the EPDS (N=181). The cut-off used on the EPDS to determine major depression in women has been reported as between 8.5-15 and between 8-9 for minor depression (Boyce, Stubbs, & Todd, 1993; Boyd, Le, Somberg, 2005; Curro et al., 2009; Murray & Carothers, 1990).

Although created and widely used as a screening for postpartum depression in woman, the EPDS has been found to be valid and reliable for use with men (Matthey, 2008; Matthey et al., 2001; Schumacher, Subaran, & White, 2008). Matthey et al.'s (2001) validation study found the EPDS both valid and reliable for fathers and suggested an optimal cut-off score of 9/10 to detect depression and a score of 5/6 to include a more sensitive analysis of depression and anxiety. In a recent meta-analysis (Paulson & Bazemore, 2010) of 43 studies examining paternal depression, 24 studies used the EPDS as the measure for depression. Of these studies using the EPDS, over half used a cut-off of >9 or >10, and the rest used either a cut-off of >12 or >6. Based on the available evidence, a cut-off of >10 to determine evidence of depression in fathers was chosen for this study. This questionnaire was re-named "How You're Feeling."

Maternal Efficacy Questionnaire

The Maternal Efficacy Questionnaire (MEQ) (Teti & Gelfand, 1991; Appendix I) is a 10-item scale developed to assess parental self-efficacy. Nine out of the ten items address parent feelings of efficacy in relation to specific, eliminated domains of infant care such as soothing the baby, understanding what the baby wants, and getting the baby to understand parent's wishes for example. The final item solicits a global feeling of efficacy in parenting and items are summed to yield a parenting efficacy score. Parents are asked to rate how good they think they are at infant-care related activities using a 4-point scale ranging from 1 (not very good) to 4 (very good). Items are scored on the 4-point scale from one to four, with a total score of 10-40. Internal consistency is reported with a Cronbach's standardized item alpha of .79, based on a sample of 29 mothers, and a

standardized item alpha of .86 using a sample of 86 mothers (Teti & Gelfand, 1991; Hess et al., 2004).

To date, only one study has used the MEQ with fathers (Leerkes & Burney, 2007). The authors found a standardized alpha of .74 based on a sample of 79 fathers at 6-months post-natal. The current study revealed a Cronbach's alpha of .84 (N=181). The questionnaire was renamed "Parenting" and pronouns were modified to reflect father-specific language.

Revised Ways of Coping Checklist

The Revised Ways of Coping Checklist (RWCC) (Lazarus & Folkman, 1984; Appendix J) is one of the most widely used measures of coping (Neacsiu, Rizvi, Vitaliano, Lynch, & Linehan, 2010). The RWCC is a 66-item measure that measures coping strategies and responses used in managing stressful situations or events. Participants indicate on a four-point likert type scale (0=Does not apply or not used, 1=used somewhat, 2=used quite a bit, 3 = used a great deal) the extent to which they have used a given coping strategy when dealing with a recent difficult or stressful situation. Eight types of coping strategies have been identified in this questionnaire: planful problem solving, seeking social support, confrontive coping, distancing, self-control, escape avoidance, accepting responsibility, and positive reappraisal. Internal consistency for the overall measure was reported with a Cronbach's standardized item alpha of .83 and with alphas for subscales ranging from 0.61 to 0.79 based on a community sample (Broger & Zeni, 2010).

The RWCC is typically administered by asking the participant to recount a stressful event and then complete the RWCC with this event or situation in mind. However, many researchers have modified the RWCC to determine coping processes in specific populations using defined stressful situations or events. For example, Levy-Shiff (1999) assessed 90 fathers' and mothers' coping strategies as correlates to the adjustment of parenthood using the RWCC. Participants were asked to indicate on the likert scale the extent to which they tended to act in the way described when confronted with parenting demands and daily hassles.

For purposes of this study, the RWCC was included to examine the coping strategies used by fathers when confronted with stress related to infant crying and fussing. Directions at the beginning of this measure were: "think about a time you were frustrated by your baby's crying or fussing. Rank these statements based on how you tend to react in this situation". Based on a review of the factor analysis of the RWCC and the individual scales (Folkman & Lazarus, 1985), only five of the eight subscales were used for this study. The self-control, positive reappraisal, and accepting responsibility subscales were eliminated based the ability to adapt the items to this study population. More specifically, questions in these subscales were more difficult to relate to the coping behaviors likely to occur in response to an infant's crying or fussing (i.e., 'tried not to burn my bridges, but leave things open somewhat'). Additionally, several questions from other subscales were eliminated for the same reasons. Only questions with factor loadings less than .40 were removed.

Unfortunately, as shown in Table 1, the Cronbach's alphas computed for each subscale used in this study did not meet the recommended standard of an alpha level equal to or greater than .70 (Bowerman & O'Connell, 1990).

Table 1. Cronbach's Alpha Modified RWCC Subscales (n=172)

	<u>Alpha</u>
Confrontive	.30
Distancing	.50
Escape/Avoid	.54
Planful Problem Solving	.50
Social Seeking	.34

Because of these low alphas, the results of this measure were not included in the subsequent analysis for this study. It is likely that the removal of several subscales as well as single questions within the subscales rendered the measure inadequate, particularly in relationship to infant crying. Despite the removal of this measure from analysis, coping with crying was still explored using qualitative inquiry, which allowed for exploratory and interpretive investigation into coping.

Parenting Stress Index – Short Form

The Parenting Stress Index – Short Form (PSI/SF) is a modified version of the full length Parenting Stress Index which was developed to gather a measure of parenting stress related to child, parent, and parent-child relationship factors (Abidin, 1990; Appendix K). The PSI/SF includes 36 items rated on a 5-point likert-type scale and asks parents to assess their agreement with statements such as “I feel trapped by my responsibility as a parent.” This questionnaire derives a total parent stress score ranging

from 36-180, as well as three subscales of 12 items each including Parent Distress, Parent-Child Dysfunctional Interaction, and Difficult Child.

Estimates of the internal reliability of the PSI/SF were calculated on a normative sample of 800 parents, revealing a Cronbach's alpha of .91 for the total stress score (Abidin, 1990). Subscales from the same sample of 800 showed alpha's of .87 for the Parental Distress, .80 for Parent-Child Dysfunctional Interaction, and .85 for Difficult Child. The PSI/SF has been used extensively in studies of fathers and has demonstrated similar positive psychometric evidence (e.g., Goodman, 2008; Thome & Skuladottir, 2005). The internal consistency for each subscale and overall total stress score revealed in this study is presented in Table 2. As demonstrated, although the total alpha reached an acceptable level, two of the sub-scales show much lower internal consistency.

Table 2. Cronbach's Alpha PSI/SF Subscales (n=167)

	<u>Alpha</u>
Total Stress	.94
Parental Distress	.90
Parent-Child Dysfunction	.54
Difficult Child	.50

Additionally, Pearson correlations were calculated examining the relationship between each stress sub-scale and the other father well-being variables in this study (see Appendix L). Based on the significant correlations to each father well-being variable, high correlations between overall stress and each subscale, and the low internal consistency of two of the sub-scales, only the total parenting stress score was included in subsequent analysis.

Parenting Experience Interview

A semi-structured phone interview (see Appendix M) was developed for this study with the goal of enhancing the interpretation of collected quantitative data. Initial interview questions related to crying were modeled after Wade et al.'s (2005) study which described how mothers explain their coping with infant crying and what supports they use. Consistent with a sequential mixed-method research design, final interview question were modified after a preliminary analysis of the quantitative data was completed. Questions were grouped into three main areas: (1) experiences and stress related to parenting, (2) experiences and stress related to infant crying, and (3) coping with crying and parenthood.

Questions relating to father experience and stress related to parenting focused on global recall of stress related to parenting a very young infant, or current experience doing so. For example, one question in the category was, "when you think back to the first month you brought your baby home, what you would say was the most difficult part about that experience?" Questions relating to the experience and stress related to infant crying were aimed at obtaining specific descriptions of father experience and actions during stressful interactions with their infant and overall experience. An example question from this area was, "Tell me about a specific incident when your baby would not stop crying. What did you do and how were you feeling during this moment?" Coping with crying and parenthood questions were focused on what fathers reported as helpful coping techniques and positive supports. Sample questions from this area were, "what would you say has been your greatest source of support," and "what advice would you

give to a new father?" In all instances, follow-up prompts were often used to extract specific incidences and assist in feeling or experience recall. Interviews took approximately 30 minutes to complete (M=27:33), and were recorded using a digital recording device.

Data Collection Procedures

All questionnaires were available in one electronic survey through the web-based data collection and management system, Opinio (<http://www.objectplanet.com/opinio/>). Opinio is a sophisticated web-based survey system endorsed by the Loyola University Internal Review Board (the approving IRB institution for this research) as an ideal program for web-based data collection. Loyola owns a group license to Opinio, which allowed for internal systems back-up and protection against data corruption and hacking.

Fathers accessed the survey by first entering the website created for this study: www.thefatherstudy.com (see Appendix B). Once the survey was accessed, a series of qualifying questions were asked to determine eligibility (father age, infant age, and father co-habitation with infant). If fathers answered yes to all three questions, they were directed to the consent form detailing the terms of their participation (see Appendix N). If the father agreed to the terms of the research (by selecting 'yes' to this question), they were directed to the full survey. These initial questions were mandatory, and if a question was not selected, or they did not agree to the terms of the research as stated in the consent form, they would be directed to a message stating they did not qualify to participate or had not agreed to the research terms.

Once the father completed the questionnaire, he was asked to press the submit button on the final page and was directed to the separate survey to collect entry information into the incentive drawing. All data submitted electronically was downloaded to an excel file and transferred to The Statistical Package for the Social Sciences (SPSS) software 14.0 (SPSS, Inc., Chicago, IL) for storage and subsequent analysis.

Qualitative interviews were conducted over the phone and were recorded using a Sony digital recording device. A two-way microphone earpiece attachment was used to allow for both sides of the conversation to be recorded. Digital files of the interviews were saved in a pass-word protected hard drive and subsequently transcribed into verbatim text by a transcription service (GMR Transcription). Interviews were conducted based on participant requested times, and prior to the initial call, each participant was informed about the anticipated length and process of the call in an email. Interviews did not begin until the participant was read the full consent form (see Appendix O) for participation and verbal consent was confirmed. All interviews were conducted during a four-month period from February 2011 to May 2011.

Analysis

All quantitative data used to answer the research questions for this study were stored and analyzed using the Statistical Package for the Social Sciences (SPSS) software 19.0 (SPSS, Inc., Chicago, IL). A minimum alpha of .05 was chosen to determine statistical significance for all analysis (Minium & King, 2003).

Data Preparation

Prior to addressing the research questions, descriptive statistics were calculated for the means, frequencies, standard deviations, and ranges for each independent and dependent variable. To identify associations between independent variables, a series of correlations were conducted (see Appendix P).

Demographic data. Because frequency distributions for several demographic variables were too small to meet the cell-size assumptions for nonparametric inferential or predictive analysis, groups were created and assigned dummy codes. Specifically, racial groups for Hispanic, Asian, and ‘Other’ were too small to examine potential group differences. Therefore, fathers were assigned a 0 to represent non-minority status, and a 1 to represent minority status. Although this was necessary to conduct the appropriate analysis, combining racial, cultural or ethnic groups in this manner is not an optimal practice and represents a limitation to this study (discussed in Chapter IV).

Father degree attainment groups also proved to be too small to perform the appropriate analytic tests. Therefore, groups were reduced from six to three using dummy codes: associates degree or less = 1, bachelor’s degree = 2, and graduate degree or higher = 3. Similarly, father age was grouped based on dummy coding of 0 = under 35, and 1 = over 35 to increase analytic possibilities. Finally, marital status also returned smaller than desired cell-sizes and were therefore reduced to dummy codes: 0 = unmarried, 1 = married. Father report of involvement in play and caregiving activities was combined into one ‘involvement score’ on a scale of 1-8, to represent a level of overall involvement with the infant.

Infant crying data. To determine which infants would be categorized as having “colic”, father response to the Wessel’s Rule of Three questions were compiled and categorized as meeting criteria or not. However, because the goal of this study was to explore the relationship between infant crying and father well-being, with a particular interest in fathers caring for infants that cry more than normal (not just as typically categorized as ‘colicky’³), the standard criteria for colic was expanded to also include raw minutes of crying. Therefore infants could also meet colic criteria based on the raw amount of reported crying reported. More specifically, modeled after Stifter et al.’s (2003) method of applying Wessel’s standard of three hours of crying/fussing per day, infants who were reported to cry an average of 180 minutes per day or more, were categorized as having colic. By combining the minutes of crying and Wessel’s three question responses, all infants reportedly crying more than three hours a day (adhering to a hallmark of ‘colic’) were captured by this criteria. Correlational analysis (presented in a subsequent section) also confirmed that colic criteria and amount of crying reported in raw minutes were significantly correlated suggesting these measures represented similar constructs. Infants meeting the colic criteria were assigned a code of 0 to indicate not meeting the criteria and 1 if they did meet the criteria.

As discussed in the preceding section, ‘perception’ of crying was represented by father report of problematic crying (also described in this study as ‘crying concern’) which was determined by a yes or no response to the question, “are you finding your

³See page 12 for a discussion on terminology and infant crying.

baby's crying or fussing to be problem or upsetting?" Father response was dummy coded based on the answer of yes = 1, and no = 0.

Depression. Depression status was determined based on father score of 10 or more on the EPDS. Fathers were categorized as 0=not depressed, 1=depressed.

Qualitative data. To prepare qualitative data collected on the CPQ questionnaire in response to the question, "what about the crying or fussing is most upsetting," text was downloaded to Microsoft word and organized in preparation for thematic code assignment. All text entries were read and thematic content analysis was completed. Five themes were developed and corresponding codes were assigned to each theme. Text was coded and inter-rater reliability was established by having a graduate student assistant serve as the second coder and independently code all text entries. Reliability was established for 95% of all coded entries.

Audio recorded qualitative interview data was transcribed verbatim and organized by interviewee. Interviews were transcribed and recorded at a text-based level on Microsoft word documents. Text was uploaded to the Text Analysis Markup System (TAMS) (Wienstien, 2008) to provide a visual and management system for analysis.

Research question one and two: the relationship between amount of crying and perception of crying and father well-being.

Research questions one and two were simultaneously addressed in a series of combined analysis:

(1) Hours and minutes of reported crying and fussing were calculated into a sum of total minutes for each infant. A series of Pearson correlational coefficients were calculated

- to evaluate the strength and direction of the relationship between amount of crying, depression, self-efficacy, and stress.
- (2) Colic criteria was determined and categorical dummy codes were assigned. Colic versus non-colic fathers were then compared in an ANOVA to determine mean differences in father depression, parenting self-efficacy, and parenting stress.
 - (3) Father perception of problematic crying was determined based on father report of a crying concern on Your Baby's Crying questionnaire, and was grouped based on 'yes' or 'no' responses of crying being a problem. Fathers who reported a crying concern and those who did not were then compared in an ANOVA to determine mean differences in father depression, parenting self-efficacy, and parenting stress.
 - (3) A Chi-Square analysis comparing colic and crying concern was then conducted to test for significant group relationships and interactions. Both colic criteria and crying concern were analyzed for mean differences in amount of crying reported.
 - (4) A MANOVA was then conducted to explore possible interaction effects of colic and crying concern while controlling for inter-correlations of the dependent variables.
 - (3) Depression scores as determined by the EPDS were examined for a clinical cut-off of >10. Independent sample t-test for significance was conducted to compare infant crying means in 'depressed' versus 'non depressed' fathers. Person's chi-squared test of independence was also conducted between colic infants and depressed fathers, and report of crying concern and depressed fathers. A follow-up ANOVA was conducted to examine the cumulative effects of depression and infant crying on father well-being.

(4) Finally, multiple linear regressions were conducted predicting each well-being variable. Colic criteria and perception of problematic crying were entered as covariates for each well-being variable as well as identified demographic covariates.

Research question three: coping and experience of infant crying.

To describe how fathers cope with infant crying and experience parenting an infant, responses from the qualitative question on Your Baby's Crying questionnaire and the results of the qualitative interview were analyzed using the following techniques:

1. Qualitative responses to the question, "what about the crying do you find most upsetting" from the Your Baby's Crying questionnaire were extracted from the quantitative database, organized, coded, and categorized based on determined themes. Coded responses were then assigned a dummy-code (i.e., 1 = feelings of helplessness, 2 = quality of cry, etc.) and re-entered into the database. Chi-Square analysis was conducted to determine group interaction based on report of problematic crying and colic criteria. An ANOVA was conducted to determine significant differences in father well-being variables based on thematic category.
2. Qualitative interview text was organized by several main topic areas and then analyzed for thematic content. An inductive process was employed to identify thematic categories in the data and relationships between them using the steps outlined by Braun and Clark (2006). The first step consisted of a systematic overview of the scope and range of the data to provide a general sense of the content and "top-level" coding which allowed for categories to be developed (such as stress). In this first step, the categories generally reflected the topics covered in the interview.

Because this was a semi-structured interview, a pre-determined structure and categorical format was already in place. In step two, dimensions of the top-level categories were identified to allow for sub-categories with more detail (such as stress related to crying). In step three, patterns and relationships among the categories were identified, allowing for cross-categorization if necessary (such as stress related to crying in the context of partner support). Finally, interpretive analysis was employed to generate the themes that described fathers' coping and experience of crying. Credibility of the established themes was conducted through a modified process using a second-coder to agree or disagree with pre-assigned categories and resulting themes. Typically, a second-coder would independently code the organized text based on the developed coding scheme. However, due to the limitations imposed by lack of resources and the presence of a 'research team,' a graduate student research assistant was provided with the coding scheme and asked to validate or refute the pre-assigned codes to text. Any disagreement in thematic code assignment was discussed and reevaluated for appropriateness.

Post-Hoc Analysis

In the process of conducting the analysis for research questions one and two as described above, a consistent finding emerged related to the co-parenting confidence measure. This measure was included in this study as an independent variable intended to gather an aspect of the co-parenting relationship. However, the robust findings related to the well-being and crying variables suggested possible value in considering this measure as a dependent variable. Therefore, the post-hoc analysis further examined the co-

parenting confidence measure in the context of infant crying and father well-being.

Specifically, a series of T-tests were used to examine differences in co-parenting confidence based on colic criteria and father perception of a crying problem. Finally, a regression analysis was conducted predicting co-parenting confidence from colic criteria and perception of problematic crying, including identified covariates.

CHAPTER IV

RESULTS

The first section of Chapter IV presents descriptive data for the study participants for both the quantitative and qualitative study samples. This is followed by descriptive results of the dependent and independent variables. The second section presents results from the examination of the relationship between father well-being, amount of infant crying, and father perception of infant crying that address research question 1 and 2. The chapter concludes by addressing research question three with results from measures related to coping, the experience of parenthood, and infant crying experiences.

Descriptive Data Characteristics

Quantitative Sample

Quantitative data were collected from 192 fathers, 97% of whom lived in the United States (two from Canada, one from Asia, and two from Europe). Generally, the sample can be described as well-educated, married, working fathers. Seventy-two percent reported earning a bachelors degree or higher, 62% percent were between the ages of 26 and 35 years, and 87% were married. Seventy-seven percent of the fathers' family income was greater than \$50,000, 75% were white and 65% were first time fathers. The infants of these fathers were 56% boys, and more than half (53%) of infants were under the age of six months.

Seventy-five percent of the fathers reported they had no experience caring for an infant before the birth of their first child. Seventy-six percent of the fathers reported that they engaged in caretaking activities every day, and 80% said they engaged in play activities with their infant every day. Complete demographic data appear in Table 3.

Table 3. Frequency Distributions of Sample

	N	Percent
Age		
Under 25	12	6%
26-35	126	62%
36-45	51	25%
Over 45	13	6%
First Time Father		
Yes	122	64%
No	68	36%
Marital status		
Married	170	87%
Un-Married	26	13%
Race		
White	152	75%
Black/African American	26	13%
Asian	11	5%
Hispanic/Latino	7	3%
Other	7	3%
Family Income		
Public Assistance	6	3%
Less than \$50,000	41	20%
\$50,000 - \$100,000	56	28%
More than \$100,000	97	49%
Education		
Grade School	4	2%
High School or GED	36	18%
Associates Degree	16	8%
Bachelors Degree	69	35%
Graduate/Professional Degree	62	31%
Post Graduate Degree	12	6%
Infant Age		
Less than 1 month	15	8%
1-4 months	49	26%
4-6 months	37	20%
6-8 months	31	17%
8-10 months	24	13%
10-12 months	31	17%
Infant Sex		
Male	106	56%
Female	84	44%

Table 3 (continued)

Play Involvement Per Week		
Every Day	158	80%
3-6 times	30	15%
Once or twice	7	4%
Not at all	1	.5%
Caretaking Involvement Per Week		
Every Day	150	77%
3-6 times	33	17%
Once or twice	10	5%
Not at all	3	1.5%
Past Experience		
Yes	47	76%
No	145	25%

Qualitative Sample

Ten fathers participated in the qualitative semi-structured phone interviews. Nine of these fathers completed the quantitative portion of this study. However, because data from the quantitative measures were collected anonymously, no prior information was known about the fathers participating in the phone interview. Therefore, these fathers were asked basic demographic questions that mirrored key aspects of the demographic data collected in the quantitative measure.

The ten fathers were between the ages of 24 and 40 years ($M=32$ y). Seven fathers were White, two Hispanic, and one African American. All fathers were married and had completed a bachelors degree or higher. Six were first time fathers, half the sample earned more than a \$100,000 family income, and one father received public assistance. All but two fathers worked full time, and one father was a ‘stay-at-home’ dad, serving as the primary caregiver for his infant. Infant ages were between one and ten months ($M=6$ -mo.). Demographic characteristics for this sample are presented in Table 4.

Table 4. Characteristics of Qualitative Interviewee Subjects (n=10)

Interviewee	Age	Race	Family Income	Infant Age	1st Child	Degree	Employment
Father 1	36	Hispanic	\$50,000-100,000	5 months		Bachelors	Full Time
Father 2	40	White	\$100,000+	9 months	X	Graduate	Full Time
Father 3	37	White	\$100,000+	10 months		Graduate	Full Time
Father 4	24	White	Public Assistance	6 months	X	Graduate	Student
Father 5	38	White	\$100,000+	10 months		Post Grad	Full Time
Father 6	35	White	\$100,000+	1 months	X	Post Grad	Full Time
Father 7	27	White	< \$50,000	8 months	X	Graduate	Caretaker
Father 8	28	Asian	\$50,000-100,000	2 months	X	Graduate	Full Time
Father 9	31	Afr.Amer	\$50,000-100,000	6 months	X	Graduate	Full Time
Father 10	30	Hispanic	\$100,000+	3 months		Graduate	Full Time

In general, these fathers represented educated, predominantly white men in their early to mid-thirties. These demographic trends are similar to the characteristics revealed in the quantitative sample.

Father Well-Being

Descriptive statistics for each dependent variable are presented in Table 5. In general, the averages and standard deviations for the dependent variables represented typical scores as reported in similar research.

Table 5. Descriptive Statistics: Dependent Variables

	N	Mean	SD	Range
Parenting Self-Efficacy (MSE)	181	32.78	4.4	23-40
Depression (EPDS)	188	5.75	4.0	0-19
EPDS score of >10	30	12.73	2.3	10-19
Parenting Stress Index/Short Form (PSI/SF)	179	65.56	20.6	36-150

The parenting self-efficacy scores in this study are similar to those reported in studies of mothers in non-clinical populations (Teti & Gelfand, 1991; Hess, Teti, & Hussey-Gardner, 2004), and almost identical to the overall mean (33.3) reported in the only other study using this measure with fathers (Leekers & Regan, 2007).

The PSI/SF allows for raw scores to be profiled on a percentile rank to determine normal ranges of parenting stress that fall within the 15th to 80th percentiles (Abiden, 1995). The mean score for total parenting stress in the current study is 65.6, which is equivalent to the 40th percentile according to the suggested continuum, and consistent with similar studies on parents of infants (Deater-Deckard & Scar, 1996).

The EPDS is most often used to determine depression ‘status’ based on a determined cut-off point. As discussed in Chapter III, a cut-off of 10 was used in this study to determine the presence of depression. Thirty fathers scored above the cut-off, indicating that 16% of the fathers were experiencing depressive symptoms. It is estimated that approximately 4.3% of fathers with children under 18 are depressed (The National Academies, 2009), and a recent meta-analysis reported that approximately 14% of American fathers with infants under the age of 12 months experience depression (Paulson & Bazemore, 2010).

Fathers meeting the criteria for depression reported significantly more parenting stress and (as expected) depression, and less parenting self-efficacy compared to fathers not meeting criteria for depression (see Table 6).

Table 6. ANOVA Results for Depressed Fathers Versus Non-Depressed Fathers and Well-Being Variables (standard deviations are in parentheses)

Measures	Meet Depression Criteria		F (df)	p
	Yes (N=30)	No (N=158)		
Depression (EPDS)	12.7 (2.3)	4.4 (2.6)	258.5(1,187)	.000
Parent Self Efficacy (MSE)	30.0 (4.9)	33.1 (4.1)	14.7(1,180)	.000
Parenting Stress (PSI/SF)	89.5 (25.3)	60.9 (16.0)	62.6(1,178)	.000

P<.05, p<.001

Pearson's correlations were conducted to examine the relationship between each father well-being variable (see Table 7). Given that these variables are all constructs of father well-being, associations between each variable were expected.

Table 7. Correlations Between Father Well-Being (Dependent) Variables

	EPDS	MSE	PSI
EPDS	-	-.353**	.598**
MSE		-	-.602**
PSI			-

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

To determine if demographic characteristics were related to father well-being a series of Pearson's correlations were calculated to examine the relationship between each continuous demographic variable and the three measures of father well-being (see Table 8). Significant covariates were retained for inclusion in subsequent predictor regression equations.

Table 8. Correlations Between Independent Characteristics and Dependent Well-Being Variables

	MSE	PSI/SF	EPDS
Family Income	-.002	-.173*	-.025
Father Education	-.125	-.057	-.165*
Infant Age	.195*	.083	.163
Involvement	.165*	-.217**	-.110
Co-Parenting Confidence	.371**	-.417**	-.284**

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

As shown in Table 8, infant age was positively related to parenting self-efficacy. A relationship between income and parenting stress and education to depression was also detected, indicating that for fathers in this study, family income was negatively related to parenting stress and education was negatively related to depression. Father involvement in infant caretaking and play activities was positively related to parenting self-efficacy, suggesting that the more fathers participated in these activities, the higher their feelings of parenting efficacy were. Additionally, father involvement was negatively related to parenting stress, suggesting that the more fathers participated in these activities, the lower their stress levels were.

Co-parenting confidence was related to each father well-being variable. Scores on the co-parenting scale were positively related to parenting self-efficacy and negatively related to parenting stress, and depression, suggesting that the more fathers perceived his co-parent as having confidence in his parenting, he reported less depressive symptoms and parenting stress and higher feelings of parenting efficacy. Co-parenting confidence was retained as a covariate in each predictor model and treated as an independent variable

in all major analysis. However, because of the relationship to each well-being variable, further analysis and discussion of co-parenting confidence is presented in the post-hoc analysis section of this chapter.

Fathers who met the criteria for depression did not significantly differ in any demographic category from fathers who did not meet the depression criteria, except father education (see Appendix Q).

A series of two-tailed, independent t-tests were calculated to determine significant between-group differences on father well-being variables and categorical demographic variables. Table 9 displays measures of central tendency calculated for depression, parenting stress, and parenting self-efficacy for each dichotomous group and results of between-group comparisons.

As shown, only one significant difference between father groups was observed; fathers of male infants had significantly higher parenting stress levels than fathers of female infants.

Infant Crying and Fussing

Amount of crying/fussing. As discussed in Chapter III, *amount* of infant crying was gathered by report of raw hours and minutes of crying, and by amount of crying per day, weeks and months based on Wessel's Rule of Three¹ questions. Infants who were reported to cry an average of 180 minutes per day or more, or cried for three hours per day, for three days per week, for more than three weeks, were categorized as having colic. Based on this analysis, 42 (20%) infants met colic criteria.

¹See page 11 for a discussion on Wessel's Rule of Three.

Table 9. Comparisons of Well-Being Variables by Father Group

	MSE	PSI/SF	EPDS
Minority Group			
Yes (n=46)	33.2 (4.5)	68.3 (24.5)	5.6 (3.9)
No (n=135)	32.6 (4.4)	64.7 (19.3)	6.2 (4.4)
t-test	-.739	-1.019	-.954
Marital Status			
Married (n=155)	32.6 (4.2)	64.6 (19.1)	5.6 (3.9)
Un-Married (n=20)	33.7 (5.7)	74.1 (30.17)	6.6 (4.8)
t-test	-1.090	-1.890	-1.000
Father Age			
Under 35 (n=125)	32.4 (4.5)	66.6 (21.4)	5.9 (4.1)
Over 35 (n=55)	33.4 (3.9)	63.09 (19.8)	5.5 (3.7)
t-test	-1.376	.657	1.053
First Time Father			
Yes (n=122)	32.7 (4.7)	64.6 (21.7)	6.2 (3.9)
No (n=68)	32.8 (4.0)	67.3 (18.8)	5.5 (4.0)
t-test	.225	.827	1.045
Past Experience			
Yes	32.78 (4.3)	66.76 (19.0)	6.20 (3.8)
No	32.78 (4.4)	65.17 (21.2)	5.61 (4.0)
t-test	-.002	.441	.869
Infant Sex			
Female (n=77)	33.1 (4.4)	62.0 (18.2)	5.9 (3.6)
Male (n=103)	32.5 (4.5)	68.3 (22.1)	5.7 (4.3)
t-test	.920	-2.038*	.281

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

Fathers reported an average of 90 minutes of crying and fussing (SD=73, Range=0 to 420 min) per day. These results are similar to other community sample studies of infant crying that have reported mean minutes of crying per day between 54 and 120, with older infants crying less than younger infants (Brazelton, 1962; St James-Roberts & Halil, 1991). Pearson's Product-Moment correlations between amount of infant crying and father and infant characteristics revealed a significant relationship between amount of crying and infant age ($r(117) = -.318, p < .001$), indicating that older

infants cried less than younger infants (see Appendix P). As expected², infants between one and four months of age cried significantly more than younger or older infants (M=128.3 minutes, SD=92.3, P=.009); [F(5,111) = 3.24, p <.001]. As shown in Figure 1, infants between four and six months cried less (M=68.4 minutes, SD = 28.5) than older infants. However, this was not a significant difference across the other age groups, and only represented an average of four minutes less of crying and fussing.

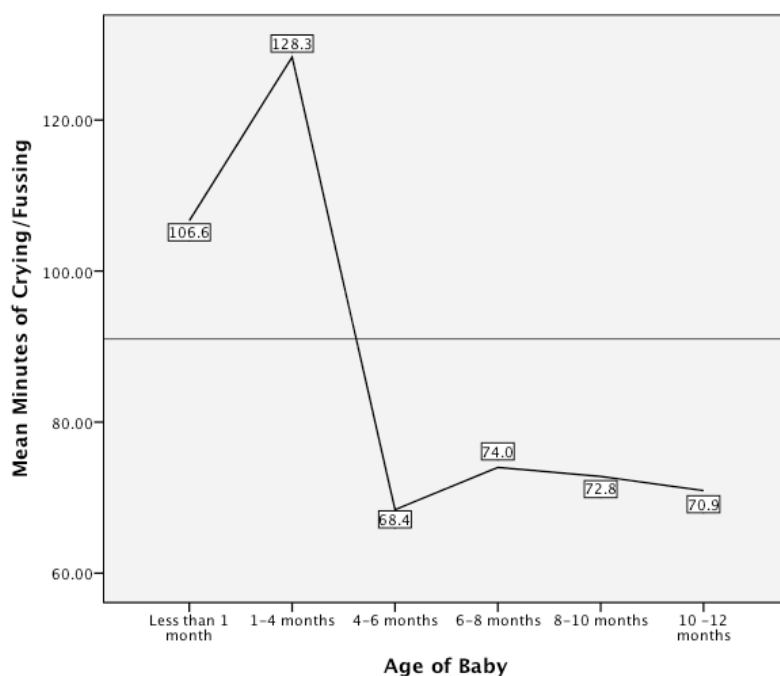


Figure 1. Mean minutes of infant crying/fussing by infant age

The fathers with infants meeting the colic criteria were not significantly different in any demographic characteristic (see Appendix P). Infants ages one to four months represented the largest group (43.9%) of colicky infants (N=18) and cried significantly more (M=218, SD=71.0) than the total average for colicky infants (M=192.5, SD=84.4)

²See page 14 for a discussion on the normal crying curve and the expected peak in crying during the second and third month of infancy.

and almost two hours (156 minutes) more than the mean for all infants ($M=63.65$) ($\chi^2(5, N=187) = 10.708, p = .05$).

As expected, fathers with infants that met colic criteria reported significantly more minutes of crying ($M=192.2, SD=84.99$) than fathers with infants not meeting the criteria ($M=63.65, SD=36.65$ [$t(116) = -11.267, p=.000$]), and colic criteria was significantly related to minutes of reported crying ($r(118) = .723, p < .001$). Because the relationship between colic criteria and minutes of crying was highly correlated, colic criteria was used as a proxy for ‘amount’ of crying in subsequent regression analysis to avoid issues of multicollinearity between variables.

Perception of crying. As a separate measure of crying, perception of crying was collected by father report of infant crying/fussing as a problem³ and was represented as a categorical variable (cry concern=1 or, no concern=0). Fifty-eight fathers (30%) reported they were currently finding their infants crying/fussing to be a problem or upsetting. Fathers reporting a crying problem were not significantly different in any demographic characteristic, including infant age (see Appendix P).

Fathers reporting problematic crying reported significantly more minutes of crying ($M=145.5, SD=94$) than fathers who did not report a crying problem ($M=75.1, SD=57.0$); [$t(114) = -4.757, p < .001$]. Additionally, the infants of fathers reporting problematic crying were significantly more likely to meet criteria for colic than fathers who did not report a problem ($\chi^2(1, N=189) = 32.863, p = .000$) (see Table 10).

³Question: Are you finding your baby’s crying and/or fussing to be a problem or upsetting?

Table 10. Chi-Square Results for Report Crying Concern and Colic Criteria

Colic Criteria	Crying Concern		χ^2	Φ
	Yes	No		
Colic	28 (48%*)	14 (10%)	32.86	.000
No Colic	30 (51%)	117 (89%)		

p<.001, p<.05

* Represents percent within crying concern category

The Chi-Square analysis confirmed a significant relationship between colic and report of a crying concern, which was expected. However it also revealed that about half of the fathers who reported a cry concern did not have infants who met colic criteria.

Research Questions One and Two: The Relationship Between Amount and Perception of Infant Crying to Father Well-Being

To address research questions one and two, several analysis were conducted to examine the association between father well-being variables and infant crying.

First, to determine if there was a relationship between the raw minutes of reported crying and father well-being Pearson's correlations were calculated demonstrating several significant, weak to moderate relationships (see Table 11). Amount of crying in minutes was positively related to depression and parenting stress, and negatively related to parenting self-efficacy, suggesting that the more crying the fathers reported, the higher their stress and depression levels, and the lower their parenting self-efficacy.

Table 11. Correlations Between Amount of Crying and Father Well-Being Variables

	Amount of Infant Crying in Minutes
Depression (EPDS)	.297**
Parent Self Efficacy (MSE)	-.379**
Parenting Stress (PSI/SF)	.262**

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

Next, an ANOVA was computed to compare well-being variables according to colic criteria, and report of problematic crying (see Table 12).

Table 12. ANOVA Results for Crying Variables and Father Well-Being

	EPDS	MSE	PSI/SF
Colic Criteria			
Yes (n=40)	7.7 (4.9)	31.0 (4.2)	79.4 (24.3)
No (n=148)	5.2 (3.7)	33.2 (4.3)	61.7 (17.6)
F(df), p	13.18(1,187),.000	8.36(1,180),.004	25.52,(1,178),.000
Problematic Crying			
Yes (n=58)	8.0 (5.0)	30.2 (4.3)	82.1 (22.0)
No (n=131)	4.80 (3.1)	33.8 (3.9)	58.4 (15.6)
F(df), p	27.73(1,184),.000	29.85,(1,179) .000	67.21,(1,177),.000

p<.001; p<.05

As shown in Table 12, fathers of colicky infants reported significantly higher depression scores compared to fathers whose infants did not meet the colic criteria. These fathers also reported significantly higher parenting stress scores than fathers without colicky infants. And finally, fathers with colicky infants reported significantly lower parenting self-efficacy scores than fathers of infants not meeting the colic criteria. Fathers who reported crying as a problem had significantly higher mean depression

scores, higher parenting stress scores, and lower parenting self-efficacy scores when compared to fathers who did not report a problem.

To examine possible interactive effects of colic criteria and report of problematic crying on father well-being (while controlling for dependent variable relationships), a multivariate analysis of variance (MANOVA) was conducted. Results for the MANOVA are presented in Table 13 and profile plots of observed father well-being means are shown in Figure 2. To allow for standardized comparison of mean plots, well-being variables were converted into Z-scores.

Table 13. MANOVA Results for Effects of Colic x Crying Concern Interaction for Father Well-Being

Parameter	<i>EPDS</i>		<i>MSE</i>		<i>PSI/SF</i>	
	F	<i>p</i>	F	<i>p</i>	F	<i>p</i>
Colic Criteria	3.116	.079	1.043	.309	6.643	.011
Crying Concern	18.825	.000	11.379	.001	34.519	.000
Colic x Crying Concern	2.158	.144	2.927	.089	.058	.810

$p < .001$, $p < .05$

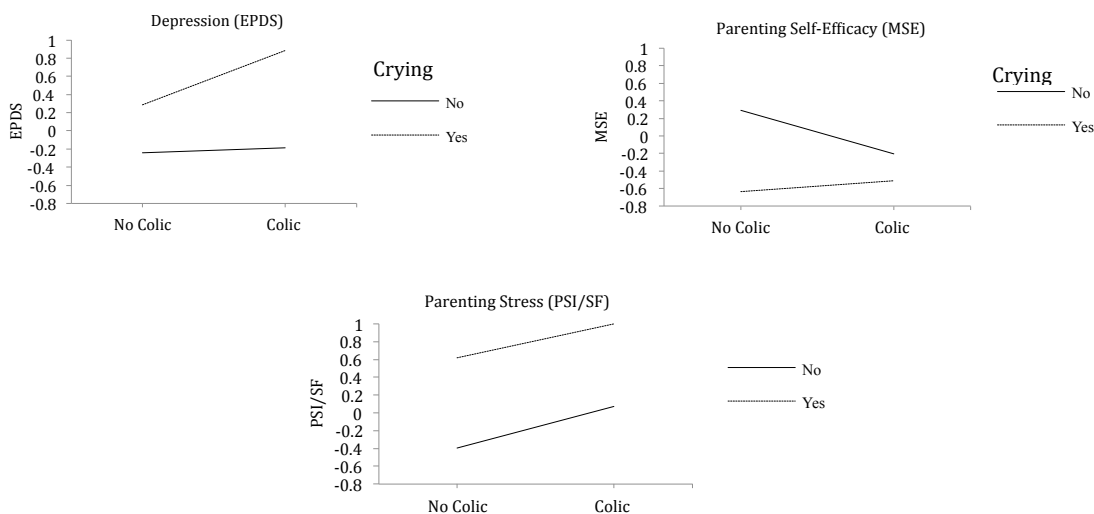


Figure 2. Observed mean plots for father well-being by colic criteria and report of crying problem

As shown in Table 13, report of crying concern had a significant effect on each father well-being variable. Colic criteria had a significant effect on parenting stress, but not for depression or parenting self-efficacy. There were no significant interaction effects between colic and report of crying concern for any well-being variable, but parenting self-efficacy was approaching significance. The profile plots for each father well-being variable visually represents the effect of the report of crying concern, illustrating that fathers who reported a crying concern had higher depression and stress scores, and lower parenting self-efficacy scores, regardless if their infant met colic criteria or not.

Fathers meeting the depression cut-off on the EPDS had significantly more infants meeting the colic criteria than non-depressed fathers ($\chi^2(1) = 7.035, p < .05$). Of the 30 fathers categorized as 'depressed', 40% (N=12) had an infant who met the colic criteria versus 18% (N=29) of non-depressed fathers. Depressed fathers were also significantly more likely to report a crying problem), with 66% of depressed fathers reporting their infants' crying as problematic, versus only 23% of non-depressed fathers.

To examine depression status in the context of infant crying, an ANOVA was conducted comparing depressed fathers (EPDS >10 cut-off) who reported both a crying problem and that their infant met colic criteria to other fathers in the study (see Table 14). Mean plots for each well-being variable are presented in Figure 3. To allow for standardized comparison of mean plots well-being variables were converted into Z-scores.

Table 14. ANOVA Results for Father Well-Being Based on Crying and Depression Variables

	EPDS	MSE	PSI/SF
None*	4.15 (2.5)	34.40 (3.6)	55.92 (13.2)
Colic & Cry Concern (n=13)	5.50 (5.5)	31.08 (4.6)	74.81 (15.9)
Depressed, Colic. & Concern (n=21)	12.50 (2.5)	30.43 (5.26)	87.91 (28.9)
F(df), p	95.88, (2,141), .000	11.04, (2,136), .000	35.02, (2,134), .000

p<.001; p<.05

* "None" represents fathers who did not meet depression criteria, their infant did not meet colic criteria, and they did not report a crying concern. Total subjects differed slightly for each well-being measure in this sub-sample (n=106 for EPDS, 103 for MSE and 101 for PSI/SF).

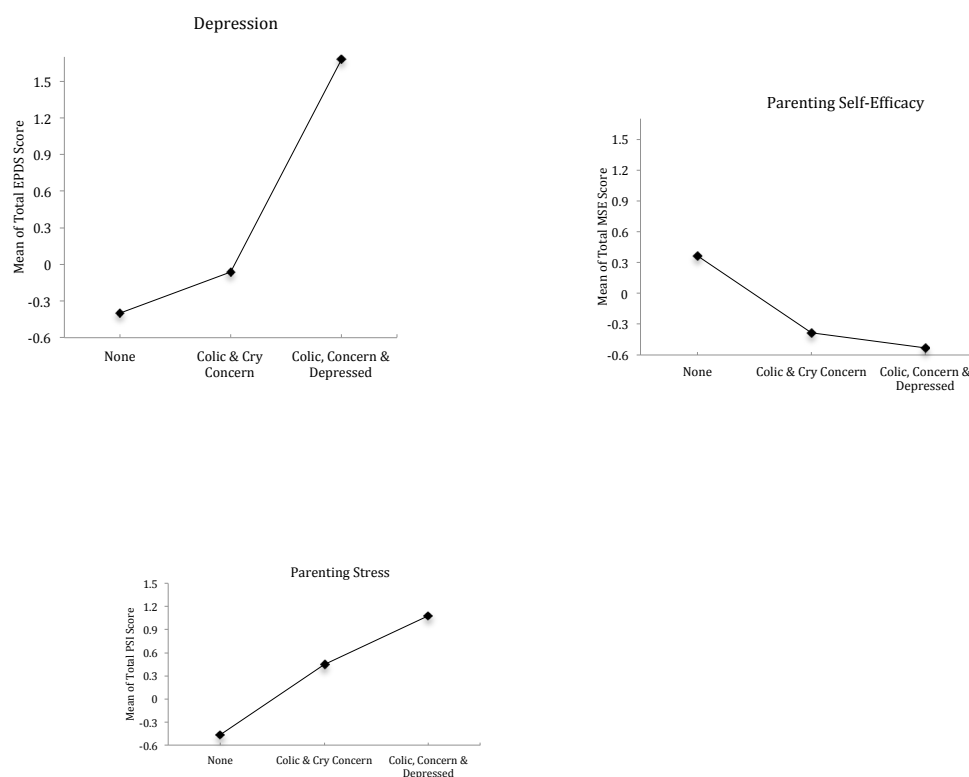


Figure 3. Mean well-being plots by depression and crying variable

As displayed in Table 14 and Figure 3, fathers who did not meet depression criteria, did not report a crying concern *and* did not have an infant that met colic criteria had the lowest depression and stress scores and the highest parenting self-efficacy scores. Fathers who reported a crying concern and their infant met colic criteria, but they did not meet the cut-off for depression had higher scores than fathers not meeting any of these criteria, but lower scores than depressed fathers. Fathers who met the depression criteria, reported a crying concern *and* their infant met colic criteria had the highest mean scores for depression and parenting stress, and the lowest parenting self-efficacy scores, suggesting a cumulative effect of depression, amount of crying and father perception of problematic crying.

To further examine the predictive strength of the relationship between amount (colic criteria) and perception of crying to father well-being, while controlling for covariates, multiple linear regressions were calculated. Tables 15-17 display the regression equations predicting each father well-being variable from colic criteria and perception of problematic crying. Covariates were included if previous analysis indicated a significant relationship to the outcome (well-being) variable (see Table 8).

Depression

Table 15 displays the regression results for predicting depression from colic criteria and perception of crying problem. Father education and co-parenting confidence were added as covariates. The model returned a significant regression equation ($p < .000$) with an R^2 of .24, suggesting this model predicted 24% of the variance found in depression scores. Colic criteria did not prove to be a significant predictor of depression

scores ($p=.144$). However, perception of crying as a problem had a significant positive effect on depression scores. That is, when all else is held constant, fathers reporting crying as problematic were likely to report increased depression scores ($B=2.388$). Co-parenting confidence was also a significant predictor of depression, indicating that when all else held constant, lower co-parenting confidence scores resulted in lower depression scores ($B=-.332$).

Table 15. Predicting Depression Scores from Amount and Perception of Crying

	B	SE	T	P
Constant	15.125	2.518	6.008	.000
Colic Criteria	1.085	.740	1.466	.144
Crying Problem	2.388	.662	3.608	.000
Co-Parenting Conf.	-.332	.089	-3.741	.000
Father Education	-.931	.569	-1.637	.103

Notes: $R^2=.24$, ($p=.000$), $N= 188$

Parenting Self-Efficacy

Table 16 displays the results for the regression analysis predicting parenting self-efficacy from colic criteria and perception of crying problem. Infant age, father involvement, and co-parenting confidence were included as covariate predictor variables. The model returned a significant regression equation ($p<.001$) with an R^2 of .25, suggesting this model predicted 25% of the variance found in parenting self-efficacy scores. Similar to the regression model predicting depression, colic criteria was not a significant predictor of parenting self-efficacy ($p=.616$). Report of problematic crying was a significant predictor of parenting self-efficacy scores, suggesting that when all else is held constant, fathers who reported problematic crying were likely to have a lower

parenting self-efficacy score ($B=-2.755$). Co-parenting confidence was also indicated as a significant predictor of parenting self-efficacy scores, suggesting that fathers reporting higher co-parenting confidence scores were also likely to have higher parenting efficacy scores ($B=.392$). Age of infant was also a significant predictor, suggesting that fathers of older infants are likely to have higher parenting self-efficacy scores ($B=.546$).

Table 16. Predicting Parenting Self-Efficacy Scores from Amount and Perception of Crying

	B	SE	T	P
Constant	21.109	3.231	6.532	.000
Colic Criteria	-.402	.799	-.502	.616
Crying Problem	-2.755	.729	-3.781	.000
Co-Parenting Conf.	.392	.099	3.970	.000
Age of Infant	.546	.189	2.889	.004
Involvement	.008	.309	.026	.979

Notes: $R^2=.25$ ($p=.000$), $N=181$

Parenting Stress

The final regression analysis predicting parenting stress from colic criteria and perception of crying problem is presented in Table 17. Co-parent confidence, infant sex, family income and involvement were included as covariate predictor variables. This model also returned a significant regression equation ($p<.001$), predicting 46% of the variance in parenting stress scores ($R^2=.46$). Colic criteria was a significant predictor of parenting stress, suggesting that fathers with infants meeting colic criteria were likely to have higher parenting stress scores ($B=7.1$). Report of problematic crying was again indicated as a significant predictor, meaning that when all else held constant, fathers who

reported crying as problematic were likely to have higher parenting stress scores (B=18.78). Again, co-parenting confidence was a significant predictor of the outcome variable. Fathers with lower co-parenting confidence scores were likely to have lower parenting stress scores (B=-2.12).

Table 17. Predicting Parenting Stress Scores from Amount and Perception of Crying

	B	SE	T	P
Constant	118.161	18.075	6.233	.000
Colic Criteria	7.076	3.228	2.192	.030
Crying Problem	18.04	3.971	4.543	.000
Co-Parenting Conf.	-2.123	.411	-5.168	.000
Infant Sex	3.753	2.461	1.525	.129
Family Income	-2.331	1.547	-1.507	.134
Involvement	.527	1.277	.413	.680

Notes: $R^2=.46$ ($p=.000$), $N=179$

Post-hoc Analysis

Because co-parenting confidence was identified as a significant predictor for all father well-being variables, further exploration into the associations and predictive nature of this measure was conducted. The co-parenting confidence measure was added to this research in effort to capture a dimension of the overall co-parenting relationship.

It is important to note that this six-item measure represented a sub-scale of a larger co-parenting measure (Parenting Alliance Index; Abidin & Brunner, 1991), and has only been used in one other study (McBride & Rane, 1998). However, as noted in Chapter III, a strong Cronbach's alpha ($\alpha=.83$) was indicated, suggesting the adequate psychometric properties. It is also important to note that the results for this measure were

positively skewed, suggesting that fathers generally endorsed high levels of perceived confidence from their co-parent. Despite this, there was enough range (12-30; $M=27.32$, $SD=3.2$) within the scores to detect significant differences when associated with other variables, suggesting some value in further investigation.

In order to explore the co-parenting confidence measure, the variable was treated as a dependent variable as opposed to an independent/predictor variable as it was in the previous analysis. As noted in the first section of this chapter, co-parenting confidence was correlated to all the father well-being variables. Associations to independent variables were also explored, indicating weak significant relationships with marital status,

Married fathers had significantly higher co-parenting confidence scores ($M=27.6$, $SD=2.8$) than unmarried fathers ($M=25.3$, $SD=5.2$); [$t(178)=3.006$, $p<.05$]. Non-minority fathers also had significantly higher scores ($M=27.7$, $SD=2.7$) compared to minority fathers ($M=26.2$, $SD=4.22$); [$t(185)=2.660$, $p<.05$], and fathers with a graduate degree or higher had higher co-parenting confidence scores ($M=28.0$, $SD=2.4$) than less educated fathers ($M=27.0$, $SD=3.5$); [$t(181)=-2.133$, $p<.05$]. Fathers with a family income less than \$50,000 scored lower on the co-parenting confidence scale ($M=26.3$, $SD=3.7$) than fathers making \$50,000 or more ($M=28.0$, $SD=2.4$); [$t(182)=2.714$, $p<.05$]. And father involvement was positively correlated with co-parenting confidence ($r(187) = .216$, $p <.001$), suggesting that the more fathers reported they participated in play and caretaking activities with their infant, they also reported higher levels of co-parenting confidence scores.

Next, the relationship between co-parenting confidence and the crying variables was examined. Fathers of colicky infants scored significantly lower on the co-parenting confidence scale ($M=26.0$, $SD=4.1$) than fathers of infants who did not meet the colic criteria ($M=28.0$, $SD=2.7$); [$t(185)=2.099$, $p<.05$]. Additionally, fathers who reported problematic crying also reported lower co-parenting confidence scores ($M=26.2$, $SD=3.7$) than fathers who did not report a problem ($M=28.1$, $SD=2.8$); [$t(182)=3.209$, $p<.05$].

Using the same regression analysis conducted with the father well-being variables, co-parenting confidence was examined for predictive relationships with infant crying variables in a linear regression (see Table 18). Family income, education, race, income, and marital status were entered as covariates.

Table 18. Predicting Co-Parenting Confidence Scores from Amount and Perception of Crying

	B	SE	T	P
Constant	21.185	2.725	7.775	.000
Colic Criteria	-.731	.622	-1.175	.242
Crying Problem	-1.084	.547	-1.949	.053
Involvement	.848	.241	3.518	.002
Family Income	.424	.322	1.318	.189
Father Education	.411	.488	.839	.403
Father Race	-.365	.584	-.624	.533
Marital Status	-.342	.853	-.396	.693

Notes: $R^2=.19$ ($p=.000$)

The regression results predicting co-parenting confidence from amount (colic criteria) and perception of problematic crying returned a significant equation ($p<.000$), and an R^2 of .19, suggesting that this model predicted 19% of the variance in co-

parenting confidence scores. Colic criteria was not a significant predictor ($p=.271$), but report of crying concern was a significant predictor of co-parenting confidence ($p=.053$), suggesting that when all else held constant, fathers who reported a crying concern also reported less co-parenting confidence ($B=-1.08$). Father involvement was also a significant predictor for co-parenting confidence ($p=.001$), suggesting that when all else held constant, the more fathers reported participation in play and caretaking activities, the higher co-parenting score they reported ($B=.848$).

Research Question Three: The Experience of Parenting and Coping with Crying

To address research question three, both qualitative and quantitative measures were analyzed for results related to fathers experience and coping with crying and parenting an infant.

Description of Crying

Data from the qualitative text entry on the Crying Questionnaire were analyzed and converted to quantitative categories. One hundred and twenty-five fathers entered text in response to the question: *what about your infant's crying or fussing is most upsetting to you?* Four fathers entered text that was irrelevant to the question and were removed from analysis (i.e., she has ear infections). Five common themes were developed after review of text data and were then assigned a corresponding nominal number between one and five to represent the theme and assigned to the father's text response. Because of the brevity of the responses, no father had more than one theme assigned.

Table 19 presents the thematic categories, key terms, characteristic response and frequency distributions. Overall, the greatest number (46.3 %) of fathers reported descriptions that fell under the theme, “Feelings of Helplessness,” followed by statements that were categorized by the theme, “Personal Impact on Parent” (26.4%). Responses categorized under “Quality of the Crying,” “Meaning of the Crying,” and “Nothing” represented the themes found the least in the qualitative text entered (13.2%, 8.3%, 5.8%, respectively).

Pearson’s Chi-Square analysis did not reveal significant group differences in how fathers described the crying based colic criteria $\chi^2(4, N=121)=1.461, p=.834$. However, there were group differences in how the fathers described the crying depending on their report of problematic crying $\chi^2(3, N=119)=12.757, p=.013$ (see Figure 4).

As presented in Figure 4, fathers who reported problematic crying provided more diverse responses across the themes compared to fathers who did not report a crying problem. Over half of the fathers who reported problematic crying described the crying in terms of feelings of helplessness or related to crying as a personal impact (39%, 38% respectively). Fathers reporting problematic crying were twice as likely to provide responses related to a personal impact. They also provided slightly more responses (16%) related to the quality of the cry than fathers not reporting problematic crying. Over half of the fathers who did not report a crying problem reported feelings of helplessness (54%).

Mean scores on father well-being variables did not significantly differ based on description of crying or in any categorical demographic category.

Table 19. Qualitative Analysis of Crying Experience Response (N=123)

Thematic Category	Key Terms	Characteristic Response	Frequency Distributions
Feelings of Helplessness	<ul style="list-style-type: none"> – Not Knowing – Helpless – Upsetting – Unsure – Don't know – Inability – Cannot figure out – Nothing I can do 	<ul style="list-style-type: none"> – <i>Seeing my baby distressed is upsetting, and worse when unsure what is bothering him.</i> – <i>When I don't know what is wrong</i> – <i>Feeling like he needs something I am not providing</i> 	56 (46.3%)
Personal Impact on Parent	<ul style="list-style-type: none"> – Frustration – Annoying – Irritating – Mad – Causes lack of sleep for me (wife/partner) – Feeling sympathy 	<ul style="list-style-type: none"> – <i>The only way to make her stop is to carry her and be in constant motion which does not allow me to do anything.</i> – <i>It interferes with work and causes stress</i> – <i>It makes me anxious and/or gives me a migraine sometimes</i> 	32 (26.4%)
Quality of The Crying	<ul style="list-style-type: none"> – Pitch – Length/time of crying – Sound of crying – Sounds like 	<ul style="list-style-type: none"> – <i>The level and longevity of the cry</i> – <i>That she doesn't STOP</i> – <i>The sound is annoying, like nails on a chalkboard</i> 	16 (13.2%)
Meaning of Crying	<ul style="list-style-type: none"> – He is/seems... – It means... – Angry – Pain – Mad 	<ul style="list-style-type: none"> – <i>That he seems uncomfortable</i> – <i>When he screams like he's being hurt</i> – <i>The fact that he is in pain</i> 	10 (8.3%)
Does not Bother	<ul style="list-style-type: none"> – Not a problem – Does not bother 	<ul style="list-style-type: none"> – <i>Don't find it upsetting</i> – <i>He doesn't cry or fuss much, just when has a need</i> – <i>nothing</i> 	7 (5.8%)

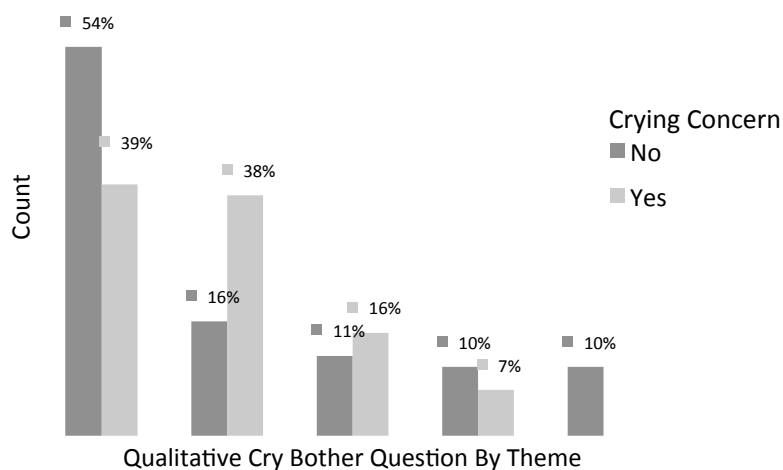


Figure 4. Percent of fathers reporting problematic crying qualitative bother question response

Infant Crying, Coping and Parenting

Qualitative interviews were analyzed for common themes within each of the following categories: (1) experiences and stress related to parenting, (2) experiences and stress related to infant crying, and (3) coping with infant crying and parenthood. Four major themes related to the context of this research emerged from the analysis of interview text (see Table 20).

The semi-structured qualitative interviews lasted approximately 30 minutes and covered topics related to parenting an infant. While the identified themes were associated with specific interview topics, conversations emerged out of many different topic sources that were ultimately coded under a relevant content category. For example, in discussions on coping, a content specific question would be queried, but the conversation would drift to another topic, but still often relevant to the overall purpose of the interview. As

intended with semi-structured interviews, it was important to be flexible and allow for the discussion to venture off-topic in order to capture participant-driven thoughts, which is not possible in structured interviews.

Interestingly, *identity conflict*, one of the major themes to emerge from these interviews, occurred in such off-topic discussions and not in response to prepared interview questions.

Table 20. Qualitative Interview Topics and Themes

Interview Topic	Major Themes	Sub-Themes
Parenting Experiences and stress related to parenting	• <i>Identity Conflict</i>	– <i>Societal</i> – <i>Family</i>
Crying Experiences and stress related to infant crying	• <i>On The Edge</i>	
Coping Coping with infant crying and parenthood	• <i>Cognitive Reappraisal</i> • <i>In This Together</i>	

Identity conflict. Most often, the identity conflict theme was discussed in terms of conflict related to a perceived societal role, and the fathers' role in his family. When probed with questions about what was stressful about parenting, conversations emerged regarding what role they felt they should be playing related to parenting and expressed a sense of conflict in how best to fulfill a range of expectations.

Societal role conflict. Discussions about how fathers believed society views the role of a father and if they do or do not fit these ideals emerged spontaneously from conversations on what they found stressful about parenting. Fathers discussed difficulty

in fulfilling all the roles they felt were expected of them, particularly in the context of social, family and work obligations. They described feeling pressure to balance being a father, husband, friend and employee:

So, kinda figuring out the right balance of – in my work – you know, kinda balancing work, and social, and baby, and husband duties. So, I think that's hard. – Father 6

Several fathers discussed recognizing that they were different from their own fathers in terms of their involvement with their infants, and attributed this difference to what was described as the changing expectations of the “greater world”. Some fathers felt this was a welcome change:

I think I'm more hands-on than either mine or my wife's father's were. That's not to say that they weren't loving parent, but I think more is expected of fathers these days. And I actually enjoy it, these more increased roles, I guess as a father. And it kind of makes me, actually, a bit surprised at how much less of previous generations fathers were involved in their kids' lives at a young age. – Father 8

At the same time, some fathers who acknowledged this conflict in shifting societal expectations also felt stressed by the new expectations:

You know, it's just really hard. I mean, I would characterize myself as, like, the sensitive father in that I really do take a lot of role – a large role, and do a lot of – when I'm home, doing as much as I can do. So, but I think it takes its toll because it's like to do that, you then are really playing two roles. You're playing both the role of the sensitive father and of the traditional father that's about making a living. So, I think in some ways it's kinda unfair, you know? It's kinda being two types of persons at the same time. – Father 6

Some fathers wondered if having the defined roles that were once more common, would make parenting easier: “But, you know, I think if the roles were defined, I think things would be simpler in a lot of ways” (Father 10).

The conversations about a conflict in identity stemmed from a recognition that the fathers were expected to be more involved and nurturing than their own fathers, but also maintain a masculine, ‘breadwinner’ role at the same time. Interestingly, no fathers referred to their own father as a role model or as an example of the type of father they want to be. On the contrary, there were more mentions of wanting to be ‘different’ from their own father in terms of their involvement with their infants.

Family. In addition to a larger, societal view on the role of fathering, the fathers also discussed a conflict within their nuclear family and a struggle to understand (or come to terms with) their place or role in the context of the infant. When reflecting on the early months of caring for their new infant, fathers talked about feeling less important in the family, feeling somewhat excluded from the mother-infant relationship and stress or frustration at the perception that they did not hold the role of ‘important parent’ for their infant:

Well, on an emotional level, what I find stressful is this thought and this feeling that I’m never going to be the more important parent, at least for the time being. Bottom line, at the end of the day, if the baby needs calming, soothing, feeding, clearly it’s his mother he’s going to want. And I know that’s irrational. But that just stresses me out. It stresses me out less than it used to. There were times early on when I didn’t feel like I could do anything right at all. – Father 7

This theme also emerged when probing for advice to give a new father. A few fathers offered advice about expectations, or preparations to “get ready to not feel as important in the family” (Father 2). This seemed to come from overall experience of fatherhood, but also from the perception of the actual relationship with the infant.

Similarly, one father talked about recognizing a difference in his relationship compared to his wife, and expressed disappointment or frustration in this realization, especially in early parenthood. However, he indicates that this was more of an issue early on and that his connection now has been improved due to the infants' ability play and interact:

And I'm not so worried about the connection I have with him now because of his responses to me when he sees me and how he plays and how he interacts. But yeah, it's feeling like the second tier parent. So it's really stressful. – Father 4

One father talked about being surprised and saddened that he did not feel as 'connected' to his infant initially, and how his early interactions and caregiving were more out of duty:

That was difficult because there's this natural bond that the mom seems to have that I didn't necessarily have and sometimes that was frustrating. But I just didn't feel right, or I wanted to feel more. You hear people talking about all these feelings that they have and I didn't really have these feeling necessarily, it was more of like a duty initially. – Father 5

It is important to note that the experiences and views expressed from the fathers in relationship to what they found stressful about parenting were not limited to the identity conflict theme. While this theme did emerge consistently, fathers also discussed disruption of social lives, feelings of helplessness, and the physical exhaustion of caring for a young infant. Sleep (or lack thereof) was consistently mentioned across most interviews as one of the more difficult and challenging aspects of parenting an infant. Lack of sleep is typically considered part of the 'normative' experience of parenting. However, similar to the research on infant crying, there is less research including the

perspective and experience of the father in relationship to sleep-deprivation during early infancy, and should be explored in more depth in future research.

Experience of crying. No father described his infant as ‘fussy’ or ‘colicky’, and only two fathers reported that their infant was considered fussy in the past. Therefore, rich descriptions of fathers experience related to excessive crying were not elicited from this sample. However, all but one father could recall a time when their infant was crying and they could not soothe or calm the baby for an extended period of time. From these descriptions the theme of “on the edge” emerged.

On the edge. This theme was derived from the rich descriptions of fathers’ experience of caring for their infant during an episode of unsoothable crying. In almost all descriptions of the experience, the father described a situation when he was alone and the infant became inconsolable for a period of time. This is notable because the question did not specifically ask for a description of a time when the father was alone with the infant. In each instance, the father was asked if he could “remember a time when you were caring for your baby and you were unable to soothe him/her?” It’s possible that the phrase, “when you were caring for” suggested a time when he was in fact the only caregiver in the situation. However, in separate conversations about infant crying, several fathers indicated that they often passed care off the mother when the infant became fussy. This was also noted in Father 7’s quote from page 125 of this section; “Bottom line, at the end of the day, if the baby needs calming, soothing, feeding, clearly it’s his mother he’s going to want.” This may suggest that while there were certainly times when the infant was inconsolable when under the care of both parents, fathers

described the most stressful (or memorable) times when they were alone and unable to soothe the baby without the care of the mother.

In general, the experience of caring for an inconsolable infant was most often described as stressful, frustrating or overwhelming. Two fathers also discussed feeling self-conscious when unable to calm the baby:

I mean, you feel very helpless – very, you know? It's sorta, like – definitely feeling helplessness and also of frustration. You know, you feel very frustrated that he's crying, and that you're not able to figure out what it is that you could be doing to make him not cry, and also, like, pressure. Like, if your wife is in the next room, or someone – you know what I mean? – Father 6

When you have this screaming baby, well it makes it sound like you're not – like you feel self-conscious that you're not being a good dad because you can't get him to stop crying. – Father 10

Both of these excerpts highlight a unique aspect of the situation with the indication that these fathers felt a sense of self-consciousness about what others might be thinking of them (or their skills) when unable to calm the infant. As discussed in more detail in Chapter V, this sense of self-consciousness has not specifically been articulated in the literature on fathering and infant crying.

To further probe the feelings and actions of fathers during these experiences, they were asked if they had ever felt close to “losing control” during a crying episode. All but one father endorsed similar or relatable feelings. For example:

And so I was home by myself, and Julio had started on. I had a headache from work. So that was probably the most intense where I felt like I needed to just – it was a moment where I could understand some of the horrific stories you hear about what parents can do in low moments. And I was like man, I'm not going to – I wasn't in that place myself, but I was able to step back and see this stuff overwhelms you to the point where I could see people kind of losing it at a given moment. – Father 3

While each father reiterated never actually getting to the point of losing control, several commented (as did Father 3) that they could understand how another parent might:

I could definitely understand how at a point, especially if you were doing it on your own, you could just be so frustrated, and get to a point where you could kind of lose control a little bit. I don't know what that would look like, but I could see it happening. – Father 4

One father responded to this question with a response suggesting this concept had been discussed between he and his wife and fears of 'unconsciously' losing control while caring for his infant:

My wife says that she's observed that I would interact more physically with him when he was crying. Because of the reflux we have to bounce him or sway him when we're feeding him a lot of times. She said she could tell if I was getting frustrated because I would end up bouncing him harder. I know I get frustrated and sometimes I'm just bouncing him harder and harder and not paying attention. I don't want to hurt him, so I try to pay attention to that. – Father 9

Although several fathers seemed surprised and perhaps uncomfortable with this type of question was being presented, there also seemed to be an underlying sense of relief when discussing the situation. More specifically, by phrasing the question in this way, "I have talked to other parents who have described a feeling of losing control when their baby won't stop crying, have you ever felt that way?" there was an implied understanding that they were not the only parent to have experienced such emotions before, and perhaps felt more comfortable discussing their own experience. These descriptions of self-consciousness and feelings of 'losing control' were central to the theme 'on the edge', and represented the overall tone of these discussions.

Coping. A primary goal of these interviews was to collect information pertaining to coping related to infant crying and the general stress of parenthood. Analysis of the discussions related to coping with crying revealed an overall theme of “cognitive reappraisal.” The theme termed “in this together” emerged from the analysis related to coping with the general stress of parenthood.

Cognitive reappraisal. To gather information on coping related to infant crying, a follow up question was posed directly after what was described in the previous section regarding experiences of caring for an inconsolable baby and feelings of losing control. Because no father reported actually ‘losing control’, the question of how they avoided getting to that point was asked. A few fathers responded with global responses like, “because I love my baby and don’t want to hurt her.” However, several fathers described a process of reappraising the situation, which helped them to avoid losing control. This was described in terms of the actual situation and how it could be appraised:

I guess I just sort of reminded myself that it wasn’t going to last forever. And I think my wife was supposed to come home in an hour, and I just had to make it for an hour. I didn’t have to make it for a week or anything like that. So I think a lot of it was just trying to provide myself with some context. – Father 3

The fathers also described reappraising the actual crying and infants’ behavior as a way to control the situation and their feelings:

Just consciously, just think, She's a baby. I kind of feel badly for her, actually, because she doesn't have no way to communicate with us besides crying. Everything is just crying if she needs something. It's kind of an extreme for her. And I understand that. She's a baby. So I guess that's the way I just figure it out with myself. – Father 8

I just would think he's not doing anything to be frustrating intentionally. He's just in pain. And then I'd usually come around feeling bad for him. Thinking about him vomiting or that's the reflux and the pain that he's experiencing. That would usually get me to a point where I could feel okay, I can pick him back up. – Father 9

This theme of reappraisal was also detected when eliciting suggestions for advice to new fathers. Although not all such responses were specific to crying, there were implications of 'stepping back' or taking stock of the 'bigger picture' as ways to cope:

Just whenever the person may feel frustrated or at the end of your rope, just gotta take a deep breath and realize this is your child and you love this child dearly and you made this decision and you have to take the responsibility to take of this child to the best of your abilities. – Father 1

I think patience and the reminder of the bigger picture that it won't last forever. I think that is the biggest thing, and to find some way in the moment to remind yourself of those. And then help to relax and calm yourself down. – Father 3

Several of the examples of cognitive reappraisal implied a basic understanding of infant cognition. For example, the reappraisal was related to the infants' ability (or inability) to be purposeful in his/her actions: "I just would think he's not doing anything to be frustrating intentionally," (Father 8). Or less explicitly, saying, "Just consciously, just think, She's a baby," (Father 9), suggesting that being 'a baby' removes some of the responsibility off the infant. These examples of very specific reframing were also mixed with more 'big-picture' reframing strategies, like "taking a step-back" and considering the situation away from the immediate stress. Underlying both of these cognitive reappraisal methods of coping with the crying was the understanding that the father needed to 'calm down' or 'relax'.

In this together. Fathers were also asked to discuss their coping techniques when stressed or frustrated with issues related to parenting. In response to this question, and to an inquiry into what types of supports they find most beneficial, the theme of “in this together” emerged. When discussing coping behaviors related to the stress of parenting, most fathers described utilizing their wives⁴ as outlets for stress reduction. Specifically, they described talking about the stress or relating to each other around similar issues:

I found for me it's been talking with my wife. We haven't been married all that long, but we've just always tried to be pretty open and talk to each other about things or stresses, so I think that helps a little bit, obviously.
– Father 4

Probably my wife. I'd say it was the greatest source of stress but also the greatest support. I mean, we talk a lot about everything. It's not like we haven't had fights, had conflicts, had emotional outbursts. But we talk a fair amount about how we're feeling, how we're doing, issues that we're having. – Father 2

Several fathers also mentioned talking with their families, friends or coworkers as helpful stress reducers and general support:

Talking to my parents maybe, who are a little bit more distant from the situation, maybe provides a little bit of additional stress relief. I talk to my parents more than I did before having the baby. – Father 5

There's a person at work. He has three kids. He understands how things change. And I ask him about things once in a while, how he feels it's different. It's a good source of support. – Father 6

In general fathers talked a great deal about the support and influence of their wives. In most topics covered, fathers referenced their wives to some degree. And, in almost all cases the remarks embodied positive connotations and expressed a sense of

⁴All fathers who participated in the interviews were in heterosexual marital relationships, representing a study limitation as discussed in the next chapter.

‘togetherness’ and gratitude. This sense of being ‘in this together’ was a consistent theme throughout the interviews and is perhaps best illustrated in this quote from Father 2 who was describing the stress of the first few months of caring for his infant:

And it was interesting because I remember thinking how am I not more tired and functioning less than I’m functioning right now? And we were up every two hours, no one was getting any sleep. And it’s funny because it was actually, all things considered, a pretty pleasant time because we were all up together as a family, going through the same experience.
– Father 2

While there were a great deal of positive overtones to these conversations in regard to their wives, there were also less explicit discussions that conveyed some jealousy for the mother-infant relationship, and a desire to have a similar bond with the infant. Expressions of rejection by the mother, or jealousy towards the infant were far less prominent than positive references to the co-parenting relationship.

Additional interview content: support. To gather information on use and views of support for fathers, the fathers were asked if they were involved in any father-specific outside supports (like groups, or classes) and what types of support they felt would be helpful for fathers. A single, consistent theme did not emerge out of these conversations. This is likely because in general, the fathers had little to offer in terms of what types of support they thought would be helpful for themselves or other fathers. However, a few offered the suggestion of support groups run by an experienced father, or a social group for new fathers. No father was currently involved in an organized support service geared for fathers, but several fathers mentioned supports they received pre-birth like a class or helpful book, and extended that to how it might be helpful for them currently:

I can't think of anything. The one thing that really did help me was the class that we took ahead of time. They were really hands-on, and they really encouraged fathers to come along, or just to come with. So maybe if the hospitals would offer more resources on, support group doesn't sound right, it kind of has weird connotations to it. But a group where men, just fathers, could go and talk about it or maybe even pair them up with a father who is just ahead of them, kind of like a mentor, I guess.

– Father 10

I mean, I read a book when my wife was pregnant about being a good dad, father-to-be type book. That, I think, was really helpful, but yeah, I mean, I think was a book the same author wrote – like how-to-be-a-dad type book, but I don't know. I haven't seen it. Yeah, books would be helpful. I don't know. I mean, I don't know. Hey, isn't that your topic? Aren't you supposed to write a book about this or something? – Father 6

Several fathers could not offer any suggestions, or offered them with apprehension that seemed to be more like a need to answer the question as opposed to actually believing what were saying:

But I don't know, like a daddy support group I guess. I guess that would be helpful. I don't know in what venue I would do that in, or if fathers would really go. – Father 2

It could be inferred from the lack of responses and suggestions to these questions that there actually is not a need for any additional supports for fathers. While it is possible that this sub-group of fathers did not feel the need for support outside of their wives, no father answered the question by indicating as such (i.e. “I don't they we need any support”).

CHAPTER V

DISCUSSION

This chapter opens with a summary of the findings for this study. The summary begins with a discussion on the findings related to infant crying. Following this, the summary is organized by each father well-being variable of interest as it relates to the research questions one and two. A summary of the findings related to coping and father experience of infant crying associated with research question three concludes the summary of findings. The summary is followed by a discussion of the study limitations and policy and practice implications related to the major findings of this study. The chapter ends with an overall conclusion.

Summary

Overall, the findings of this study support the growing recognition that fathers are affected by the behavior of their infants, are engaged and knowledgeable about their infants, and express a desire to be an important and prominent figure in their lives. This study also contributes to the findings emerging in the literature that fathers struggle with the demands of fatherhood, particularly early in infancy and when caring for an excessively crying infant, and that evolving societal expectations of fatherhood brings both gratification and anxiety as fathers strive to fulfill all the roles expected of them in the face of more slowly changing social norms. The findings of this study also provide evidence that infant crying is related to father well being, and has consequences for father

depression, stress and parenting self-efficacy. Regardless of how the crying was measured (amount or perception), fathers who reported higher amounts and frequency of crying, or found the crying to be problematic, were negatively impacted.

Of particular note, this study presents new data that suggests when fathers are asked to report on their infant's crying and fussing behavior, their results are similar to mothers, and that they are impacted in many of the same ways mothers are by the perception and amount of crying.

Crying: Perception vs. Amount

This study aimed to collect two dimensions of infant crying: an estimate of actual amount of crying, and father perception of the crying. Father reports of hours and minutes of crying are similar, on average, to mother-reported crying found in other studies (Hunziker & Barr, 1986; St. James-Roberts, 2007), suggesting that fathers can be independent reporters of their infant's crying in similar ways mothers have been in most crying research. Most research on infant crying has used mother-reported data as the only source of information, even in studies including father-related data. This absence of fathers as reporters of infant crying seems to suggest that fathers are not assumed to be capable of providing accurate data on their infant's behavior, which is not supported in this study.

As discussed in Chapter II, it is commonly stated that in the United States about 20% of infants have colic or cry excessively in the first several months of life, but these estimates vary considerably dependent on how the crying problem is determined. When

collected by amount of crying, between 9-12% are determined to have a crying problem, whereas 14-28% are reported by parent concern or complaint (Reijneveld, 2001).

In the current study, 20% of the infants met criteria for colic based on father response to Wessel's questions, and minutes of reported crying. The majority of infants meeting the colic criteria were under six months of age, which is also consistent with expectations. Thirty percent of fathers said they found their infant's crying and fussing to be a problem or upsetting. These findings represent slightly higher estimates than indicated in the literature (Reijneveld, 2001), but are close enough to suggest that, on average, fathers report on infant crying similarly to mothers. This is particularly notable given that no study using fathers as the only reporter of infant crying (either report of concern or amount of crying) to establish a baseline for problem versus non-problem crying could be identified.

There are, however, several studies that use father report of infant temperament, which gathers a measure of infant fussiness/difficulty (Atella et al., 2003). In general, these findings have suggested that fathers tend to rate their infant as more difficult than mothers. This might explain why in the current study, report of crying concern was slightly higher than the highest estimate of other studies. However, without the co-parent rating of the same measures, it is impossible to know if these infants were fussier than other community samples or if this was an effect of father-only reporting.

Analysis between colic criteria and report of crying concern revealed that over half of the infants of fathers who reported a crying concern did not meet colic criteria. These fathers found their infants crying to be a problem or upsetting, but the reported

amount of crying did not meet the ‘clinical’ standard of problematic or excessive crying that is most used in research and intervention studies as the standard for subject grouping (Reijneveld, 2001). This might suggest that in studies only asking for amount of crying there can be no assumption that the parent is actually finding the crying to be a problem, a construct which proved to be a strong predictor of father well-being in this study.

Depression

Paternal depression during infancy has received significant attention in the last five years (Paulson, 2010). This is due to the well-documented negative consequences of maternal depression on infant and parent-infant outcomes and the higher than expected rate of comorbidity between maternal and paternal depression, suggesting paternal depression has the potential to present significant risk.

With 16% of fathers in this study meeting the cut-off for depression on the EPDS, these results corroborate the findings of the growing body of literature suggesting fathers of infants from birth to 12 months experience higher rates of depression than the national average for men (4.3%) (Goodman, 2008; Matthey et al., 2001; Paulson, 2010). Additionally, the findings in this study related to depression and infant crying also mirror the results in several studies of mothers and infant crying (i.e., Maxted et al., 2001).

Fathers who met the cut-off for depression were more likely to have an infant who met colic criteria and were more likely to report crying as a problem. Similar to Maxted et al.’s (2001) study on maternal depression and colic, the current study also found that when fathers were depressed, had an infant that met criteria for colic *and* considered the crying to be a problem, all other aspects of father well-being were affected. These fathers

had the highest depression and stress scores and the lowest self-efficacy scores compared to other depressed fathers and non-depressed fathers with or without colic or reported crying concern, suggesting a possible cumulative effect of depression and crying on father well-being. Similarly, Maxted et al. (2001) found that mothers who were experiencing “high depressive” symptoms *and* reported “intense” cry related problems had more stress and lower parenting self-efficacy compared to other mothers reporting cry problems.

In analyses examining the effect of perception of crying and colic criteria separately while controlling for covariates, colic criteria was not a significant predictor of depression scores. On the contrary, perception of infant crying as a problem was identified as a significant predictor of father depression, even when controlling for known depression covariates.

These results suggest that father perception of infant crying as a problem had a greater impact on depression than the actual amount the infant cried. This finding supports the literature on parent perception of infant behavior as a powerful predictor for short-term parent well-being, and long term parent-child outcomes (Brown, Heine, & Jordan, 2009; Forsyth & Canney, 1991).

Parenting Self-Efficacy

The findings in this study support the research that infant behavior and characteristics can affect parent feelings of efficacy in their role as parents. Parenting self-efficacy was positively related to infant age and level of father involvement. Increase in parenting efficacy as infants age has been documented in several studies

(Gross, Conrad, Fogg, & Wothke, 1994; Meijer & van den Wittenboer, 2007), suggesting that parents generally tend to feel more efficacious as their infant ages in the first year of life as they are better able to understand their needs.

Fathers who reported more involvement in play and caretaking activities also reported higher feelings of parenting self-efficacy. However, parenting self-efficacy was not related to past experience with infants. This is surprising, given that self-efficacy theory suggests that attainment of performance is the strongest contributor of efficacy (Bandura, 1977), and has been found to be related to mothers' parenting efficacy (Leerkers & Burney, 2007). Other studies of parenting self-efficacy, however, have found that past experience with children was only predictive of pre-natal efficacy, not post-natal efficacy, suggesting that actual experience parenting their own infant made the past experience less relevant (Porter & Hsu, 2003), as was found in the current study.

Consistent with other studies, parenting stress and depression were negatively correlated with parenting self-efficacy, and fathers meeting depression criteria had lower self-efficacy scores than fathers not meeting criteria. Amount of crying in minutes was negatively related to parenting self-efficacy, suggesting that the more minutes of crying the father reported, the less efficacious he felt about his parenting skills. These results are consistent with self-efficacy theory in that if the infant's behavior makes the job of parenting more difficult, the parent will not feel as competent, thereby reducing the level of confidence in skills.

Additionally, fathers whose infants met colic criteria had lower parenting self-efficacy scores, as did fathers reporting problematic crying. However, when controlling

for depression and parenting stress, crying concern had a significant effect on self-efficacy, but colic criteria did not. Report of crying concern remained a significant predictor of parenting self-efficacy when controlling for identified covariates such as infant age and involvement, suggesting (as was seen for depression) that the perception of a crying problem was more predictive of parenting self-efficacy than the actual amount of infant crying (colic criteria).

Parenting Stress

The findings in this study confirm existing research that infant crying is associated with parenting stress. The relationship between stress and infant crying is perhaps the most consistent finding in infant crying research, for both mothers and fathers, and was the case in this study as well (Beebe et al., 1993; Deater-Deckard & Scarr, 1996; McKelvey et al., 2001). While it has been suggested that stress, to a certain degree, is a normal part of parenting, particularly when caring for an infant (Crnic & Greenberg, 1990), this study confirmed that parenting stress is significantly elevated for fathers reporting higher than normal amounts of crying and/or find the crying to be a problem.

Parenting stress was related to infant sex, with fathers of infant males reporting significantly higher levels of parenting stress compared to fathers of female infants. There appears to be no studies documenting a similar relationship between infant sex and parenting stress. On the contrary, several studies have reported positive relationships for same-gendered parenting dyads (specifically father-son) on other variables such as parenting competence, infant attachment, and relationship synchrony (Feldman, 2003;

Manlove & Vernon-Fegans; Schoppe-Sullivan, Diener, Mangelsdorf, Brown, McHale, et al., 2006). In the current study, there were 25 (13%) more male than female infants, yet there were no significant differences between the groups in colic criteria, or reported crying concern, which might have explained this relationship.

Parenting stress was also negatively related to father involvement in play and caretaking activities, suggesting that if fathers reported more involvement in these activities, they reported less parenting stress. These findings support other research documenting father's psychological well-being as an important determinant of father involvement (Belsky & Kelly, 1996). However, other studies also report depression as negatively related to father involvement, yet it was not related in this study. It is important to note that father involvement is a complex and dynamic dimension to capture, which needs a more sophisticated measure than a two-item scale (Lamb, 1987). Therefore, inferences about correlations to father involvement in this study should be made with caution.

Parenting stress was positively associated with amount of infant crying in minutes, suggesting that as fathers reported more minutes of crying, they also reported higher levels of stress. Fathers of infants that met colic criteria had higher levels of parenting stress, as did fathers who reported a crying concern. Parenting stress was related to parenting self-efficacy and depression, a finding that has been documented in several studies of parental well-being (i.e., McBride, 1998). Depressed fathers who had an infant that met colic criteria *and* reported problematic crying had the highest level of

parenting stress, with an average score that was well into the 99th percentile of parenting stress.

After controlling for the effects of parenting self-efficacy and depression on parenting stress, colic criteria and report of crying concern continued to have a significant effect on parenting stress. Additionally, colic criteria and report of problematic crying were both significant predictors of parenting stress, even after controlling for significant covariates. Parenting stress was the only father well-being that was predicted by and significantly affected by both perception of crying problem and colic criteria.

The PSI measures stress in relationship to the parenting role (excluding stresses associated with other life roles and events), with a particular focus on stress directly related to child behavior and the perception of the child in relationship to the parent's expectations. Thus, the fact that both amount of crying ("colic") and perception of a crying problem were significantly related and predictive of parenting stress in the current study makes theoretical sense. More clearly, the PSI explicitly examines parent reaction and perception of the child and behavior (i.e., "my child does rarely does things that make me feel good"), whereas depression and parenting self-efficacy could be considered residual effects of these perceptions, as opposed to a reaction to actual behavior. It seems that the crying itself is as distressing as the perception of the crying in the context of parenting stress.

The Influence of Co-Parenting Confidence

Co-parenting confidence was related to each father well-being and crying measure assessed in this study. While this variable was not intended to be a main focus of this

study, the consistent associations and predictive presence of this measure caused for greater emphasis and investigation. In general, the findings from this study associated to co-parenting confidence support findings related to father involvement and father behavior within the father involvement and maternal gatekeeping literature (Fagan & Barnett, 2003).

In this study, father involvement was a significant predictor of co-parenting confidence which supports McBride and Ran (1998) and Schoope-Sullivan et al.'s (2008) findings that mothers' confidence in fathers' parenting skills was directly related to the amount he was involved with his infant. From the gatekeeping perspective, this suggests that mothers dictate the level of involvement fathers have based on how confident they are in their skills. Based on these findings, and evidence from the literature, it is possible to speculate that the fathers reporting less co-parenting confidence (meaning they perceived that their co-parent did not have as much confidence in their parenting skills) were not as involved with their infants as a function of the co-parent, and not on their own volition. However, the directionality of this assumption cannot be confirmed based on the data available.

Fathers with infants meeting the colic criteria reported significantly less co-parenting confidence than fathers without a colicky infant. However, when controlling for covariates, colic criteria was not a significant predictor of co-parenting confidence. Fathers who reported a crying concern also reported significantly less co-parenting confidence than fathers who did not report a crying concern and was a significant predictor of co-parenting confidence when controlling for covariates.

It is important to note that co-parenting confidence is not a measure of marital satisfaction or gatekeeping. However, it is a dimension of both constructs, which have repeatedly been found to be predictive of overall father involvement and well-being (Allen & Hawkins, 1999; McBride, 1989). Thus, this study supports the findings that the co-parent relationship is an important predictor of many aspects of parenting, particularly for fathers. While it was outside the scope of this study's focus, the findings related to co-parenting confidence should be explored further, particularly in relationship to infant crying and father well-being.

Coping and Father Experience of Crying

Because of the evidence suggesting crying as a trigger to infant abuse, this study investigated father experience and coping with infant crying. When prompted to disclose what about their infant's crying was most bothersome, fathers most often cited feelings of helplessness or incompetence. However, fathers who reported a crying concern were twice as likely to describe the crying as bothersome because of a direct impact on their personal functioning than fathers who did not report a crying concern. Although it is difficult to make assumptions from a one-to-two sentence description, fathers who reported a crying concern were more diverse in their description of what exactly about the crying was bothersome. These fathers were also more likely to feel personally impacted by the crying than fathers who do not see their infants crying as a problem. It is possible that fathers caring for an infant who is more difficult to soothe and care for experiences more "personal inconveniences" (such as lack of sleep or irritation), as revealed in their responses to this question.

How fathers cope with crying was investigated through quantitative and qualitative inquiry. Although the quantitative results of the RWCC were not analyzed due to measurement error, coping with crying was explored using qualitative inquiry, which allowed for more exploratory and interpretive investigation into coping.

In general, the qualitative results in this study echo the findings of other qualitative studies exploring father experience of infant crying and the transition to fatherhood (Ellet et al., 2009; Wilke & Ames, 1986). Fathers discussed some early conflicts in understanding their role and feeling comfortable with their relationship to their infant. Fathers expressed some jealousy and sadness that they did not have the relationship (or 'bond') that their infant had with the mother, and reported feelings of being 'less important' in the family.

Similar themes exist in the transition to parenthood literature discussing the initial difficulty father's face in early infancy because of feeling excluded from the mother-infant dyad and a mismatch in expectations about how they thought they would be involved (Barclay & Lupton, 1999). However, as fathers in the current study indicated, these feelings were generally limited to the very early part of infancy, and seemed to dissipate over time. Similarly, other literature has suggested that fathers tend to become more involved and satisfied with their relationship as the infant ages and becomes more reactive and socially engaging (Volling & Belsky, 1991). Other research has reported that fathers endorse feelings of frustration because their relationship with their infant seemed slower to develop than with the mothers', and that they found their infants much

less social and more demanding than they had expected before birth, causing distress for the father (Alhlborg & Strandmark, 2001; Goodman, 2006).

Fathers also acknowledged shifting societal expectations of fathers, which presented both challenges and welcome changes in their role as a father to an infant. Fathers expressed a desire to be more involved with their infant than their own father, suggesting that their fathers were not ideal paternal role models (at least in the context of infancy). Similar qualitative research reported fathers acknowledged a lack of role models from which they could learn how to be a more active and involved father (Jordan, 1990). These findings were also echoed in Anderson's (1996) qualitative work where new fathers expressed a desire to be more emotionally involved than their own fathers.

Of particular interest to fathers experience of and coping with crying, fathers endorsed having experienced feelings of losing control while caring for their infant during an inconsolable crying episode. These descriptions revealed the internal struggle the fathers experienced in these moments, and also shed light on how they were able to cope with these feelings to avoid losing control. Little research has specifically focused on fathers' coping with crying, and no known research (outside of informal personal accounts, i.e., Apple, 2009) has documented fathers recounting specific instances of inconsolable crying related to coping. However, research on mothers indicates that they also endorse feelings of losing control and admit to having 'aggressive thoughts and fantasies' during an episode of inconsolable crying (Levitzky & Cooper, 2000).

As discussed in the qualitative findings of this document, when the fathers described these experiences, they reported similar circumstances of being left alone to care for the infant (although some of them reported their wife was in another part of the home or asleep). These descriptions were of interest because the fathers were not prompted to describe a time when they were alone. Upon reflection, the scenarios were consistent with other discussions of how often the mother was noted as the primary comfort to the crying infant, suggesting this circumstance could be particularly stressful for the father (when the mother was not around).

Perhaps most interesting is that these situations the fathers described have been reported as the most common scenario occurring in cases of infant abuse by male caregivers. As referenced earlier, reviews of SBS cases have indicated that the over 80% of the cases happened when fathers/male caregivers were at home and alone with the infant (Brewster et al., 1998; Nash, Morris & Goodman, 2008, 2008).

The fact that the fathers in this study were describing a set of circumstances that have been identified as risk inducing (infant crying, home alone, feelings of stress), provided a unique opportunity to understand how the fathers navigated the situation in detail. Few studies have asked fathers if they have ever been close to 'losing control' when caring for a crying infant and no known study has investigated descriptions of how fathers deal with the resulting circumstances when in such a situation. As detailed in the description of major interview themes, fathers described methods of cognitive reappraisal in order to cope with their feelings. Being able to reframe or re-assess the situation using

a logical (or reality inducing), cognitive process allowed the fathers to remain calm despite the physical and emotional consequences they were experiencing.

Cognitive reappraisal is discussed in the literature on coping as it relates to a person's ability to use positive reappraisals in a stressful situation (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). In this instance, the fathers described something that was not necessarily a positive reappraisal, but rather a reconceptualization of the reality of the situation from a primary and secondary perspective. More specifically, on a primary level, some fathers successfully reappraised the situation by reminding themselves that the moment would not last forever, or mentally reiterating his role as the parent and love for the infant in order to keep calm. On the secondary level, several fathers described a process of reminding themselves about the infant's level of cognitive abilities, or the purpose of infant crying. In recognizing that the infant's behavior was not intentional, he was able to decrease his own stress response.

These findings relate to Jarvis and Cresey's (1991) finding that mothers who used cognitive reappraisal had a significant reduction in stress, and this coping style also mediated the relationship between stress and attachment with their infant. Although this study was not specific to coping with crying, these findings might imply that the father's ability to reappraise the situation not only reduced the immediate stress, but might also contribute to their overall relationship with their infant.

While it is possible to learn a great deal from the insights and themes gathered from father descriptions of coping with crying, caution must be taken before generalizing these findings to fathers of infants who cry more than normal. The fathers in the

qualitative study were not actively caring for an infant considered ‘fussy’ or ‘colicky’. Therefore, although the descriptions of the experience and coping with the stress of inconsolable crying offer insight into the positive coping techniques of fathers under stress from infant crying, it is important to consider that the experience for fathers caring for an excessively crying/fussing infant may be significantly different.

More specifically, these fathers generally described at least one instance when they could remember the feeling of ‘losing control’. Yet we can assume that for fathers with a very difficult-to-soothe infant who cries more than normal, this set of circumstances as described by the fathers likely happens on a more frequent basis. This is not to imply that these results should not be transferred and considered as coping skills to be promoted in fathers caring for more difficult infants. Rather, it is simply important to recognize the potential increase in risk for fathers when caring for an excessively crying infant.

Concurrent with a substantial number of findings related to the co-parenting relationship (i.e., Fagan & Barnett, 2003), fathers in the qualitative portion of this study described their wives as their primary source of support related to coping with the stress of parenting an infant. This theme also supports the quantitative results of this study indicating the significant role father’s perception of co-parent confidence had on all aspects of his well-being. Thus, in a similar fashion, the co-parent was a consistent presence throughout the qualitative and quantitative portions of this study.

Although fathers endorsed receiving support from their wives, they had little to offer when prompted to suggest other forms of support or services fathers might benefit

from. The lack of responses, or conviction in response, to the question of support was somewhat surprising given the conversations immediately preceding this question (which neared the end of the interviews for the most part) included discussions related to stress and concerns related to parenting. However, given that very few supports geared towards father are available, it is possible that the fathers had little examples to even consider. While there has been an increase in father-focused programs to support new fathers, these are typically focused on 'at-risk' fathers and are available in limited locations (The United States Department of Health & Human Services, 2008).

The few suggestions the fathers offered included mentions of all-father groups, indicating they had a desire to interact with only fathers as opposed to mixed-gendered groups. Research on the needs and effectiveness of supports for fathers has reinforced the efficacy of using male-led, father only interventions and supports services for fathers (Friedewald, Fletcher, & Fairbairn, 2005).

Limitations

While this study was generally successful in regards to the goals and expectations outlined in the proposal, there remain several limitations that should be acknowledged.

Study Design

The method of investigation for this study was a mixed-method sequential explanatory design, wherein quantitative data is collected first, and then qualitative. The underlying rationale for this approach is that the quantitative data provide a general understanding of the research problem, and qualitative data and their analysis refine and explain those statistical results by exploring participants views in more depth (Creswell,

2003). However, an alternative approach was used in this study in order to accommodate the time sensitive nature of the early months of parenting an infant. While the justification for this alternative design made theoretical sense, the influx of participants in the early stages of the study was unexpected, and caused the interviews to be delayed.

More specifically, the quantitative data was not analyzed quickly enough to inform the qualitative design, per the sequential explanatory method. Therefore, a majority of possible interview participants were missed which resulted in a lower than expected qualitative sample. However, it was encouraging that the interview participants demographically represented a sample similar to the overall quantitative sample, suggesting greater possibilities for integration of data analysis across quantitative and qualitative.

The use of the Internet to collect research data has increased significantly, yet there still remain no clear ethical guidelines on how to maintain participant privacy, or strategies on how to ensure participant “trustworthiness” (Glense, 2006). While measures were in place to ensure that no duplicate questionnaires were submitted (through IP blocking), there was no way to verify the credibility of the participant. The blind and anonymous recruitment process inherent in online data collection increases the possibility of false participant entries. However, while of anonymity provided through online data collection does pose a possible limitation to this study; it was also most likely a benefit for this study, particularly for fathers who might otherwise be hesitant to share sensitive well-being information.

Sample

While the number of study participants exceeded initial expectations, there remain several limitations with regard to the sample composition. First, consistent with a great majority of social science research, the sample in this study was comprised of predominantly white, educated, married fathers with a higher than average family income. The number of non-white participants was too small to conduct appropriate statistical analyses, forcing the categories to be collapsed into two levels (minority, non-minority). While very little difference was detected between these groups on variables of interest, the unique characteristics of culturally diverse groups of fathers would certainly be more identifiable had the proper analysis been possible with a larger, more diverse group of fathers. Thus, a major limitation to this study is the difficulty in generalizing these findings to the entire population because of the demographic constraints of this sample.

It is possible that these demographic patterns were also a result of the data collection method. Specifically, because data was collected through the use of the internet, it is possible that what has been suggested as the ‘digital divide’ among less resourced groups of people (Dillman, 2000), resulted in sampling bias. Although this ‘divide’ has diminished significantly in the last ten years (Miniwatts Marketing Group, 2009), it is possible that the limited demographics present in this study are in part a result of the Internet being the main source of data collection.

Additionally, the qualitative sample in this study consisted of married, heterosexual men who were not currently caring for an infant they perceived as

excessively crying or fussing. While the goals of this study were not intended to focus on ‘non-traditional’ fathers, the focus was also not intended to be on ‘traditional’ fathers. The quantitative sample consisted of 13% unmarried fathers whose voice was not represented in the qualitative portion of this study. Based on the findings of several large, national studies of fathers, it is clear that non-biological and non-residential fathers represent a significant portion of fathers nationwide not represented in the current study (Vogel et al., 2003).

Although marital status was collected, sexual orientation was not queried on the demographic form. We can generally assume that fathers reporting “married” as their relationship status suggested they were predominately heterosexual. However, while it might be possible that a proportion of this study was comprised of fathers in homosexual relationships, without the explicit information, the findings of this study cannot be generalized to alternative family composition, such as homosexual fathers of infants, or single fathers. However, given the findings related to co-parenting confidence and maternal gatekeeping, investigating homosexual father well-being in the same context would be particularly interesting in the context of gender.

Given the limitations of this sample composition, it is also important to note that in larger studies of infant crying, problematic infant crying occurred in a consistent percentage of infants, with no relationship to demographic characteristics, suggesting an inherent ‘randomness’ to this problem. Therefore, while it is important to recognize the significant contribution cultural, racial, and family composition differences have on

parenting expectations and behavior, there remains some value in the acknowledgement that problematic crying occurs in spite of demographics.

Another possible limitation of this study is informant bias. All measures relied on father's perception, including infant crying and co-parenting confidence. The reports were based on self-report instruments, without parallel objective measurement. While this poses a possible limitation to the credibility and reliability of this research, it also adds a unique, father-only perspective that has rarely been captured in similar research. Ideally, the data collected in this study would also be gathered from the co-parent or mother of the infant in order to provide an additional perspective and allow for a richer analysis (especially given the research suggesting co-parenting mental health comorbidity and overall influence in fathering behavior). However, collecting data from both parents present significant challenges that call for additional resources that were not available in the context of this research.

Measurement

The main measurement limitation in this study was the Revised Ways of Coping Checklist. In an attempt to find a quantitative measure of coping, the RWCC was indicated as a promising resource based on other similar studies (Jarvis & Creasy, 1991; Levy-Shiff, 1999). However, the measure was not developed for use with parents of infants, and much of the wording was not relevant for this study population. Therefore, several of the items were removed, as well as entire sub-scales. The intention was to reduce the number of questions being asked of the participants, and make it a more relevant coping measure to fathers of infants. While precautions were taken to maintain

the psychometric properties of the measure, it is possible that these manipulations interfered with the ability to successfully measure coping.

Another significant measurement limitation is how perception of problematic crying was collected. Representing a major variable in this study, perception of problematic crying was collected in a single question with a yes/no response. Had this variable been collected in a series of questions that could be averaged to gain a measure of perception, this would have represented a stronger measurement. Although the other perception questions (i.e., help seeking, and past perception of problem) were significantly related to each other, they also represented dichotomous single-question variables and could not be averaged into one perception question.

Analysis

It is important to recognize that this study was correlational in nature, and therefore, causal pathways cannot be determined. This analysis was also confined to one time-point in data collection, and longitudinal data should be used in future investigations to better examine causal links between infant behavior and father well-being. For example, other studies of infant crying have looked at parental characteristics prenatally and again at different time-points during the first year after birth to explore associations to later infant crying and behavior (Reijneveld et al., 2002; Van den Berg et al., 2009). Although a longitudinal study was outside the scope and resources permitted by this study, multiple time-points of data collection would have offered an opportunity for a richer analysis and should be explored in future research.

Additionally, the analysis of qualitative interview data in this study was conducted without the full protection of recommended validity procedures. While reliability was achieved for the analysis of the electronic qualitative entries by inter-rater reliability with a graduate student research assistant, this was not possible with the qualitative interview data due to the resource and financial limitations associated with this study. Instead, a basic process of thematic code-assignment verification was performed with the graduate student to impose some objective measure of validity of the analysis. A more in-depth and complex process of analysis is certainly recommended for qualitative research, and presents a limitation to the creditability of these data. That said, it has been suggested the mixed-method research has some built-in reliability if quantitative and qualitative findings can be integrated (Johnson & Onwuegbuzie, 2004), as was done in the current study.

Implications

Because this study was exploratory in nature and limited in demographic representation, caution must be taken in generalizing the findings of these results to a broader population of fathers. Nonetheless, several of the preliminary findings of this study offer implications for future research as well as a series of practice and policy implications for fathers of infants.

The consistent findings related to father perception of crying as a problem and the significant relationships to father well-being have several implications. First, considering that the majority of research on infant crying uses the ‘amount’ method of collection, specifically adhering to Wessel’s criteria, the findings from this study suggest this

method is possibly an inadequate practice. Although it depends on the overall goal of the research, it seems that if problematic crying is collected by amount of reported crying, a significant subset of parents who perceive their infant's crying to be problematic will be missed. This is meaningful given that this study determined that fathers who found the crying to be problematic were at increased risk of negative functioning in all areas of well-being. At a minimum, these findings support the supposition that the two methods of collection are different constructs and they should be treated as such (St. James et al, 1995).

These findings on perception of crying also have practice implications for how professionals approach conversations with parents around their infants' crying. Particularly for health professionals, the practice is to gather information on the amount and duration of the cry when searching for a possible 'colic' diagnosis (Gatrad, 2004). While this detailed information is no doubt helpful in building a full understanding of the infant behavior, the parent should also be queried as to his or her perception of the crying to determine if the caregiver is finding the crying to be problematic. Similar implications for professionals working with parents of infants have emerged from other research on infant crying (Papousek & von Hofacker, 1995). However, the importance of also gathering a sense of father perception of the crying has not been incorporated into these recommendations.

Similarly, the reported prevalence of paternal depression in other research and in the current study, suggests that the emphasis on post partum depression screening for mothers should also apply to fathers. This study adds to already sufficient evidence that

fathers are at risk for depression during the post partum period, particularly if they are caring for an infant identified as having a crying problem (and/or their co-parent is also affected by depression). These findings serve as a policy implication for the inclusion of father-specific language in policy mandates and legislation that require providers to screen for and provide information about depression during the postpartum period.

Currently, the Illinois Perinatal Mental Health Disorders Prevention and Treatment Act (PA95-0469) requires licensed health care professionals providing care to postpartum woman to screen for depression, prior to discharge and in follow up postnatal care. The Act includes one mention of fathers when indicating hospitals should provide mothers with information on mental health disorders, "...and if possible and with permission to the fathers and families." More specific direction and focus on the importance of father mental health detection and prevention should be included.

The findings revealing father's experience and coping with crying suggest that fathers are willing to discuss their feelings of stress and frustration when confronted with an inconsolable infant. The candidness received from the fathers in this study suggests that future research efforts should not avoid asking explicit questions that might otherwise be considered 'taboo' or too sensitive in nature. It was from these conversations, that a process of coping with crying was revealed which offers an understanding into how positive coping skills might be supported and fostered in fathers of infants.

These findings related to fathers' coping with crying suggests implications for how professionals might work with fathers who have an excessively crying/fussing

infant. For example, when considering the process of cognitive reappraisal the fathers described when confronted with the stress of inconsolable crying, it is important to recognize that this process requires some basic knowledge of infant cognition. This was true particularly when using secondary level appraisals to interpret (or re-interpret) infant behaviors. Therefore, it seems important for fathers to have some basic knowledge of infant abilities, especially related to an infant's ability to be intentional in behavior (i.e. crying/fussing).

In fact, there is other research that supports these suggested implications for intervention and support programs with fathers. For example, several intervention studies have demonstrated that successful interventions for fathers included opportunities for the fathers to learn how to observe and interpret infant behaviors as well as multiple opportunities to interact with or observe his infant in a setting that provided feedback about the infants' behavior (Cullen et al., 2000; Pfannenstiel & Honig, 1995). Not only would this process allow for practice in interpreting infant behavior, but also the opportunity to build confidence in caregiving skills.

While these results have provided some implications for practice and suggestions on what competencies to emphasize when working with fathers, there is still much to be investigated with regard to coping. For example, the results of this study indicate there is a need for a quantitative measure of coping that specifically relates to infant crying. Although the failure of the RWCC as a quantitative measure of coping in this study was in part due to the manipulation of the original measure, it would not have been an appropriate measure of coping in this context without alterations. The information

gleaned from the qualitative portion of this study combined with what is already known about coping and stress could inform the development of a quantitative measure of coping with infant crying.

Additionally, future research should focus more deeply on the scenario described in the qualitative interviews. For example, videotaping fathers caring for an inconsolable infant might provide additional insight into the actions and coping strategies of fathers. Additionally, larger and more rigorous qualitative studies of fathers from different cultural and ethnic backgrounds might provide interesting results on the cultural impact on coping and views of infant crying. Given the findings related to co-parenting confidence, it would also be interesting to include the co-parents in the conversation on coping with crying. It might be particularly revealing to observe mothers and fathers' interactions with an inconsolable infant, paying close attention to the fathers' level of involvement and/or exclusion from the process as a function of the co-parent relationship.

It was clear from the findings of this research that father perception of co-parent confidence played a significant role in overall well-being and confidence in his own parenting skills. This suggests a benefit to including both parents in any sort of intervention or support for parents and infants, particularly if a crying problem is identified. Other research has confirmed that a focus on enhancing co-parent communication and interactions as well as encouraging social support, are elements of successful intervention work for improving family well-being and parent-infant interaction (Hadadian & Merbler, 1995; Meyers, 1993).

The findings of this study also suggest fathers could benefit from some general support around coping with parenting and stress. Although only a few fathers in the qualitative study mentioned this as a suggested need, it was through the context of their conversations on what they found stressful about parenting that indicated a possible benefit for additional support. Similar to the current study, a frequent finding among qualitative studies of fathers is that forging a new identity or sense of themselves is an important task that many fathers struggle with (Barclay & Lupton, 1999; Goodman, 2005; Jordan, 1990). However, there are few mechanisms to help support this process.

These findings suggest that fathers should be encouraged and perhaps given specific opportunities to be open and honest about their feelings of parenting, similar to how mothers are encouraged to seek support. It seems that while fathers use their co-parent as a source of support, they have less opportunity to engage in dialogue with other fathers, and therefore less likely to share their personal struggles. There is some research to support that given the opportunity, fathers utilize and ultimately benefit from the support of other fathers (Fletcher, Vimpani, Russell & Keatings, 2008).

For example, a study of an online support program for fathers proved to be helpful for fathers and revealed chat-room conversations consisting of emotional and forthcoming discussions about fatherhood. Similar to the current study, this study also revealed that a consistent discourse among the fathers was about how to be a “better father,” and how to balance their life in the face of undefined and evolving expectations of fatherhood (Fletcher & St. George, 2011). Additionally, it is likely that fathers caring for an excessively crying/fussing infant need, and could benefit a great deal from this

shared experienced with other fathers, particularly if they are not receiving support from their co-parent.

As noted in the previous section, the online method of data collection for the current study poses some limitations. However it is likely that this format also provided access to fathers otherwise not accessible. And, these fathers may have been more willing to share sensitive information about their well-being and views of their infant because of the anonymity of this process. Given the context of the research study described above and the findings from the current study, it is possible that an online support service for fathers who are finding their infants crying and fussing to be a problem would be an effective means of support.

Overall, this study suggests that fathers are negatively affected by their infants crying and fussing behavior. Thus, at a minimum, fathers should be considered and recognized as equally affected by the difficulties associated with caring for an excessively crying/fussing infant as mothers are. They should be included in the discussions about their infant's crying and fussing behavior, and actively involved in support or intervention services aimed at supporting families with infants. Providers should be equally mindful of father's well-being when a crying problem is detected or reported from caregivers.

Providers should be particularly attentive to fathers with no caregiving experience, little confidence in his own parenting skills, and signs that his co-parent is not confident in his skills or supportive of his role as a father. Providers should consider providing these fathers with opportunities to observe and interpret the behaviors of his

infant in a supportive environment, and offer positive feedback on his parenting skills. An open dialogue about coping with crying should be encouraged, in particular in instances when the father is alone with the infant.

Finally, future research should address the issue of direction of effect related to infant crying and father well-being. Longitudinal studies of parent characteristics related to infant crying have been able to address possible direction of effects by gathering pre and post natal measures of well-being and infant crying, and suggesting that pre-natal parent characteristics (such as depression and smoking) were related to post-natal infant behavior (Van den Berg et al., 2009; Reijneveld et al., 2002). However, these studies have not included father reports of crying data, suggesting the results do not accurately represent father experience, as implied by the current study results. A longitudinal study that measured father well-being before the birth of the infant, again at several time-points during the first year after birth, and also gathered father report of crying (amount and perception), would provide the opportunity to investigate the direction of effect between well-being and crying.

Conclusion

The results of this study confirmed that fathers are negatively impacted by caring for an excessively crying/fussy infant. However, there was a distinction between father perception of infant crying and the actual amount of crying reported. Father perception of infant crying as a problem was a consistently negative factor for each father well-being variable in this study, and to a greater degree than amount of crying reported. This finding supports St. James et al.'s (1995) argument that parent's perception of the

duration of crying and their judgment that the crying is a problem, are two separate variables, and perception of problematic crying is actually measuring parent *reaction* to the crying. As documented in this study, father reactions to (or perception of) infant crying were not necessarily proportional to the duration of the crying, suggesting that some fathers were affected by the crying and others were not. It has been suggested that reactions to infant crying are influenced by the parents' individual subjective characteristics, mental well-being, and social expectations and norms (Carey, 1984; St. James et al., 1995).

Therefore, when considered in this framework, one could conjecture that the directionality suggested in this study should be reversed. That is, instead of suggesting that fathers who find their infants crying to be a problem or have infants that cry more than normal are more likely to be depressed, have higher parenting stress, and lower parenting efficacy, it should be proposed that father well-being *is* the factor influencing the amount of crying and the perception of the crying. This issue of directionality and infant crying related to parenting well-being is a consistent debate in the infant crying literature. Although this study approached the problem from the direction of infant behavior as impacting the parent, the intention was not to assume that the reverse was not be plausible.

Thus, the overarching question driving this study was how infant crying and fussing impacts fathers. Of particular interest was the investigation of infant crying in relationship to father well-being, and fathers' coping with stress related to crying. The impetus for investigating these questions was the significant amount of research

documenting the deleterious impact excessive crying can have on mothers, combined with the evidence that infant crying is the number one trigger leading to an incidence of abuse, which is disproportionately represented by fathers and male caregivers (Holliday-Hanson, Barr, & Trent, 2001; Levitzky & Cooper, 2000). Additionally, existing speculations and questions about how and if father well-being is related to infant crying had not been thoroughly explored (Isser & Schwartz, 2006; Patrick, Garcia, & Griffin, 2010).

The major findings from this study contribute to an understanding of the relationship between fathers and infant crying, and perhaps offer insight into the identified risk of fathers caring for excessively crying/fussing infants. Specifically, this study directly and indirectly addressed many of the speculations on why fathers are at an increased risk for abuse. When considering the qualitative and quantitative results of this study, it can be hypothesized that fathers caring for excessively crying/fussing infants are at increased risk based on the following set of findings and resulting assumptions:

The majority of the fathers in this study had no experience caring for an infant before the birth of their first child. This is a consistent finding in fatherhood research, and has been suggested as one of the contributors to father's limited or unrealistic expectations of caring for infants. Additionally, crying was negatively associated to each father well-being variable, both in amount and perception of the crying. This means that fathers caring for an excessively crying/fussing infant may be more likely to feel less efficacious about their parenting skills, more depressed, and experience higher levels of parenting stress. And, because we know self-efficacy can be a mediating factor in how a

person reacts and manages stressful situations, and depression alters the ability to manage emotions and cognitive appraisals of situations, it is likely that fathers with low parenting self-efficacy and/or high levels of depression may experience more stress when confronted with an excessively crying/fussing infant.

This may be further exacerbated by the father's perception that his co-parent does not have confidence in his parenting skills. And because other research confirms that maternal confidence in father skills is directly related to the amount fathers are involved with their infants, it is also likely to assume that fathers who perceived less co-parenting confidence also had less overall involvement with their infants, and therefore less experience in dealing with an inconsolable infant, causing additional stress. In fact, this study also demonstrated that when prompted, fathers described stressful experiences caring for an inconsolable infant in scenarios when they were alone, feeling unconfident in their skills, and concerned about their co-parent's perception of their parenting skills.

Finally, this study supported the findings that while fathers may be conflicted about their role as a father given the changing societal expectations, they are, and desire to be more involved with their infants than their own fathers. However, as they become more involved, they also have limited male role models, and relatively no past experiences with infants to draw from.

These findings taken together, suggest that a father, when caring for an infant experienced as excessively crying/fussing, struggles with feelings of parenting self-efficacy and depression, and therefore experiences more stress in reaction to instances of infant crying. When left alone with an inconsolable infant he may not have extensive

experience caring for, he is unable to regulate feelings of stress. It is also likely that when fathers are repeatedly confronted with this situation, and unable to feel successful in calming the infant, he is most at risk of succumbing to abusive actions.

These generalizations based on the findings of this research have been offered as possible theories to explain why fathers may be at more risk to abuse their infant in the context of infant crying. However, it is important to note that there were no causal findings in this research, and the data presented here represent a descriptive exploration into the experiences of fathers and infant crying.

In conclusion, this study suggests that there is a relationship between infant crying and father well-being, that a fathers perception of the crying is perhaps most important to consider in the context of crying research, and that factors such as the co-parenting relationship contribute to both well-being and infant crying. This study offers a foundation from which future research can expand to further examine how fathers experience and cope with infant crying with the goal of understanding how to decrease the risk between fathers and excessively crying/fussing infants.

APPENDIX A
INCOMPLETE SUBMISSION ANALYSIS

Chi-square test of independence results for fathers with complete questionnaire submissions versus incomplete submission

	Complete (n=179)	Incomplete (n=24)	Φ
Father Age			
Under 35	126	6	
Over 36	52	7	.065
Minority Group			
Yes	135	9	
No	44	4	.416
Marital Status			
Married	153	10	
Un-Married	20	2	.430
First Time Father			
Yes	63	5	
No	114	8	.526
Infant Sex			
Female	75	9	
Male	102	4	.060
Family Income			
Less than \$50,000	41	2	
\$50,000 - \$100,000	49	2	.497
More than \$100,000	87	8	
Father Education			
Bachelors or Less	110	7	
Graduate Degree +	65	6	.357
Age of Infant			
< 1 month	13	2	
1 – 4 months	48	1	
4 – 6 months	34	3	.240
6 – 8 months	27	4	
8 – 10 months	24	0	
10 – 12 months	29	2	
Crying Concern			
Yes	53	5	
No	126	5	.156
Colic Criteria			
Yes	38	4	
No	141	20	.417
Depression Criteria			

Yes	29	1	.508
No	150	9	

**p<.001;p<.05

ANOVA results for submission completion and father well-being variable and infant crying

	EPDS	MSE	PSI/SF	Min of Crying
Submission				
Complete	5.76 (4.0)	32.79(4.4)	65.7 (20.8)	89.29
Incomplete	5.60 (3.5)	32.25 (2.6)	56.7 (20.6)	120.83
<i>F(df), p</i>	.015(1,187), .903	.058(1,180), .810	.752(1,178), .387	1.06(1,117), .305

p<.001;p<.05

APPENDIX B
FATHER STUDY WEBSITE



~Help us learn more about fathers and babies~

get started
now!!

To be a part of this study, all you have to do is answer a series of questions in an [online](#) or [paper questionnaire](#). All your answers will be anonymous and your information will never be offered to anyone. The questionnaire will take about 15-20 minutes.

Know another father who would be interested in being a part of this study?
Help us out and forward this site a friend!

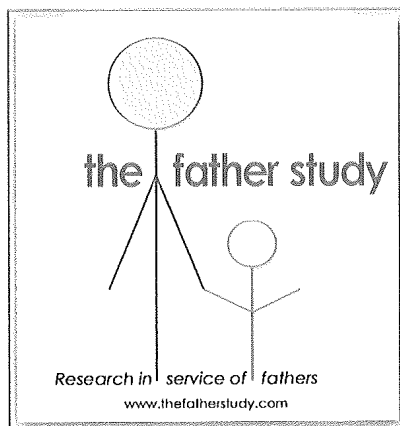
forward
to a
friend!

APPENDIX C
FLIER ADVERTISING SAMPLE

FATHERS!

Are you the father of a baby under one?

Participate in a 15-20 minute on-line questionnaire about your parenting experience and be entered into a drawing for a chance to win a \$100 Target gift card



We know so much about mothers, it's time to learn about fathers!

www.thefatherstudy.com

An academic study: Erikson Institute and Loyola University, Chicago

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

www.thefatherstudy.com

APPENDIX D
DEMOGRAPHIC QUESTIONNAIRE

father info



We are most interested in your answers to the questions you will find in the packet. Some of the questions about your baby's behavior may be difficult to answer, but please do not ask for help in filling out this question. There are no wrong answers!

What country do you live in: _____

What is your age:

- under 25
 25-35
 36-45
 46-55
 56 or above

Has your family ever received services from the Fussy Baby Network?

- Yes No Not sure

Marital Status

- Single
 Divorced
 Separated

What racial group would you describe yourself as?

- White, Non-Hispanic
 Black, Non-Hispanic
 Hispanic/Latino
 Asian/Pacific Islander

- Amer. Indian/Alaskan Native
- Multiracial/Ethnic
- Other: _____

What is your total annual family income?

- I receive public assistance
- Less than \$50,000
- \$50,000 - \$100,000
- More than \$100,000

What is your highest level of education?

- Grade school
- High School/GED
- Associates degree
- Bachelor degree
- Graduate degree
- Post graduate degree

you & your baby

**Select the category that reflects the current age of your baby**

- Less than 1 month
- 1 – 4 months
- 4 – 6 months
- 6 -8 months
- 8 – 10 months
- 10 – 12 months

Is this your first baby? Yes No

Is your baby a boy or a girl? Girl Boy

Do you live in the same house with this baby? Yes No

In a typical week, how often do you engage in the following activities with your baby? (mark one response per item)

	Not at all	Once or twice	3 to 6 times	Every day
a. Caretaking activities like changing, feeding or bathing my baby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Play activities like tickling, reading stories, signing or rough-housing with my baby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Before the birth of your first baby, did you have any experience caring for an infant birth to one year of age?

Yes No

If yes, how experienced would you say you were before the birth of your baby?

- Very Experienced: I had extensive experience caring for infants
- Somewhat Experienced: I had some experience caring for infants
- Not Very Experienced: I had very little experience caring for a baby before the birth of my own child

APPENDIX E

CO-PARENT AND INFANT INFORMATION

Co-parent's* info



*Note: we use the term “co-parent” to describe the other person caring for your baby. This may be the mother of the baby, or someone you consider a partner in parenting. Think of the person who you consider the other primary caregiver for your child when answering these questions.

1. What is your co-parent's highest level of education?

- Grade school
- High School/GED
- Associates degree
- Bachelor degree
- Graduate degree
- Post graduate degree

The questions listed below concern what happens between you and your co-parent, or the other adult most involved in the care of your child. While you may not find an answer which exactly describes what you think, please choose the answer that comes closest to what you think. Your first reaction should be your answer.

		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1	Before the birth of my baby, my co-parent expressed confidence in my ability to be a good parent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	My co-parent believes I am a good parent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	My co-parent makes my job of being a parent easier.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	My co-parent tells me I am a good parent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	My co-parent and I are a good parenting team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	My co-parent feels totally confident leaving our baby alone with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX F

COLIC QUESTIONS/CRYING PATTERNS QUESTIONNAIRE

your baby's crying



All babies fuss and cry sometimes. The aim of the questions below is to get some idea of what your baby's crying patterns are like.

To help answer these questions please consider these definitions:

Crying: The highest level of agitation that the baby exhibits, the baby gives you the impression of extreme distress.

Fussing: Agitated behavior that consists of considerable motor activity and little vocalization, any vocalization that does occur is less intense than crying

1 Are you finding your baby's crying or fussing to be a problem or upsetting?

Yes No

What about the crying or fussing is MOST upsetting?

2 Since the birth of your baby has there been a period of three weeks or more when you considered your baby very fussy, colicky or difficult to soothe?

Yes No

3 Since the birth of your baby has there been a period of three weeks or more when another caregiver considered your baby very fussy, colicky or difficult to soothe?

Yes No

- 4 **Have you approached your health care professional because of concerns about your baby's crying?**

Yes No

- 5 **On a typical day, how many hours does your baby cry or fuss?**
about this in terms of the past 24 hour day)

-

- 6 **How many days per week does your baby cry or fuss for more than 3 hours?** *(Think about this in terms of the past 7 days)*

- 7 **How many weeks has your baby spent more than three hours a day for three days a week fussing or crying?**

Now think specifically about the times during the day your baby spends crying and fussing each day on a typical week:

- 8 **On average, how much time throughout the day does your baby spend crying and fussing?** *If there is no "usual" pattern (like if crying has varied a lot from day to day), please fill in yesterday's crying times and check here:_____*

Morning (6am-noon): _____ hrs ___ mins
 Afternoon (noon-6pm): _____ hrs ___ mins
 Evening (6pm-midnight): _____ hrs ___ mins
 Night (midnight-6am): _____ hrs ___ mins

APPENDIX G

CHI-SQUARE RESULTS FOR CRYING PERCEPTION QUESTIONS

Help Seeking	Crying Concern		χ^2	Φ
	Yes	No		
Yes	44	26	54.09	.000
No	14	105		
Father Past Perception				
Yes	29	25	19.84	.000
No	27	104		
Others Past Perception				
Yes	24	21	16.04	.000
No	30	107		

p<.001, p<.05

Notes: Questions for each variable: **Crying Concern** = “Are you finding your baby’s crying or fussing to be a problem or upsetting?”, **Help Seeking** = “have you approached your healthcare provider with concerns about your infants crying?”, **Father Past Perception** = since the birth of your baby has there been a period of three weeks or more when you considered your baby very fussy, colicky or difficult to soothe?”, **Other Past Perception** = since the birth of your baby has there been a period of three weeks or more when another caregiver considered your baby very fussy, colicky or difficult to soothe?

APPENDIX H

EDINBURGH POSTNATAL DEPRESSION SCALE

how you're feeling



As you have recently had a baby, we would like to know how you are feeling. Please place a check mark next to the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

1. I have been able to laugh and see the funny side of things.

- As much as I always could
- Not quite so much
- Definitely not so much now
- Not at all

2. I have looked forward with enjoyment to things.

- As much as I ever did
- Rather less than I used to
- Definitely less than I used to
- Hardly at all

3. I have blamed myself unnecessarily when things went wrong

- Yes, most of the time
- Yes, some of the time
- Not very often
- No, never

4. I have been anxious or worried for no good reason.

- No, not at all
- Hardly ever
- Yes, sometimes

Yes, very often

5. I have felt scared or panicky for no very good reason.

Yes, quite a lot

Yes, sometimes

No, not much

No, not at all

6. Things have been getting on top of me.

Yes, most of the time I haven't been able to cope at all

Yes, sometimes I haven't been coping as well as usual

No, most of the time I have coped quite well

No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping.

Yes, most of the time

Yes, sometimes

No, not very often

No, not at all

8. I have felt sad or miserable.

Yes, most of the time

Yes, quite often

Not very often

No, not at all

9. I have been so unhappy that I have been crying.

Yes, most of the time

Yes, quite often

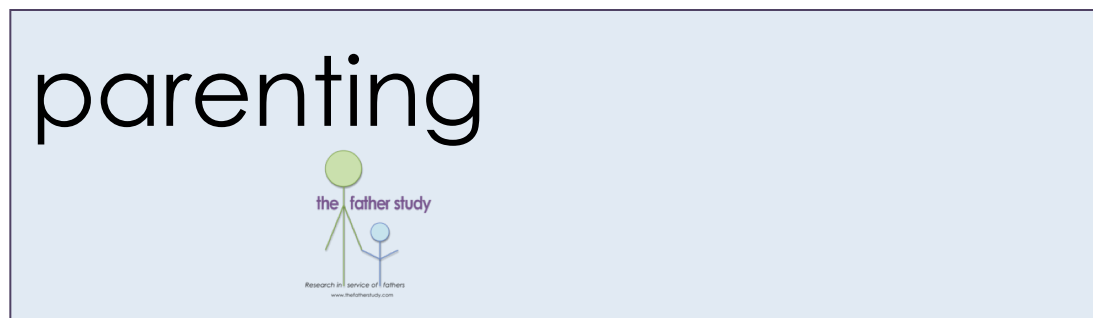
Not very often

No, not at all

10. The thought of harming myself has occurred to me.

- Yes, quite often
- Sometimes
- Hardly
- Never

APPENDIX I
MATERNAL EFFICACY QUESTIONNAIRE



We want to ask you some questions about yourself and your baby. We are trying to get a general idea of how you feel about the way you handle different situations with your baby. We all do better in some situations than in others. So we would like to have you think about some situations that all parents encounter. **Please check the response that best describes how you feel.**

		No t go od at all 1	Not good enou gh 2	Go ugh 3	Ve ry go od 4
1	When your baby is upset, fussy or crying, how good do you feel you are at soothing your baby?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	How good do you feel you are at understanding what your baby wants or needs; for example, when your baby needs to be changed or wants to be fed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	How good do you feel you are at feeding your baby?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	How good do you feel you are at getting your baby to pay attention to you; for example, getting your baby to smile or laugh with you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	How good do you feel you are at bathing your baby?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	How good do you feel you are at knowing what your baby will enjoy; for example, what toys and games your baby will like?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	How good do you feel you are at keeping your baby content when you need to do something else?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	How good do you feel you are at getting your baby to sleep?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	How good do you feel you are at getting your baby to smile or laugh at objects, animals, or other people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	In general, how good a father do you feel you are?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX J
REVISED WAYS OF COPING QUESTIONNAIRE

coping with crying



Below are a series of statements about how some people cope with stressful situations. We are interested in how fathers cope with infant crying and fussing. As you read the following statements, **think about a time you were frustrated by your baby's crying or fussing**. Rank these statements based on how you are most likely to react in this situation

	NOT USE 1	USE SOMEWHAT 2	USE E Q A BIT 3	USE A GREAT DEAL 4
1 Just concentrate on what I need to do next for my baby – the next step	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 I do something which I don't think will work, but at least I am doing something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Talk to someone to find out more about the situation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Hope a miracle will happen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Go on as if nothing has happened, ignore the baby.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Go along with fate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Look for the silver lining, so to speak; try to look on the bright side of things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Express anger towards my baby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 Accept sympathy and understanding from someone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 Try to forget the whole thing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 Get professional help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 12 | Change or grow as a person in a good way. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Make a plan of action and follow it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | Let my feelings out somehow. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | Keep thinking I will come out of the experience better than when I went in. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | Try to make myself feel better by eating, drinking, smoking, using drugs or medication, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | Discover something important about my baby | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | Avoid being around other people while the baby is crying | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 | Don't let it get to me; refuse to think too much about it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20 | I ask a relative or friend I respect for advice. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21 | Make light of the situation; refuse to get too serious about it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22 | Talk to someone about how I am feeling. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23 | Stand my ground and keep trying to soothe my baby | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24 | Take it out on other people | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 | Draw on my past experiences | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 | Refuse to believe that it is happening | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26 | Come up with a couple of different solutions to the problem. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27 | Accept it, since nothing can be done. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28 | Wish that I could change what is happening or how I feel. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29 | I change something that I am doing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30 | Have fantasies or wishes about how things might turn out | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

31 I pray



APPENDIX K
PARENTING STRESS INDEX

Parenting Stress



	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1 I often have the feeling that I cannot handle things very well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 I find myself giving up more of my life to meet my baby's needs that I ever expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 I feel trapped by my responsibilities as a parent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Since having this baby, I have been unable to do new and different things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Since having this baby, I feel that I am almost never able to do things that I like to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 I am unhappy with the last purchase of clothing I made for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 There are quite a few things that bother me about my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Having a baby has caused more problems than I expected in my relationship with my spouse (or co-parent).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 I feel alone and without friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | | | | |
|-----------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 10 | When I go to a party, I usually expect not to enjoy myself. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | I am not as interested in people as I used to be. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | I don't enjoy things as I used to. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | My baby rarely does things that make me feel good. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | Sometimes I feel my baby doesn't like me and doesn't want to be close to me. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | My baby smiles at me much less than I expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | When I do things for my baby, I get the feeling that my efforts are not appreciated very much. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | When playing, my baby doesn't often giggle or laugh. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | My baby doesn't seem to learn as quickly as most babies. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 | My baby doesn't seem to smile as much as most babies. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20 | My baby is not able to do as much as I expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21 | It takes a long time and it is very hard for my baby to get used to new things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22 | I feel that I am: | | | | | |
| | <input type="checkbox"/> Not very good at being a parent | | | | | |
| | <input type="checkbox"/> A person who has some trouble being a parent | | | | | |
| | <input type="checkbox"/> An average parent | | | | | |
| | <input type="checkbox"/> A better than average parent | | | | | |
| | <input type="checkbox"/> A very good parent | | | | | |
| | | Strongly
Agree | Agree | Not
sure | Disagree | Strongly
Disagree |
| 23 | I expected to have closer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

and warmer feelings for my baby than I do and this bothers me.

- | | | | | | | |
|-----------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 24 | Sometimes my baby does things that bother me just to be mean. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 | My baby seems to cry or fuss more often than most children. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26 | My baby generally wakes up in a bad mood. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27 | I feel that my baby is very moody and easily upset. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28 | My baby does a few things which bother me a great deal. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29 | My baby reacts very strongly when something happens that he/she doesn't like. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30 | My baby gets upset easily over that smallest thing. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31 | My baby's sleeping or eating schedule was much harder to establish than I expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32 | I have found that getting my baby to do something or stop doing something is | | | | | |
| | <input type="checkbox"/> Much harder than I expected | | | | | |
| | <input type="checkbox"/> Somewhat harder than I expected. | | | | | |
| | <input type="checkbox"/> About as hard as I expected. | | | | | |
| | <input type="checkbox"/> Somewhat easier than I expected. | | | | | |
| | <input type="checkbox"/> Much easier than expected. | | | | | |
| 33 | Think carefully and count the number of things which your baby does that bothers you. For example, fusses, refuses to eat, overactive, cries, won't sleep, whines, etc. (circle one) | 10+ | 8-9 | 6-7 | 4-5 | 1-3 |

- | | Strongly
Agree | Agree | Not
sure | Disagree | Strongly
Disagree |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 34 There are some things my baby does that really bother me a lot. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 35 My baby turned out to be more of a problem than I had expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 36 My baby makes more demands on me than most babies. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

APPENDIX L

PSI/SF SUB-SCALE CORRELATIONS TO STUDY VARIABLES

PSI/SF Subscale correlations to father well-being variables

	EPDS	MSE	PSI
PSI Total (PSI)	.604**	-.602**	-
PSI Dysfunctional Interaction (P-CDI)	.499**	-.602**	.864**
PSI Parental Distress (PD)	.597**	-.464**	.867**
PSI Difficult Child (DC)	.447**	-.525**	.870**

APPENDIX M
PARENTING EXPERIENCE INTERVIEW

Parent Experience Interview

Prelim questions:

- Do you live w/ the baby?
- Are you the primary caregiver?
- Age of baby?
- Who is the co-parent of this baby?

History

- We know that the 1st several months can often be the toughest time. Can you tell me a little about what that experience was like for you to care for your baby during the first three months?
- What would you say was the most difficult part?

Perception of crying: *we are particularly interested in learning about how fathers perceive and cope with crying. So I want to ask you some specific questions about crying, anything you want to elaborate on is fine.*

- Was your baby ever considered fussy?
- Did your baby cry more or less than you expected?
- When you think about times when your baby was crying a lot, how would you describe your feelings?
- After experiencing caring for a baby that is inconsolable, many parents have said to us that they understand how some parents lose control and hurt their babies. Have you ever felt like that?
- If yes, what was that like for you? Can you tell me about a particular instance. What did you do to calm yourself down?
- What do you do when your baby won't stop crying? Can you tell me about a specific incidence when your baby would not stop crying and what exactly you did?
- Do you think you are impacted by your babies crying and or behavior differently from your co-parent.

Coping

- When feel stressed out by crying or behavior, what do you do? How do you cope?...what would you say your reaction is to the stress?
- Any one coping technique (thing) in particular that you notice yourself doing now that you didn't do before having children? For example, are you drinking more, running

Stress

- What is the hardest or most stressful thing about caring for your baby?
- Is there anything particular to being a father that is stressful?

Support

- What has been your greatest source of support?
- What, if anything would you recommended as better ways to support fathers during the first year of their child's life?

Extra

- Any one thing you think researchers, clinicians, doctors, should know about fathers?
- Any advice you would give to a new father or a father with a very challenging baby?

ASK FOR ADDRESS

APPENDIX N
ELECTRONIC CONSENT FORM

Electronic Consent Form

Title of Research Study: The Father Study

Purpose: This study is being conducted by Leslie Katch, a doctoral student at Erikson Institute and Loyola University, Chicago. The purpose of this study is to collect information about the well-being of fathers of infants, their parenting behaviors, and coping techniques.

Procedures: To participate in the current study you must meet the following criteria (1) you must be 18 years of age or older (2) you have an infant under one year of age, (3) you consider yourself the father figure to this child, and (4) you reside in the same household as this infant at least three days a week.

Completion of questionnaires will take approximately 20-30 minutes to complete. The survey includes questions about your well-being, experience as a father and about your infant's crying and fussing. You will also be asked to provide some demographic information (e.g., age, marital status, number of children, education level) so that we can accurately describe the general traits of the fathers participating in this study. Before you begin the questionnaires you are asked to read this document in order to learn about the purpose of the study, confidentiality, and your voluntary participation. You will be asked to check the box accepting or declining participation. You are able to print a copy of this consent form for your records should you want to. If you choose to participate in this study and select the "I accept" button, you will be forwarded to the questionnaire.

At the end of these questionnaires you will be asked if you would like to participate in an interview portion of this study. If you select "yes", you will be asked to provide your email address or phone number to be contacted by the researcher.

Risks: There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life. However, if you feel uncomfortable with a question, you can skip to the next question or withdraw your participation altogether. Should you feel distressed by any of the questions, please call 1-888-431-2229 to talk with a mental health specialist.

Benefits: There are no direct benefits to your participating in this study. However your participation will be contributing to knowledge about the coping and well-being of fathers.

Confidentiality: your responses will be kept completely confidential. Your email address will be asked only for purposes of providing the gift certificate and phone number are collected on a completely voluntary basis for an optional follow-up phone interview. Your email address will kept in a separate data file from your responses to the

questionnaire. These emails and phone numbers will be stored in an electronic password protected document, and will be destroyed at study completion. Confidentiality will be maintained to the degree permitted by the technology used. Your participation in this online survey involves risks similar to a person's everyday use of the Internet. If you submit the survey and then choose to withdraw from the study, the researcher will not be able to extract anonymous data.

Voluntary: Your participation is voluntary and you are free to withdraw from this study at any time. If you do not want to continue, simply close this webpage. If you do not click on the "submit" button at the end of the survey, your answers and participation will not be recorded. You also may choose to skip any questions that you do not wish to answer.

Compensation: Upon completion of the questionnaires you will have the option to enter a drawing for \$100 gift certificate to Target. You can use this certificate online or a Target store of your choice. Entry into the drawing is completely voluntary and requires you submit your email address to be notified if you have won. You are not asked for other identifying information (e.g., name, address, etc.) as a part of your participation. Your choice to participate in the additional interview portion of this research will not impact your ability to enter the drawing. The lottery drawing will be completed after 90 participants have submitted questionnaires, or by January 1st, 2011.

Additionally, you can elect to receive a summary of the findings from this study.

Contacts and Questions: If you have questions about this research study, please feel free to contact Leslie Katch, at (773) 359-3235 or email thefatherstudy@gmail.com. You may also contact Ms. Katch's advisor by email at jkorfmacher@erikson.edu or call him at (312) 893-7133.

If you have questions about your rights as a research participant, you may contact Loyola University Chicago's Office of Research Services at (773) 508-2689.

Consent to Participate: By beginning the survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

APPENDIX O
PHONE INTERVIEW CONSENT FORM

Phone Interview Consent

Consent to Participate (Interviews) – *to be read over the phone*

Title of Research Study: The Father Study

Purpose: This study is being conducted by Leslie Katch, a doctoral student at Erikson Institute and Loyola University, Chicago. The purpose of this study is to collect information about the well-being of fathers of infants, their parenting behaviors, and coping techniques.

Procedure: Completion of the interview will take approximately 20-30 minutes. You will be asked questions about your experience as a father and about your infant's crying and fussing. This interview will be recorded using an electronic recording system. The information recorded will be transcribed by Leslie Katch. No identifying information will be associated with the transcription or electronic recording.

At the conclusion of this interview you will be asked if you would like to receive the additional compensation of a \$10 gift card to Target for your participation. If you choose to receive this gift card, you will be asked to provide either an email address or mailing address. This information will be kept separate from interview data to protect confidentiality

Risks: There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life. However, if you feel uncomfortable with a question, you can decline to answer, or withdraw your participation altogether.

Benefits: There are no direct benefits to your participating in this study. However your participation will be contributing to knowledge about the coping and well-being of fathers.

Confidentiality: Your responses will be kept completely confidential. Your email or mailing address will be asked only for purposes of providing the gift certificate. Your address will be kept in a separate data file from your responses to the interview to protect confidentiality, will be stored in an electronic password protected document, and will be destroyed at study completion.

Voluntary: Your participation is voluntary and you are free to withdraw from this study at any time. You also may choose to decline to answer any questions. If you choose to withdraw from this study after interview data has been transcribed, the researcher will be unable to retrieve anonymous data.

Compensation: Upon completion of the interview you will have the option to receive a \$10 gift certificate to Target. You can use this certificate online or a Target store of your choice. Acceptance is completely voluntary and requires you submit your email address or mailing address to receive the certificate. You will receive the gift certificate within fourteen day of the interview.

Contact and Questions: If you have questions about this research study, please feel free to contact Leslie Katch, at (773) 359-3235 or email thefatherstudy@gmail.com. You may also contact Ms. Katch's advisor by email and jkorfmacher@erikson.edu or call him at (312) 893-7133.

If you have questions about your rights as a research participant, you may contact Loyola University Chicago's Office of Research Services at (773) 508-2689.

Consent to Participate: By beginning this interview you have acknowledged that you have heard this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

APPENDIX P

INTER-CORRELATIONS: INDEPENDENT VARIABLES

Inter-correlations: Independent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Father Age	-													
2. Education	.183*	-												
3. Marital Status	-.025	-.331**	-											
4. Race	.031	-.194**	.330**	-										
5. Family Income	.031	.387**	-.468**	-.302**	-									
6. Infant Age	.171*	-.089	.147*	.176*	-.135	-								
7. Infant Sex	.065	-.031	.033	-.019	-.017	-.100	-							
8. Play Involve	-.018	.136	-.316**	-.255**	.177**	-.046	.023	-						
9. Care Involve	.017	.192**	-.157*	-.240**	.229**	-.131	.048	.525*	-					
10. Past Exp	.009	-.007	.142	.231**	-.075	.048	.068	-.177	-.102	-				
11. 1 st Time Father	-.114	-.023	-.011	-.122	.004	-.036	.109	-.026	.095	-.005	-			
12. Colic	.055	-.201	.097	.102	-.103	-.060	.029	-.098	-.020	.050	-.062	.-		
13. Amount Cry	.003	-.094	.001	.044	-.027	-.262**	.045	-.094	-.034	-.011	.029	.723**	-	
14. Cry Concern	.035	-.082	-.032	-.098	-.004	-.058	.110	-.071	-.129	.015	.083	.417**	.407**	-

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

APPENDIX Q
DEPRESSION CRITERIA ASSOCIATIONS

Depression Criteria Associations		Meeting Criteria for Depression		
		Yes (n=30)	No (n=158)	<i>p</i>
Father Age				
Under 35		22 (73.3%)	109 (69.0%)	.635
Over 35		8 (26.7%)	49 (31.0%)	
Minority Group				
Yes		8 (26.7%)	38 (23.9%)	.746
No		22 (73.3%)	121 (76.1%)	
Marital Status				
Married		22 (78.6%)	139 (90.3%)	.075
Un-Married		6 (21.4%)	15 (9.7%)	
First Time Father				
Yes		18 (60.0%)	102 (65.0%)	.603
No		12 (40.0%)	55 (35.0%)	
Infant Sex				
Female		11 (36.7%)	70 (44.6%)	.423
Male		19 (63.3%)	87 (55.4%)	
Family Income				
Less than \$50,000		10 (33.3%)	32 (20.5%)	.200
\$50,000 - \$100,000		5 (16.7%)	49 (28.8%)	
More than \$100,000		15 (50.0%)	79 (50.6%)	
Father Education				
Associates or less		13 (8.3%)	38 (24.5%)	.053
Bachelors		9 (30.0%)	55 (35.5%)	
Graduate or more		8 (26.7%)	62 (40.0%)	
Age of Infant				
< 1 month		1 (3.3%)	13 (8.4%)	.337
1 – 4 months		9 (30.0%)	40 (25.8%)	
4 – 6 months		7 (23.3%)	30 (19.4%)	
6 – 8 months		3 (10.0%)	28 (18.1%)	
8 – 10 months		2 (6.7%)	22 (14.2%)	
10 – 12 months		8 (26.7%)	22 (14.2%)	
Care Involvement Per Week				
Not at all		1 (3.3%)	2 (1.3%)	.298
Once or twice		3 (10.0%)	5 (3.2%)	
3 – 6 times		5 (16.7%)	27 (17.1%)	
Every day		21 (70%)	124 (78.5%)	
Play involvement per week				

Not at all	0	1 (.6%)	
Once or twice	2 (6.7%)	5 (3.2%)	
3 – 6 times	7 (23.3%)	20 (12.7%)	.309
Every day	21 (70.0%)	132 (83.5%)	
Past Experience			
Yes	8 (26.7%)	38 (23.9%)	
No	22 (73.3%)	121 (76.1%)	.746

p<.001;p<.05

REFERENCES

- Abidin, P. (1986). *Parenting Stress Index*. Charlottesville, VA: Pediatric Psychological Press.
- Abidin, R., & Brunner, J. (1995). Development of a parenting alliance inventory. *Journal of Clinical Child & Adolescent Psychology, 24*, 31.
- Ahlborg, T., & Strandmark, M. (2001). The baby was the focus of attention – first time parents' experiences of their intimate relationship. *Scandinavian Journal of Caring Sciences, 15*, 318-325.
- Alexander, R., Crabbe, L., Sato, Y., & Bennet, T. (1990). Serial abuse in children who were shaken. *American Journal of Disabled Children, 144*, 58-60.
- Allen, S., & Hawkins, A. (1999). Maternal gatekeeping: Mothers' beliefs and behaviors that inhibit greater father involvement in family work. *Journal of Marriage and the Family, 61*, 199-212.
- American Academy of Pediatrics, Committee on Child Abuse and Neglect, (2009). Abusive head trauma in infants and children: policy statement. *Pediatrics, 123*(5), 1409-1411. Retrieved June 12, 2009 at:
<http://aappolicy.aappublications.org/cgi/content/full/pediatrics;123/5/1409>.
- American Academy of Pediatrics. (2001). Shaken baby syndrome: Rotational cranial injuries - technical report. *Pediatrics, 108*(1), 206-210.
- Atella, L., DiPietro, J., Smith, B., & St James-Roberts, I. (2003). More than meets the eye: Parental and infant contributors to maternal and paternal reports of early infant difficultness. *Parenting: Science and Practice, 3*(4), 265-284.
- Apple, S. (2009). *American Parent: My strange and surprising adventures in modern babyland*. New York: Ballantine Books.
- Areias, M., Kumar, R., Barros, H., & Figueiredo, E. (1996). Correlates of postnatal depression in mothers and fathers. *The British Journal of Psychiatry, 169*(1), 36-41.
- Belsky, J., & Kelly, J. (1994). *The transition to parenthood*. New York: Delacorte Press.

- Baker, M., & Jurie, C. (2008). *Partners in care: Supporting fussy babies in child care*. Chicago, IL: Fussy Baby Network, Erikson Institute.
- Ballard, C., Davis, P., Cullen, P., Mohan, R., & Dean, C. (1994). Prevalence of psychiatric morbidity in mothers and fathers. *British Journal of Psychiatry*, *164*, 782-788.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, *84*, 191-215.
- Barclay, J., & Lupton, D. (1999). The experiences of new fatherhood: a socio-cultural analysis. *Journal of Advanced Nursing*, *29*, 1013-1020.
- Barr, R. (2006). Crying behavior and its importance for psychosocial development in children. In R. Tremblay, R. Barr, & R. Peters (Eds.). *Encyclopedia on Early Childhood Development* (online). Montreal, Quebec: Centre of Excellence for Early Childhood Development; 1-8. Available at: <http://www.child-encyclopedia.com> (accessed May 20, 2009).
- Barr, R. (1990). The normal crying curve: what do we really know? *Developmental Medicine and Child Neurology*, *32*, 356-362.
- Barr, R., McMullan, S., Speiss, H., Leduc, D., Yaremko, J., Barfield, R., Francoeur, T., & Hunziker, U. (1991). Carrying as colic "therapy:" a randomized controlled trial. *Pediatrics*, *87*(5), 623-630.
- Barr, R., Konner, M., Bakeman, R., & Adamson, L. (1991). Crying in Ikung san infants: A test of the cultural specificity hypothesis. *Developmental Medicine and Child Neurology*, *33*(7), 601-610.
- Barr, R., Young, S., Wright, J., Gravel, R., & Alkawaf, R. (1999). Differential calming responses to sucrose taste in crying infants with and without colic. *Pediatrics*, *103*(5), Pt 1, 1024-1025.
- Barr, R., St. James-Roberts, I., & Keefe, M. (Eds.) (2001). *New evidence on unexplained early infant crying: Its origins, nature and management*. Skillman, NJ: Johnson and Johnson Pediatric Institute.
- Barr, R. (1998). Crying in the first year of life: good news in the midst of distress, *Child: Care Health and Development*, *24*(5), 425-439.
- Barr, R., Trent, R., & Cross, J. (2006). Age-related incidence curve of hospitalized shaken baby syndrome cases: Convergent evidence for crying as a trigger to shaking. *Child Abuse & Neglect*, *30*(1), 7-16.

- Barr, R., Rotman, A., Yaremko, J., Leduc, D., & Francoeur, T. (1992). The crying of infants with colic: A controlled empirical description. *Pediatrics*, *90*, 14-21.
- Bartlett, E. (2004). The effects of fatherhood on the health of men: a review of the literature. *Journal of Men's Health and Gender*, *1*(2-3), 159-169.
- Bates, J., Bennett, F., & Lounsbury, M. (1979). Measurement of infant difficultness. *Child Development*, *50*, 794-803.
- Bayat, M., Hendrick, A., Kolmodin, K., Melendez, L., Perry, A., & Wilhelm, M. (2003). Surviving baby boot camp: Stories from parents of fussy babies. Unpublished paper.
- Bebe, S., Casey, R., & Pinto-Martin, J. (1993). Association of reported crying and maternal parenting stress. *Clinical Pediatrics*, *32*, 15-19.
- Beck, A., Steer, R., & Brown, G. (1996). *Manual for Beck Depression Inventory-II*, San Antonio, TX: Psychological Corporation.
- Beck, C.T. (1999). Maternal depression and child behavior problems: A meta-analysis. *Journal of Advanced Nursing*, *29*, 623-629.
- Bell, L., Goulet, C., Paul, D., Boisclair, A., & Tronick, E. (2007). Mothers' and fathers' views of the interdependence of their relationships with their infant: A systems perspective on early family relationships. *Journal of Family Nursing*, *13*(2), 179-200.
- Burkhardt, T. (Erikson Institute Research Coordinator) in discussion with author, March 22, 2010.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101.
- Brazelton, T.B. (1962). Crying in infancy. *Pediatrics*, *29*, 579-588.
- Brewster, A., Nelson, J., Hymel, K., Colby, D., Lucas, D., McCanne, T., & Milner, J. (1998). Victim, perpetrator, family, and incident characteristics of 32 infant maltreatment deaths in the United States Air Force. *Child Abuse and Neglect*, *22*(2), 91-101.
- Brunelli, S.A., Wasserman, G.A., Rauh, V.A., Alvarado, L.E., & Caraballo, L.R. (1995). Mothers' report of paternal support: Associations with maternal child-rearing attitudes. *Merrill-Palmer Quarterly*, *41*(2), 152-171.

- Broger, B. & Zeni, M. (2010). Fathers' coping mechanisms related to parenting a chronically ill child: Implications for advanced practice nurses. *Journal of Pediatric Health Care*. In press.
- Brown, M., Heine, R., & Jordan, B. (2009). Health and well-being in school-age children following persistent crying in infancy. *Journal of Pediatrics and Child Health*, 45, 254-262.
- Bronte-Tinkew, J., Carrano, B., Allen, T., Bowie, L., Mbawa, K., & Matthews, G. (2007). Elements of promising practice for fatherhood programs: Evidenced-based research findings on programs for fathers. *National Responsible Fatherhood Clearinghouse*. Available at www.fatherhood.gov
- Brouwers, E., van Baar, A.L., Pop, V. (2001). Does the Edinburgh postnatal depression scale measure anxiety? *Journal of Psychosomatic Research*, 51, 659-663
- Bosnjak, M., & Tuten, T.L. (2003). Prepaid and promised incentives in Web surveys: An experiment. *Social Science Computer Review*, 21, 208-17.
- Boyce, P., Stubbs, J., & Todd, A. (1993). Edinburgh postnatal depression scale: Validation for an Australian sample. *Australian NZJ Psychiatry*, 27, 472-476.
- Boyd, R.C., Le, H.N., & Somberg, R. (2005). Review of screening instruments for postpartum depression. *Archives of Women's Mental Health*, 8, 141-153.
- Bowerman, B., & O'Connell, R. (1990). *Linear statistical models: An applied approach* (2nd ed.). Boston, MA: PWS-Kent Publishing Company.
- Cabrera, N., Tamis-LeMonda, C., Bradley, R., Hofferth, S., & Lamb, M. (2000). Fatherhood in the twenty-first century. *Child Development*, 71(1), 127-136
- Caffey, J. (1972). On the theory and practice of shaking infants. *American Journal of Diseases of Children*, 124, 161-169.
- Canivet, C., Jakobsson, I., & Hagander, B. (2000). Infantile colic. Follow-up at four years of age: Still more "emotional". *Acta Paediatrica*, 89, 13-17.
- Carey, W.B. (1984). 'Colic'—primary excessive crying as an infant–environment interaction. *Pediatrics of North America*, 31, 993-1005.
- Carr, E.C., & Worth, A. (2001). The use of the telephone interview for research. *Journal for Research in Nursing*, 6, 511-524.

- Church, A. (1993). Estimating the effect of incentives on mail survey response rates: A meta-analysis. *Public Opinion Quarterly*, 57, 62-79.
- Clifford, T. J., Campbell, M. K., Speechley, K. N., & Gorodzinsky, F. (2002). Sequelae of infant colic: Evidence of transient infant distress and absence of effects on maternal mental health. *Archives of Pediatrics and Adolescent Medicine*, 156, 1183-1188.
- Clinton, J. (1987). Physical and emotional responses of expectant fathers throughout pregnancy and the early postpartum period. *International Journal of Nursing Studies*, 24(1), 59-68.
- Coltrane, S., & Allan, K. (1994). "New" fathers and old stereotypes: Representations of masculinity in 1980's television advertising. *Masculinities*, 2, 43-66.
- Condon, J., Boyce, P., & Corkindale, C. (2004). The first-time fathers study: A prospective study of the mental health and wellbeing of men during the transition to parenthood. *Australian and new Zealand Journal of Psychiatry*, 38(1/2), 56-64.
- Cowan, C.P., & Cowan, P.A. (2000). *When partners become parents: The big life change for couples*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Costigan, C., & Cox, M. (2001). Fathers' participation in family research: Is there a self-selection bias? *Journal of Family Psychology*, 15(4), 706-720.
- Cox, M., Owen, M., Lewis, J., & Henderson, U. (1989). Marriage adult adjustment and early parenting. *Child Development*, 60, 1015-1024.
- Cox, J. (2005). Postnatal depression in fathers. *Lancet*, 366, 982.
- Cox, J.L., Holden, J.M., & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 150, 782-786.
- Cullen, F., Field, T., Escalona, A., & Hartshorn, K. (2000). Father-infant interactions are enhanced by massage therapy. *Early Child Development and Care*, 164, 41-47.
- Cuisinier, M., Janssen, H., Graauw, K., & Hoogduin, K. (1998). Predictors of maternal reactions to excessive crying of newborns. Findings from a prospective study in a naturalistic situation. *Early Development and Parenting*, 7, 41-49.

- Cutrona, C., & Troutman, B. (1986). Social support, infant temperament, and parenting self-efficacy: A mediational model of postpartum depression. *Child Development*, 57, 1507-1518.
- Curro, V., DeRosa, E., Maulucci, S., Maulucci, M. et al. (2009). The use of the Edinburgh postnatal depression scale to identify postnatal depression symptoms at well child visit. *Italian Journal of Pediatrics*, 35(32), 1-9.
- Creswell, J.W. (2003). *Research design: Qualitative, quantitative, and mixed approaches*. Thousand Oaks, CA: Sage
- Crockenberg, S., & Leerkes, E. (2003). Infant negative emotionality, caregiving, and family relationships. In A.C. Crouter, & A. Booth (Eds.), *Children's influence on family dynamics: The neglected side of family relationships* (pp. 57-77). Mahwah NJ: Lawrence Erlbaum Associates.
- Crouter, A., & Booth, A. (2003). Children's influence on *family dynamics: The neglected side of family relationships*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Day, R., & Lamb, M. (Eds.) (2004). *Conceptualizing and measuring father involvement*. Mahwah, NJ: Lawrence Erlbaum Publishers.
- Daly, K. (1993). Reshaping fatherhood: Finding the models. *Journal of Family Issues*, 14, 510-530.
- Deater-Deckard, K., & Scar, S. (1996). Parenting stress and dual-earner mothers and fathers: are there gender differences? *Journal of Family Psychology*, 10(1), 45-59.
- Deave, T., & Johnson, D. (2008). The transition to parenthood: What does it mean for fathers? *Journal of Advanced Nursing*, 63(6), 626-633.
- Desantis, A., Coster, W., Bigsby, R., & Lester, B. (2004). Colic and fussing in infancy, and sensory processing at 3 to 8 years of age. *Infant Mental Health Journal*, 25(6), 522-539.
- DeGangi, G., Dipietro, J.A., Greenspan, S.I., & Porges, S.W. (1991). Psychophysiological characteristics of the regulatory disordered infant. *Infant Behavior and Development*, 14, 37-50.
- Dillman, D. (2000). *Mail and internet surveys: The tailored design method* (2nd Ed.). New York: John Wiley & Sons, Inc.
- Edhborg, M., Seimyr, L., Lundh, W., & Widstrom, A. (2000). Fussy child-difficult parenthood? Comparisons between families with a 'depressed' mothers and non-

- depressed mother 2 months postpartum. *Journal of Reproductive and Infant Psychology*, 18(3), 225-238.
- Edhborg, M., Lundh, W., Seimyr, L., & Widstrom, A. (2003). The parent-child relationship in the context of maternal depressive mood. *Archives of Women's Mental Health*, 6, 211-216.
- Edwards, P., Roberts, I., Clarke, M., DiGuseppi, C., Pratap, S., Wentz, R., & Kwan, I. (2002). Increasing response rates to postal questionnaires: Systematic review. *British Medical Journal*, 324, 1183.
- Ellett, M., Schuff, E., & Davis, J. (2005). Parental perceptions of the lasting effects of infant colic. *The American Journal of Maternal/Child Nursing*, 30(2), 127-132.
- Ellet, M., Appleton, M., & Sloan, R. (2009). Out of the abyss of colic: A view through the fathers' eyes. *Maternal and Child Nursing*, 43(3), 164-171.
- Ember, C. (1973). Feminine task assignment and the social behavior of boys. *Ethos*, 1, 424-439.
- Estep, D., & Kulczycki, A. (2000). Treatment of infant colic with amino acid-based infant formula; a preliminary study. *Acta Paediatrica*, 89, 22-27.
- Fagan, J., & Barnett, M. (2003). The relationship between maternal gatekeeping, paternal competence, mothers' attitudes about the father role, and father involvement. *Journal of Family Issues*, 24, 1020-1043.
- Feldman R. (2003). Infant–mother and infant–father synchrony: The coregulation of positive arousal. *Infant Mental Health Journal*, 24, 1-23.
- Feldman, R. (2000). Parents' convergence on sharing and marital satisfaction, father involvement and parent-child relationship at the transition to parenthood. *Infant Mental Health Journal*, 21, 176-191.
- Field, T. (1998). Maternal depression effects on infants and early interventions. *Preventive Medicine*, 27(2), 200-203.
- Field, T. (1995). Infants of depressed mothers. *Infant Behavior and Development*, 18, 1-13.
- Field, T., Diego, M., Hernandez-Reif, M., Figueirido, B., Deeds, O., Contogeorgos, J., et al. (2006). Prenatal paternal depression. *Infant Behavior and Development*, 29, 579-583.

- Fivaz-Depeursinge, E. (2003). Coparental alliance and infant affective development in the primary triangle. *Family Therapy, 24*, 267-273.
- Fletcher, R., & St. George, J. (2011). Heading into fatherhood nervously: Support for fathering from online dads. *Qualitative Health Research, 21*(8), 1101-1114.
- Folkman, S., & Lazarus, R. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48*, 150-170.
- Folkman, S., & Moskowitz, J. (2004). Coping: The pitfalls and promise. *Annual Review of Psychology, 55*, 745-774.
- Forsyth, B., & Canney, P. (1991). Perceptions of vulnerability 3 1/2 years after problems of feeding and crying behavior in early infancy. *Pediatrics, 88*, 757-763.
- Friedewald, M., Fletcher, R., & Fairbairn, H. (2005). All male discussion forums for expectant fathers: Evaluation of a model. *Journal of Perinatal Education, 14*, 8-18.
- Frodi, A. (1985). When empathy fails. Aversive infant crying and child abuse. In B.M. Lester, & C.F.Z. Boukydis (Eds.), *Infant crying, theoretical and research perspectives*. New York: Plenum.
- Folkman, S., Lazarus, S., Dunkel-Schetter, DeLongis, A., & Gruen, R. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcome. *Journal of Personality and Social Psychology, 50*(5), 992-1003.
- Gable, S., Belsky, J., & Crnic, K. (1995). Coparenting during the child's 2nd year: A descriptive account. *Journal of Marriage & the Family, 57*, 609-616.
- Gatrad, A., & Sheikh, A. (2004). 10-minute consultation: Persistent crying in babies. *British Medical Journal, 328*(7), 330.
- Glesne, C. (2006). *Becoming qualitative researchers: An introduction* (3rd ed.). Boston, MA: Pearson.
- Gilkerson, L., Gray, L., & Mork, N. (2005). Fussy babies, worried families, a new service network. *Zero to Three, 25*(3), 34-41.
- Gross, D., Conrad, B., Fogg, L., & Wothke, W. (1994). A longitudinal model of maternal self-efficacy, depression and difficult temperament during toddlerhood. *Research in Nursing and Health, 17*, 207-215.

- Goodman, J. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and implications for family health. *Journal of Advanced Nursing, 45*(1), 26-35.
- Goodman, J. (2006). Becoming an involved father of an infant. *Journal of Obstetric Gynecologic, and Neonatal Nursing, 34*(2), 190-200.
- Goodman, J. (2008). Influences of maternal postpartum depression on fathers and on father-infant interaction. *Infant Mental Health Journal, 29*(6), 624-643.
- Goodman, S., Borgan, D., Lynch, M., & Fielding, B. (1993). Social and emotional competence in children of depressed mothers. *Child Development, 64*, 516-531.
- Gormally S.M., & Barr, R. (1998). Of clinical pies and clinical clues: Proposed pie as a clinical approach to complaints of early crying and colic. *Ambulatory Child Health, 3*, 137-153.
- Guest, G., Bunc, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59-82.
- Gray L., Berglund A., Klein R., & Gilkerson, L. (2004, May). Urban crying in the emergency department. Poster session presented at the meeting of the International Society for Infant Studies, Chicago, IL.
- Grych, J., & Clarke, R. (1999). Maternal employment and development of father-infant relationship in the first year. *Developmental Psychology, 35*, 893-903.
- Hackel, J., & Ruble, D. (1992). Changes in the marital relationship after the first baby is born: Predicting the impact of expectancy disconfirmation. *Journal of Personality and Social Psychology, 62*, 944-957.
- Hadadian, A., & Merbler, J. (1995). Fathers of young children with disabilities: How do they want to be involved? *Child & Youth Care Forum, 24*, 327-338.
- Hart, S., Field, T., Stern, M., & Jones, N. (1997). Depressed fathers' stereotyping of infants labeled "depressed". *Infant Mental Health Journal, 18*(4), 436-445.
- Hanson, W. E., Creswell, J.W., Plano Clark, V.L., Petska, K.P., & Creswell, J.D. (2005). Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology, 52*(2), 224-35.
- Heerwegh, D. (2006). An investigation of the effect of lotteries on web survey response rates. *Field Methods, 18*(2), 205-220.

- Hess, C., Teti, D., & Hussey-Gardner, B. (2004). Self-efficacy and parenting of high-risk infants: The moderating role of parent knowledge of infant development. *Applied Developmental Psychology, 25*, 423-437.
- Helseth, S. (2002). Help in times of crying: nurses' approach to parents with colicky infants. *Journal of Advanced Nursing, 40*(3), 267-274.
- Hewlett, B. (1992). *Father-child relations: Cultural and biosocial contexts*. Hawthorne, NY: Aldine de Gruyter.
- Hill, D., Hudson, I., Sheffield, L., Shelton, M. & Menahem, S., & Hosking, C. (1995). A low allergen diet is a significant intervention in infantile colic: Results of a community-based study. *Journal of Allergy and Clinical Immunology, 96*, 886-892.
- Hubert, N.C. (1989). Parental subjective reactions to perceived temperament behavior in their 6- and 24-month old children. *Infant Behavior and Development, 12*, 185-198.
- Hudson, D., Campbell-Grossman, C., Fleck, M. Elek, S., & Shipman, A. (2003). Effects of the new fathers network on first-time fathers' parenting self-efficacy and parenting satisfaction during the transition to parenthood. *Issues in Comprehensive Pediatric Nursing, 26*, 217-299.
- Huhtala, V., Lehtonene, L., Heinonen, R., & Korvenranta, H. (2000). Infant massage compared with crib vibrator in the treatment of colicky infants. *Pediatrics, 105*(6), 1328.
- Hunziker, U., & Barr, R. (1986). Increased crying reduced infant crying: A randomized controlled trial. *Pediatrics, 77*(5), 641-648.
- Hutchinson, S. (2004). Survey research. In K. deMarris, & S. Lapan (Eds). *Foundations for research: Methods of inquiry in education and the social sciences* (pp. 283-301). Mahwah, NJ: Lawrence Erlbaum
- Holliday-Hanson, M., Barr, R., & Trent, R. (2001, April). Epidemiology and prevention for injury control. Paper presented at the annual meeting of the Pediatric Academic Societies, Baltimore, MD.
- Isser, N., & Schwartz, L. (2006). Shaken baby syndrome. *The Journal of Psychiatry and Law, 34*, 291-306.
- Ivankova, N., Creswell, J., & Stick, S. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods, 18*(1), 3-20.

- Jackson, A.P. (1999). The effects of nonresident father involvement on single Black mothers and their young children. *Social Work, 44*(2), 157-166.
- James, J., & Bolstein, R. (1992). Large monetary incentives and their effect on mail survey response rates. *Public Opinion Quarterly, 56*, 442-453.
- Jakobsson, I., Lothe, L., Ley, D., & Borschel, M. (2000). Effectiveness of casein hydrolysate feedings in infants with colic. *Acta Paediatrica, 89*, 18-21.
- Jarvis, P., & Creasey, G. (1991). Parental stress, coping, and attachment on families with an 18-monthold infant. *Infant Behavior and Development, 14*, 383-395.
- Johnston, C., & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology, 18*, 167-175.
- Johnson, B., & Onwuegbuzi, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(14), 14-26.
- Jordan, P.L. (1990). Labouring for relevance: Expectant and new fatherhood. *Nursing Research, 39*(1), 11-16.
- Jordan, B., Heine, R., Meehan, M., Catto-Smith, & Lubitz, L. (2006). Effect of antireflux medication, placebo and infant mental health intervention on persistent crying: A randomized clinical trial. *Journal of Pediatrics and Child Health, 42*, 49-58
- Kaye, S. (2005, January/February). Father involvement. Research to Practice: Head Start Bureau's Building Blocks for Father Involvement series. Available at www.cwla.org/programs/r2p
- Keefe, M, Kotzer, A., Froese-Fretz, A., & Curtin, M. (1996). A longitudinal comparison of irritable and non-irritable infants. *Nursing Research, 45*(1), 4-9.
- Keefe, M., Lobo, M., Froese-Fretz, A., Kotzer, A., Barbosa, G., & Dudley, W. (2006). Effectiveness of an intervention for colic. *Clinical Pediatrics, 45*(2), 123-133.
- Keefe, M., Karjlsou, K., Lobo, M., Kotzer, A., & Dudley, W. (2006). Reducing parenting stress in families of irritable infants. *Nursing Research, 55*(3), 198-205.
- Keller, L., Lohaus, A., Kuensemueller, P., Abels, M., Yovsi, R., Voelker, S., et al. (2004). The bio-culture of parenting: Evidence from five cultural communities. *Parenting: Science and Practice, 4*(1), 25-50.
- Kenlaw, W. (2003). *A father's guide to raising daughters: Because I need one!* Victoria, Canada: Trafford Publishing.

- Krautter, T. (2006). *When your baby won't stop crying: A parent's guide to colic*. Naperville, IL: Sourcebooks, Inc.
- Krugman, R. (1983). Fatal child abuse: Analysis of 24 cases. *Pediatrician*, 85(12), 68-72.
- Lamb, M. (1987). *The father's role: Cross-cultural perspectives*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lamb, M. (2002). Infant-father attachments and their impact on child development. In N. Tamis-LeMonda, & N. Cabrera, *Handbook on father involvement: Multidisciplinary perspectives* (pp. 93-117). Mahwah, NJ: Erlbaum.
- Lamb, M. (2004). *The role of the father in child development* (4th ed.). Hoboken, NJ: Wiley & Sons.
- LaRossa, R. (1997). *The modernization of fatherhood: A social and political history*. Chicago, IL: University of Chicago Press.
- LaRossa, R., Jaret, C., Gadgil, M., & Wynn, R. (2000). The changing culture of fatherhood in comic-strip families: A six-decade analysis. *Journal of Marriage and Family*, 62, 375-387.
- Lazarus R.S., & Folkman, S. (1984). *Stress appraisal and coping*. New York: Springer
- Lazoritz, S., & Palusci, V. (2001). *The shaken baby syndrome: A multidisciplinary approach*. Binghamton, NY: Haworth Press Inc.
- Leerkes, E., & Burney, R. (2007). The development of parenting efficacy among new mothers and fathers. *Infancy*, 12(1), 45-67.
- Lehtonen, L. (2001). From colic to toddlerhood. In Barr, R., St James-Roberts, I., & Keefe, M. (Eds.), *New evidence on unexplained early infant crying: Its origins, nature and management* (pp. 259-271). New Brunswick, NJ: Johnson & Johnson Pediatric Institute.
- Lehtonen, L., Korhonen, T., & Korvenranta, H. (1994). Temperament and sleeping pattern in infantile colic during the first year of life. *Journal of Development and Behavioral Pediatrics*, 15, 416-420.
- Lester, B.M., & Barr, R.G. (1997). *Colic and excessive crying. Report of the 105th Ross Conference on Pediatric Research*. Columbus, OH: Ross Products Division, Abbott Laboratories.

- Lester, B., Boykydis, Z., Garcia-Coll, C., & Hole, W. (1990). Colic for developmentalists. *Journal of Infant Mental Health, 11*(4), 321-333.
- LeVine, R. (2004). Challenging expert knowledge: Findings from an African study of infant care and development. In U. Gielen, & J. Roopnarine, *Childhood and adolescence: Cross-cultural perspectives and applications* (pp. 149-165). Westport, CT: Praeger.
- Levitzky, S., & Cooper, R. (2000). Infant colic syndrome—Maternal fantasies of aggression and infanticide. *Clinical Pediatrics, 39*(7), 395-401.
- Levy-Shiff, R. (1999). Fathers' cognitive appraisals, coping strategies, and support resources as correlates of adjustment to parenthood. *Journal of Family Psychology, 13*(4), 554-567.
- Lieberman, D. (2008). Evaluation of the stability and validity of participant samples recruited over the internet. *CyberPsychology and Behavior, 11*(6), 743-745.
- Litton Fox, G., Bruce, C., & Combs-Orme, T. (2000). Parenting expectations and concerns of fathers and mothers of newborn infants, *Family Relations, 49*, 123-131.
- Long, T. (2001). Excessive infantile crying: a review of the literature. *Journal of Child Health Care, 5*(3), 111-116.
- Long, T. & Johnson, M. (2000). Living and coping with excessive infantile crying. *Journal of Advanced Nursing, 34*(2), 155-162.
- Manlove, E.E., & Vernon-Feagans, L. (2002). Caring for infant daughters and sons in dual-earner households: Maternal reports of father involvement in weekday time and tasks. *Infant and Child Development, 11*, 305-32.
- Matthey, S. (2008). Using the Edinburgh Postnatal Depression Scale to screen for anxiety disorders. *Depression and Anxiety, 25*(11), 926-931
- Matthey, S., Barnett, B., Kavanagh, D., & Howie, P. (2001). Validation of the Edinburgh Postnatal Scale for Men, and comparison of item endorsement with their partners. *Journal of Affective Disorders, 64*, 175-184.
- Matthey, S., Barnett, B., Howie, P., & Kavanagh, D. (2003). Diagnosing postpartum depression in mothers and fathers: Whatever happened to anxiety? *Journal of Affective Disorders, 74*, 139-147.

- Matthey, S., Barnett, B., Ungerer, J., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of Affective Disorders, 60*, 75-80.
- Maxted, A., Dickstein, S., Miller-Loncar, C., High, P., Spritz, B., Liu, J., & Lester, B. (2005). Infant colic and maternal depression. *Infant Mental Health Journal, 26*(1), 56-68.
- McBride, B.A., & Rane, T.R. (1998). Parenting alliance as a predictor of father involvement: An exploratory study. *Family Relations, 47*(3), 229-236.
- McBride, B., Brown, G., Bost, K., Shin, N., Vaughn, B., & Korth, B. (2005). Paternal identity, maternal gatekeeping, and father involvement. *Family Relations, 54*(3), 360-372.
- McKim, M. (1987). Transition to what? New parents problems in the first year. *Family Relations, 36*, 22-25.
- McHale, J. (2007). When infants grow up in multiperson relationship systems. *Infant Mental Health Journal, 28*(4), 1-23.
- McLoyd, V. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development, 61*, 311-346.
- McCoyd, J., & Kerson, T. (2006). Conducting intensive interviews using email: A serendipitous comparative opportunity. *Qualitative Social Work, 5*, 389-406.
- Meijer, A., & van den Wittenboer, G. (2007). Contributions of infants' sleep and crying to marital relationship of first-time parent couples in the 1st year after childbirth. *Journal of Family Psychology, 21*(1), 49-57.
- Metcalf, T., Irons, T., Sher, L., & Young, P. (1994). Simethicone in the treatment of infant colic: a randomized, placebo-controlled, multicenter trial. *Pediatrics, 94*, 29-34.
- Meyers, S. (1993). Adapting parent education programs to meet the needs of fathers: An ecological perspective. *Family Relations, 42*, 447-452.
- Miniwatts Marketing Group (2009). Internet world stats: Usage and population statistics. Retrieved on March 6, 2009 from:
<http://www.internetworldstats.com/stats14.htm#north>

- Minium, E., & King, B. (2003). *Statistical reasoning on psychology and the social sciences* (4th ed.). Hoboken, NJ: John Wiley and Sons.
- Miller, C. (1995). In-depth interviewing by telephone: Some practical considerations. *Evaluation and Research Education*, 9(1), 29-38
- Miller, M. (1989). *Dads through the decades: Thirty years of TV fathers*. Retrieved August 5, 2009 from Center for Media Literacy.
- Miller, J. (2007). Cry babies: A framework for chiropractic care. *Clinical Chiropractic*, 10(3), 139-146
- Miller, A., Barr, R. (1993). Crying and motor behavior of six-week old infants and postpartum maternal mood. *Pediatrics*, 92(4), 551-558.
- Minium, E. & King, B. (2003). *Statistical reasoning on psychology and the social sciences*, 4th edition. Hoboken, NJ: John Wiley and Sons.
- Murray, L., Stanley, C., Hoper, R., & King, F. (1996). The role of infant factors in postnatal depression and mother-infant interactions. *Developmental Medicine & Child Neurology*, 38, 109-119.
- Murray, L., & Carothers, A. (1990). The validation of the Edinburgh post-natal depression scale on a community sample. *British Journal of Psychiatry*, 157, 288-290.
- Moran, T. (2010). Validation study of assessment of parenting. In progress.
- Morris, M., Smith, S., Cressman, J., & Ancheta, J. (2000). Evaluation of infants with subdural hematoma who lack external evidence of abuse. *Pediatrics*, 105(3), 549-553.
- Nash, C., Morris, J., & Goodman, B. (2008). A study describing mothers' opinions of the crying behavior of infants under one year of age. *Child Abuse Review*, 17(3), 191-200.
- Neacsiu, A.D., Rizvi, S.L., Vitaliano, P.P., Lynch, T.R., & Linehan, M.M. (2010). The dialectical behavior therapy ways of coping checklist: Development and psychometric properties. *Journal of Clinical Psychology*, 66, 563-582.
- Neu, M., & Robinson, J. (2003). Infant with colic: Their childhood characteristics. *Journal of Pediatric Nursing*, 18(1), 12-20.

- Novick, G. (2008). Is there a bias against telephone interview in qualitative research? *Research in Nursing and Health, 31*, 391-398.
- Nystrom, K., & Ohrling, K. (2003). Parenthood experiences during the child's first year: literature review. *Journal of Advanced Nursing, 46*(3), 319-330.
- Oberlander, T. (2005). Post-partum depression and infant crying behavior. In R. Tremblay, R. Barr, & R. Peters (Eds.), *Encyclopedia on Early Childhood Development* (online). Montreal, Quebec: Centre of Excellence for Early Childhood Development; 1-8. Available at: <http://www.child-encyclopedia.com> (accessed May 20, 2009).
- Oggero, R., Garbo, G., Savino, F., & Mostert, M. (1994). Dietary modification versus dicyclomine hydrochloride in the treatment of severe infantile colics. *Acta Paediatrica, 83*(2), 222-225.
- Pancer, M., Pratt, M., Hunsberger, B., & Gallant, M. (2000). Thinking ahead: Complexity of expectations and the transition to parenthood. *Journal of Personality, 68*(2), 253-280.
- Parke, R.D. (2002). Fathers and families. In Bornstein (Ed.), *Handbook of parenting: Vol. 3. Being and becoming a parent* (2nd ed., pp. 27-74). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Parkin, P., Schwartz, C., & Manuel, B. (1993). Randomized controlled trial of three interventions in the management of persistent crying in infancy. *Pediatrics, 92*, 197-201.
- Papousek, M. & Hofacker, N. (1998). Persistent crying in early infancy: a non trivial condition of risk for the developing mother-infant relationship. *Child Care, Health & Development, 24*(5), 395-424.
- Papousek, M., Wurmser, H., & Von Hofacker, N. (2001). Clinical perspectives on unexplained early crying: Challenges and risk for infant mental health and parent-infant relationships. In R. Barr, I. St. James-Roberts, & M. Keefe (Eds.), *New evidence on unexplained early infant crying: Its origins, nature and management* (pp. 289-316). Skillman, NJ: Johnson and Johnson Pediatric Institute.
- Paster, A., Brandwein, D., & Walsh, J. (2009). A comparison of coping strategies used by parents of children with disabilities and parents of children without disabilities. *Research in Developmental Disabilities, 30*, 1337-1342.
- Patten, M. (2000). *Understanding research methods: An overview of the essentials* (2nd ed.). Los Angeles, CA: Pyrczak Publishing.

- Patton, M.Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.
- Paulson, J., & Bazemore, S. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression. *Journal of American Medical Association*, 303(19), 1961-1969.
- Pfannenstiel, A., & Honig, A. (1995). Effects of a prenatal 'information and insights about infants' program on the knowledge base of first time low-education fathers one month postnatally. *Early Child Development and Care*, 111, 87-105
- Pleck, J. (1987). American fathering historical perspective. In M.S. Kimmel (Ed.), *Changing men: New directions in research on men and masculinity* (pp. 83-97). Newbury Park, CA: Sage.
- Porter, C.L., & Hsu, H. (2003). First-time mothers' perceptions of efficacy during the transition to motherhood: Links to infant temperament. *Journal of Family Psychology*, 17, 54-64.
- Premberg, A., Hellstrom, A., & Berg, M. (2008). A view from inside the family – becoming a father: experiences of the first year as father. *Scandinavian Journal of Caring Sciences*, 22, 56-63.
- Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measures*, 1, 358-401.
- Rao, M., Brenner, R., Schisterman, E., Vik, T., & Mills, J. (2004). Long term cognitive development in children with prolonged crying. *Archives of Disease in Childhood*, 89, 989-992.
- Raiha, H., Lehtonen, L., & Korvenranta, H. (1996). Family life one year after infantile colic. *Archives of Pediatric and Adolescent Medicine*, 150, 1032-1036.
- Raiha, H., Lehtonen, L., Korhonen, T., & Korvenranta, H. (1997). Family functioning three years after infantile colic. *Developmental and Behavioral Pediatrics*, 18(5), 290-295.
- Raiha, H., Lehtonen, L., Huhtala, V., Saleva, K., & Korvenranta, H. (2002). Excessively crying infant in the family: Mother-infant, father-infant and mother-father interaction. *Child: Care, Health, & Development*, 28(5), 419-429.
- Ramchandiani, P., Stein, A., Evans, J., & O'Connor, T. (2005). Paternal depression in the postnatal period and child development: a prospective population study. *Lancet*, 365, 2201-2205.

- Ramchandani, P., O'Conner, T., Evans, J., Heron, J., Murray, L., & Stein, A. (2008). The effects of pre- and postnatal depression in fathers: a natural experiment comparing the effects of exposure to depression on offspring. *Journal of Child Psychology and Psychiatry, 49*(10), 1069-1078.
- Rautava, P., Lehtonen, L., Helenius, H., & Sillanpaa, M. (1995). Infantile colic: Child and family three years later. *Pediatrics, 96*(1), 43-45.
- Reece, S., & Harkless, G. (1998). Self-efficacy, stress, and parental adaptation: Application to the care of childbearing families. *Journal of Family Nursing, 4*, 198-215.
- Reitman, D., Currier, R., & Stickle, T. (2002). A critical evaluation of the parenting stress index-short form (PSI-SF) in a head start population. *Journal of Clinical Child & Adolescent Psychology, 31*(3).
- Reijneveld, S. (2001). Excessive infant crying: The impact of varying definitions. *Pediatrics, 108*, 893.
- Reijneveld, S., Brugman, E., Hirasing, R. (2002). Excessive infant crying: Definitions determine risk groups. *Archives of Disease in Childhood, 87*, 43-44.
- Ritter, P., Lorig, K., Laurent, D., & Matthews, K. (2004). Internet versus mailed questionnaires: A randomized comparison. *Journal of Medical Internet Research, 6*(3), e29. Retrieved on February 6, 2010 from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1550608/>
- Rivers, D. (n.d.) Sample matching: Representative sampling from internet panels. A white paper on the advantages of the sample matching methodology. Retrieved on March 5 from: www.polimetrix.com/.../Polimetrix_Whitepaper_Sample_Matching.pdf
- Rodriguez, C., & Green, A. (1997). Parenting stress and anger expression as predictors of child abuse potential. *Child Abuse and Neglect, 21*(4), 367-377.
- Rogoff, B. (2003). *The cultural nature of human development*. New York: Oxford University Press.
- Roopnarine, J., Lamb, M., Fouts, H., & Lewis-Elligan, T. (2005). Mothers' and fathers' behaviors toward their 3- to 4-month old infants in lower, middle, and upper socioeconomic African American families. *Developmental Psychology, 41*(5), 723-732.

- Russel, B., & Britner, P. (2006). Measuring shaken baby awareness: Preliminary reliability of a caregiver attitudes and beliefs survey. *Journal of Family Studies, 15*, 765-777.
- Ryan, G.W., & Bernard, H.R. (2003a). Data management and analysis methods. In N.K. Denzin, & Y.S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (2nd ed., pp. 259-309). Thousand Oaks, CA: Sage Publications.
- Ryan, G.W., & Bernard, H.R. (2003b). Techniques to identify themes in qualitative data. *Field Methods, 15*(1), 85-109.
- Sadeh, A., Flint-Ofir, E., Tirosh, T., & Tikotzky, L. (2007). Infant sleep and parental sleep-related cognitions. *Journal of Family Psychology, 21*(1), 74-87.
- Sander, L. (1980). New knowledge of the infant from current research: Implications for psychoanalysis. *Journal of American Psychoanalytic Association, 28*, 181-198.
- Sameroff, A. J. & Chandler, M. J. (1975). Reproductive risk and the continuum of caretaker casualty. In F. D. Horowitz (Ed.), *Review of child development research* (Vol. 4). Chicago, IL: University of Chicago Press.
- Savino, F., Casagno, E., Bretto, R., Brondellow, C., Palumeri, E., & Oggero, R. (2005). A prospective 10-year study on children who had severe infantile colic. *Acta Paediatrica, 94*(suppl 449), 129-132.
- Schuetze, P., & Zeskind, P.S. (2003). Relationship between women's depressive symptoms and perceptions of infant distress signals varying in pitch. *Infancy, 2*, 483-499.
- Schutz, P., Chambless, C., & DeCuir, J. (2004). Multimethods research. In K. deMarrais, & S. Lapan (Eds.), *Foundations for research: Methods of inquiry in education and the social sciences* (pp. 276-282). Mahwah, NJ: Lawrence Erlbaum.
- Schumacher, M., Zubaran, C., & White, G. (2008). Bringing birth-related paternal depression to the fore. *Women and Birth, 21*(2), 65-70.
- Schoppe-Sullivan, S., Brown, G., Cannon, E., & Mangelsdorf, S. (2008). Maternal gatekeeping, coparenting quality, and fathering behavior in families with infants. *Journal of Family Psychology, 22*(3), 389-398.
- Schoppe-Sullivan, S., Diener, M., Mangelsdorf, S., Brown, G., McHale, J., & Froshe, C. (2006). Attachment and sensitivity in family context: The roles of parent and infant gender. *Infant and Child Development, 15*, 367-38

- Sechrest, L., & Sidana, S. (1995). Quantitative and qualitative methods: Is there an alternative? *Evaluations and Program Planning*, 18, 77-87.
- Seifer, R., & Dickstein, S. (2000). Parental mental illness and infant development. In C. Zeanah (Ed.), *Handbook of Infant Mental Health* (2nd ed., pp. 145-160). New York: Guilford Press.
- Sinal, S., Petree, A., Herman-Giddens, M., Rogers, M.K., Enand, C., & DuRant, R.H. (2000). Is race of ethnicity a predictive factor in shaken baby syndrome? *Child Abuse and Neglect*, 24(9), 1241-1246.
- Sinclair, D., & Murray, L. (1998). Effects of postnatal depression on children's adjustment to school. *British Journal of Psychiatry*, 172, 58-72
- Small, M. (1998). *Our babies, ourselves: How biology and culture shape the way we parent*. New York: Anchor Books.
- Smart, J., & Hiscock, H. (2007). Early infant crying and sleeping problems: A pilot study of impact on parental well-being and parent-endorsed strategies for management. *Journal of Pediatrics and Child Health*, 43, 284-290.
- Spek, V., Nykli ek, I., Cuijpers, P., & Pop, V. (2008). Internet administration of the Edinburgh Depression Scale. *Journal of Affective Disorders*, 106, 301-305.
- SPSS Inc. (2005). *SPSS Base 14.0 Graduate Pack for User's Guide*. Chicago, IL.
- St. James-Roberts, I. (1993). Infant crying: Normal development and persistent crying. In I. St James-Roberts, G. Harris, & D. Messer (Eds.), *Infant crying, feeding and sleeping: Development problems and treatments* (pp. 7-25). Harvester Wheatsheaf, Hertfordshire.
- St. James-Roberts, I. (2001). Infant crying and its impact on parents. In R. Barr, I. St. James-Roberts, & M. Keefe (Eds.), *New evidence on unexplained early infant crying: Its origins, nature and management* (pp. 5-24). Skillman, NJ: Johnson and Johnson Pediatric Institute.
- St. James-Roberts, I. (2007). Helping parents to manage infant crying and sleeping: A review of the evidence and its implications for services. *Child Abuse Review*, 16(1), 47-69.
- St. James-Roberts, I., Conroy, S., & Wilsher, K. (1998). Links between maternal care and persistent infant crying in the early months. *Child Care, Health and Development*, 24, 353-376.

- St James-Roberts, I., & Halil, T. (1991). Infant crying patterns in the first year: Normal community and clinical findings. *Journal of Child Psychology and Psychiatry*, 32, 951-968.
- Stifter, C. A. (2001). "Life" after unexplained crying: Child and parent outcomes. In R. Barr, I. St. James-Roberts, & M. Keefe (Eds.), *New evidence on unexplained early infant crying: Its origins, nature and management* (pp. 273-288). Skillman, NJ: Johnson and Johnson Pediatric Institute.
- Stifter, C., & Braungart, J. (1992). Infant colic: a transient condition with no apparent effects. *Journal of Applied Developmental Psychology*, 13, 447-462.
- Stifter, C., & Bono, M. (1998). The effect of infant colic on maternal self-perceptions and mother-infant attachment. *Child Care, Health and Development*, 24, 339-351.
- Stifter, C., Bono, M., & Spinrad, T. (2003). Parent characteristics and conceptualizations associated with the emergence of infant colic. *Journal of reproductive and infant Psychology*, 21(4), 309-322.
- Sturges, J. & Hanrahan, K. (2004). Comparing telephone and face-to-face qualitative interviewing: A research note. *Qualitative Research*, 4, 107-118.
- Soliday, E., McCluskey-Fawcett, K., & O'Brien, M. (1999). Postpartum affect and depressive symptoms in mothers and fathers. *American Journal of Orthopsychiatry*, 69(1), 30-37.
- Sondergaard, C., Henriksen, T., Obel, C., & Wisborg, K. (2001). Smoking during pregnancy and infantile colic. *Pediatrics*, 108(2), 342-346.
- Sweet, L. (2002). Telephone interviewing: Is it compatible with interpretive phenomenological research? *Contemporary Nurse*, 12, 58-63.
- Taylor, H. (2000). Does internet research work? Comparing electronic survey results with telephone survey. *International Journal of Market Research*, 42(1), 51-63.
- Tausig, J.E., & Freeman, E.W. (1988). The next best thing to being there: conducting the clinical research interview by telephone. *American Journal of Orthopsychiatry*, 58, 418-427.
- Teddle, C., & Tashakkori, A. (2003). *Handbook on mixed methods in social and behavioral research*. Thousand Oaks, CA: Sage Publications.

- Teti, D.M., & Gelfand, D.M. (1991). Behavioral competence among mothers and infants in the first year: The mediational role of maternal self-efficacy. *Child Development, 62*, 918-929.
- The National Academies. (2009, June). *Depression in parents, parenting, and children: Opportunities to improve identification, treatment and prevention*. Report Brief. Washington, DC: National Academies Press
- Thome, M., & Skuladottir, A. (2005). Evaluating a family-centered intervention for infant sleep problems. *Journal of Advanced Nursing, 50*, 5-11.
- Toth, J., Jr, F., & Xu, X. (1999). Ethnic and cultural diversity in fathers' involvement: A racial/ethnic comparison of African American, Hispanic, and White father. *Youth & Society, 31*, 76-77.
- Tronick, E.Z., & Weinberg, M.K. (1997). Depressed mothers and infants: Failure to form dyadic states of consciousness. In L. Murray, & P.J. Cooper (Eds.), *Postpartum depression and child development* (pp. 54-81). New York: Guilford Press.
- Tuten, T.L., Galesic, M., & Bosnjak, M. (2004). Effects of immediate versus delayed notification of prize draw results on response behavior in Web surveys: An experiment. *Social Science Computer Review, 22*, 377-84.
- U.S. Department of Health and Human Services, Administration for Children and Families, Child Care Bureau. (2004). Promoting responsible fatherhood through child care. Retrieved November 17, 2010, from <http://researchconnections.org/childcare/resources/4398/pdf;jsessionid=0F0A263730140D8F98F09356DC3E98EB>
- Van den Berg, M., van der Ende, J., Crijnen, A., Jaddoe, V., Moll, H., Mackenbach, J. et al. (2009). Paternal depressive symptoms during pregnancy are related to excessive infant crying. *Pediatrics, 124*(1), 96-103.
- Van der Wal, M., van Eijnsden, M., & Bonsel, G. (2007). Stress and emotional problems during pregnancy and excessive infant crying. *Journal of Development and Behavioral Pediatrics, 28*(6), 431-437.
- Ventura, J.N., & Stevenson, M.B. (1986). Relations of mothers' and fathers' reports of infant temperament, parents' psychological functioning, and family characteristics. *Merrill-Palmer Quarterly, 32*, 275-289.
- Vik, T., Grote, V., Escribano, J., Socha, J., Verduci, E., Fritsch, M., Carlier, C., von Kries, R., & Koletzko, B. (2009, March). Infantile colic, prolonged crying and maternal postnatal depression, *Acta Paediatrica*, 1-5.

- Vallego, M., Jordan, C., Diaz, M., Comeche, M., & Ortega, J. (2007). Psychological assessment via the internet: A reliability and validity study of online (vs paper-and-pencil) versions of the general health questionnaire-28 (GHQ-28) and the symptoms checklist-90(SCL-90-R). *Journal of Medical Internet Research*, 9(1): e2. Retrieved February, 6, 2010 from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1794673/>
- Vogel, C., Boller, K., Faerber, J., Shannon, J., & Tamis-LeMonda, C. (2003). Understanding fathering: The early head start study of fathers on newborns. *Mathematical Policy Research*, MPR reference No: 8517.
- Volling, B., & Belsky, J. (1991). Multiple determinants of father involvement during infancy in dual-earner and single earner families. *Journal of Marriage and Family*, 53(2), 461-474.
- Wade, K., Black, A., & Ward-Smith, P. (2005). How mothers respond to their crying infant. *Journal of Pediatric Health*, 19, 347-353.
- Wake, M., Morton-Allen, E., Poulakis, Z., Hiscock, H., Gallagher, S., & Oberklaid, F. (2006). Prevalence, stability, and outcomes of the cry-fuss and sleep problems in the first 2 years of life: prospective community-based study. *Pediatrics*, 117(3), 836-842.
- Watters J., & Biernacki P. (1998). Targeted sampling: options for the study of hidden populations. *Social Problems*, 36, 416-430.
- Weaver, C., Shaw, D., Dishion, T., & Wilson, D. (2008). Parenting self-efficacy and problem behavior in children at high risk for early conduct problems: The mediating role of maternal depression. *Infant Behavior and Development*, 31(4), 594-605.
- Weissman. S., & Cohen, S. (1985). The parenting alliance in adolescence. *Adolescent Psychiatry*, 12(2), 4-45.
- Wessel, M., Cobb, S., Jackson, E., Harris, G., & Detwiler, C. (1954). Paroxysmal fussing in infancy: Sometimes called "colic." *Pediatrics*, 14, 421-434.
- Wilkie, C., & Ames, E. (1986, August). The relationship of infant crying to parental stress in the transition to parenthood. *Journal of Marriage and Family*, 48, 545-550.
- Whiting, B., & Edwards, C. (1988). *Children of different worlds: The formation of social behavior*. Cambridge, MA: Harvard University Press.
- Wolke, D. (2001). Behavioral treatment of prolonged infant crying: Evaluation, methods and a proposal. In R. Barr, I. St. James-Roberts, & M. Keefe (Eds.), *New evidence*

on unexplained early infant crying: Its origins, nature and management (pp. 43-50). Skillman, NJ: Johnson and Johnson Pediatric Institute.

- Wolke, D., Rizzo, P., & Woods, S. (2002). Persistent infant crying and hyperactivity problems in middle childhood. *Pediatrics, 109*(6), 1054-1060.
- Wolke, D., Schmid, G., Schreier, A., & Myere, R. (2009). Crying and feeding problems in infancy and cognitive outcome in preschool children born at risk: A prospective population study, *Journal of Developmental and Behavioral Pediatrics, 30*, 226-238.
- Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10*(3), article 11. Retrieved from: <http://jcmc.indiana.edu/vol10/issue3/wright.html>
- Yeung, W., Sandberg, J., Davis-Kean, P., & Hofferth, S. (2001). Children's time with fathers in intact families. *Journal of Marriage and Family, 63*, 136-154.
- Yun, G. W., & Trumbo, C. W. (2000). Comparative response to a survey executed by post, e-mail, & web form. *Journal of Computer Mediated Communication, 6*(1). Retrieved August 23, 2003, from <http://www.ascuse.org/jcmc/vol6/issue1/yun.html>
- Zeanah, C.H., Zeanah, P.D., & Stewart, L.K. (1990). Parents' constructions of their infants' personalities before and after birth: A descriptive study. *Child Psychiatry and Human Development, 20*, 191-206.

VITA

Leslie Katch was born and raised in Ann Arbor, Michigan. Before completing her Ph.D. in Child Development from Erikson Institute and Loyola University Chicago, she also earned masters degrees in social work and child development in a dual degree program from Loyola University and Erikson Institute. For both her masters and Ph.D. work Leslie she received the Irving B. Harris Early Childhood Leadership Fellowship and a Research Mentorship Award for her dissertation work. Prior to her graduate studies, Leslie received a Bachelors of Science in Social Welfare from University of California Berkeley.

During her graduate studies Leslie worked for an infant mental health support program as a research coordinator and national network dissemination specialist. She also served as writing tutor and taught courses in child development at community colleges in the Chicago area. Leslie is currently an assistant professor at National Louis University and the director of the Early Childhood Administration Masters program.