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PARENTING SELF-EFFICACY AMONG FIRST-TIME FATHERS

By

Yi-Chun Lin

A THESIS

**Submitted to
Michigan State University
in partial fulfillment of the requirements
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ABSTRACT

PARENTING SELF-EFFICACY AMONG FIRST-TIME FATHERS

BY

Yi-Chun Lin

This study examined several variables as predictors of parenting self-efficacy among first-time fathers. Eighty parents with toddlers (45 boys and 35 girls), between the ages of 18 and 36 months, were recruited through local area childcare centers. A structure Equation Model was used to test the main hypotheses in the study.

Results indicated that paternal self-efficacy was predicted by paternal involvement, toddler mood, and paternal perceptions of co-parenting support. However, paternal self-efficacy was not predicted by paternal knowledge of child development and maternal perceptions of co-parenting support as hypothesized. Additional pathways were found in the hypothesized model. First, toddler mood predicted paternal perceptions of co-parenting support. Second, paternal perceptions of co-parenting support mediated the relationship between toddler mood and paternal self-efficacy. Third, maternal perceptions of co-parenting support and paternal involvement were related. Fourth, maternal self-efficacy predicted emotional availability, one of the domains of paternal self-efficacy.

DEDICATION

To a special person

Who has given me the strength to stand alone in the U.S.

Thank you for always being there whenever I needed you,
and for clearing my mind when I was confused.

I couldn't have accomplished such a huge task without you.

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CHAPTER 1

INTRODUCTION

Parental self-efficacy has often been associated with positive parenting behaviors (Unger & Waudersman, 1985) and refers to parents' expectations regarding the level to which they are able to perform competently and effectively as parents (Teti & Gelfand, 1991). Also, parental self-efficacy can be defined as parents' perceived ability to exercise influence on the behavior and development of their children in a positive way (Coleman & Karraker, 1997). Interestingly, parental self-efficacy is often studied as a predictor of parenting behaviors rather than as an outcome of interest. Little is known about the predictors of self-efficacy, and this is particularly true with regard to paternal self-efficacy. The goal of this study is to examine knowledge of child development, toddler temperament, paternal and maternal perceptions of co-parenting support, and paternal involvement as predictors of paternal self-efficacy among first-time fathers.

The importance of parental self-efficacy, particularly maternal self-efficacy, has been investigated in the last two decades. Maternal self-efficacy has been associated with an easier transition to motherhood (Williams et al., 1987). Also, higher maternal self-efficacy contributes to successful adaptation to parenthood (Reese & Harkless, 1998). A wealth of research has revealed associations between high maternal self-efficacy and specific positive parenting skills, such as more active and positive parenting interactions (Mash & Johnston, 1983 a), and responsive, stimulating, and warm caregiving (Unger & Waudersman, 1985). Self-efficacy is also related to parenting behaviors such as understanding and responding to infant cues (Donovan et., 1990). Mothers with higher

self-efficacy tend to have active maternal coping orientations (Wells-Parker et al, 1990, cited in Coleman & Karraker, 1997), and are less likely to perceive their toddlers as having behavioral problems (Johnston & Mash, 1989). Furthermore, some research has shown maternal self-efficacy to be a mediator between some characteristics, such as maternal depression, social support, and parenting quality (Teti & Gelfand, 1991; Cutrona & Troutman, 1986).

However, little is known about the characteristics which influence parental self-efficacy during toddlerhood among first-time parents, especially among fathers. Toddlerhood can provide certain challenges to parents as toddlers exert their independence. During this stage of development, children make enormous gains in virtually every area including cognitive, emotional, language, and motor development (Brook, 2004). Toddlers are emerging from being completely dependent on their parents and are now eager to discover the world on their own. They are experiencing their own feelings about having power and being independent. At this stage, parents need to develop clear rules, as well as have the confidence to enforce them and to respond effectively and appropriately to behavioral challenges, such as tantrums. According to Bandura (1982), acquiring new skills is facilitated by a belief in self-efficacy. Therefore, it is crucial for parents to feel confident in order to cope with the challenges and be successful in the parenting role, especially for first-time parents.

As society changes, mothers are not necessarily the primary caregivers as often both parents co-parent their children (Cabrera, et al. 2000). This shift is due to fathers' increased involvement in child rearing. Research has revealed that father involvement has increased over the past three decades (Cabrera, et al. 2000). Such changes have drawn

researchers' attention and the majority of research on fathering has been published since the mid-1990's (Pickard, 1998).

Likewise, most research in the past on parental self-efficacy has focused solely on maternal efficacy in the parenting role and little has addressed paternal self-efficacy. As Reece and Harkless (1998) discussed, more data are needed to understand paternal self-efficacy, its relationship to fathers' partners, infant characteristics, father support systems, and as predictors of fathers' self-efficacy. Although paternal involvement has increased recently, the level of that involvement is different from father to father, and, of course, some fathers might not be involved in parenting roles at all. Those fathers, not involved in the parenting role, would not have resources from which to form parental self-efficacy. Questions, such as the following, need to be addressed: Do fathers who are more involved with their children feel more efficacious; does more "practice" in parenting contribute to efficacy?

This study focused on the relationship between father involvement, toddler temperament, fathers' and mothers' perceptions of co-parenting support, and paternal self-efficacy. Utilizing a social cognitive perspective (Bandura, 1997), characteristics such as child temperament, co-parenting support, and knowledge of development are salient in the study of self-efficacy, a key concept in social cognitive theory. Understanding what characteristics are related to paternal self-efficacy has important implications for parenting education efforts aimed at assisting fathers in feeling efficacious in their parenting roles.

Statement of Purpose

The objective of this study was to examine several variables as predictors of paternal self-efficacy among first-time fathers. Specifically, paternal involvement, knowledge of child development, toddler temperament, and fathers' and mothers' perceived co-parenting support are hypothesized as predictors of paternal self-efficacy.

Specific research objectives were developed as follows:

1. To examine paternal involvement as a predictor of paternal self-efficacy among first-time fathers.
2. To examine paternal knowledge of child development as a predictor of paternal self-efficacy among first-time fathers.
3. To examine toddler temperament as a predictor of paternal self-efficacy among first-time fathers.
4. To examine fathers' perceptions of co-parenting support as a predictor of paternal self-efficacy among first-time fathers.
5. To examine mothers' perceptions of co-parenting support as a predictor of paternal self-efficacy among first-time fathers.
6. To examine mothers' perceptions of co-parenting as an indirect predictor of parental self-efficacy, through fathers' perceptions of co-parenting support.

Theoretical Framework

This study is guided by Bandura's theory on the development of self-efficacy (1997). Self-efficacy refers to one's belief about how effectively one can perform a particular task or manage a situation (Bandura, 1986), such as parenting. People who feel

confident about a particular task are likely to be successful in that task. According to self-efficacy theory (1997), self-efficacy beliefs are constructed by the four principle sources of information, which include: 1) enactive mastery experiences; 2) vicarious experiences; 3) verbal persuasions; and, 4) physiological states. Due to the increase of father involvement, there are many sources for the formation of parenting self-efficacy.

In reference to the current study with first-time fathers, the focus on the characteristics of family members themselves (father's knowledge of child development, support from spouse, and the temperament of the child), and the variables which were commonly examined in maternal self-efficacy, the following three sources are most relevant: *perceived task difficulties (the child)*, which is one of the elements of enactive mastery experiences, *verbal persuasion (the spouse)*, and *knowledge of the tasks (father himself)*, as they are relevant to this study, are described in further detail below and the independent variables in this study will be discussed and defined by Bandura's sources of self-efficacy.

Verbal Persuasion

People who are verbally persuaded to perform a desired behavior or task are likely to put greater effort into it and sustain it in order to master the behavior or task. Self-efficacy is thought to be enhanced by verbal persuasion. Self-efficacy is sensitive to realistic encouragement provided by a spouse (Holloway et al, 2005). Moreover, verbal persuasion contributes to performance by motivating an individual to work harder toward success (Bandera, 1986). For first-time parents, self-efficacy may be especially enhanced by approval and encouragement from the spouse (Reece & Harkless, 1998). For example, a mother's affirmation of a father's competency, and their acknowledgment and respect

for the father's contributions to the parenting role, may be important forms of verbal persuasion. This kind of co-parenting support and evaluative feedback, highlighting personal capabilities, may raise efficacy beliefs. Also, co-parenting support between couples might influence each other. Mothers' perceptions of co-parenting might predict paternal self-efficacy directly or indirectly through fathers' perceptions of co-parenting and paternal self-efficacy. Wives who feel more co-parenting support may have better interaction with their husbands, and when their husbands receive more positive cues, they may feel more confident and make more effort in their parenting role. Therefore, in this study, verbal persuasion is conceptualized as co-parenting support.

Co-parenting support includes not only verbal persuasion, but also nonverbal support. For example, a husband supports his wife's parental decision by telling their children "Mommy asked you to wash your hands, please go wash your hands." Although Bandura (1997) only addressed verbal persuasions as one of the sources of self-efficacy, nonverbal support should be taken into account also. In the current study, items relative to co-parenting support include both verbal and nonverbal items, and there is sufficient support in the literature that such forms of support may be related to self-efficacy.

Perceived Task Difficulty

Perceived task difficulty and repeated failures usually lower self-efficacy beliefs (Bandura, 1997). In the current study, a child's difficult temperament is one characteristic that may make the task of parenting more challenging. For example, when a new parent is successful in his effort to soothe and comfort his fussy baby, he may be more likely to gain a greater sense of efficacy in the parental role. In contrast, if the parent is repeatedly unsuccessful in soothing her baby, she may begin to feel less

efficacious about her parenting abilities (Porter & Hsu, 2003). So, child temperament may contribute, to some degree, to parental self-efficacy.

Knowledge of the Task

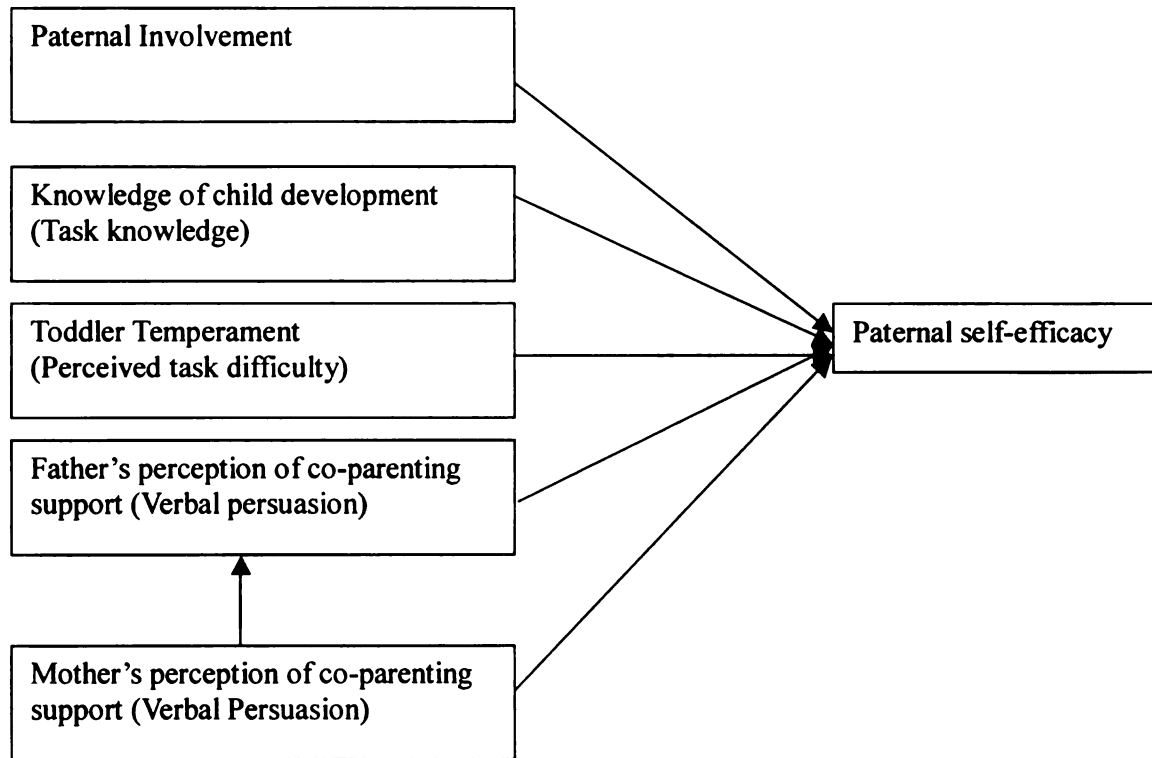
According to Bandura (1977), self-efficacy is significantly determined by people's "knowledge and skills in dealing with the environment" (p. 203); the more knowledgeable people are, the more efficacious they will feel in that domain. According to two additional studies of self-efficacy (Conrad, et al., 1992; Hess, Teti, & Hussey-Gardner, 2004), parental self-efficacy beliefs should incorporate both the specific knowledge involved in child rearing and the level of confidence in one's ability to carry out the designated role behaviors. Parental self-efficacy is a necessary condition for parents to perform successful tasks. For instance, mothers who are more knowledgeable about child development and parenting reported having more confidence in the parenting role (Conrad, et al. 1992). Parents who know little about their child's development may experience lower self-efficacy in the parenting role. Knowledge of child development is defined as the parents' familiarity with infants' developmental norms, and awareness of parenting behavior related to children's cognitive, language, motor development, and children's health and nutrition (Benasich & Brooks-Gunn, 1996); in the current study, task knowledge is operationalized as knowledge of child development.

Conceptual Model

In this study, several variables are hypothesized as predictors of parental self-efficacy. The conceptual model of this study is represented below. The direct paths between paternal involvement, knowledge of child development (task knowledge), toddler temperament (perceived task difficulty), father's perception of co-parenting

support (verbal persuasion) and paternal self-efficacy are hypothesized. Also, an indirect path between mother's perception of co-parenting support (verbal persuasion) and paternal self-efficacy is hypothesized through father's perception of co-parenting support.

Figure 1. *Conceptual Model*



Hypotheses

Ho1 High involvement by the father does not predict high parental self-efficacy.

Ha1 High involvement by father does predict high parental self-efficacy.

Ho2 High paternal knowledge of child development does not predict high paternal self-efficacy.

- Ha2** High paternal knowledge of child development does predict high paternal self-efficacy.
- Ho3** Difficult toddler temperament does not predict low paternal self-efficacy.
- Ha3** Difficult toddler temperament predicts low paternal self-efficacy.
- Ho4** Paternal perception of supportive co-parenting does not predict high paternal self-efficacy.
- Ha4** Paternal perception of supportive co-parenting predicts high paternal self-efficacy.
- Ho5** Maternal perception of supportive co-parenting does not predict high paternal self-efficacy.
- Ha5** Maternal perception of supportive co-parenting predicts high paternal self-efficacy.
- Ho6** Maternal perception of supportive co-parenting does not predict high paternal self-efficacy indirectly through paternal perception of supportive co-parenting.
- Ha6** Maternal perception of supportive co-parenting predicts high paternal self-efficacy indirectly through paternal perception of supportive co-parenting.

Conceptual and Operational Definition

Parental Self-Efficacy

The dependent variable in the study. Conceptually, parental self-efficacy refers to the parent's expectations about the level to which they are able to perform competently and effectively as parents (Teti & Gelfand, 1991). Operationally, the level of parental self-efficacy was measured by The Self-Efficacy for Parenting Task Index-Toddler Scale (SEPTI-TS) (Coleman & Karraker, 2003).

Paternal Knowledge of Child Development

Independent variable. Conceptually, paternal knowledge of child development is defined as the father's familiarity with the infant's developmental norms, and awareness of parenting behavior related to children's cognitive, language, motor development, and children's health and nutrition (Benasich & Brooks-Gunn, 1996). Operationally, the level of parental knowledge of child development was measured by the Knowledge of Infant Development Inventory (MacPhee, 1981) as self-reported by the fathers.

Toddler Temperament

Independent variable. Conceptually, toddler temperament is defined as toddler's behavioral style including about activity level, rhythmicity of body function, approach, intensity, adaptability, mood, persistence, sensory threshold and distractibility (Fullard, McDevitt, & Carey, 1984). Difficult toddler temperament is defined as toddler with high intensity and negative mood. Operationally, toddler temperament was measured by the two subscales of The Toddler Temperament Scale (TTS) (Fullard, McDevitt, & Carey, 1984), intensity and mood, completed by fathers.

Perception of Co-Parenting Support

Independent variable. Conceptually, co-parenting support refers to each parent's supportiveness of the other. The supportiveness includes affirmation of the spouse's competency as a parent, acknowledging and respecting the spouse's contributions, and the supporting the spouse's parenting decisions and authority (Feinberg, 2002). Operationally, mothers' and fathers' perceptions of co-parenting support was measured by the Parenting Alliance Inventory (PAI) (Abidin & Brunner, 1995), completed independently by each parent.

CHAPTER 2

REVIEW OF LITERATURE

In this chapter, current literature on parental self-efficacy, knowledge of child development, infant temperament, co-parenting support, and father involvement is reviewed. Most of the literature on parental self-efficacy has revolved almost exclusively around mothers' self-efficacy in the parental role. Given the lack of research on paternal self-efficacy, the literature on maternal self-efficacy is reviewed here. Deficits in the literature, particularly related to the lack of research on paternal self-efficacy, are noted.

Parental Self-Efficacy

Parental self-efficacy has been researched primarily over the last two decades (Cutrona & Troutman, 1986; Donovan & Leavitt, 1989), and its importance for improving parenting skills, such as the ability to attend to and understand infants' signals (Donovan et al., 1989), is nicely summarized in Coleman and Karraker's (1997) review. Parenting self-efficacy plays a key role in adaptation to parenthood (Williams et al., 1987), because successful adaptation to parenthood may require that parents believe they have the ability to succeed at this challenging task. Another point is that mothers, who have a strong self-efficacy belief in their parenting roles, experience more positive emotional well-being, feel closer to their infants, have better adjustment in parenting, and experience better marital relationships during their children's toddlerhood (Bandura, 1997). Finally, parenting self-efficacy is correlated with specific adaptive parenting skills, such as providing responsive, stimulating, and warm caregiving (Unger & Waudersman, 1985). Parenting self-efficacy is related to child outcomes, such as the quality of infant

attachment (Donovan & Leavitt, 1985) and children with fewer emotional problems who are more sociable (Coleman & Karraker, 2000). Also, higher maternal self-efficacy leads to higher parenting satisfaction. (Coleman & Karraker, 2000). To summarize, people with high self-efficacy in their parenting roles interact with their children more optimistically, sensitively, and consistently than those with less confidence.

Some researchers have investigated parental self-efficacy as a mediator between several psychosocial variables (i.e., infant temperament, knowledge of child development, parents' education, and marital support) and maternal competence (Teti & Gelfand, 1991), mother-toddler interaction (Conard et al., 1992), maternal depression (Cutrona, Troutman, 1986), infant attachment (Donovan & Leavitt, 1985), and parenting quality (Machida, et al., 2002). For instance, Teti and Gelfand (1991) found that socio-demographic status, infant temperament, social marital support, and depression were related to maternal competence when self-efficacy was controlled. Also, Machida et al. (2002) examined the mediating role of maternal self-efficacy in predicting quality of parenting. Maternal self-efficacy was found to mediate the effect of child temperament on the quality of the home learning environment provided by mothers.

Several studies of parental self-efficacy have centered on toddlerhood, due to the developmental changes and the challenges for parents that occur during this time, but with a focus on mothers' self-efficacy. Higher self-efficacy appears to contribute to better toddler developmental and behavioral outcomes (Coleman & Karraker, 2003). For instance, in Coleman and Karraker's (2003) study of 68 mother and toddler pairs, maternal self-efficacy beliefs predicted parenting competence, toddler developmental status, and behavioral outcomes (toddler compliance, enthusiasm, and persistence). Also,

there was a 10-week training program for mothers and fathers focused on promoting positive parent-toddler relationship (Gross, Fogg & Tucker, 1995). In this study, mothers increased maternal self-efficacy, decreased maternal stress, and improved mother-toddler interactions. However, there were no significant changes in increasing paternal self-efficacy or decreasing paternal stress among fathers, probably because forty percent of the fathers attended fewer than half of the training sessions (Gross, Fogg & Tucker, 1995).

In summary, research on self-efficacy has been ongoing for over 20 years and has been well-developed. Early research focused on the influences of maternal self-efficacy on related characteristics, while, during the past 10 years, it has been studied as a mediator or moderator of other parenting outcomes. On the other hand, paternal self-efficacy has not caught the attention from scholars as a research topic and, thus, our knowledge of its importance remains underdeveloped compared to our understanding of maternal self-efficacy. Therefore, it is important to understand what influences paternal self-efficacy at this initial stage.

Father Involvement

Father involvement refers to father's participation in child-rearing tasks. In most of the research on father involvement, three dimensions are considered in father's participation: engagement, availability, and responsibility (Lamb, Pleck, Charnov, & Levine, 1987). In this particular study, the level of father involvement is considered, such that the amount of involvement they have in child-rearing activities is taken into account.

Since most of the research in the past on parenting self-efficacy focused on maternal self-efficacy, it was assumed that mothers were involved in their parenting roles because mothers were the primary caregivers of their children traditionally. Therefore,

research focused on the influences on maternal self-efficacy, rather than on the level of involvement. As society has changed over the years, mothers are not necessarily the primary caregivers anymore, as many parents co-parent their children (Cabraera, et al., 2000). This shift is due to fathers' increased involvement in child rearing. Research has revealed that father involvement has increased over the past three decades (Cabraera, et al. 2000). Fathers today are typically more involved with the day-to-day experiences in their children's lives than perhaps ever before (Cabraera, et al. 2000). Given the relatively new role of fathers, very little is known about how paternal involvement might be related to self-efficacy. For instance, do fathers, who are more involved with their children, feel more efficacious? Does more "practice" in parenting contribute to efficacy? In a Taiwanese study, among high SES fathers, paternal involvement in discipline, chores, or emotional involvement increased paternal self-efficacy. (Li & Ma, 2004).

Knowledge of Child Development

Knowledge of child development reflects parents' understanding of developmental norms and milestones, progress of child development, and a general understanding about the cues and behaviors of their young children. Smeriglio and Parks (1983) divide this developmental knowledge into three parts: awareness of developmental milestones, awareness of specific caregiving techniques, and perceptions on how to support children's development. Knowledge of child development enables parents to understand the physical, psychological, and social capabilities of their children, contributing to ways they expect their children to respond, how they perceive their children's communication abilities, and revises their parenting attitudes (Benasich & Brooks-Gunn, 1996, Todak, 1999). Boger and Smith (1986) noted that a basic knowledge

of infant behavior is predictive of parenting success and positive mother-infant interactions. Moreover, knowledge bolsters competence, consistency, and self-efficacy in the parental role (Boger & Smith, 1986).

In accordance with Bandura's self-efficacy theory (1989), parental self-efficacy beliefs should incorporate both the specific knowledge involved in child rearing and the level of confidence in one's ability to carry out the designated role behaviors. Parents often overestimate the rate of development of their children (Cowen, 2001). When parents have inappropriate expectations about typical child development, they are more likely to experience impatience and intolerance with their children's behaviors (Cowen, 2001). Moreover, unrealistic expectations of child behavior and development may impede positive parent-infant communication, undermine parental confidence and self-esteem, and contribute to cumulative developmental risk factors or child behavior problems (Todak, 1999). Therefore, fathers who know little about their children's development may have lower paternal self-efficacy in the parenting role.

Conard and colleagues (1992) found that maternal self-efficacy was related to the quality of mother-child interaction only when knowledge of child development was taken into account. For example, mothers who were the most knowledgeable about child development and who felt confident about their parenting skills had the most positive mother-toddler interactions. Hess, Teti and Hussey-Gardner (2004) found that the relationship between maternal self-efficacy and parenting competence was moderated by maternal knowledge of child development. For instance, maternal self-efficacy and parenting competence were positively associated when knowledge of child development was high. Among mothers who were more knowledgeable about child development, there

was a significantly positive relation between parental self-efficacy and maternal behavioral competence.

Toddler Temperament

Goldberg (1977) has suggested that maternal self-efficacy is likely to be fostered by infants who are predictable, manageable, and easily soothed. By contrast, difficulty of infant temperament may impede maternal self-efficacy. Typical hallmarks of a difficult temperament are such characteristics as fussiness, irritability, and frequent intense crying, coupled with low soothability and manageability (Wachs & Kohnstamm, 2001).

Many studies have found that maternal self-efficacy is related to mothers' perceptions of their babies with "easy" or "difficult" temperaments. Children's difficult temperament is related to low maternal self-efficacy (Cutrono & Troutman, 1986; Goldberg, 1977; Gross, Conrad, Food, & Wothke, 1994; Teti & Gelfand, 1991; Porter & Hsu, 2003). In Porter and Hsu's (2003) study, first-time mothers' perceptions of efficacy was measured prenatally and postnatally. Maternal self-efficacy was related to depression, anxiety, marital conflict, and level of previous experience one month before going into labor. Mothers' perceptions of infant temperament were significantly related to maternal self-efficacy when babies were three months old. This study suggested that maternal self-efficacy beliefs are being shaped by interactions between infants and mothers.

Machida et al. (2002) examined whether maternal self-efficacy mediated the relationship between child-family characteristics (i.e., mother's education, child's difficult temperament, and family stress) and the involvement in home-learning activities in Head Start families. The relationship between maternal self-efficacy and infant temperament, as cited in the research literature, is congruent with Bandura's self-efficacy

theory (1989). As for parents, dealing with a difficult infant temperament may be one of the perceived task difficulties in the parenting role.

Co-Parenting Support

Co-parenting support refers to each parent's supportiveness of the other. Such support includes affirmation of the spouse's competency as a parent, acknowledging and respecting the spouse's contributions, and supporting the spouse's parenting decisions and authority (Feinberg, 2002). The co-parenting relationship has been found to be associated with parenting quality and child outcomes. For example, positive perception of the co-parenting relationship has been linked to authoritative parenting and lower parenting stress (Abidin & Brunner, 1995) and higher levels of perceived parental competence (Floyd & Zmich, 1991). According to self-efficacy theory, the social-marital support's influence on efficacy is through processes involving social persuasion, verbal encouragement, and opportunities for observing the significant other's parenting interactions. Additionally, co-parenting support is viewed as the most powerful environmental influence on maternal self-efficacy (Feinberg, 2002).

Relevant research indicates the importance of social and marital support in the parenting role, which is positively related to maternal efficacy (Holloway, et al., 2005). In contrast, marital conflict or lack of social support is negatively related to maternal efficacy (Cutroma & Troman, 1986; Teti & Gelfand, 1991). Elder (1993) found that, of all possible sources of support, spousal support (in most studies identified as husbands' support of their wives) is most highly related to maternal self-efficacy (as cited in Holloway et al, 2005). Similarly, Holloway et al. (2005) found that the support husbands provide is an important source of maternal self-efficacy due to the strong connection

between it and satisfaction with husbands' support. Teti, O'Connell, and Reiner (1996) noted that parental self-efficacy was fostered by a positive co-parenting relationship, especially in the area of co-parenting supportiveness. A supportive co-parenting relationship helps couples confront difficulties in the parenting role together, and thus helps them establish and maintain a sense of confidence in their parenting roles (Floyd, Gilliom, & Costigan, 1998). Also, parenting efficacy has been demonstrated to be linked to maternal sensitivity and warmth (Feinberg, 2002).

Whether one's spouse feels co-parenting support from a partner may influence their behavior in the parenting role. McBride and Rane (1998) examined the relationship between perceptions of co-parenting relationships, marital quality, and the amount of involvement of fathers with young children and found that fathers, whose wives gave a more positive emotional appraisal of their parenting skills, were also more involved and responsible for child-rearing. Moreover, fathers, whose wives perceived a greater sense of shared philosophy and perceptions of parenting with them, also interacted more with and assumed more responsibility for their young child.

Wives' perceptions of co-parenting support, or not, could affect husband's parenting behavior. Wives, who feel more co-parenting support, may have better interactions with their husbands, and when their husbands receive more positive cues, may feel more confident in their parenting roles. In this study, the relationship between maternal perception of co-parenting and paternal parenting behavior is clear; what is unknown is the relationship between maternal perceptions of co-parenting and paternal self-efficacy, and if maternal perceptions of co-parenting predicts paternal self-efficacy indirectly through paternal perception of co-parenting.

Summary

A review of the relevant literature indicates the importance of self-efficacy in the parenting role. The existing literature on maternal self-efficacy reviewed so far has clearly demonstrated that maternal self-efficacy has been an influential mediator of several of the determinants that have been examined in relation to parenting behavior, including child temperament, social/marital supports, parenting stress, and knowledge of child development. Most of the literature described parental self-efficacy as a mediator and discussed the influences of maternal self-efficacy. There were few studies that discussed predictors of parental self-efficacy and those few were examined among mothers and rarely among fathers. Knowledge of child development and infant temperament has been examined in several studies, and obviously these two variables were strongly associated with maternal self-efficacy. Little is known about fathers' knowledge of child development and the relationship between paternal self-efficacy and infant temperament. Moreover, no single study focuses on self-efficacy of fathers and their support systems. Understanding predictors of paternal self-efficacy is a necessary next step in better understanding fathers' parenting experiences.

CHAPTER 3

METHODOLOGY

Participants

Eighty parents with toddlers (45 boys and 35 girls) between the ages of 18 and 36 months were recruited from childcare centers in the greater Lansing area. The criteria for participation in this study were: 1) intact family, 2) first-time parents, and 3) parents with children 18-36 months of age. Mean age was 26 months ($SD=5.6$) for children. Fathers were an average of 34 years old ($SD = 5.5$) while the mean age for mothers was 32 years ($SD = 5.9$). The predominant ethnic group represented in the sample was Caucasian (73%). Seventy eight percent of fathers and 85% of mothers reported holding a college degree or an advanced degree and the mean income range was 75,000-85,000. Full demographic information on the sample is reported in Table 1 on the next page.

Table 1.

Family Demographic Information (n=80)

Family Demographic Information	N	%
<i>Child Gender</i>		
Male	45	56%
Female	35	44%
<i>Educational Attainment of Fathers</i>		
Not yet completed high school	0	0 %
High school diploma	14	18%
Associates Degree	3	4%
Bachelor's Degree	34	42%
Masters Degree	11	14%
Doctorate, M.D., JD	18	22%
<i>Educational Attainment of Mothers</i>		
Not yet completed high school	0	0.0%
High school Diploma	7	9%
Associates Degree	5	6%
Bachelor Degree	41	51%
Masters Degree	20	25%
Doctorate, MD, JD	7	9%

Table 1 (Continued)

Family Demographic Information (n=80)

<i>Family Annual Income</i>		
Less than \$15,000	3	4%
\$15,000-\$24,999	3	4%
\$25,000-\$34,999	2	3%
\$35,000-\$44,999	5	6%
\$45,000-\$54,999	9	11%
\$55,000-\$64,999	8	10%
\$65,000-\$74,999	8	10%
\$75,000-\$84,999	5	6%
\$85,000-\$94,000	7	9%
\$95,000-\$104,999	6	7%
\$105,000 or greater	24	30%

<i>Fathers' Ethnicity</i>		
Caucasian	59	74%
African American	4	5%
Hispanic	0	0%
Asian	15	19%
Other	2	2%

Table 1 (Continued)

Family Demographic Information (n=80)

<i>Mothers' Ethnicity</i>		
Caucasian	59	74%
African American	4	5%
Hispanic	2	2%
Asian	14	18%
Other	1	1%

Procedures

The researcher explained to the directors of each childcare center the purpose of the study, detailing the procedural protocol, and seeking permission to recruit parents for the study. After the researcher obtained permission, forms were put in the children's cubbies at the centers. Parents who were willing to participate in the study filled out their and their children's names on the forms and returned them to the childcare providers. Next, they received survey packages from the childcare providers at the center (via children's cubbies or backpacks). The package to parents included descriptions of the study, two questionnaire booklets (one for mothers and one for fathers), instructions to mothers and fathers to complete the questionnaires independently, and consent forms for each parent. Fathers completed questionnaire packages, which included demographic information, parenting self-efficacy, knowledge of child development, toddler temperament, co-parenting support scales, and father involvement. Mothers completed a questionnaire, which included questions regarding demographic information (maternal education) and co-parenting support. Each questionnaire package was labeled with the parent ID number to match the couples' surveys. These surveys took approximately 30-45 minutes for fathers and 10 minutes for mothers to complete.

In order to keep their answers anonymous, the two completed surveys and consent forms were returned in sealed envelopes to two separate drop boxes (one box for surveys and one box for consent forms) in the childcare centers, so that the researcher wouldn't be able to match the surveys and consent forms. Since questionnaires and consent forms were returned in two separate drop boxes at the same time, the researcher sent out children's books to the participants according to the returned consent forms.

Approximately 356 families received the forms, and approximately 100 were willing to participate in this study. In the end, 80 questionnaires were obtained. The response rate was 22.4%.

Instruments

Demographic Questionnaire

Fathers and mothers were asked to provide some basic background information about their age, children's age, educational level, and annual family income. This information was used to describe the sample of participants.

Parental Self-Efficacy

Paternal self-efficacy was assessed using the Self-Efficacy for Parenting Tasks Index-Toddler Scale (SEPTI-TS) (Coleman & Karraker, 1998). This is a 53-item scale measuring seven dimensions of parenting based on the most important dimensions of toddler-caregiver relationships as delineated by Zeanah et al. (1997) and originally formulated by Emde (1989) (as cited in Coleman & Karraker, 1998). The seven dimensions are: 1) emotional availability; 2) nurturance, valuing the child, and empathetic responsiveness; 3) discipline and limit setting; 4) protection; 5) play; 6) teaching; and 7) instrumental care. In this study, 46 items were used because the protections from harm or injury subscale was eliminated due to the low alpha coefficient in Coleman et al's study. Items were scored on a six-point Likert scale and the responses ranged from "Strongly Agree" to "Strongly Disagree." The total score ranged from 46 to 276, and higher scores indicated stronger parental self-efficacy. The six domains, with alpha coefficients in this study noted, included the following: emotional availability (.80); nurturance, valuing the child, and empathetic responsiveness (.70); discipline and limit

setting (.75); play (.76); teaching (.79); and instrumental care (.87). The alpha coefficient for the full scale in the current study was .92.

Knowledge of Child Development

Fathers' knowledge about child development was assessed using the Knowledge of Infant Development Inventory (KIDI; MacPhee, 1981). This 58-item questionnaire assesses fathers' knowledge about child-rearing practices, developmental processes, and infant normative milestones. Questions include items related to children's physical, social, language, perceptual, and cognitive development. Additionally, items related to children's early experiences, the bidirectional nature of social influences, atypical development, and health and safety issues are included. In this study, the first 39 items were used in the survey. Responses included "agree," "disagree," or "not sure," to the statement presented. MacPhee (1981) reported a test-retest reliability of .92 for total score over a 2-week interval and a Cronbach's alpha of .82 for parents' KIDI scores. In this study, the alpha coefficient (the first 39 items) was .80

Toddler Temperament

The Toddler Temperament Scale (TTS) (Fullard, McDevitt, & Carey, 1984) assessed toddler temperament. This scale includes 97 items, which measures parents' perception of their 12- to 36 month-old children's behavior along nine dimensions of temperament. The nine dimensions are activity level, rhythmicity of body function, approach, intensity, adaptability, mood, persistence, sensory threshold, and distractibility. Two particular dimensions of interest were measured in the current study, intensity and mood, were measured. These two subscales were of particular interest because they more easily characterize temperament as being more flexible or more challenging. Fathers were

instructed to rate their child's typical behavior in a variety of situations along a scale of 1 (almost never) to 6 (almost always). Fathers completed the mood and intensity subscale of TTS-the dimensions. In examining the data as the preliminary step in the analyses, the mood subscale was more highly correlated with the outcome variable. Therefore, only the mood subscale was used in analyzing in the SEM model. The alpha coefficient for the mood subscale in the current study was .77.

Co-parenting Support

The Parenting Alliance Inventory, a 20-item self-report scale (Abidin & Brunner, 1995) assessed co-parenting support. Mothers and fathers completed this instrument individually and responded to each item along a 5-point Likert scale, ranging from (1) strongly disagrees to (5) strongly agrees. This scale displayed high internal consistency; the alpha coefficients were .90 (father reported) and .92 (mother reported), respectively.

Paternal Involvement

Paternal involvement was assessed by the Paternal Involvement and Child Care Index (Radin, 1982). This instrument contains 23 items, some of which are scored on a Likert-type scale, while simultaneously asking parents to delineate the percentage of responsibility on different items. Five areas of paternal involvement were noted: 1) *statement of involvement* consists of degree of involvement caring for the child; 2) *childcare responsibility* involves feeding the child, having sole responsibility, bathing, dressing, and putting the child to bed; 3) *socialization responsibility* involves discipline, setting limits for the child's behavior, helping the child with personal problems, and helping the child to learn; 4) *influence in child-rearing decision* involves who decides when the child should be disciplined and when the child is old enough to try new things;

and 5) *availability* involves how frequently the father is in the home and available to the child for specified activities. Two of the subscales, childcare responsibility and socialization responsibility, were used in this study. The alpha reliability was .85.

Data Analysis

Data analysis was carried out in a two-step plan, which included descriptive analyses of data and hypothesis testing using Structural Equation Modeling (SEM). SPSS 13.0 was used for descriptive analyses of data, and AMOS 6 (Arbuckle, 2005) was used to analyze the structural models utilized in testing the hypothesis. First, frequencies and percentages for demographic variables in the study were calculated and examined. In addition, the mean scores and standard deviations of the independent and dependent variables were calculated. Distribution of data was examined in these descriptive analyses as well. The correlations among the self-efficacy measure and the four independent variables were examined and are presented in Table 2 and 3. In the second step of the analysis process, the main hypotheses in this study were examined by Structure Equation Model.

Structural Equation Modeling (SEM) was used to test the conceptual model presented in Figure 1. SEM is a multivariate statistical technique used to determine the validity of a certain model. SEM combines confirmatory factor analysis and path analysis (Kline, 2004). There are several advantages to use SEM. First of all, compared to multiple regression, SEM not only tests direct prediction, but also provides information about indirect prediction paths. Secondly, SEM demonstrates a more precise estimation of the indirect effects of the exogenous variables on all endogenous variables than path analysis does. Finally, all the variables in this study, toddler temperament, paternal self-

efficacy, and perception of co-parenting, are latent variables, which are better evaluated with SEM (Musil, Jones, & Warner, 1998).

To use SEM, there are numerous data assumptions. First of all, a theoretical basis for model specification is required. Secondly, dependent and mediating variables need to be continuously distributed. Third, based on Stevens (1996)' rule of thumb, at least 15 cases per measured variable or indicator are needed. All assumptions were met in the current study.

CHAPTER 4

RESULTS

This chapter describes the findings from this study. Three sections include the descriptive analysis of the data, the hypothesized structural equation model and the revised structural equation model.

Descriptive Analysis of the Data

Descriptive Statistics of Study Variables

Table 2 provides the descriptive statistics for all of the primary study variables. Paternal self-efficacy tended to be moderately high for the sample and the fathers in this study are highly involved in the parenting role. Maternal and paternal perceptions of co-parenting support tended to be very high for the couples. The toddler mood is generally positive in this study. Table 3 provides a correlation matrix with all the primary study variables.

Table 2

Descriptive Statistics of Study Variables (n = 80)

Variables	Mean	Standard Deviation	Potential Range
Paternal Self-efficacy (Total Score)	4.75 5	.50	1.00-6.00
Paternal Self-efficacy (Emotional availability)	5.02 2	.66	1.00-6.00
Paternal Self-efficacy (nurturance/valuing/ empathetic responsiveness)	4.87	.49	1.00-6.00

Table 2 (Continued)

Descriptive Statistics of Study Variables (n = 80)

Paternal Self-efficacy (discipline/limit setting)	4.37	.72	1.00-6.00
Paternal Self-efficacy (play)	4.95	.67	1.00-6.00
Paternal Self-efficacy (teaching)	4.76	.62	1.00-6.00
Paternal Self-efficacy (instrumental care/structure/routine)	4.57	.87	1.00-6.00
Paternal Perception of Co-parenting	4.48	.37	1.00-5.00
Maternal Perception of Co- parenting	4.51	.53	1.00-5.00
Knowledge of Child Development	.75	.11	0.00-1.00
Toddler mood	2.85	.63	1.00-6.00
Paternal Involvement	2.43	.43	1.00-3.00

Table 3 : correlation matrix with all of the primary study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Self-efficacy (Emo)	1	.783(**)	.401(**)	.546(**)	.545(**)	.285(*)	.746(**)	.357(**)	.494(**)	.074	-.358(**)	.358(**)
2 Self-efficacy (NURTUR)	.783(**)	1	.462(**)	.457(**)	.506(**)	.428(**)	.774(**)	.288(**)	.546(**)	.139	-.520(**)	.365(**)
3 Self-efficacy (DISC)	.401(**)	.462(**)	1	.415(**)	.513(**)	.406(**)	.711(**)	.025	.171	.132	-.194	.265(**)
4 Self-efficacy (PLAY)	.546(**)	.457(**)	.415(**)	1	.578(**)	.458(**)	.762(**)	.045	.408(**)	.247(*)	-.311(**)	.214
5 Self-efficacy (TEACHING)	.545(**)	.506(**)	.513(**)	.578(**)	1	.368(**)	.790(**)	.119	.344(**)	.369(**)	-.350(**)	.346(**)
6 Self-efficacy (CARE)	.265(*)	.428(**)	.406(**)	.458(**)	.368(**)	1	.708(**)	.121	.242(*)	.188	-.334(**)	.337(**)
7 Self-efficacy (TOTAL)	.746(**)	.774(**)	.711(**)	.762(**)	.790(**)	.709(**)	1	.201	.470(**)	.265(*)	-.453(**)	.422(**)
8 MOMCOP	.357(**)	.288(**)	.025	.045	.119	.121	.201	1	.379(**)	.079	-.060	.293(**)
9 DADCOP	.494(**)	.546(**)	.171	.408(**)	.344(**)	.242(*)	.470(**)	.379(**)	1	.287(**)	-.357(**)	.268(*)
10 KNOWLE	.074	.139	.132	.247(*)	.368(**)	.168	.265(*)	.079	.287(**)	1	-.134	.212
11 MOOD	-.358(**)	-.520(**)	-.194	-.311(**)	-.350(**)	-.334(**)	-.453(**)	-.060	-.357(**)	-.134	1	-.179
12 INVOLVE	.358(**)	.365(**)	.265(*)	.214	.346(**)	.337(**)	.422(**)	.293(**)	.268(*)	.212	-.179	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Reference: 1. self-efficacy-emotional availability, 2. Self-efficacy-nurturance/valuing/empathetic responsiveness, 3. Self-efficacy-discipline/limit setting, 4. self-efficacy-play, 5. Self-efficacy-teaching, 6. Self-efficacy-instrumental care/structure/routine, 7. Self-efficacy-total score, 8. maternal perception of coparenting support, 9. Paternal perception of coparenting support, 10. Knowledge of child development, 11. Toddler temperament, 12. Paternal involvement.

Normality of Distribution

According to the assumptions of SEM, the data of observed variables have to be normal distributed. The distribution of the observed variables and tests for skewness and kurtosis was performed before proceeding with analyses. Some of the variables were not normally distributed in this study and were negatively skewed. The Cubic transformation was used to reduce extreme negative skew and the Square transformation was used to reduce negative skew. These variables included Paternal Perception of Co-parenting, Maternal Perception of Co-parenting, Knowledge of Child Development, Paternal Involvement, and the four subscales of paternal self-efficacy.

Test of Main Hypotheses

The main hypotheses were tested using Structure Equation Modeling. Several variables were hypothesized as predictors of parental self-efficacy. The conceptual model tested is represented below. The direct paths between paternal involvement, knowledge of child development (knowledge), toddler temperament (termed as “mood” in the remainder of the paper), father’s perception of co-parenting support (dadcop) and paternal self-efficacy were hypothesized. Also, an indirect path between mother’s perception of co-parenting support (momcop) and paternal self-efficacy was hypothesized through father’s perception of co-parenting support. Paternal self-efficacy, the independent variable in this study, was a latent variable which was measured by six observed variables: 1) emotional availability; 2) nurturance/valuing/empathetic responsiveness; 3) discipline/limit setting; 4) play; 5) teaching; and 6) instrumental care/structure/routine.

Table 4

Test of Main Hypotheses

Hypotheses	Test of Path Significance
H1: High paternal knowledge of child development does predict high paternal self-efficacy.	Knowledge of child development → Paternal self-efficacy
H2: Difficult toddler mood predicts low paternal self-efficacy	Toddler Mood → Paternal self-efficacy
H3: Paternal perception of supportive co-parenting predicts high paternal self-efficacy.	Paternal perception of co-parenting support → Paternal self-efficacy
H4: Maternal perception of supportive co-parenting predicts high paternal self-efficacy.	Maternal perception of co-parenting support → Paternal self-efficacy
H5: Maternal perception of supportive co-parenting predicts high paternal self-efficacy indirectly through paternal perception of supportive co-parenting.	Maternal perception of co-parenting support → Paternal perception of co-parenting support
H6: High-involved father does predict high parental self-efficacy and a greater of number parenting tasks	Paternal Involvement → Paternal self-efficacy

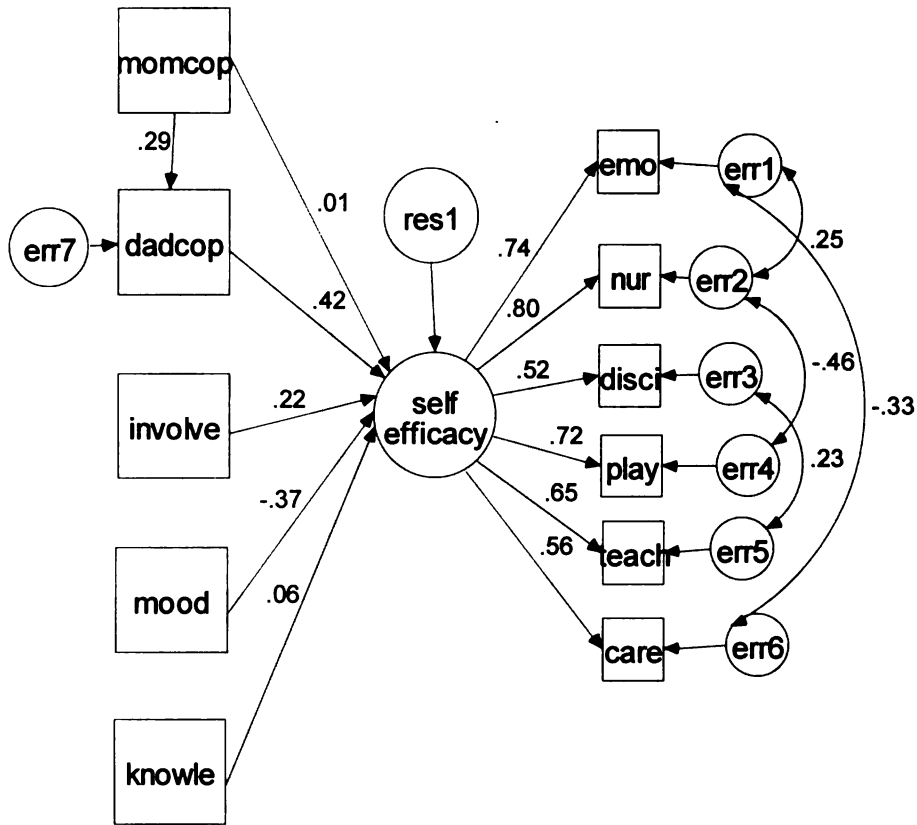
Initial Analyses

The initial model was tested with AMOS. A summary of the initial model is presented in Table 5. In SEM, there are several fit indices to check model fit. For this study, chi-square, the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit Index (AGFI), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA; Root mean square residual) were obtained. The structural models were considered to fit if the chi-square was not significant, if GFI, AGFI, and CFI were each greater than .90, and if RMSEA was less than .1 (Kline, 2004). The fit indices of the

overall measurement model were obtained. The result indicated an inadequate model fit with the initial model. The χ^2/df and RMSEA statistics did not indicate a good fit; the chi-square was significant, the values of GFI, AGFI, and CFI were not sufficient enough to accept the model as a good fit ($\chi^2=.000$, GFI=.853, AGFI= .751, CFI= .861, RESEA= .113).

In the model, the path is significant at the 0.5 level when the Critical Ratio (CR) is > 1.96 for a regression weight (Kline, 2004). The significant and insignificant paths in this hypothesized model are presented in table 7 and 8.

Figure 2: *Initial Hypothetical Model*



Reference: Self-efficacy: paternal self-efficacy, emo: emotional availability, nur: nurturance/valuing/empathetic responsiveness, disci: discipline/limit setting, play: play, teach: teaching, care: instrumental care/structure/routine, momcop: maternal perception of co-parenting support, dadcop: paternal perception of co-parenting support, involve: paternal involvement, mood: toddler temperament, knowle: knowledge of child development.

Table 5

Summary of Initial Hypothetical Model

Parameter Estimate				
Parameters		Standardized Estimates	C.R.	Significance
Momcop	→ dadcop	.295	2.742	.006
Momcop	→ self-efficacy	.009	.088	.930
Dadcop	→ self-efficacy	.419	3.705	.000
Involve	→ self-efficacy	.222	2.188	.029
Mood	→ self-efficacy	.371	-3.473	.000
Knowle	→ self-efficacy	.056	.564	.573
Self-efficacy	→ emo	.744	-----	-----
Self-efficacy	→ nurtur	.799	7.365	.000
Self-efficacy	→ disci	.525	4.191	.000
Self-efficacy	→ play	.723	5.429	.000
Self-efficacy	→ teaching	.649	5.081	.000
Self-efficacy	→ care	.564	4.046	.000

Goodness of Fit Summary

χ^2	Df	χ^2/df	GFI	AGFI	CFI	RESEA
78.130	39	2.0	.930	.862	.983	.046

Table 6

Significant Path in the Hypothesized Model

Significant Path	C.R.
Paternal involvement → Paternal self-efficacy	2.188
Paternal perceptions of co-parenting support → Paternal self-efficacy	3.705
Toddler temperament → Paternal self-efficacy	-3.473
Maternal perceptions of co-parenting support → Paternal perceptions of co-parenting support	2.742
Maternal perceptions of co-parenting support → Paternal perceptions of co-parenting support → Paternal self-efficacy	----

The path is significant at the .05 level when the Critical Ratio (CR) is > 1.96 for a regression weight.

Table 7

Insignificant Path in the Hypothesized Model

Insignificant Path	C.R.
Direct Path	
1. Knowledge of child development → Paternal self-efficacy	.564
2. Maternal perceptions of co-parenting support → Paternal self-efficacy	.088

The Modified Model

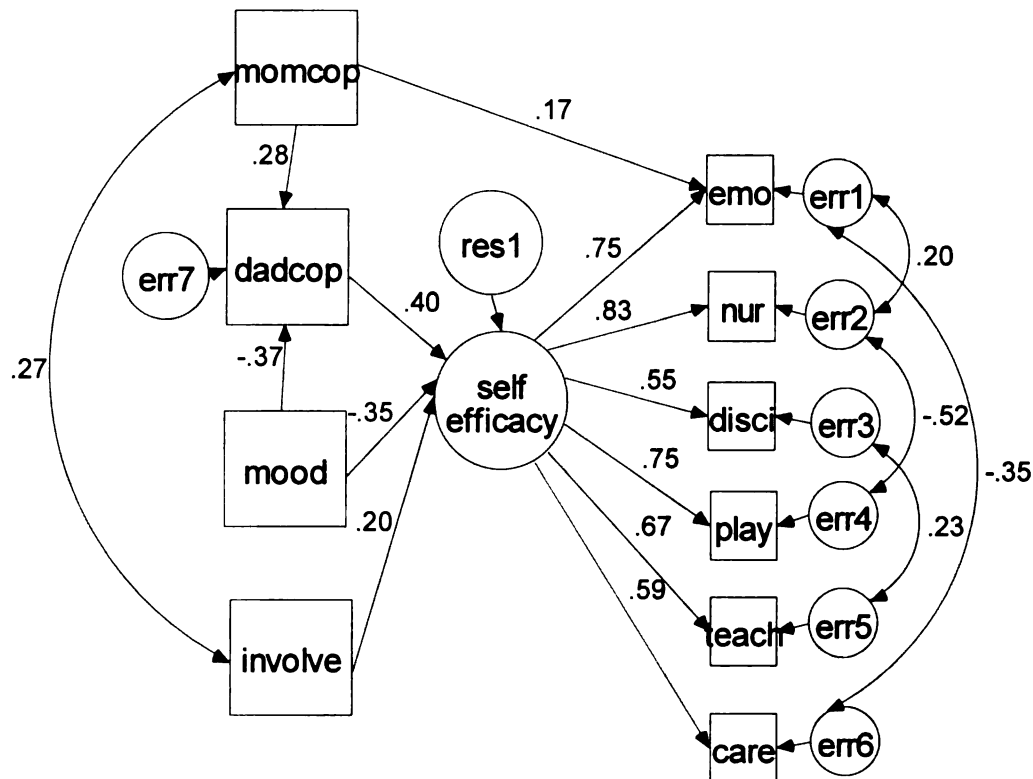
The fit measures indicated an unsatisfactory fit in the initial hypothetical model. Based on modification indices (M.I) in AMOS 6.0, the model was modified in order to have better model fit. There were two steps in the modification: First, the insignificant paths (C.R < 1.96 - See Table 7), were removed. Second, according to the modification indices (M.I), some additional pathways were added if the paths were empirically and

theoretically supported (See Table 9). There were several major modifications made to improve the model fit of the initial hypothesized model. The first modification was to remove paternal knowledge of child development. The second modification was to remove the direct path from maternal perceptions of co-parenting support to paternal self-efficacy and add a direct path from maternal perceptions of co-parenting support to one of the observed variable, which indicates paternal self-efficacy-emotional availability instead. The third modification was to add a direct path from toddler mood to paternal perceptions of co-parenting support based on literature review. The last modification was to add a covariance between maternal perceptions of co-parenting support and paternal involvement.

The modified model is presented in Figure 3 and the summary of this model is presented in Table 8 and 9. After the modifications, the fit indices of the model indicated the model was a good model as well as a good representation of the data. The χ^2/df and RMSEA statistics were small enough to indicate a good fit; the chi-square was not significant, and the values of GFI, AGFI, and CFI were sufficient enough to accept the model as a good fit ($\chi^2=30.197$, GFI=.938 , AGFI= .878 , CFI= .992 , RESEA= .032).

All the paths are significant in this modified model. Table 10 and 11 present hypotheses testing and the additional paths found in the modified model.

Figure 3. *The Modified Model*



Reference: Self-efficacy : paternal self-efficacy, emo: emotional availability, nur: nurturance/valuing/empathetic responsiveness, disci: discipline/limit setting, play: play, teach:teaching, care: instrumental care/structure/routine, momcop: maternal perception of co-parenting support, dadcop: paternal perception of co-parenting support, involve: paternal involvement, mood: toddler temperament, knowle: knowledge of child development.

Table 8

Summary of modified model

Parameter Estimate					
Parameters		Standardized	C.R.	Significance	
Momcop	→ dadcop	.282	2.826	.005	
Mood	→ dadcop	-.367	-3.677	.000	
Dadcop	→ self-efficacy	.399	3.721	.000	
Involve	→ self-efficacy	-.349	3.326	.000	
Mood	→ self-efficacy	.203	-2.151	.031	
Self-efficacy	→ emo	.746	---	---	
Self-efficacy	→ nurtur	.828	7.989	.000	
Self-efficacy	→ disci	.552	4.616	.000	
Self-efficacy	→ play	.754	6.065	.000	
Self-efficacy	→ teaching	.668	5.559	.000	
Self-efficacy	→ care	.586	4.377	.000	
Momcop	→ emo	.167.	2.500	.012	

Goodness of Fit Summary

χ^2	Df	χ^2/df	GFI	AGFI	CFI	RESEA
30.197	28	1.078	.938	.878	.992	.032

Table 9.

Significant Path in the modified Model

Significant Path in the Modified Model	C.R.
Direct Path	
1. Paternal involvement-→Paternal self-efficacy	3.326
2. Paternal perceptions of co-parenting support → Paternal self-efficacy	3.721
3. Toddler mood → paternal self-efficacy	-2.151
4. Maternal perceptions of co-parenting support→ Paternal perceptions of co-parenting support	2.826
5. Toddler mood→ paternal perception of co-parenting support	-3.677
6. Maternal perceptions of co-parenting support→ paternal self-efficacy (Emotional availability)	2.500
Indirect Path	
7. Maternal perceptions of co-parenting support→ Paternal perceptions of co-parenting support-→Paternal self-efficacy	-----
8. Toddler mood→paternal perception of co-parenting support→ paternal self-efficacy	-----

Table 10.

Hypotheses Testing

Hypotheses	Result
H1. Highly involved father predicts high parental self-efficacy.	Supported
H2. High paternal knowledge of child development predicts high paternal self-efficacy.	Unsupported
H3. Difficult toddler mood predicts low paternal self-efficacy.	Supported
H4. Paternal perception of supportive co-parenting predicts high paternal self-efficacy.	Supported
H5. Maternal perception of supportive co-parenting predicts high paternal self-efficacy.	Unsupported
H6. Paternal perception of supportive co-parenting predicts high paternal self-efficacy.	Supported

Table 11

Additional Findings in the Model

Path
1. Toddler mood → paternal perception of co-parenting support.
2. Maternal perceptions of co-parenting support → paternal self-efficacy (Emotional availability)
3. Toddler mood → paternal perception of co-parenting support → paternal self-efficacy.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

The present study investigated the predictors of paternal self-efficacy among first-time fathers. Overall, results indicated that paternal self-efficacy was predicted by paternal involvement, toddler mood, and paternal perceptions of co-parenting support. However, paternal self-efficacy was not predicted by paternal knowledge of child development and maternal perceptions of co-parenting support as hypothesized.

In the study, unexpected pathways were found in the hypothesized model. First, toddler mood predicted paternal perceptions of co-parenting support. Second, paternal perceptions of co-parenting support mediated the relationship between toddler mood and paternal self-efficacy. Third, maternal perceptions of co-parenting support and paternal involvement were related. Fourth, maternal self-efficacy predicted one of the domains of paternal self-efficacy-emotional availability. In this chapter, the discussion of the direct and indirect paths in the structural equation model is given and suggestions for future research are made.

Paternal Involvement → Paternal Self-Efficacy

Paternal involvement was found to predict paternal self-efficacy. Fathers who were highly involved in the parenting role had higher paternal self-efficacy. According to past research on parenting self-efficacy, most research has focused on maternal self-efficacy. It was assumed that mothers were involved in their parenting roles because mothers were the primary caregivers of their children, therefore, there was no research focus on the relationship between maternal self-efficacy and maternal involvement.

However, father involvement is an important consideration in the study of paternal self-efficacy. Some of the fathers are primary caregivers or they co-parent their children (Cabraera, et al. 2000) due to the increase in father involvement. This finding was consistent with a Taiwanese study that indicated that paternal involvement in discipline, chores, or emotional involvement respectively can each increase paternal self-efficacy among high SES fathers. (Li & Ma, 2004). One possible explanation for the relationship between paternal involvement and paternal self-efficacy is that fathers who are highly involved in the parenting role have more opportunities to form parenting self-efficacy.

According to Bandura, self-efficacy can be formed by the following sources: enactive mastery experience, vicarious experience, verbal persuasions, and physiological state. For example, fathers who have more experience performing child care might have more opportunities to receive positive feedback from their spouses (verbal persuasions). Also, fathers who are highly involved in the parenting role might have a more successful experiences remaining involved in the parenting role, which, in turn, raises their self-efficacy (enactive mastery experience). Further, the positive experience of paternal involvement might be beneficial to paternal self-efficacy. Further study should consider if positive or negative experiences of involvement might influence parenting self-efficacy.

Paternal Knowledge of Child Development → Paternal Self-Efficacy

Based on this study, knowledge of child development does not predict paternal self-efficacy. There are several possible explanations for this. First, the sample size in this study was small, and the current sample is predominantly White, upper class, highly educated, and demographically restricted. The current sample may not have enough

variability in the knowledge scores because this population is a group of fathers who may be more likely to read books on child development and childcare. Therefore, the sample in the current study made it difficult to detect the relationship between knowledge of child development and paternal self-efficacy. Also, among such a high SES group, parenting roles might differ from other SES groups. In general samples, knowledge of child development might not be dropped in the model. Second, the instrument used to assess paternal self-efficacy was task-domain specific. Some of the KIDI items cannot reflect on the knowledge of parenting tasks in the self-efficacy for parenting tasks index-toddler scale. Although fathers got high scores on KIDIs, the level of knowledge of infant development may not predict higher paternal self-efficacy.

Paternal Perceptions of Co-Parenting Support → Paternal Self-Efficacy

The results from this study indicated that paternal perceptions of co-parenting support predicted paternal self-efficacy. When fathers are acknowledged and respected for their efforts in the parenting role, and receive verbal encouragement and non-verbal support from their wives, they report higher parenting self-efficacy. Previous studies indicated that the support husbands provide to wives is an important source of maternal self-efficacy (Holloway, 2005). In a similar manner, the support that wives provide to husbands also seems to be an important source of paternal self-efficacy in the current study. This finding confirmed the thought that parental self-efficacy would be fostered by a positive co-parenting relationship, especially in the area of co-parenting supportiveness (Teti, O'Connell, Reiner, 1996).

Supportive co-parenting helps couples to confront difficulties in the parenting role together, and thus helps them establish and maintain a sense of confidence in their

parenting roles (Floyd, Gilliom, & Costigan, 1998). The result was consistent with Bandura's theory that self-efficacy is sensitive to realistic encouragement provided by spouse and verbal persuasion contributes to performance by motivating an individual to work harder toward success (Bandura, 1986).

Maternal Perceptions of Co-Parenting Support → Paternal Perceptions of Co-Parenting Support → Paternal Self-Efficacy

This study found that maternal perceptions of co-parenting support influence paternal perceptions of co-parenting support. One possible explanation for this is that wives who feel more co-parenting support from their husbands have better interactions with their husbands; in turn, their husbands receive more positive cues and feel supported by their wives. This direct path from maternal perceptions of co-parenting support to paternal perceptions of co-parenting support is consistent with McBride and Rane's (1998) finding that paternal and maternal perceptions of co-parenting influence each other. Also, a study revealed that when a husband perceives co-parenting support from his wife, the wife should also evaluate the support (or not) that her husband gives her in the parenting role. Therefore, the perception of co-parenting support between fathers and mothers are bidirectional and reciprocal. (Chen & Li, 2003).

The other possible explanation is that the marital relationship may have an influence on the co-parenting relationship. In Kitzman's study (2000), higher levels of negativity expressed between couples "spilled over" into triadic interactions. Marital conflict led to more negative family processes, including less supportive co-parenting. In contrast, during marital interactions, fathers demonstrating warmth and support verbally and nonverbally predict the degree to which both parents experience co-parenting

positively (Van Egeren, 2004).

In this study, paternal perceptions of co-parenting support played a mediational role between maternal perceptions of co-parenting support and paternal self-efficacy. Maternal perceptions of co-parenting support indirectly predicted paternal self-efficacy through paternal perceptions of co-parenting support. As discussed above, wives who feel more co-parenting support from their husbands have better interactions with their husbands, and when their husbands receive more positive cues and feel supported by their wives, they feel more efficacious in their parenting roles.

Maternal Perceptions of Co-Parenting Support → Paternal Self-Efficacy

The results from this study showed that maternal perceptions of co-parenting support predicted paternal self-efficacy through paternal perceptions of co-parenting support. However, this study failed to support the hypothesis that maternal perceptions of co-parenting support predicts paternal self-efficacy directly. Interestingly, with all of the parenting task domains of paternal self-efficacy, emotional availability is the only domain that was directly predicted by maternal perceptions of co-parenting support. Fathers feel more efficacious in being emotionally available to their children when their wives perceive co-parenting support from them.

According to Feinberg (2002), enhancing co-parenting quality will improve the sensitivity, warmth, and consistency of parenting. One possibility is that if a father is able to affirm the spouse's competency as a parent, acknowledge and respect the spouse's contributions, and give verbal and nonverbal emotional support, he might be more sensitive to his child's cues, and, in turn, feel efficacious about being available emotionally to his child.

Toddler Mood → Paternal Self-Efficacy

In this study, toddler mood strongly predicted paternal self-efficacy. The moodier a toddler was, the lower the parenting self-efficacy fathers reported. When a father senses that it is difficult to sooth his toddler, parenting is likely more challenging, and he becomes less efficacious in his parenting role. This finding was replicated and was consistent with previous studies that showed that babies' temperaments are related to maternal self-efficacy (Cutrono & Troutman, 1986; Goldberg, 1977; Gross, Conrad, Food, & Wothke, 1994; Teti & Gelfand, 1991; Porter, & Hsu, 2003).

In addition, the current finding is congruent with Bandura's self-efficacy theory that shows that perceived task difficulty and repeated failures usually lower self-efficacy beliefs (Bandura, 1997). Soothing a moody child can make the task of parenting more challenging. Therefore, when parents perceive task difficulty in their parenting role, it contributes to lower parenting self-efficacy.

Toddler Mood → Paternal Perceptions of Co-Parenting Support → Paternal Self-Efficacy

The unexpected finding in this study indicated that toddler mood negatively predicted paternal perceptions of co-parenting support. Fathers of toddlers who tend to have negative moods perceive less support from their wives. One of the possibilities might be that mothers think they can do a better job than fathers in soothing a moody toddler. Therefore, when fathers try to soothe the moody toddlers, mothers are likely to be "gatekeepers" and get involved in soothing the toddlers or comment on the way fathers soothe the toddlers. Under such a circumstance, fathers might feel less support from their wives. In addition, a study showed (Van Egeren, 2004) that paternal perception of infant

temperament was associated with the co-parenting relationship. When fathers interacted with fussy babies, they tended to do more soothing than they had expected (Van Egeren, 2004).

Another possible effect of a difficult temperament in a toddler may be that parents fail to co-parent effectively, because the stress of interacting with a child with a difficult temperament affects the quality of interactions between parents (Straight, Bales, 2003). This finding is consistent with previous research that shows that one dimension of difficult temperament, infant negative mood, predicts supportive and unsupportive co-parenting during family interactions with toddlers (Jacobson, Belsky, & Crnic, 1995).

This study found that paternal perceptions of co-parenting support mediate the relation between toddler mood and paternal self-efficacy. As noted above, mothers may serve as gatekeepers, overtly or covertly (DeLuccie, 1995). In accordance with Bandura's theory, parenting with a child who has a difficult temperament is a difficult task. Pleck (1983) notes that mothers discourage paternal involvement in some parenting tasks because they believe that men are unfamiliar with such tasks. When fathers receive such cues from mothers, they may interpret it as not being competent to deal with such tasks, which, in turn, lowers their self-efficacy in the parenting role.

Maternal Perceptions of Co-Parenting Support ↔ Paternal Involvement

This study revealed that maternal perceptions of co-parenting support are significantly related to paternal involvement. Fathers are highly involved in their parenting roles when mothers perceive supportive co-parenting from fathers. One possible explanation is that mothers who perceive co-parenting support from their

husbands might have a better relationship with their husband. In turn, fathers might be more willing to be more involved in caregiving. This finding is consistent with a previous study when fathers whose wives perceived more co-parenting support interacted more with and assumed more responsibility for their young children (McBride & Rane, 1998). The other possible explanation is that if fathers are willing to participate more in the parenting role, mothers might feel they are being helped and supported by their husband.

Conclusions

This study investigated the predictors of paternal self-efficacy among first-time fathers who were raising toddlers. Co-parenting support and toddler mood are strong predictors of parental self-efficacy. However, knowledge of child development did not predict paternal self-efficacy as expected. Many unexpected pathways were found among the predictors in the hypothesized model. The result of this investigation reveals that the variables that predict paternal self-efficacy are not simply determined. Also, this study helps to fill some of the significant gaps in paternal self-efficacy research.

Limitations

The results from this study must be considered cautiously due to several limitations. First, the sample size ($N=80$) was small (a sample of 75 is required), especially for the statistical method (Structural Equation Modeling) used in this study. The sample was very homogenous, and socio-economically advantaged, which limited the generalizability of the findings. Second, most of the data in this study were obtained from fathers who self-reported. As such, there could be some issues with shared method variance and the potential for distortion of the obtained results. Third, a further

understanding of the relationship between toddler temperament, and co-parenting support and paternal self-efficacy, should encourage researchers to include multiple measures of toddler temperament, including both subjective and objective measurement.

Implications

First-time parents need to learn new parenting skills in order to deal with the challenges that occur when their children reach toddlerhood. Therefore, new parents are more likely to be open to learning more about child development and feeling supported, due to the stress and challenges of this period (Feinberg, 2002). Understanding what characteristics are related to paternal self-efficacy has important implications for parenting education efforts aimed at assisting fathers to feel efficacious in their parenting role.

The present findings have important implications for the development of parent education and support program aimed at enhancing parenting self-efficacy by increasing father involvement, co-parenting support, understanding a child's temperament, and setting accurate expectations for children. According to this study, the predictors of paternal self-efficacy cannot be considered isolated, therefore, when designing parenting education, the characteristics of whole family systems should be considered. Parent education will be more effective if the programs are designed for both fathers and mothers. In such programs, parent educators might help couples develop mutual agreement on parenting values and belief by setting more open communication around parenting issues. Moreover, co-parenting intervention may be useful for families during the toddler and early preschool years when behavior problems emerge in some children (Feinberg, 2002).

APPENDICES

APPENDIX A

MICHIGAN STATE
UNIVERSITY

**Initial IRB
Application
Approval**

September 15, 2006

To: Holly E. BROPHY-HERB
3 Human Ecology
MSU

Re: IRB # 06-704 Category: EXPEDITED 2-7
Approval Date: September 14, 2006
Expiration Date: September 13, 2007

Title: PARENTING SELF EFFICACY AMONG FIRST TIME FATHERS

The Institutional Review Board has completed their review of your project. I am pleased to advise you that your project has been approved.

The committee has found that your research project is appropriate in design, protects the rights and welfare of human subjects, and meets the requirements of MSU's Federal Wide Assurance and the Federal Guidelines (45 CFR 46 and 21 CFR Part 50). The protection of human subjects in research is a partnership between the IRB and the investigators. We look forward to working with you as we both fulfill our responsibilities.

Renewals: IRB approval is valid until the expiration date listed above. If you are continuing your project, you must submit an *Application for Renewal* application at least one month before expiration. If the project is completed, please submit an *Application for Permanent Closure*.

Revisions: The IRB must review any changes in the project, prior to initiation of the change. Please submit an *Application for Revision* to have your changes reviewed. If changes are made at the time of renewal, please include an *Application for Revision* with the renewal application.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to the human subjects, notify the IRB office promptly. Forms are available to report these issues.

Please use the IRB number listed above on any forms submitted which relate to this project, or on any correspondence with the IRB office.

Good luck in your research. If we can be of further assistance, please contact us at 517-355-2180 or via email at IRB@msu.edu. Thank you for your cooperation.

Sincerely,



Peter Vasilenko, Ph.D.
SIRB Chair

C: Yi-Chun Lin
1547 Spartan Village Apt.H
East Lansing
MI48823

APPENDIX B



Human Development
and Family Studies
1570 Campus Delivery
Fort Collins, Colorado 80523-1570
(970) 491-5558
FAX: (970) 491-7975
www.colostate.edu/depts/HDFS

May 12, 2006

Yi-Chun Lin
c/o Nickie Foley
1610 Blair Street
Lansing, MI 48910

Dear Yi-Chun:

As you requested, I have enclosed a copy of the KIDI and its manual. You will find copies of the KIDI for ages birth-3 and a preschool version in the back of the manual, along with directions for scoring the KIDI. The manual was updated to include information from recent studies and program evaluations. Norms based on several large samples will be included later.

I hope you find the KIDI to be useful in your research. If you do use it, you may make copies from the originals provided in the manual. Some folks have used abbreviated versions, such as the milestone items, which is fine. If you do adopt it for your project, I only ask that you inform me of the results so that I may refer to them in future revisions of the manual. An abstract or copy of the pertinent sections of the results would be great. If you are willing to share your data, so that I can include them in the norms, I would be most appreciative. Best of luck with your thesis. If you need further information, you can call me at 970-491-5503 or e-mail me at macphee@cahs.colostate.edu.

Sincerely,

David MacPhee, Ph.D.
Professor

APPENDIX C

PAR **Psychological** **Assessment** **Resources**

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May 12, 2006

Yi-Chun Lin
Michigan State University
Dept of Family & Child Ecology
1547 Spartan Village, Apt. H
East Lansing, MI 48823

Dear Yi-Chun Lin:

In response to your recent request, permission is hereby granted to you to modify the format of the Parenting Alliance Measure (PAM) to include it in a larger questionnaire and reproduce up to a total of 100 copies for use in your Master's Thesis titled, *Parental Self-Efficacy Among First-Time Fathers*. If additional copies are needed, you will need to write to PAR for further permission. Permission is also granted for you to reproduce up to a total of 2 sample items from the PAM for use in the appendix of your thesis.

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Molly K. Montgomery
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mmontgomery@parinc.com
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1-800-727-9329 (fax)

ACCEPTED AND AGREED:

BY: 
YI-CHUN LIN

DATE: 08-27-06

ACCEPTED AND AGREED:

BY: 
MOLLY MONTGOMERY

DATE: 9/1/06

PAYMENT RECEIVED: CT #1152

SIGNATURE OF PROFESSOR REQUIRED:

I hereby agree to supervise this student's use of these materials. I also certify that I am qualified to use and interpret the results of these tests as recommended in the *Standards for Educational and Psychological Testing*, and I assume full responsibility for the proper use of all materials used per this Agreement.

BY: 

Printed Name: Holly E. Brophy-Herb.

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