

SELF-EFFICACY IN FIRST-TIME MOTHERS: A COMPARISON OF YOUNGER AND
OLDER MOTHERS

by

MICHELLE MARIE EATON

B.S., University of Idaho, 1998
M.S., Kansas State University, 2000

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department on Family Studies and Human Services
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2007

Abstract

When compared to adult mothers, adolescent mothers are more prone to parenting challenges (Whitman et al., 2001). Age is considered influential on a mother's belief in her ability to successfully organize and execute her parenting plan (Bandura, 1999).

The purpose of this study was to examine potential predictors of self-efficacy (determinant of parenting) among first-time mothers applying Belsky's (1984) parenting framework. Maternal age, maternal depression, available social support and infant temperament were all considered to be potential predictors of maternal self-efficacy.

A sample of first-time mothers (N = 115) with no other children in the home with an infant between the ages of four and six months was recruited from local alternative high schools, home and center child care facilities, and various other social services agencies and programs that typically serve new mothers. Participants self-reported on the above variables by completing a survey measuring self-efficacy as well as the hypothesized predictors. Responses were analyzed using group mean comparisons between 3 age groups: mothers 19 years and under (23%); mothers 20-26 years of age (29%); and mothers 26 years of age and older (48%).

No significant differences in self-efficacy, perceived infant temperament, social support were found between age groups. Age differences in maternal depression fell just below significance. Maternal income level was significantly (and negatively) correlated with maternal depression, therefore was controlled for in additional analyses.

Annual income, depression, and self efficacy were significantly correlated to perceived infant temperament. Mothers with lower incomes, who perceived less social support, who reported higher levels of depression, or had lower levels of self-efficacy were found to rate their infants as more temperamentally difficult.

Regression analyses demonstrated that level of perceived social support significantly predicted maternal self-efficacy levels across all age groups. Additionally, infant temperament and maternal depression levels predicted self-efficacy. These findings provide evidence to support the importance of equal accessibility and affordability of social support for all new mothers to assist with the positive transition to parenthood.

SELF-EFFICACY IN FIRST-TIME MOTHERS

by

MICHELLE MARIE EATON

B.S., University of Idaho, 1998
M.S., Kansas State University, 2000

A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department on Family Studies and Human Services
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2007

Approved by:

Major Professor
Dr. Bronwyn Fees

Copyright

MICHELLE MARIE EATON

2007

Abstract

When compared to adult mothers, adolescent mothers are more prone to parenting challenges (Whitman et al., 2001). Age is considered influential on a mother's belief in her ability to successfully organize and execute her parenting plan (Bandura, 1999).

The purpose of this study was to examine potential predictors of self-efficacy (determinant of parenting) among first-time mothers applying Belsky's (1984) parenting framework. Maternal age, maternal depression, available social support and infant temperament were all considered to be potential predictors of maternal self-efficacy.

A sample of first-time mothers (N = 115) with no other children in the home with an infant between the ages of four and six months was recruited from local alternative high schools, home and center child care facilities, and various other social services agencies and programs that typically serve new mothers. Participants self-reported on the above variables by completing a survey measuring self-efficacy as well as the hypothesized predictors. Responses were analyzed using group mean comparisons between 3 age groups: mothers 19 years and under (23%); mothers 20-26 years of age (29%); and mothers 26 years of age and older (48%).

No significant differences in self-efficacy, perceived infant temperament, social support were found between age groups. Age differences in maternal depression fell just below significance. Maternal income level was significantly (and negatively) correlated with maternal depression, therefore was controlled for in additional analyses.

Annual income, depression, and self efficacy were significantly correlated to perceived infant temperament. Mothers with lower incomes, who perceived less social support, who reported higher levels of depression, or had lower levels of self-efficacy were found to rate their infants as more temperamentally difficult.

Regression analyses demonstrated that level of perceived social support significantly predicted maternal self-efficacy levels across all age groups. Additionally, infant temperament and maternal depression levels predicted self-efficacy. These findings provide evidence to support the importance of equal accessibility and affordability of social support for all new mothers to assist with the positive transition to parenthood.

Table of Contents

List of Tables	ix
Acknowledgements.....	x
Dedication.....	xi
CHAPTER 1 - Introduction	1
Statement of the Problem.....	2
Definition of Terms	7
Study Limitations.....	8
Purpose of Study.....	8
CHAPTER 2 - Literature Review	9
Self-Efficacy	9
The Role of Learned Helplessness in Self-Efficacy	11
Self-Efficacy and Parental Behavior.....	12
Transition to Parenthood.....	16
Theories of Parenting.....	18
Maternal Development	20
Adolescent Mothers	20
Emergent Adult Mothers.....	23
Adult Mothers	24
Predicting Perceived Maternal Self-Efficacy	27
Maternal Depression	27
Infant Temperament.....	28
Social Support.....	30
Hypotheses.....	32
CHAPTER 3 - Methodology	34
Demographic Information.....	34
Measures	39
Self-Efficacy	39
Depression.....	40

Social Support.....	40
Infant Temperament.....	41
Procedures.....	42
CHAPTER 4 - Chapter 4-Results	45
Preliminary Analyses	45
Hypothesis 1: Perceived Self-Efficacy by Maternal Age	49
Hypothesis 2: Perceived Depression Levels by Maternal Age.....	49
Hypothesis 3: Depression and Maternal Self-Efficacy	50
Hypothesis 4: Perceived Infant Temperament Levels by Maternal Age	50
Hypothesis 5: Social Support and Self-Efficacy Levels	51
Hypothesis 6: Social Support and Relationship with Maternal Depression	56
CHAPTER 5 - Chapter 5-Discussion	57
Maternal Depression.....	58
Infant Temperament.....	59
Social Support.....	60
Study Limitations.....	62
Contributions of the Present Study	63
Suggestions for Future Research	64
Concluding Statement.....	66
References.....	67
Appendix A- Survey Cover Sheet.....	73
Appendix B-Maternal Demographics	74
Appendix C-Maternal Demographics Continued	75
Appendix D-Time Spent Playing With Infant Questionnaire.....	76
Appendix E-Infant Demographics	77
Appendix F-Time Spent Caring for Infant.....	78
Appendix G-Infant Difficultness Scale.....	79
Appendix H-Depression Scale:.....	80
Appendix I-Infant Demographic Sheet	82
Appendix I-Previous Experience with Young Children	81
Appendix J-Self Efficacy Scale	82

Appendix K-Social Support Scale	83
Appendix L-Back Cover of Survey	84
Appendix M-First Cover Letter	85
Appendix N-Office Cover Letter	86
Appendix O-Professional Cover Letter	87
Appendix P-Permissions: PRQ Social Support	88
Appendix Q-Permissions: Self-Efficacy.....	89
Appendix R-Permissions: Infant Difficulty	90
Appendix S-Permissions CES-D	91

List of Tables

Table 3.1 Demographics	36
Table 3.1 Continued	37
Table 3.2 Maternal Age Distribution and Frequency	38
Table 3.2 Continued.....	39
<u>Table 4.1</u> Correlation Matrix of Study Variables_	46
<u>Table 4.2</u> Zero-Order and Partial Correlations ^a among Maternal Self-Efficacy and Four Predictor Variables.....	47
<u>Table 4.3</u> Mean Comparisons of Independent and Dependent Variables.....	48
<u>Table 4.4</u> Maternal Age by Self-Efficacy Mean Comparison (Controlling for Maternal Education	49
<u>Table 4.5</u> Maternal Age by Depression Mean Comparison (Controlling for Maternal Income and Marital Status)	50
<u>Table 4.6</u> Maternal Age by Perception of Infant Temperament (Controlling for Marital Status).....	51
<u>Table 4.7...</u> Hierarchical Multiple Regression Analysis Assessing the Relationship between Maternal Self-Efficacy (dependent variable) and Infant Temperament, Maternal Depression, and Social Support (controlling for education level and maternal marital status).....	53
<u>Table 4.8</u> Hierarchical Multiple Regression Analysis Assessing the Relationship between Maternal Self-Efficacy (dependent variable) and Social Support Controlling for Maternal education, income and marital status.....	54
<u>Table 4.9</u> Hierarchical Multiple Regression Analysis Assessing the Relationship between Maternal Self-Efficacy (dependent variable) and Infant Temperament and Maternal Depression (controlling for social support).....	55

Acknowledgements

I would like to use this opportunity to thank my family, friends, and co-workers for supporting me on this journey. Thank you for understanding when my dissertation had to take priority. Thanks for loving and supporting me unconditionally.

- Ashley, thank you for always being there and for your willingness to help. You have kept me sane during insane moments!
- Meghan, thanks for believing in me, and for understanding why it was so important for me to accomplish this goal.
- Jeremy, thanks for all of the hugs and support when I was overwhelmed and tired.
- Thanks to Dawn, Steve, Mike, Mom and my nieces for believing in me.
- Heather, thank you for all of the feedback, knowledge, and strength you continue to share with me.
- Dr. Fees, my teacher, advisor, mentor and cheerleader, thank you for EVERYTHING!
- Thank you to all of the mothers who participated in this study, I know that great things will happen because of your willingness to share your time and wisdom.

I want to especially thank my committee that has supported and guided me throughout this process. I do not have words to express my appreciation of each of you and gratitude for your support.

Dedication

*This is dedicated my mother, Beverly Ann Moore.
You are the best mother at every age, and you continue to be my role model.*

For all of the mothers who were willing to participate in this study...

Your Life Holds Unlimited Potential

by: Edmund O'Neill

You have the ability to attain whatever you seek;
within you is every potential you can imagine.

Always aim higher than you believe you can reach.

So often, you'll discover that when your talents are set free by your imagination,
you can achieve any goal.

If people offer their help or wisdom as you go through life, accept it gratefully.

You can learn much from those who have gone before you.

Never be afraid or hesitate to step off the accepted path and head in your own direction
if your heart tells you that it's the right way for you.

Always believe that you will ultimately succeed at whatever you do, and never forget the
value of persistence, discipline, and determination.

You are meant to be whatever you dream of becoming.

CHAPTER 1 - Introduction

Maternal self-efficacy is defined as a mother's belief in her ability to successfully organize and execute her parenting plan (Bandura, 1999). From a broader view, self-efficacy is also known as an individual's self-mastery, self-directedness, personal autonomy, or the lack of perceived helplessness (Lewis, Ross, & Mirowsky, 1999).

Maternal self-efficacy is critical to a mother's functioning as each day mothers' (explicitly or implicitly) assess how well they fit into their environment. This has a significant impact on the maternal sense of competence and effectiveness on motherhood tasks (Teti & Gelfand, 1991). Current research in the area of maternal self-efficacy has found that maternal depression, infant temperament, parental knowledge and social marital supports have been considered as potential predictors of efficacy. With the exception of the health care field, the effect of maternal age at first birth has not been examined in depth.

Additionally, there remains a need for examination of predictors of perceived maternal self-efficacy perceptions including the examination of other environmental characteristics such as social support, infant temperament and maternal depression. Social support has been found to influence maternal self-efficacy and in turn, parenting behavior (Coleman & Karraker, 2003). The quality of functioning is critical as empirical evidence suggests that the quality of parenting during infancy affects infant/toddler immediate and long-term outcomes (Coleman & Karraker, 2003).

One young mother's story as shared with the researcher exemplifies feelings of her self-efficacy.

17-year-old Leslie's daughter, Sierra, is now two-months-old. Sierra was born five weeks premature. She spent three weeks in the neonatal intensive care unit. Leslie delivered by cesarean section. Read below to hear more about Leslie's story.

"I felt a great deal of disappointment when I had Sierra and could not able to be with her right away. I was also upset about having a C-section. When I brought Sierra home she was really fussy and difficult. She required a lot of attention. I tried breastfeeding Sierra in the beginning and found it very hard. Sierra refused to breastfeed correctly. I became frustrated and stopped breastfeeding soon after bringing Sierra home from the hospital. This also made me

feel like a failure. Soon after bringing Sierra home, I began to feel more depressed. The more depressed I felt, the less I wanted to be with Sierra.”

Statement of the Problem

Current research suggests that marital and other forms of social support have an influential relationship on parental levels of perceived self-efficacy (Lewis, Ross & Mirowsky, 1999; Nath, Borowski, Whitman & Schellenbach, 1991; Teti & Gelfand, 1991). In addition to social support, evidence suggests that other factors have a direct impact on self-efficacy in first-time mothers. These factors include mothers' mental health and maternal perception of child's temperament. Research on maternal self-efficacy among first-time mothers is beginning to grow due to the importance of the early relationship between mother and child. Empirical evidence from several research studies has demonstrated a link between parent self-efficacy, parental behavior, and child outcomes (Field, Pickens, Pyrodromidis et al, 2000; Ruchala & James, 1997).

Additionally, there is emphasis on the early emotional development of infants and the role that adults play in this development. The difficulty of the transition to parenthood for new parents is also well documented (Smith, 1999). This unique transition often imposes or introduces new (or intensified) stressors. As positive self-efficacy may serve as a buffer during this transition, it is critical for professionals who work with parents and children to understand what exactly contributes to positive parental self-efficacy. Currently, research is limited on this topic, dominated by a clinical medicine perspective (see literature review by Galambos & Leadbeater, 2000).

A significant gap in current research is the relationship between perceived maternal self-efficacy and age of the mother at time of first birth. Age of mother may predict levels of perceived self-efficacy (Teti & Gelfand, 1991). Further exploration of maternal age and self efficacy would facilitate more effective and reliable comparisons of maternal characteristics that influence maternal behavior (Hofferth & Reid, 2002).

Approximately every thirty-one seconds an adolescent becomes pregnant in the United States, and every two minutes an adolescent gives birth (Lambert, 1998). In comparison to adult mothers, adolescent mothers have been found to be in poorer health, behaviorally maladjusted,

less educated, lower in cognitive ability, and were more prone to parenting challenges (Kids Count, 2004).

Twenty-five percent of adolescent mothers failed to become economically self-sufficient (Whitman, Borkowski, Keogh, & Weed, 2001). Whitman, Borkowski, Keogh, and Weed (2001) reported that one reason for this may be that thirty percent of adolescent parents failed to complete high school (Whitman, Borkowski, Keogh & Weed, 2001). Additionally, adolescent mothers were less likely to go onto college and therefore earn less during their lifetime. Adolescent mothers were more likely to need welfare for longer periods of time. As a consequence, adolescent mothers were more likely to rear their children in poverty (Barnett, 1997).

As a consequence of poverty, children are exposed to an array of potential nutritional, medical, educational, and community deficiencies. These deficiencies may lead to devastating effects on a child's development. Poor children have been found to be significantly more at risk of having a physical or mental disability. Unfortunately, children being raised in poverty that have disabilities (diagnosed or undiagnosed) were less likely to have received any intervention (Lerner & Busch-Rossnagel, 1981). Additionally, children of young parents are at higher risk of school underachievement, juvenile delinquency, dying from violence, and of becoming an adolescent parent, thus repeating the cycle of adolescent pregnancy and parenthood (Kids Count, 2004).

Hofferth and Reid (2002) proposed that many of the previously mentioned challenges occurred because adolescent mothers and their children begin at and stay at a disadvantage. Potential reasons that were proposed for this were lower maternal education levels, less stability in relationships, the tendency for adolescent mothers to remain single, and the occurrence of rapid repeat pregnancies.

There is much yet to be learned about first-time mothers and the potential effect of efficacy on an individual's parenting confidence and competence.

Leslie's story continued...

"When Sierra was five-months-old, I started going to a young parent's program. I was able to interact with other young parents and share my experiences as a young parent. My outlook began to improve. I learned by watching how other parents and staff members interacted successfully with Sierra. I began trying some new parenting strategies with Sierra, and was

pleased when some of the strategies worked! Sierra was happier and I was happier. As I became more confident I began reading, talking, and singing more often to Sierra.”

It is important for researchers to equal the playing field when making comparisons amongst mothers. Hurlbut, Culp, Jambunathan, & Butler (1997) who studied adolescent mothers' self esteem and role identity in relationship to parenting skills knowledge, acknowledge that a major limitation of their research study of 24 first-time mothers under the age of twenty-one years of age was the lack of control for the number of births the mother had experienced. As a result, untangling the effects of previous experience with children and age was not possible. The experiences of a new first-time mother may differ greatly from those of a seasoned mother of multiple children.

An additional gap in current research is the failure to consistently employ a broad theoretical perspective to guide research exploring parental issues, including maternal self-efficacy. Additional parental issues include maternal loneliness, depression, and stress, each of which has been demonstrated to have devastating affects on the new mother and her child (Trad, 1995). When a contextual approach to explore parental characteristics and behavior is adopted, a more comprehensive view into the dynamic interplay between different parental characteristics and social contexts and the new mother's experiences is possible (Brooks-Gunn & Chase-Lansdale, 1995).

The current study applied Belsky's (1984) parenting model in examining self-efficacy and potential predictors. Belsky's process model of parenting presumes that parenting function is determined by multiple sources of stress and support, all of which have an affect on the parenting process (Belsky, 1984). Parental behavior is shaped by individual characteristics of the parent (psychological well-being), the bi-directional relationship between the parent and child, and contextual sources of stress and support (Belsky, 1984).

All of the previously mentioned factors work together to influence parenting behavior. Parenting is directly and indirectly influenced by these sources of stress and support. Therefore, individuals influence and are influenced by psychological well-being and a family's sources of support (Belsky, 1984). Support serves as a buffer to individual and parental stress, appearing to be more influential on the parent's psychological well-being than the individual characteristics of the child, such as infant temperament (Belsky, 1984). This indicates the importance of understanding the determinants of parental behavior such as maternal self-efficacy. It is critical

to explore parenting behavior patterns in mothers to understand strengths and challenges that will ultimately affect the way a new mother interacts with her child (Belsky, 1984).

Whiteside-Mansell, Pope, & Bradley (1996) state in their extensive literature review of patterns of parenting behavior in young mothers, that researchers and professionals must understand that adolescent mothers possess strengths and challenges just as any other mother does. A major limitation present in current literature involving adolescent mothers is the practice of incorrectly categorizing adolescent parents as a *group* or as a *whole*. The authors suggest the importance of considering individual differences (to include strengths, challenges and needs) within the group.

Current literature and research results regarding adolescent mothers fail to generalize and replicate with other (sub) populations. To date, with few exceptions, most studies of adolescent mothers have been drawn from homogeneous samples from one location or from within a limited geographical area (Whiteside-Mansell, Pope, & Bradley, 1996). Ultimately, this makes it impossible to generalize results and lead to a deeper understanding of the diverse experiences of adolescent mothers (Rains & Davis, 1998).

Some parental challenges are unique to developmental age and stage of the mother. Again, a deeper understanding would be achieved if researchers were able to compare subgroups of mothers to determine differences (and similarities) in patterns of parenting, including the examination of the effects of sociodemographic variables on parenting. Information indicative of maternal strengths, challenges or limitations associated with developmental age or stage of life would allow researchers and practitioners to adopt a more developmental approach in supporting new mothers and their children.

Regretfully, a developmental approach to studying new mothers is weak in contemporary studies. Examining efficacy from a developmental perspective would support the use of greater attention paid by researcher to the age of mother when planning studies. In order for study results to be of greater use, the research methodology needs to consider developmental characteristics of the population being examined. An important question to ask is how reliable and effective are the tools/measurements being utilized by a study in consideration of the participant's age and developmental stage.

For example, *The Life Enjoyment Questionnaire*, which was designed originally to be used with adults, was later adapted to use with adolescents (Barratt, Roach, Morgan, & Colbert,

1996). Due to lower reliability of the scale with the adolescent population, the authors dropped several key items from their analyses (Barratt, Roach, Morgan, & Colbert, 1996). This practice is potentially compromises the reliability and validity of the research in question. Using an age-appropriate instrument will increase reliability and validity. Perhaps a pilot study utilizing the instrument with adolescent mothers would have helped to demonstrate the effectiveness of the instrument ahead of time and would have allowed the authors to make adjustments in language or to delete additional items from the scale which would have led to greater reliability and validity.

Current motherhood literature frequently neglects to address the multiple complexities involved with the transition to motherhood. Consequently, threats remain to both internal and external validity present in contemporary research involving new mothers (Galambos & Leadbeater, 2000). As stated earlier, often missing in the literature is a strong theoretical framework to guide the research (refer to Galambos & Leadbeater's 2000 extensive literature review). For example, clear and consistent definitions are lacking adding to the general ambiguity present in contemporary research involving new parents.

Definitions are crucial in creating a consistent understanding of the goals the researcher wishes to accomplish through his/her research efforts. One example of clouded definitions found in maternal research included the verbiage *older* or *younger* childbearing. These ambiguous definitions threaten the probability of appropriate interpretations across various studies. Additionally, the definition of *social support* varies from study to study. Social support is sometimes defined by how much support the mother perceived that she received (Heller, Swindle & Dusenburge, 1986), and at other times is defined by the *quantity* of support received by the mother (Nath, Borowski, Whitman, & Schellenbach, 1991). The term *adolescent* varies between studies, making it even more challenging to draw conclusions from research (Barratt, Roach, Morgan, & Colbert, 1996; Colletta, 2001; Elster, McAnarney & Lamb, 1983). Professionals working with parents cannot improve program practices successfully without clear and consistent guidance from strong research from within the field.

The present study attempts to address the previously mentioned concerns by utilizing a developmental (change over time) approach when examining maternal self-efficacy at time for first birth for mothers between ages 13 and 40 years. In addition the affect of depression, infant characteristics and social support at each age is examined on perceived levels of self-efficacy.

Definition of Terms

Adolescent Mother. The definition of *adolescent* varies between studies, leading to challenges in consistency of use. This variance in definitions occurs due to the different perspectives that drive the definition of *adolescence*. Therefore, definitions may be shaped by the legal, social and/or cultural definitions. For this study, adolescent mothers will be defined as any mother falling between the ages of 14-19 (Guttmacher Institute, 1997).

Adult Mother. The definition of an *adult* in this study will be mothers who are 26 years of age or older.

Depression. Depression is defined as a mood affecting disorder that is thought to affect the quality of the parent-child relationship. There are many different types and causes of depression as well as varying levels of intensity within the disorder and the degree of impact (National Institute of Mental Health, 2004). Depression is often characterized by negative mood and sadness (National Institute of Mental Health, 2004).

Emergent Adulthood. This period of individual development is a time for exploration of all life's directions in love, work, and other possibilities (Arnett, 2003). Some consider this to be ages 18-25 for women, and 18-27 for men. Others define this period as being from 20-27 (Arnett, 2003). For purposes of this study, the emergent adult period that will be ages 20-25, as this is the target emergent adult period for women (Arnett, 2003).

Perceived Maternal Self-efficacy. Perceived maternal self-efficacy refers to a mother's belief in her ability to successfully organize and execute her parenting plan (Bandura, 1999). This is also termed self-mastery, self-directedness, personal autonomy, and the lack of perceived helplessness (Lewis, Ross, & Mirowsky, 1999).

Self-Esteem. Self esteem refers to the feelings a mother may have about herself when she evaluates the degree to which she is successful in different tasks (Hurlbut, Culp, Jambunathan, & Butler, 1997).

Social Support. Logsdon, Birkimer, Ratterman, & Cahill (2002) offer a definition of social support as "a well-defined action that is given willingly to a person with whom there is a personal relationship and that produces an immediate or delayed positive response in the recipient" (p. 75). Examples of this include people letting the individual know they do a good job

at work (in or out of the home) or being able to spend time with someone who has the same interests as the individual.

Temperament. Temperament is defined as patterns of emotional expression, activity and attention (Bates, Bennett-Freeland, & Loundsbury, 1979). Temperament is a dimension of personality that begins to emerge early on in life. These dimensions are basic, are biological in nature, and are fairly continuous (Bates, Bennett-Freeland, & Loundsbury, 1979).

Study Limitations

This study is limited to geographic location of the researcher. Participants were from predominantly rural areas. A more representative sample would include participants from urban areas. Support structures may differ vastly between rural and urban areas therefore affecting maternal self-efficacy perceptions. Availability, quantity and accessibility of different resources for new mothers may also differ between rural and urban areas.

The use of a convenience sample is a limitation as well as the use of a self-reported survey. This style of data collection has been connected to challenges such as non-response and non-coverage errors (Dillman, 1991). Lower return rates are also associated with mail surveys which potentially can have an influential effect on analyzing data and drawing conclusions (Dillman, 1991).

Purpose of Study

The purpose of this study is to examine self-efficacy in first mothers across three age groups applying Belsky's (1984) model of parenting (with perceived self-efficacy being seen as an indicator of parenting). Social support, perceived infant temperament and maternal depression will be examined as predictors of perceived self-efficacy.

CHAPTER 2 - Literature Review

This literature review was organized to examine theory and current empirical evidence on self-efficacy.

First, is a review of literature on self efficacy followed by an examination of the role of self-efficacy in parental behavior. Next, is an examination of the literature on the transition to parenthood and theories of parenting with a close examination of Belsky's Determinants of Parenting (1984). A review of the developmental characteristics and their relationship with parenting are examined at three time points in the lifespan: adolescence, emergent adulthood, and adulthood. Finally, the relationship between maternal self-efficacy and three hypothesized predictors is examined: maternal depression, perceived infant temperament, and social support.

Self-Efficacy

Bandura (1977) defined self-efficacy as an individual's evaluation of their own competence. Other terms for "self-efficacy" included self-mastery, self-directedness, personal autonomy, and the lack of perceived helplessness (Lewis, Ross, & Mirowsky, 1999). Self-efficacy includes an individual's belief in their ability to be successful within their endeavors (Bandura, 1999). Self-efficacy is constructed from (and is affected by) interpersonal relationships and experiences and physiological states of an individual (Bandura, 1998). Additionally, according to Bandura (1998; 2002) people are both producers and products of their social system, and that social structure serves to organize, guide and regulate human focus. This focus serves to guide self-efficacy.

Self-efficacy is sometimes confused with self-esteem. *Self-efficacy* is the judgment of one's personal capability where as *self-esteem* is judgment of one's self-worth (Bandura, 1999). Furthermore, self-efficacy is the gaining of knowledge and skills and the belief in one's ability to effectively utilize this increased knowledge and skills.

Expectations of personal efficacy are based on four major sources of information including "performance accomplishments, vicarious experience, verbal persuasion and physiological states" (Bandura, 1977, p. 195). This suggests that behavior, suggestions, and instruction by significant models in an individual's life may each affect one's personal efficacy.

Human behavior is primarily developed through modeling according to Bandura's social cognitive learning theory. Specifically, an individual forms a conception of how new behavior patterns are done through modeling or observational learning. Modeling, in turn, provides a social standard to which people adhere. People will actively seek proficient models that possess the competencies to which they aspire (Bandura, 1998). Competent models transmit knowledge and teach observers (Bandura, 2002).

Models teach by their behavior and expressed ways of thinking. Observers have the potential to learn effective skills and strategies for managing environmental demands (Bandura, 2002). The skills gathered from models are thought to guide and motivate self-efficacy. An observer learns by success and failures of the individual that serves as a model (Bandura, 1998). Modeling is not only offered by significant individuals in one's life. Observational learning can be achieved through interactions with individuals with whom there is little to no personal relationship. This includes an individual's interactions with social service providers. Scaffolding offered by significant role models serves to assist individuals to a higher developmental level. Additionally, the media (visual, written, audio) sometimes serves as a powerful (and influential) model. Individuals process, weigh and integrate diverse sources of information concerning their capability and they reflect their potential choices of behavior and effort expenditure accordingly (Bandura, 1998).

The power of learning from vicarious experiences of others can override or neutralize the impact of negative experiences on an individual's self-efficacy. However, this fails to be more powerful than the actual experiences of an individual. In addition, many individuals appear to be open to the influence/persuasion of others (Bandura, 1998). Thus, social support is a critical element in supporting self-efficacy in some individuals.

Most importantly, people who are socially persuaded that they possess the capabilities to master difficult situations, and are provided with provisional aids for this mastery, are more likely to perform successfully (Bandura, 2002; 1998). On the opposite end of the spectrum, low self-efficacy fosters dependency on proxy control, therefore reducing opportunities for skill-building (Bandura, 1998).

The strength of an individual's conviction will influence their coping abilities. An individual's conviction may also influence whether or not the individual will attempt to cope with certain situations. Bandura (1999; 2002) states that if the individual is given appropriate

skills and incentives, efficacy expectations are a major determinant of a person's choice of activities and how much effort is expended on an activity.

Bandura's transactional view of self-efficacy suggests that internal personal factors (cognitive affective, biological events), individual behavior, and environmental events (determinants of behavior) all work together to determine one's perception of personal self-efficacy (Bandura, 1998). Bandura (1998; 1999, 2002) further explains that cognitive assessments of difficulty will also influence individual efforts put into a task. Importantly, individual effort put into tasks will many times be dependent on the cognitive interpretation of stimuli (Bandura, 2002). For example, if a parent considers their infant to be more difficult in temperament, the parent may choose to put less (or more) effort into interacting with the infant.

Judgment of self-efficacy for cognitive activities is critical because the cognitive operations required to solve given problems are not always readily apparent from what is easily observable by an individual (Bandura, 1998). Complex cognitive operations are imbedded within tasks. Unfortunately, appearances may be misleading. Problem solving requires multiple cognitive operations (Bandura 1998; 2002). Therefore, problem solving is often not as easy as it initially appears to be.

“Individuals differ widely in the confidence with which they rely on their [cognitive] perceptions of interpersonal experiences and their ability to appreciate affects, both within themselves and the experiences of others” (Schaffer & Blatt, 1990, p. 232). Therefore, a sense of personal mastery (leading to increased levels of self-efficacy) is dependent on a variety of factors, including the degree of difficulty within the task and the specificity required by the task (Bandura, 1977).

One of the most important outcomes of high self-efficacy is the ability to manage the affects of emotional and cognitive disruptions, set-backs and stressors in life. Efficacious individuals are quick to take advantage of opportunities to find ways of overcoming obstacles. This includes avoiding or challenging institutional constraints.

The Role of Learned Helplessness in Self-Efficacy

Learned helplessness (low or negative self-efficacy) may be equivalent to incompetence. Learned helplessness occurs when individuals perceive their current situation as being similar to past ones, in which they were unable to control the outcome. When an individual has not been

able to gain control in past situations, it is likely that they will perceive the inability to gain control in their present situations (Bandura, 1999).

This is also referred to as locus of control. There has been continual debate to whether personal control is inborn or is the result of prevalent incentives, or a combination of both (Bandura, 2002; 1999; 1998; 1977). Individuals with learned helplessness are not motivated by anticipated benefits. It may be argued that persons with learned helplessness are more likely to attribute situational outcomes as to chance instead of by individual efforts or abilities (Bandura, 1977; 1991; 1998; 1999; 2002).

Individuals with learned helplessness have been found to perceive an inability to effectively influence their environment despite attempts to implement change (Langer & Park, 1990). Feelings of incompetence, however, did not imply the individual's desire or wish to feel incompetent. In fact, more than likely, the individual may not have known the elements required to become more competent. An individual with learned helplessness was ultimately found to be more vulnerable to fear and negative experiences and failures (Langer & Park, 1990).

Self-Efficacy and Parental Behavior

Maternal self-efficacy refers to a mother's belief in her own ability to be an effective parent (Bandura, 1999). Maternal self-efficacy is hypothesized to strongly influence a mother's maternal sense of self and her perceptions of maternal confidence and competence (Teti & Gelfand, 1991). The transition to parenthood suddenly thrusts many adults into the expanded roles of both parent and spouse. Parents have to manage interdependent relationships within family systems and social transactions. This may be challenging who are not prepared to take on the parenting role or who have not had positive parental modeling during childhood (Teti & Gelfand, 1991).

The transition to parenthood may also be challenging for individuals with an insecure sense of personal efficacy to manage new parenthood (Bandura, 1998). "Observational studies of interactions of clinically depressed mothers with their infants however reveal that the adverse effects of depression on care giving activities are mediated through mother's beliefs in their parenting efficacy" (Teti & Gelfand, 1991, p. 191).

The number and type of personal accomplishments (including previous experiences with children or maternal success) have each been found to be predictive of one's parental self-

efficacy. Mothers who were able to observe others perform tasks successfully (such as parenting) were found to be motivated to achieve greater efficacious behaviors (Houlfort, Koestner, Joussemet, Nantel-Vivier, & Lekes, 2002).

Current research suggests that physiological and psychological regulation leads to increased feelings of order and control of one's life that serve to protect against feelings of helplessness and anxiety within individuals. This facilitates increased perceptions of self-efficacy (Houlfort, Koestner, Joussemet, Nantel-Vivier, & Lekes, 2002). Regulation is critical for new parents, who are in a major life transition accompanied by physiological and psychological fluctuations.

In research by Schaffer & Blatt (1990), assistance to mothers in internalizing the care-giving tasks appeared to help mothers to increasingly assume the care giving functions as defined by the maternal role. This assistance led to an increase in self-efficacy. Maternal self-efficacy appeared to serve as a buffer against parental challenges such as maternal depression, difficult infant temperament, or other challenges (Schaffer & Blatt, 1990). For example, maternal depression was only found to impede various domains of infant care if it affected perceived parental self-efficacy (Teti & Gelfand, 1991).

In Teti & Gelfand's (1991) study of self-efficacy in first-time mothers, researchers found that severity of depression and the level of social and marital support were unrelated to how competently mothers performed caretaking activities. Mothers with higher self-efficacy were able to competently care for their infants despite reported depression (Teti & Gelfand, 1991). Similarly, difficult infants impaired caretaking to the extent that they affected mothers' beliefs in their efficacy (Teti & Gelfand, 1991). Those mothers that had a firm belief in their parenting abilities appeared to be more resourceful in managing a temperamentally difficult infant (Teti & Gelfand, 1991). However, Teti and Gelfand (1991) did not control for maternal age in their research.

Women with a strong sense of efficacy have reported that they could effectively manage the multiple demands of family life. Higher maternal self-efficacy was reported when the new mother could exert some influence over work schedules and could enlist the help of their husband (Teti & Gelfand, 1991). Additionally, these mothers reported lower levels of physical and emotional strain and higher self-efficacy.

Families with higher efficacy are more likely to experience community satisfaction due in part to their belief that their situation is changeable (Bandura, 1998). Community satisfaction is also determined by level of economic adversity and the responsiveness of institutional (community) systems to family needs and change (Bandura, 1998). Bandura (1998) reiterates that the detrimental effects of poverty are often found to be greater in families living in poor neighborhoods (Bandura, 1998).

An adolescent mother with fewer financial and psychological resources was found to be more likely to report that she might never be able to achieve her dreams. This lack of hope often led the adolescent to feel helpless and defeated (Camarena, Minor, Melmer, & Ferrie, 1998). These negative attitudes effected maternal parenting behaviors, and predisposed negative impacts on children's developmental outcomes (Camarena, Minor, Melmer, & Ferrie, 1998).

When an adolescent mother had a clearer sense of her goals, had access to resources and support, she reported feeling successful and competent within her mothering role (Camarena, Minor, Melmer & Ferrie, 1998). Subsequently, increased perceived competence led to increased self-confidence and maternal self-efficacy.

Bandura (1999) suggested that individuals with higher levels of self-efficacy reported regularly visualizing themselves in successful scenarios. Comparatively, individuals with lower levels of self-efficacy reported visualizing themselves as less successful (Bandura, 1999). Typically during pregnancy, adult mothers-to-be were found to actively seek information in anticipation of the first birth. In turn, adult- mothers-to-be appeared to use the information gathered to construct their maternal identities. Positively, these women were more likely to continue seeking more information as the birth came closer (Brooks-Gunn & Chase-Lansdale, 1995). It is unclear, however, if the process of developing maternal self-efficacy is the same for adolescent mothers.

Understanding self-efficacy is critical as a new mother's perceived level of self-efficacy appeared to be directly related to her interactions with her child (Teti & Gelfand, 1991). If a mother feels that she is capable of being an effective mother, she is more likely to act like one. If the mother does not feel capable of being successful, she may fail to try (Bandura, 1999). Bandura (1999) suggests that it is difficult to be successful when one is dwelling on the negative, including the mother's potential for mistakes.

High levels of self-efficacy are deemed necessary to stay focused on a task to facilitate success (Bandura, 1999). This includes all of the many important tasks associated with high-quality parenting. “Indeed, when people are faced with the task of managing difficult environmental demands under taxing circumstances, those harboring a low sense of efficacy become more and more erratic in their analytical thinking and lower their aspirations, and the quality of their performance deteriorates” (Bandura, 1999, p.6).

Schaffer and Blatt (1990) found that a mutually-shared relationship between mother and child was characterized by nurturance, support and acceptance in new mothers. In addition, reciprocal communication exchanges between the mother and child were an important part of this mutually-shared relationship. The authors concluded that if a mother felt she was nurturing, supporting and accepting of her young child, she was more likely to exhibit high maternal self-efficacy (Schaffer & Blatt, 1990).

Hurlbut, Culp, Jambunathan & Butler’s (1997) correlation study of twenty-four mothers aged 21 and younger, found significant relationships between maternal self-esteem, parenting competency, and maternal perceptions of self-efficacy. Participating first-time mothers completed a demographic questionnaire and the Index of Self-Esteem Measure and an Adult-Adolescent Parenting Knowledge Inventory.

A noteworthy finding in Hurlbut, Culp, Jambunathan & Butler’s (1997) study was the discovery of a significant and positive relationship between positive self-efficacy and mothers’ having more appropriate expectations for their child’s developmental age. Therefore, maternal self-efficacy appeared to potentially be predictive of future parenting behavior (Hurlbut, Culp, Jambunathan, & Butler, 1997).

Coleman & Karraker (2003) reiterated that visualization appears to play a strong role in maternal self-efficacy development. When a woman visualized herself as a competent mother, she was more likely to report confidence and competence in her maternal role. Maternal perceptions of maternal competence had been uncovered as stronger predictor of positive transition to motherhood than prior experience with infants or self-esteem (Coleman & Karraker, 2003).

Ruchala and James (1997) further proposed that the presence of higher self-efficacy was one of the strongest indicators in the positive transition to motherhood and was an important aspect of mothering behavior.

Transition to Parenthood

First-time motherhood represents a major transition in one's life causing the examination of one's capacity to care and provide for another human being. The transition to parenthood is often an opportunity for self-evaluation. It is potentially a time of stress as well as a time of joy.

Positive self-efficacy has been found to be one of the most important indicators in the successful transition to motherhood and is an important predictor of mothering behavior (Ruchala & James, 1997). A review of research on self-efficacy suggested a strong link between cognitive processes and behavioral outcomes (Bandura, 1977) among individuals.

Parenthood is often described as a continuously demanding role (Schaffer & Blatt, 1990). The demands experienced by a new parent encompass all domains of an individual's (social, physical, emotional, language, cognitive) development and, at times, becomes exhausting. Parents who have a firm belief in their parenting efficacy tend to be more creative in promoting their children's competencies (Bandura, 1999).

The psychological adjustment of the mother is believed to be one of the most important predictors of effective parenting (Belsky, 1984). Many factors are considered to influence the mother's adjustment to parenthood including (but not limited to) maternal age, developmental level, education and income level, marital status, health, and the availability of support. Young mothers have demonstrated more challenges with the psychological adjustment to motherhood in comparison to their adult mother counterparts (Barratt, Roach, Morgan, & Colbert, 1996).

Diehl's (1997) study further explored the relationship between maternal self-esteem and mother- infant interaction. A sample of 36 new mothers with infants ranging in age from 1 to 17 months-old completed *The Hudson Index of Self-Esteem (ISE)* and the *Nursing Child Assessment Teaching Scales*. One important finding was that younger mothers (ages 13-19) reported significantly lower levels of self-esteem than did adult mothers (ages 20 and over). Specifically, mothers with lower self-esteem also had lower quality interactions with their infants. This is consistent with other research involving parent behavior in young mothers (Diehl, 1997) thus it is possible this differential relationship may also hold true for self-efficacy.

In order for mothers to develop higher levels of self-efficacy during the transition to parenthood, a synchronous and responsive relationship must be established between the parent and the child (Schaffer & Blatt, 1990). Additionally, the positive adaptation to motherhood appears to be influenced by a number of variables including knowledge of child development,

role expectations, maternal age, education levels, and even prenatal preparation (Schaffer & Blatt, 1990).

Bandura hypothesized further that having a high sense of parental efficacy serves as a buffer against parental stress. Bandura reiterates previous research that suggested that a woman's perceived self-efficacy influences her ability to manage different aspects of the multiple roles in her life. Self-efficacy rated higher than income, work, or child-care responsibilities on potentially influencing a woman's sense of well-being (Bandura, 1999).

Contextual theory further emphasizes the reciprocal nature between relationships and social support that plays a key (mediating) role in developing positive parenting identity and parental behaviors. Social support served a variety of functions, such as providing guidance, offering social reinforcement or by providing tangible assistance when needed (Connelly, 1998). Support was often classified into two broader divisions, informal and formal. Informal support was defined as support by the mother's friends and family member and was linked to the positive adjustment by both the mother and the child (Camarena, Minor, Melmer, & Ferrie, 1998).

The presence of social support has been found to be a critical factor in predicting self-efficacy among new parents. Teti & Gelfand (1991) conducted a longitudinal study of 86 new mothers and their infants between the ages of 3-13 months-old. Ninety-seven percent of the mothers were between the ages of 18 and 40 years-old; 3% were aged 16 or 17 years of age. Mothers were given questionnaires to gain demographic information and given the Beck Depression Inventory, the Carey Survey of Infant Temperament and a Maternal Self-Efficacy Scale designed by the authors, and finally the Interview Schedule for Social Interaction (as referred to by Teti & Gelfand, 1991).

Multiple regression analyses found that maternal self-efficacy was significantly related to social support, infant temperament and maternal behavior. There was a significant negative relationship between depression and self-efficacy (Teti & Gelfand, 1991). Additionally, there was a significant relationship present between efficacy and marital supports. Therefore, it appeared that married mothers were more likely to report higher levels of maternal self-efficacy lower levels of depression (Teti & Gelfand, 1991).

Theories of Parenting

Few studies to date examine the transition to motherhood experience using a developmental or a contextual view (Reis, 2001). Lerner & Bush-Rossnagel's contextual theory (1981) emphasizes the embeddedness of the domains of individual development within the environment in which they exist. Individuals both affect and are affected by the elements in their environment. The theory proposes that a change in one domain of development will directly or indirectly cause changes in other domains (Lerner & Busch-Rossnagel, 1981). Contextual theory emphasizes a commitment to studying short and long-term actions and changes. Furthermore, the interrelationship between these short and long-term actions and changes are examined in consideration of impact on human development. The relationship between individuals and their contexts have been established as being critical to human development (Lerner & Busch-Rossnagel, 1981).

Changes across the lifespan are the result of the complex interactions within and between both nature and nurture (Lerner & Busch-Rossnagel, 1981). Children are shaped by, and in turn, help to shape the parent-child relationship. As development is influenced by both genetic and environmental contexts, a child's individuality strongly influences the parent-child relationship (positively or negatively). Parents respond accordingly to the stimulation provided by their child (Lerner & Busch-Rossnagel, 1981).

Belsky's (1984) process model of parenting states that parenting functioning is multiply determined. The three domains of parenting determinants include parent resources (psychological well-being), individual characteristics of the child, and sources of stress and support presented to the family (Belsky, 1984). Sources of contextual stress and support effect parenting in direct and indirect ways. This happens as the parent's psychological well-being is influenced by these stress and support factors (Belsky, 1984). The parent's psychological well-being works to shape parenting behavior as well. Most importantly, the parent's psychological well-being serves to buffer the parent-child relationship from stress (Belsky, 1984). Additionally, child characteristics (easy going or difficult) are proposed to influence the parent-child relationship.

Belsky (1984) and Bell's (1968) extensive literature reviews on the reciprocal relationship between parents and their children reiterated that when a child was more easy going and positive in temperament, the mother was more likely to spend additional time with her child.

This positive reinforcement could potentially affect the child's developmental outcome. Adolescent mothers have been found to be more emotionally immature; hence, it may be more challenging for them to interact positively with their temperamentally challenging babies. As a consequence, the quality of the parent child interaction diminished, as does the mother's belief in her ability to effectively parent her child (Trad, 1995).

Belsky (1984) has reiterated the importance of positive early interactions to both the parent and the child. Belsky (1984) stated that "parenting that is sensitively attuned to children's capabilities and to the developmental tasks they face promotes a variety of highly valued developmental outcomes, including emotional security, behavioral independence, social competence and intellectual achievement" (p. 85). Parents that have been found to offer this type of sensitive parenting tend to be more mature, psychologically well balanced, and have confidence in their ability to promote growth in their young children (Belsky, 1984).

Drawing from Belsky's model of parenthood, Shapiro & Mangelsdorf (1994) reiterated the three sets of factors determine individual parental confidence: parental mental health and well-being, structural sources of stress and support experienced by the parent, and individual child characteristics. Parental mental health included a sense of competence (self-efficacy), confidence, and a connection to one's community. Importantly, there is an apparent link between parental "internal locus of control, high levels of interpersonal trust, and an active coping style on part of the parents to high levels of observed warmth, acceptance and helpfulness and to low levels of disapproval when interacting with their young children" (Belsky, 1984, p. 85).

The presence or the absence of social support appears to be influential in determining parental behavior (Belsky, 1984). Belsky further defined the functions of support to include offering emotional support, providing direct assistance, and providing social expectations. Emotional support is the unconditional love and acceptance received by others. Direct assistance includes the provision of information, parental advice, or assistance with routine tasks (such as child care). Social expectations offer individuals a guide of what is considered to be appropriate parenting behavior (Belsky, 1984). Maternal age or developmental level has been associated with quality of parental behavior offered (Belsky, 1984). Individual developmental maturity (as defined by age) is considered to have an effect on parental characteristics including maternal self-efficacy, perceptions of infant temperament and depression levels (Belsky, 1984).

Unfortunately, few studies have been published that examine maternal self-efficacy across age or time (Nath, Borkowski, Whitman, & Schellenbach, 1991).

Maternal Development

Adolescent and early adult years are years of continued change in cognition and emotional development and behavior. Developmental progress over time may affect how the mother assesses her abilities and competence.

Adolescent Mothers

The term *adolescence* is not as definitive as it first may appear. The definition is often transparent and appears to be dependent upon the perspective utilized study by study (Hurlbut, Culp, Jambunathan & Butler, 1997; Trad, 1985; Connelly, 1998). Regardless of how *defined*, adolescence is a time in development that is *characterized* by many rapid and complex physical, mental and social changes (Trad, 1985; Connelly & Connelly, 1998).

Erikson (1963) defined adolescence as a period of development filled with exploration and formation of identity. Erikson (1963) proposed that the developmental stage experienced during adolescence is Identity vs. Role Confusion. During this period of development the individual experiences role exploration and confusion. This crisis is also characterized by an inability to settle on a career or personal identity (Erikson, 1963).

If an individual experiences role confusion, they are at risk of experiencing a moratorium. A moratorium catches the adolescent between childhood and adulthood (Erikson, 1963). Specifically, an individual may be caught between morality learned as a child and ethics adhered to as an adult. Many adolescents avoid a moratorium by searching for social values which guide their identity formation (Erikson, 1963). Positive affirmation is critical to this process as adolescents are eager to be affirmed by family, peers, society (Erikson, 1963). This positive affirmation accelerates (and enhances) the development of positive self-esteem in the adolescent (Erikson, 1963).

Hurlbut, Culp, Jambunathan and Butler (1997) specifically addressed the need for adolescents to develop positive self-esteem to be able to successfully achieve the task of identity formation. Hurlbut, Culp, McDonald, Jambunathan and Butler (1997) suggested that an adolescent mother may have difficulty in achieving this task due the extensive amounts of time and effort required to care for her child. A new adolescent mother must learn how to develop her

sense of personal identity while simultaneously supporting her child's developing sense of self-awareness, attachment and identity. However, during the later adolescent years (and some argue into the twenties), brain development continues to undergo extensive change (Spano, 2003).

The synaptic connections based upon years of experience in relationships causes individuals to differ in abilities to read and interpret facial expressions and emotions (Spano, 2003). Furthermore, during this adolescent period of brain hardwiring, it has been suggested that there may be actually a surge in emotional reactivity in adolescents, which may have a negative effect on parenting (Spano, 2003).

When an adolescent mother is unable able to control her own emotions, she is at higher risk of becoming frustrated by her infant's behavior. As frustration grows, the risk for child abuse grows as well (Trad, 1995). Mothers who lacked emotional regulation, social and cognitive skills, were more vulnerable to family and job stresses (Trad, 1995).

An adolescent mother's emotional attitude toward her child has been found to be directly linked to her level of cognitive thinking and to having a direct affect on parental behavior (Elster, McAnarney, & Lamb, 1983). "These attitudes are important because they create the 'lenses' through which parents view and appraise their children's behavior; they are likely, therefore to affect the perception, appraisal, and the interpretation of infant signals and needs as well as the mothers propensity to respond (Elster, McAnarney, & Lamb, 1983, p. 498)."

Evidence suggests that children of adolescent parents are at risk of developmental delays and behavior problems because of the lower quality of care received, largely due to their mother's emotional developmental immaturity (Whiteside-Mansell, Pope, & Bradley, 1996). Trad's (1995) research demonstrated that younger mothers treated their infants differently than did adult mothers. Adolescent mothers were less verbal and less interactive with their infants, and were more likely to be restrictive and punitive in their interactions with their child.

Theoretically, adolescent women are portrayed as being less mature (generally measured by maternal age) and oftentimes less psychologically prepared to parent (Lambert, 1998). Some researchers have proposed that young mothers, like adolescents in general, are more absorbed with their own needs (Whiteside-Mansell, Pope, & Bradley, 1996). Whiteside-Mansell, Pope, & Bradley (1996) further proposed that young mothers who had not developed adequate coping mechanisms, and appeared to struggle in the development of autonomy (Whiteside-Mansell, Pope, & Bradley, 1996).

Lowenthal's (1997) literature review referred to the increased levels of maternal depression, decreased self-esteem, and lessened emotional stability provided to children by their adolescent mothers. "Emotional immaturity and basic inexperience with child rearing may affect adolescents' parenting behavior, which in turn may place their children at risk for abuse and neglect as well as social, emotional, and cognitive disabilities" (Lambert, 1998, p. 61).

Another challenge that is associated with adolescent motherhood is the adolescent mother's failure to have realistic attitudes and expectations regarding children (including development) and what parenthood consists of (Elster, McAnarney, & Lamb, 1983). Elster, McAnarney, & Lamb (1983) found that when adolescent parents were confronted with the reality of parenting children, they often reported feeling overwhelmed and frustrated (Elster, McAnarney, & Lamb, 1983).

Piaget and Inhelder's (1958) theory of cognitive development proposes that adolescents experience unique changes in their cognitive abilities and thought. Formal operational thought typically emerges during adolescence, between the ages of 10 and 18 causing the adolescent to experience pronounced changes in cognitive functioning (Piaget, 1976). Specifically, formal operational thinking reportedly includes the use of more developed logic, coherence, and deductive reasoning.

An individual with the ability to use formal operational thought has a more systematic approach to problem solving which is necessary in parenthood. For example, consider a new mother is who faced with a temperamentally difficult infant that displays frequent and prolonged episodes of crying. A mother with more developed cognitive skills is more likely to be able to problem solve in logical ways how to stop her infant from crying. A mother with less developed cognitive skills may be more likely to emotionally react to the crying instead of looking for practical solutions to decrease episodes of infant crying.

Unfortunately, an adolescent mother who has had limited opportunities to explore, discover, and to participate in a variety of experiences may find it more challenging to use deductive thinking. Until these more advanced thinking skills are developed, adolescents often struggle to predict the probable consequences of their actions and behavior (Elkind, 1990). More developed cognitive thinking facilitates the capability to cope with a variety of increasingly complex social and psychological crises (Elster, McAnarney, & Lamb & 2001). The transition to parenthood often includes these types of crises.

Emergent Adult Mothers

Arnett (2003) proposes that the period from 18 to 25 years of age is a period of emergent adulthood. This period of development is typically perceived as a western perspective or “luxury” that allows for additional identity exploration (Arnett, 2000). Typically, this is when individuals have left the dependence of childhood and early adolescence, yet have not entered the responsibilities of adulthood (Arnett, 2000). A delay in marriage and child bearing typically allows individuals to delay settlement into more traditional long-term adult roles, and facilitates the further exploration of individuality (Arnett, 2003).

This contemporary theory of emergent adulthood differs from more traditional views of the transition to adulthood in many ways. Traditionally, adulthood occurred when an individual left high school, started their first full-time job, got married, or become a parent (Shanahan, 2000). Shanahan (2000) and Arnett (2003) propose that the period of emergent adult allowed more life experiences before full independence to support the development of higher cognitive thought processes (Arnett, 2003).

Identity exploration is seen by many as a key part of the successful transition to adulthood (Arnett, 2003; Shanahan, 2000; Erikson, 1963). Erikson suggests that forming a healthy identity is critical to developmental success (1963). With identity exploration, individual characteristics, such as accepting responsibility for oneself, making one’s own decisions, and becoming financially independent were all seen as signs of a successful transition to adulthood. Shanahan (2000) has reiterated that most identity formation occurs during emergent adulthood rather than during adolescence (Shanahan, 2000).

Raymore and Barber (2001) proposed that transition periods were critical during both adolescent and emergent adulthood periods. An individual needed to have the opportunity to freely experience the transition to adulthood. This required flexibility in life, and opportunities for “leisure behavior.” This leisure behavior is considered to be critical for two primary tasks during adolescence and early adulthood. These tasks are identity development and the formation of intimacy. Contemporary parenting literature has not examined this specific period of the lifespan, that is, how becoming a mother during the emergent adulthood experience effects a mother’s transition to adulthood.

Like during adolescence, Arnett (2003) proposed that the years between 18 and 25 are filled with many changes that are critical to an individual’s identity development. Previous

research has demonstrated that mothers in their early twenties are similar to adolescent mothers when comparing stress levels or parental satisfaction (Coley & Chase-Lansdale, 1998).

Therefore, it is apparent that mothers in emergent adulthood often suffer some of the detrimental effects associated with adolescent childbearing (Hofferth & Reid, 2002) that may affect the development of their children. The natural progression of self-efficacy that occurs during the transition to adulthood may be significantly hindered by early parenthood (Lewis, Ross, & Mirowsky, 1999).

Adult Mothers

Adult mothers (over the age of 25) are typically perceived as being more mature and prepared to assume the motherhood role. However, there are unique challenges that adult women who choose to become mothers may experience. For example, new mothers in their thirties or forties are potentially combining two of Erikson's (1963) life stages: Intimacy-versus Isolation and Generativity-versus- Stagnation.

During Intimacy versus Isolation, the individual is learning to form successful, intimate relationships. This stage, (which typically occurring in the twenties) is characterized by the formation of intimate relationships, the establishment of one's career, and the bearing of children. The potential crisis of isolation occurs when the individual has not had the opportunity to successfully form and maintain intimate relationships (Erikson, 1963).

Generativity versus Stagnation traditionally emphasizes the continuing growth of one's career, launching of one's children, and mentoring and preparation of future generations (Dobrzykowski, Noerager, & Stern, 2003). Individuals within this stage (which typically occurs during the thirties and forties) face the potential crisis of stagnation, or becoming bored with one's life including personal and/or career status. This crisis of stagnation also can result from feelings of unproductiveness or failure to achieve a sense of accomplishment (Erikson, 1963). In the extensive literature review of motherhood, cognitive maturity appeared to allow mothers to perceive higher self-efficacy within themselves (Lewis, Ross, & Mirowsky, 1999) leading to stronger parent-child interactions.

Delayed motherhood (motherhood after the age of 30) is on the rise, with current estimates being about 32% of current births in the United States (Wu & MacNeil, 2002). These later births appear to be result of later transitions into adulthood (Shanahan, 2000). Many women

choose to delay motherhood in order to pursue education pursuits or to become established in their careers (Wu & MacNeil, 2002).

Barratt, Roach, Morgan, & Colbert (1996) found that adult mothers reported lower levels of stress, accessed more psychological resources, and displayed more positive attitudes towards parenting. These positive attitudes appeared to promote more frequent high-quality interactions between mother and child, leading to stronger developmental outcomes for both mother and child (Barratt, Roach, Morgan, & Colbert, 1996).

Currently, there is minimal research available on the self-efficacy of mothers who have delayed childbearing. Some researchers have argued that mothers that delay childbearing may lack physical energy, while others are quick to point out that there is a vitality that makes up for any reduced physical energy (refer to Dobrzykowski, Noerager & Stern's literature review, 2003). This vitality has been defined as a mother's ability to solve problems, the presence of mental energy, and the mom's ability to visualize the successful completion of an ongoing project. This vitality does not appear to be as common in younger mothers suggesting that vitality appeared to come along with age, experience, and the accomplishment of many of life tasks (Dobrzykowski, Noerager, & Stern, 2003).

Mothers who have chosen to delay childbearing into their thirties reported seeing themselves as being more "street smart" than younger mothers (Dobrzykowski, Noerager, & Stern, 2003). These mothers appeared to have more knowledge in accessing social support and needed resources. Additionally, mothers in their thirties reported gaining confidence from using past solutions to solve current problems. One older mother shares her perspective:

"I know I'll always be the "older mom" with Seth's [her son] peers....I know I see things, feel things differently than the younger ones do...I am more concerned about some things; other things don't matter as much. I base my decisions on what kind of impact things will have on our future; versus the here and now...I don't always have tomorrow to fix it up. Sometimes I feel alone, but that's okay...I can handle it."

(Dobrzykowski, Noerager, & Stern, 2003, p.249).

To date, contradictory results have been presented in regard to delayed child bearing and maternal self-esteem. Positively, mothers who delayed motherhood until later adulthood reported the benefit having experienced a number of significant developmental milestones (such as

completing their educational and career goals or having established relationships) and consequently, reported higher levels self-confidence (Dobrzykowski, Noerager, & Stern, 2003).

Negatively, some older mothers have reported having doubts in their ability to maintain parental effectiveness in as she aged (Dobrzykowski, Noerager, & Stern, 2003). Currently, there is a lack of clarity and understanding surrounding motherhood at older ages. Despite this, it is known that adult mothers who reported more confidence and had higher levels of self-esteem (Dobrzykowski, Noerager, & Stern, 2003) had higher maternal levels of self-efficacy.

Adult mothers have been found to be more likely to have a higher levels of cognitive thinking, often times as a result of having more time and opportunity to gain experiences from which to draw which is an important part of the formal operations stage of cognitive development (Piaget & Inhelder, 1958). Consequently, adult mothers have been found to demonstrate higher levels of knowledge in child development (Elster, McAnarney, & Lamb, 2001).

Additionally, adult mothers appeared more sensitive to their infant's cues and engaged in more frequent verbal interactions with their infants. In comparison, adolescent mothers were found prefer physical interaction with their infants (Elster, McAnarney, & Lamb, 2001).

Karraker & Evan's (1996) study of sixty-eight middle class adult and adolescent mothers and their toddlers utilized observations of mother-toddler interactions, and the completion of a *Bayley's Scale of Infant Development Assessment*, and a domain specific maternal self-efficacy scale. The authors found that adult mothers were significantly more accurate in predicting their infants' performance. Consequently, these higher levels in knowledge of child development within adult mothers predicted a higher quality of environment and experiences the mother provided (Karraker & Evans, 1996). A high-quality home environment and rich parent-child interactions were all found to be important for optimal child development (Karraker & Evans, 1996).

Predicting Perceived Maternal Self-Efficacy

Maternal Depression

Depression continues to be a well-researched topic in the arena of pregnant and parenting adolescent research. Adolescents, in general, have been found to be at higher risk for experiencing depression due to their developmental immaturity. Approximately 25% of adolescent females reported being depressed (National Institute of Mental Health, 2004). Colletta (2001) found that 58% of the adolescent mothers sampled reported themselves as being depressed in comparison to 48% of low income adult mothers, or 21% of the general population (Colletta, 2001).

Various studies report a dramatic increase in rates of depression in adolescents between the ages of 13-15, and then a leveling off in rates of depression around the age 17 or 18 (Porter & Hsu, 2001; Wilcox, Field, & Pyrodromidis, 1998). Diehl's (1997) study of mothers looked closely at the relationship between self-esteem levels and depression. Results supported previous studies results involving adult mothers. Mothers who reported higher rates of self-esteem had lower rates of depression. In addition, mothers with higher self-esteem appear to be more confident in their mothering ability. In turn, confident mothers appeared to feel more efficacious in their parenting (Ruchala & James, 1997).

Bandura's social cognitive theory (1999) suggests that maternal depression may predict the presence of depression, potentially as an affective manifestation of learned helplessness. In turn, depression may result from low feelings of self-worth, a lack of social support, or a perpetuated state of mental negativity (Bandura, 1999). These feelings of inefficacy may lead to experiences of depression which are related to inability to establish a clear sense of one self, as well as the inability to establish coping mechanisms necessary to cope with developmental challenges (Schaffer & Blatt, 1990). Depressed young parents were found to be less likely to finish school and were less likely to have nurturing relationships with their young child (Colletta, 1983).

Colletta (2001), in her study of 76 mothers between the ages 15-19 years of age, found reported rates of depression up to 59% of the sample. Study participants completed a depression

scale (*CES-D*), the *Parental Acceptance-Rejection Questionnaire* and *The Maternal Role Satisfaction Scale* to explore rates of depression and correlations with maternal satisfaction.

Colletta reported a strong relationship between depression and maternal educational level. In addition, Colletta (2001) found that depressed young parents were less nurturing relationships with their young child (Colletta, 2001). Field, Pickens, Pyrodromidis, Malphurs, et al., (2000) reported that depressed mothers were less vocal with their infants, thus contributing to lower quality interactions.

Infants of depressed mothers had significantly more reported health problems than infants of non-depressed mothers. Infants of depressed mothers weighed less, were shorter, and had more medical complications than infants of non-depressed mothers, indicating a propensity toward failure to thrive (Field, Pickens, Pyrodromidis, Malphurs, et al., 2000). Additional complications included higher rates of stress and depression for the child (Whiteside-Mansell, Pope, & Bradley, 1996). Maternal depression is critical to understand as it has the potential to have a negative impact on the mother's self-efficacy as well as the mother-child relationship.

Teti & Gelfand (1991) found that self-efficacy may mediate the effects of maternal depression on the mother-child relationship. Mothers who had higher perceptions of self-efficacy reported more positive interactions with their child, despite higher depression levels (Teti & Gelfand, 1991).

Infant Temperament

Infant temperament is defined as patterns of emotional expression, activity, and attention; all of which are hypothesized to predict infant temperament (Bates, Bennett-Freeland, & Loundsbury, 1979). Temperament is the basic dimension of personality that begins to emerge early on in life and is biological in nature, appears to be constant, and is influenced by environmental factors (Bowlby, 1958). A parent's perception of child temperament is based on a cognitive assessment of the difficulty the child presents consequently infant temperament may also be referred to as infant difficulty (Bates, Bennett-Freeland, & Loundsbury, 1979).

Parental perceptions of child characteristics and actual child characteristics have been found to have a bi-directional effect (Bates, Bennett-Freeland, & Lounsbury, 1979). Mothers failed to have the same types of quality interactions with a child who was more difficult in temperament than a child who was perceived as being easier in temperament. In their extensive

literature review, Elster, McAnarney and Lamb (1983) reiterated that adolescent mothers rated their infants as more temperamentally difficult than did adult mothers.

A child's negative emotionality was found to negatively influence parental caregiving practices. Hence, if a child is difficult in temperament, there may be a negative effect on parenting behavior. However, "negative emotionality in a child is not always associated with negative effects in parenting" (Edhborg, Seimyr, Lundh, & Widstrom, 2000, p. 2). Ruchala & James (1997) postulated that maternal perceptions of self-efficacy are influenced by child temperament. In contrast, Teti & Gelfand (1991) found that mothers with higher self-efficacy reported more positive interactions with their infant, even if the infant was perceived as being more temperamentally difficult. This suggests that higher maternal self-efficacy levels may serve as a buffer against temperamentally difficult infants.

Due to the reciprocity within the parent-child interaction, some mothers reported that when they were successful in interacting with their temperamentally difficult infant, their confidence increased. In turn, this led to an increase in perceptions maternal self-efficacy. This is also referred to as "Goodness of Fit." The "Goodness of Fit Model" proposes that in addition to a child's individual characteristics (temperament), demands put on the child by the parent affects the socialization process (Lerner & Busch-Rossnagel, 1981). These demands are indirectly influenced by parental attributes, attitudes, beliefs and knowledge of child development. Contextual theory further suggests that if a child's characteristics of individuality are more compatible with their parent's, the child is more likely to receive more supportive interactions from their parent (Lerner & Busch-Rossnagel, 1981).

Edhborg and colleagues (2000) also found that caring for an infant that is difficult in temperament was found to be related to higher levels of maternal stress. Depressed mothers were found to report their infant as being more temperamentally difficult (Edhborg, Seimyr, Lundh, & Widstrom, 2000). Mothers who reported higher levels of depression also reported having more difficulties caring for their 2-month-old children (Edhborg et al., 2000).

This is not always the case. Perceptions of self-efficacy may be a moderating factor between perceptions of infant temperament and parental behavior (Bates, Bennett-Freeland, & Loundsbury, 1979). Teti & Gelfand (1991) found that those mothers with higher self-efficacy levels reported more positive interactions with their infant (even those more difficult in temperament).

Social Support

Logsdon, Birkimer, Ratterman, & Cahill (2002) defined social support as “a well-defined action that is given willingly to a person with whom there is a personal relationship and that produces an immediate or delayed positive response in the recipient” (p. 75). Examples of these actions include people letting the individual know they do a good job at work (in or out of the home) or being able to spend time with someone who has the same interests as the individual.

Formal support is defined as a mother’s use of social service agency support. Informal support is considered to be support received from a spouse, partner, friends and extended family (Logsdon, Birkimer, Ratterman, & Cahill, 2002). Formal support has been linked to the direct and indirect positive influences on mothers and children.

Social support has consistently been found to benefit the mother directly (and indirectly) as well as the child during the mother’s in the transition to adulthood (Shapiro & Mangelsdorf, 1994). In adolescent mothers, strong family support was found to be positively related to the positive parenting behaviors of adolescent mothers (Trad, 1995).

Research has indicated that the presence of social support influenced maternal self-efficacy by allowing observation of positive parenting behavior of significant support figures (Bates, Freeland, & Loundsbury, 1979). Therefore, "...friends and relatives (intentionally or unintentionally) may reassure a woman that she is a good mother and also may demonstrate successful child-care routines for her” (Teti & Gelfand, 1991, p. 919).

The developmental outcomes of adolescents who are parents remain a concern for those working with young parents and their children. “Although teen pregnancy and parenting is, in general, associated with poor outcomes for the adolescent mother and her child, there is still great variability in outcomes within the population of adolescent parents” (Cherniss & Herzog, 1996, p. 72). These developmental outcomes often depend on the amount of support the adolescent parent has received (Logsdon, Birkimer, Ratterman, & Cahill, 2002). For example, if a young mother was supported in her efforts to finish high school, in delaying future pregnancies, and in meeting the basic needs of her child, the support source influenced the developmental outcome of the child (SmithBattle, 2000). Social support was found to play a key role in the adolescent mother’s transition to motherhood. Adolescent mothers more often relied on relatives (like their own mothers) for support, information and child care assistance

(SmithBattle, 2000). Additionally, adolescent mothers who had more social support exhibited less anger and used less punitive methods of parenting (American Academy of Pediatrics, 2001).

However, it is important to note that Reis's (2001) review of social support noted that an increase in social support was not always beneficial to an adolescent mother. The degree or amount of support may potentially interfere with the adolescent mother's parenting behavior, and her sense of competency i.e., too much support may undermine the adolescent mother's feelings of competence.

Reis (2001) suggested that the amount of social support requested by an adolescent mother often varied depending upon individual characteristics. Reis (2001) found that mothers who understood child development did not request as much social support. The quality of the support new mothers received appears to be even more critical than the quantity of social support (Shapiro & Mangelsdorf, 1994). The source of support offered to the adolescent mother was found to be influential on the maternal perceptions of the benefits of the social support received (Burke & Liston, 1994; Shapiro & Mangelsdorf, 1994).

Support offered by the adolescent mother's own mother and the baby's father were found to be crucial to the developmental outcome of the young mother and her child. Many adolescent mothers reported they could talk to their mothers, their baby's father, or a friend about their problems. This was reportedly very important to the support and subsequent behavior of the adolescent mother (Ruchala & James, 1997).

Shapiro & Mangelsdorf's (1994) research demonstrated that a young mother's sense of self-esteem and feelings of efficacy appear to be associated with involvement with their children's fathers and not their families of origin. This contradicts other research which indicated that the adolescent's family or origin is a more critical source of support to the young mother (Colletta, 1983).

Agency support also played an influential role in supporting new mothers in their transition to parenthood. Ruchala & James (1997) utilized social learning theory to guide their exploratory study of shortening lengths of hospital stays after birth and the potential impact on new mothers. This study looked at 116 (ages 13-19) adolescent and 101 adult mothers (20-41 years of age) and their transition to motherhood.

Of greatest concern to the nurses was how shortened hospital stays impacted the youngest mothers (Ruchala & James, 1997). The authors concluded that shortened hospital stays were

missed opportunities to support new mothers. It is typically during the hospital stay when new mothers are provided opportunities to observe nurses interactions with their baby, to ask questions about child development, and to learn about signs of maternal depression (Ruchala & James, 1997).

Teti & Gelfand (1991) found that a parent was more likely to perceive him or herself as more competent in his/her parenting ability if he or she had higher levels of self-efficacy. In turn, there were potentially better outcomes for their children (Teti & Gelfand, 1991). Adolescent mothers are generally considered to be at higher risk because of their immature developmental level. As a consequence, their children are also considered at-risk because of the mother's immaturity. This is thought in part to be because adolescent mothers demonstrated lower levels of perceived maternal self-efficacy than first-time mothers who were older (Teti & Gelfand, 1991).

Utilizing Belsky's (1984) Parenting Framework, this study will examine differences between first-time mothers' perceptions of their self-efficacy. This study will strive to answer the following research question: To what extent is the variance of perceived self-efficacy among first-time mothers explained by maternal age, presence of depression, perceived levels of social support, and perceptions of infant temperament?

Hypotheses

Specific hypotheses examined in the present study include:

H1: First time mothers will perceive different levels of self-efficacy by age of mother: Adolescent mother, emergent adult mother, adult mother

H 2: First-time mothers will perceive different levels of depression by age of mother: Adolescent mother, emergent adult mother, and adult mother.

H 3: Depression will be correlated with maternal perceptions of self-efficacy across all ages.

H 4: First-time mothers' perceptions of infant temperament will vary by age of

mother: Adolescent mother; Emergent adult mother, adult mother.

H 5: Social support will predict positive self-efficacy levels for all first-time mothers.

H 6: Increased perceptions of social support will be correlated with maternal levels of depression among all first- time mothers.

CHAPTER 3 - Methodology

Demographic Information

Participants in this study (N = 115) included mothers who have given birth to their first surviving biological child (except in one case where the infant was adopted and was of the same race as the adoptive parents). First-time mothers (with no other children in the home) that had an infant between the ages of 4-12 months were eligible to participate in the current study.

Participants for this study were recruited from various social service agencies, alternative high schools, and early child care and education programs from multiple counties in the states of Idaho, Washington and Oregon.

Each mother reported her demographic information on two separate survey forms created by the researcher. Mothers indicated income level, educational level, profession, marital status, and family composition on the first form (see Appendixes B and C). Mothers reported demographic information on their infant on the second form including age and gender.

Participants for this study were divided into three age groups. Group 1 included ($n = 25$) *Adolescent Mothers* between the ages of 15-19 years of age. Group 2 ($n = 31$) included new mothers within the *Emergent Adulthood Period*, or between the ages of 20-25. Group 3 ($n = 52$) included *Adult Mothers* who were 26 years of age or older.

With respect to race, the majority of participating mothers across all age groups were White- non-Hispanic (83.3%). Reported annual income of mothers varied with 30 % of mothers had an annual income of \$15,000 or less ($n = 32$). Sixty-four percent of adolescent mothers reported the highest level of education currently reached as high school ($n = 16$), 45.2% of emergent mothers reported their highest level of education included some college classes ($n = 14$), and 38.8% of adult mothers reported having a bachelors degree ($n = 20$).

Forty-four percent of adolescent mothers were married ($n = 11$) in comparison to 71% of emergent mothers ($n = 22$) or 78% of adult mothers ($n = 41$). For data analysis, marital status was re-coded into 1 = married, and 0 = for not married. Refer to Table 3.1 for a frequency analysis of maternal education, income, marital status, and race and Table 3.2 for number of participants by years of age.

The average age of the infants of the adolescent mothers was 7.4 months, 7.5 months for emergent mothers and 7.6 months for adult mothers. Forty-five percent of the mothers had boys ($n = 49$), 53.7% had girls ($n = 58$) and one mother noted that she had twins, including one boy and one girl.

Mothers were asked to report social agency usage on a questionnaire (see Appendix I) to collect more agency specific information about participant's use community agencies/resources. Participants were asked if they accessed various agencies including: "*Food Stamps*", "*Child Care Financial Assistance*", "*State Financial Assistance*", "*Energy Assistance*", "*Whitman County First Steps Program*", "*First Steps to Parenting Program*", "*Young Children and Families*", "*Regular Financial Help from Family*", "*Adolescent Parent Mentoring Program*", "*Women Infants and Children (WIC)*", "*Parent Education Programs*", and "*Other*". This data will not be used in the present analysis.

Table 3.1 Demographic Table

	Adolescent Mothers n = 25		Emergent Adult Mothers n = 31		Adult Mothers n = 52	
Characteristics	<u>n</u>	%	n	%	n	%
Education (Present or highest level)						
Junior High	2	8	0	0	1	1.9
High School	16	64	4	12.9	6	11.5
Some College	6	24	14	45.2	7	13.5
Some Technical School	0	0	1	3.2	2	3.8
Associate's Degree	0	0	3	9.7	8	15.4
Bachelor's Degree	1	4	9	30	20	38.8
Master's Degree	0	0	0	0	5	9.6
Doctoral Degree	0	0	0	0	3	5.8
Income						
\$0-\$15,000	16	64	10	32.3	6	11.5
\$15,001-\$30,000	4	16	15	48.4	13	25
\$30,001-\$45,000	4	16	3	9.7	7	13.5
\$45,001-\$60,000	0	0	1	3.2	13	25
\$60,001-\$80,000	0	0	1	3.2	6	11.5
\$80,001-\$99,999	0	0	0	0	2	3.8
Over \$100,000	0	0	0	0	3	5.8
No Response	1	4	0	0	2	3.8

Table 3.1 Demographic Table (continued)

	Adolescent Mothers		Emergent Adult Mothers		Adult Mothers	
	n = 25		n = 33		n = 50	
Characteristics	<u>n</u>	%	n	%	n	%
Marital Status						
Single (living alone)	2	8	0	0	3	5.8
Single (living with family)	4	16	3	9.7	3	5.8
Single (living with partner)	4	16	4	12.9	4	7.7
Married	11	44	22	71	41	78.8
Widowed	1	4	0	0	0	0
Living with partner and parents	3	12	0	0	0	0
Engaged	0	0	1	3.2	0	0
Separated	0	0	0	0	1	1.9
Other	0	0	1	3.2	1	0
Race						
Asian/Pacific Islander	0	0	0	0	3	5.8
Black-Non Hispanic	0	0	0	0	1	1.9
Hispanic	3	12	1	3.2	1	1.9
Native American/ Alaska	0	0	2	6.5	2	3.8
White-Non-Hispanic	19	76	27	87.1	44	84.6
Arabic	0	0	0	0	1	1.9
Other:	2	8	1	3.2	0	0
Not Reported	1	4	0	0	0	0

Adolescent mothers = age 19 and under; Emergent Mothers = 20 – 25 years; Adult mothers = 26 years of age or older

Table 3.2 Maternal Age Distribution and Frequency

Years	Frequency
15	1
16	1
17	4
18	5
19	14
20	3
21	7
22	3
23	4
24	4
25	10
26	8
27	8
28	4
29	7
30	9
31	1
32	1
33	5
34	1
35	2
36	1
37	1
38	1
39	1
40	1
41	1

Table 3.2 Maternal Age Distribution and Frequency (continued)

Years	Frequency
42	1
43	1

Measures

Self-Efficacy

The Maternal Self-Efficacy Questionnaire by Teti & Gelfand (1989) (see Appendix V) was a ten item, 4 point Likert scale (1 = *Much Worse*, 2 = *Somewhat Worse*, 3 = *As Good*, and 4 = *Better than Others*). This scale utilizes Bandura’s theoretical model of self-efficacy. Teti & Gelfand (1989) piloted this instrument with 29 mothers. Internal consistency was $\alpha = .79$. A later study by the authors included giving the measure to 96 mothers. Reliability for this administration was reported at $\alpha = .86$. The 10-item scale included the following items: “*Infant Soothability*”, “*Understanding What the Baby Wants*”, “*Baby’s Understanding of Mother’s Wishes*”, “*Maintaining Joint Attention/Interaction*”, “*Positive Response to Affection*”, “*Knowledge of Activities that the Baby Enjoys*”, “*Ability to Disengage*”, “*Daily Routine*”, “*Getting the Baby to Show Off*”, and lastly, the global measure to efficacy in mothering: *How Good of a Mother do you Feel you are?*”

In this study the reliability of this instrument was considered relatively low at $\alpha = .73$. Chronbach’s Alpha increased to $\alpha = .82$ after removing two items from the scale that did not statistically fit with the other items. These items were: (1) *How Good are you at Getting your Baby to Show Off for Others* (2) *How Good are you at Understanding What your Baby Needs?* Because higher scores indicate higher levels of self-efficacy on a continuum, a total sum score was used, that is, all items that were included in the scale were totaled and recoded into a new variable “*Total Self-Efficacy.*”

Depression

The Center for Epidemiology Studies Distress Scale (CES-D: Radloff, 1977) was a 20-item self-report scale designed to measure depression symptoms in adults and adolescents. Adolescents have reported that the CES-D Depression Scale depression measure was easy to read, understand, complete, and reported it to be less depressing than other depression measures (Wilcox, Field & Pyrodromidis, 1998). The CES-D (see Appendix H) operationalize the cognitive and affective factors of depression as well as the affect on mood.

The measure includes twenty items on a Likert-type scale (0 = *Rare*, 1 = *Some*, 2 = *Occasionally*, or 3 = *Most of Time*). Concepts that are measured include depressed moods, feelings of guilt, helplessness, and loss of appetite. The tool is written on a fifth grade reading level. Acceptable reliability and validity has been found across diverse demographic characteristics, and $\alpha = .85$ including age, race, ethnicity, and language groups (Wilcox, Field & Pyrodromidis, 1998).

Reliability of the measure in the current study increased from $\alpha = .81$ to $\alpha = .85$ after dropping two items. Factor analysis revealed a poor fit in two of the items, therefore items (1) *I Felt that I was as Good as Others* (recoded due to reversed scale item) and (2) *I was Bothered by Things that don't Usually Bother Me*, were not included in further analyses. As higher scores indicate higher levels of depression on a continuum, all items that were included were totaled and recoded into a new variable, "*Overall Depression Score Sum.*" Sum total score from the scale served as the indicator for the level of depressions experienced by the mother.

Social Support

The Personal Resource Questionnaire (PRQ: Weinert, 2000) is a revision of one of the "first generation" social support instruments designed to operationalize the concept of social support experienced by individuals (Weinert, 2000). The PRQ was a norm-referenced measure. The PRQ is a fifteen-item, 6-point Likert scale, that measured perceived social support (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Somewhat Disagree*, 4 = *Somewhat Agree*, 5 = *Agree*, and 6 = *Strongly Agree*). Reliability remained fairly constant ranging from $\alpha = .87$ to $.93$ in the author's various studies (Weinert, 2007 information on instrument).

This scale is reported to have content and predictive validity with adolescent and adult populations (Weinert, 2000). For the youngest group of the pregnant teens, coefficient alphas

were $\alpha = .89$, for the middle group of pregnant adolescents was $\alpha = .91$, and for the oldest group of teens, $\alpha = .89$. Items that were included in the scale (see Appendix K) included: “*There is a someone I feel close to and makes me feel secure,*” “*I Belong to a Group Where I feel Included,*” and “*I Have Relatives or Friends that will Help me Even if I Cannot Pay Them.*”

In the current study, reliability of this measure of social support was high at Chronbach’s $\alpha = .91$, however, factor analysis uncovered large variance within item 1) *I belong to a group where I feel that I belong*. Therefore, this item was not used in analysis. Reliability stayed at standardized item $\alpha = .91$ after removing the item of the scale. As higher scores indicate higher levels of social support on a continuum, all items that were included were totaled and recoded into a new variable allowing sum comparisons to be made easily. This variable was titled *Total Social Support*.

Infant Temperament

The Infant Characteristics Questionnaire (ICQ: Bates, 1988) is a twenty-three-item, 7-point Likert-scale, designed to measure parent’s perceptions of their infant’s temperament. There are three subscales, “*Fussy-Difficult*”, “*Dull*”, and “*Unpredictable*” (Bates, Bennett-Freeland & Lounsbury, 1979). Items that were included in this measure included “*How Much Does your baby Want to be Held*”, “*How Changeable is Your Baby’s Mood*” and “*How Active is Your Baby in General*”.

Four items were recoded using reverse scoring: 6) *Please Rate the overall Difficulty Your Infant Presents to the Average Mother*, 17) *How Much Does Your Baby Smile and Make Happy Sounds*, 19) *How Much Does Your Baby Enjoy Playing Games With You*, and 23) *How Excited Does Your Baby Become When People Play or Talk to Him*. Participants used the following rating scale as a guide for indicating the degree to which their infant met the characteristic: 1 = *minimal*, 4 = *average*, and 7 = *extreme*) (refer to Appendix G). Current research utilizing Bates, Bennett-Freeland & Lounsbury’s (1979) infant Characteristics Questionnaire (ICQ) has demonstrated a low, but reliable level of agreement between parent report and observer reports (Bates, Bennett-Freeland & Lounsbury, 1979).

The original instrument was designed to be used with infants 6 months of age. However, Edhborg, Simyr, Lundh & Widstrom (2000) used this scale when measuring new mothers’ perceptions of their two-month-old infant’s temperament. The authors used a shortened version

(from the original 23 items to 16 items). The authors chose to exclude any items relevant for infants under 2 months of age. Because this instrument showed respectable reliability for the range of infants targeted for this study, the researcher determined it appropriate for the current study.

In the current study, reliability of this measure of temperament was moderate at $\alpha = .80$, however, factor analysis uncovered a poor fit with items 1) *How Active is Your Baby*, 2) *How Does your Baby React When Dressing Him*, and 3) *How Does Your Baby Respond to New Persons*. Therefore, these items were deleted in the analysis. Reliability rose to $\alpha = .88$ after removing the item of the scale. As higher scores indicate higher levels of infant difficultness (temperament) on a continuum, all items that were included were totaled and recoded into a new variable allowing sum comparisons to be made easily. This new variable was named, *Total Temperament Scores*.

Procedures

Each participating mother received a packet that included a cover letter describing the study (see Appendixes M and N), the survey with the consent form on the cover (see Appendix A), a self-addressed and stamped envelope, a complimentary book mark. A list of local community resources was also included to assist the mother in recalling resources she may have used.

Surveys were distributed in two waves, approximately six months apart. Three-hundred sixty surveys were distributed during phase one and 200 surveys were distributed during the second wave. During the first wave of distribution, 100 survey packets were sent to every center, group and family child care providers (distributed to 15 different facilities) that had eligible mothers within the local four county areas as well as. The researcher contacted local center, group and home child care providers personally and explained the research project. If the program administrator agreed, and there were qualifying first-time mothers enrolled in the program, packets were distributed to the centers and sent home with qualifying mothers. In addition, an extra packet, including a cover letter (see Appendix O) was included for the administrator to examine the research protocol.

Adolescent participants were recruited primarily from alternative high schools and at an adolescent parenting conference. After obtaining permission from school/program

administrators, letters were sent to teachers describing the study. The teacher or counselor then invited adolescent mothers to participate. Interested mothers were given packets to take home to share with their parents. Approximately 75 of these packets were distributed to alternative high schools, 25 packets during the adolescent parenting conference, and 125 packets to programs that specialize in serving parenting adolescents populations. Thirty-five surveys were distributed to Parents as Teachers, Even Start, and Early Start Programs. Additionally, twenty survey packets were sent to an Early Start Program.

Several months after the survey packets were distributed to additional agencies during the first wave of distribution, four agencies sent unused packets back to the researcher. One agency sent 75 unused packets back. The administrator reported that the survey (in English) was not user friendly to their largely Hispanic population. The three other agencies sent back left over packets to total 35. Therefore, out of 250 out of the 360 original surveys that were distributed to facilities, 24 were returned for a 10% return rate.

Preceding the second wave of survey packet distribution, the researcher contacted additional programs serving new mothers in the attempt to recruit more participants. This included additional Parents as Teachers Programs in additional counties, and several new mothers' groups. Several Women, Infants and Children Programs were also approached to offer packets to qualifying new mothers. The researcher met with administrators and shared information about the research project, and permissions were gained.

Twenty-five survey packets were sent to additional Parents as Teachers Programs, 50 survey packets were distributed to new mothers' groups. Thirty packets were delivered to a pediatrician's office. Ninety-five survey packets were also sent to several WIC offices.

During the second wave of survey distribution, a total of 200 surveys were distributed and 91 were returned for a 46% response rate. One of the alternative high schools invited the researcher to come in and talk to a group of eight adolescent mothers (with parental permission). Mothers were able to ask questions and survey packets were explained and mothers were able to take a packet home to share with parents when interest. The researcher was able gain additional perspective into the challenges and strengths of adolescent motherhood. The researcher made weekly contact with agencies during after the second wave of distributions to inquire to whether additional surveys were needed, and to answer questions.

A total of 116 out of 560 grand total of surveys distributed (phase 1 and phase 2 combined) were returned (21%) to the researcher. A total of 113/116 (97%) surveys were determined usable. Two surveys could not be used in the present study because the consent form was not signed. Another survey was not used as it had the consent page signed, but nothing else in the survey was completed. One survey was completed by a mother of twins. The mother noted that she used two different inks to signify her answers for the two different infants (one boy and one girl); the researcher used the oldest infant to enter scores for.

All subsequent data analyses were examined for significance at the $p < .05$ level. Effect sizes were determined by subtracting the mean score of one group from the mean score of another and dividing by the standard deviation score of the group with the highest standard deviation (personal communication with Schumm, 2007). It is also important to note two-tailed analyses were conducted following the analyses utilized by Teti & Gelfand, 1991. Different (and potentially significant) results may have been achieved if one-tailed tests were utilized.

CHAPTER 4 - Results

The purpose of this study was to examine maternal self-efficacy among mothers divided into three age groups representing 3 developmental periods between ages 15 and 40 years. Mothers were surveyed after the birth of their first and only child. The degree to which variance in self-efficacy was explained by the following predictive variables was examined: maternal depression, infant temperament, and social support.

Preliminary Analyses

Correlation analyses (see Tables 4.1 & 4.2) were conducted to examine the relationship between self-efficacy and the independent variables (social support, maternal depression, and infant temperament) as well as between demographic variables (income, education level, age of infant) with all age groups combined. Only one demographic variable (maternal education) was significantly correlated with maternal self-efficacy ($r = -.30, p < .05$). Therefore, maternal education level was used consequently as a covariate in subsequent regression analyses examining maternal self-efficacy.

A significant and negative correlation existed between marital status and depression. If a mother was married, she had lower perceived levels of maternal depression ($r = -.25, p < .01$). Additionally, there was a significant relationship between marital status and perceived levels of social support ($r = .29, p < .01$). If a mother was married, she was more likely to have reported higher levels of perceived social support. Due to this significance, marital status was controlled for in subsequent analyses.

A negative correlation was observed between depression and income levels ($r = -.29; p < .05$). The lower the reported income, the higher the level of maternal depression was, regardless of age. Correlation examinations uncovered that income had a significantly strong negative relationship with a mother's perception of infant temperament. Therefore, mothers from lower income brackets tended to rate their infant as being more temperamentally difficult ($r = -.27$ looks like $-.23$ to me; $p < .001$) (see Table 4.1). Partial correlations controlling for maternal education, income and maternal marital status revealed infant temperament was also significantly correlated with maternal depression ($r = .21; p < .05$), and social support ($r = -.22; p < .05$) (refer to Table 4.2).

Table 4.1 Correlation Matrix of Variables

Variables	1	2	3	4	5	6	7
1. Self-Efficacy	--	.38*	-.37*	-.32*	-.06	-.30*	-.01
2. Social Support	.33*	--	-.47*	-.19	.29*	.13	.17
3. Depression	-.37*	-.47*	--	.22*	-.25*	-.17	-.29*
4. Infant Temperament	-.32*	-.19	.22*	--	.01	-.03	-.23*
5. Marital Status	-.06	.29*	-.25*	.01	--	.40*	.38*
6. Education Level	-.30*	.13	-.17	-.03	.40*	--	.37*
7. Income	-.01	-.17	-.29*	-.23*	.38*	.37*	--

N = 108 *p<.05 (2 tailed)

Infant age and infant gender were not included in this table due to lack of significant relationships with any of the study variables.

Table 4.2 Zero-Order and Partial Correlations^a among Maternal Self-Efficacy and Four Predictor Variables

	Age	Social Support	Depression	Infant Temperament
Self Efficacy:				
Zero-order	-.18	.33*	-.36*	.23*
Partial	-.02	.43*	-.41*	-.20
Social Support:				
Zero-order	-.03		-.47*	-.18
Partial	-.21*		-.46*	-.24*
Depression:				
Zero-order	.27	-.47**		.21*
Partial	.01	-.46**		.21*
Infant Temperament:				
Zero-order	-.05	-.17	.22*	
Partial	-.09	-.22*	.21*	

^aControlling for maternal education, income and maternal marital status

Significant mean income differences ($F(2, 103) = 12.41; p < .05$) were found among mothers of different age groups: ($M = 1.76; SD = 1.5$) for adolescent mothers, ($M = 2.07; SD = 1.2$) for emergent mothers and ($M = 3.36; SD = 1.7$) for adult mothers. Significant differences also appeared with maternal education levels ($F(2, 105) = 21.78, p < .05$). ($M = 3.32; SD = 1.0$) for adolescent mothers, ($M = 5.10; SD = 1.8$) for emergent mothers, and ($M = 6.08; SD = 1.9$) was found for adult mothers. Therefore, these demographics were controlled for in appropriate subsequent ANCOVA and regression analysis. Based on preliminary results, marital status, education and income levels were controlled for in subsequent (appropriate) analyses.

Means and standard deviations for dependent and independent variables by age group are presented in Table 4.3.

Table 4.3 Mean and Standard Deviations of Dependent and Independent Variables

	Adolescent n = 25		Emergent Adult n = 35		Adult mother n = 51	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Maternal Self-Efficacy	26.6	3.3	25.8	2.9	25.6	2.9
Depression	15.9	9.74	15.1	8.3	13.9	8.7
Infant Temperament	55.6	12.2	56.7	11.7	53.8	12.6
Social Support	70.7	12.8	72.3	9.8	70.1	10.5

Hypothesis 1: Perceived Self-Efficacy by Maternal Age

A 3 (age groups) x 1 (self-efficacy) ANCOVA controlling for level of education was conducted ($F(2,104) = 2.3, p > .05$) (see Table 4.4). Effect size (ES) was ($ES = .06$) between adolescent mothers (Group 1) and emergent adult mothers (Group 2), ($ES = .29$) between Group 2 and Group 3 (adult mothers), and ($ES = .06$) between Group 2 and Group 3. No significant differences in perceived self-efficacy emerged. Consequently, age groups were combined for further analyses for self-efficacy. Therefore, *Hypothesis 1* was rejected.

Table 4.4 Maternal Age by Self-Efficacy Mean Comparison (Controlling for Maternal Education)

	<u>df</u>	<u>F</u>	<u>p</u>
Maternal Age	2	.87	ns
Education	1	4.6	.03
Error	100		

n = 104, ns = $p > .05$

Hypothesis 2: Perceived Depression Levels by Maternal Age

In preliminary analyses, income was significantly and negatively related to depression. Therefore, income was identified as a covariate in the following analyses.

A 3 (age groups) x 1 (depression) ANCOVA controlling for income and marital status revealed no significant differences between age groups (see Table 4.5). Effect sizes for age groups were ($ES = .08$) for Group 1 and 2, ($ES = .21$) for Group 1 and 3, and ($ES = .14$) for Group 2 and 3. Though short of statistical significance, adolescent mothers had the highest levels of depression ($M = 15.92, SD = 9.74$), emergent adult mothers had the second highest ($M =$

15.10, SD = 8.32), and the adult mothers had the lowest levels of depression (M = 13.87, SD = 8.56), therefore, *Hypothesis 2* was rejected.

Table 4.5 Maternal Age by Depression Mean Comparison (Controlling for Maternal Income and Marital Status)

	df	F	p
Maternal Age	2	1.0	ns
Marital Status	1	.02	ns
Income	1	7.8	.01
Error	96		

n = 101; ns = p > .05

Hypothesis 3: Depression and Maternal Self-Efficacy

Depression and perceived self-efficacy were drawn from initial correlation analyses. The preliminary correlation analyses (See Tables 4.1 & 4.2) found depression levels ($r = -.37$ $p < .05$) to be strongly (and negatively) correlated with maternal self-efficacy. The greater the level of depression experienced by the mother, the lower her perceived level of self-efficacy. Therefore, *Hypothesis 3* failed to be rejected.

Hypothesis 4: Perceived Infant Temperament Levels by Maternal Age

A 3 (maternal age) by 1 (infant temperament) ANCOVA controlling for marital status was conducted to determine significant differences in perceptions of temperament by age of the mother ($F(2, 104) = .40$; $p > .05$) (see Table 4.6). Effect Sizes were (ES= .10) for Group 1 and 2, (ES = .15) for Group 1 and 3, and (ES = .24) for Group 2 and 3. No significant age group differences were found, therefore, *Hypothesis 4* was rejected.

Table 4.6 Maternal Age by Perception of Infant Temperament (Controlling for Marital Status)

	<u>df</u>	<u>F</u>	<u>p</u>
Maternal Age	2	.49	ns
Marital Status	1	2.17	.05
Marital Status by age	5	1.19	ns
Error	87		

n = 103; ns = p > .05

Hypothesis 5: Social Support and Maternal Self-Efficacy Levels

Advanced mixed methods were utilized to run additional regression analyses to examine potential interaction effects between the predictors: social support x depression, social support x infant temperament, and depression x infant temperament on maternal self-efficacy.

Additionally, each of the main predictors was examined with age to check for interactions. No significant interactions were uncovered in relationship to self-efficacy. Therefore, the examinations for interactions between predictors were not considered in subsequent regression analyses.

A similar model to what Teti & Gelfand (1991) utilized to determine the influence of maternal and infant characteristics and social supports on maternal self-efficacy. The following variables were entered as predictors in the regression analyses: maternal age, depression and social support were each entered as predictors in the current study.

Maternal self-efficacy was regressed on each of these predictors. The following describes the entering of the variables into a hierarchical multiple linear regressions. Maternal education, marital status, and income (block one); social support, depression, and infant temperament (block two). At each step, variables were entered using a block entry selection approach and entered simultaneously.

Both steps had significant relationships present. Step 2 did have a significant increase in R^2 as indicated by a significant change in F . In step one, educational level, income, and marital status was significant a $p < .05$. In step 2, all of the predictors except infant temperament were significantly related to self-efficacy (see Table 4.7).

Multiple regressions that looked specifically at social support as a predictor of maternal self-efficacy found that that social support significantly (above and beyond infant temperament and maternal depression) predicts maternal self-efficacy (see Table 4.8). ($F(1, 89) = 4.26; p < .05$).

Additional multiple regressions were conducted to see if social support explained further variance in maternal self-efficacy after controlling for the remaining predictors (see Table 4.9). Of the three predictors, as expected, social support continued to significantly predict maternal self-efficacy despite controlled variables ($F(1, 86) = 13.19 p < .05$).

Correlation analyses (see Table 4.1) additionally found that infant temperament ($r = -.32; p < .05$), depression ($r = -.32; p < .05$) and social support ($r = .38; p < .05$) were all found to be significantly related to maternal self-efficacy. Therefore, mothers who perceived their infants as being more difficult, had less support and/or were depressed reported lower self-efficacy levels, hence, *Hypothesis 5* failed to be rejected.

Table 4.7 Hierarchical Multiple Regression Analysis Assessing the Relationship Between Maternal Self-Efficacy (Dependent Variable) and Infant Temperament, Maternal Depression, and Social Support (Controlling for Education Level and Maternal Marital Status)

Step and Order Of Entry	Multiple R	R ² Increase	<i>df</i>	F Change	p	Beta
1-3:						
Maternal Education	.36	.10	3, 89	4.31	<.05	-.41
Marital Status						-.09
Income				.17		
4-6:						
Social Support						.22
Infant Temperament	.57	.28	1, 86	8.34	<.05	-.13
Depression						-.29

n = 92 *Note: Variables at 1-3 and 4-6 were entered as two separate blocks.

Table 4.8 Hierarchical Multiple Regression Analysis Assessing the Relationship Between Maternal Self-Efficacy (Dependent Variable) and Social Support Controlling for Maternal Education, Income and Marital Status

Step and Order Of Entry	Multiple R	R ² Increase	<i>df</i>	F Change	p	Beta
1-3:						
Maternal Education	.36	.13	3, 89	4.31	<.05	-.41
Marital Status						.09
Income						.17
4-5:						
Infant Temperament	.54	.16	1, 86	10.01	<.05	-.15
Depression						-.38
6:						
Social Support	.57	.03	1, 86	4.26	<.05	.22

n= 92

**Note: Variables at 1-3 and 4-5 were entered as a block. No two-way interactive terms involving self-efficacy with infant temperament, depression and social support were significantly associated with self-efficacy.

Table 4.9 Hierarchical Multiple Regression Analysis Assessing the Relationship between Maternal Self-Efficacy (Dependent Variable) and Infant Temperament and Maternal Depression (Controlling for Social Support).

Step and Order Of Entry	Multiple R	R ² Increase	<i>df</i>	F Change	p	Beta
1-3:						
Maternal Education	.36	.13	3, 89	4.31	<.05	-.41
Marital Status						.09
Maternal Income						.17
4:						
Social Support	.49	.11	1, 88	13.19	<.05	.34
5:						
Infant Temperament	.51	.02	1, 87	2.56	<.05	-.16
6:						
Maternal Depression	.57	.06	1, 86	1.04	< .05	.28

Note: Variables at 1-3 & 4, 5, & 6 were all entered separately as block. There were no two-way interactions that involved self-efficacy with infant temperament or with depression.

Hypothesis 6: Social Support and Relationship with Maternal Depression

As with earlier studies examining the effect of social support on maternal depression, the present study supports previous findings and conclusions in regards to maternal depression. For the purpose of this study, two different indicators of social support were considered. These indicators included the social support measure completed by mothers and the reported relationship status (marital status). Correlation examinations revealed a significant (negative) correlation between maternal depression and social support ($r = -.47$; $p < .05$) (see Table 4.1). Additionally, marital status was significantly related to maternal depression ($r = -.25$; $p < .05$). Married mothers and mothers who reported higher perceived social support were less likely to be depressed, therefore, *Hypothesis 6* failed to be rejected.

CHAPTER 5 - Discussion

Utilizing Belsky's Parenting Framework (1984), this research explores first-time mothers' perceptions of self-efficacy by age of mother. Maternal depression, perceptions of infant temperament and social supports are predictors of maternal self-efficacy. Analyses revealed that age is not a significant predictor of maternal self-efficacy. All age groups of mothers reported moderate levels of perceived self-efficacy.

Consistent with previous research, this study does provide evidence to support the strong influence that social support plays in leading to higher levels of maternal self-efficacy. Social support significantly predicts self-efficacy levels in new mothers in all age groups. This finding supports the need for, and importance of equal accessibility and affordability of social support to all new mothers regardless of demographic characteristics. Those mothers who feel that they have more social support are more likely to have higher self-efficacy.

Self-efficacy plays an important role in assisting with the transition to parenthood. Specifically, self-efficacy helps a new parent to negotiate their new parental tasks. Barratt et al. (1996) states that mothers who feel a strong sense of identity and success from becoming a mother may be more inclined to enroll in job training, education or parenting classes, if the mother feels these opportunities will make her a better parent.

Bandura suggested that a mother's mental state (presence or absence of depressive symptoms such as negative mood) serves as a *cognitive filter*, causing individuals to have a bias and to retain feelings from past failures and negative experiences. This causes the individual to perceive events and challenges in a more negative fashion (Bandura, 1998; Porter & Hsu, 2001). "... relatively positive feelings may provide building blocks for professionals to use in encouraging young mothers to develop skills and set goals that will enable them to maintain and improve upon their levels of enjoyment and well-being (Barratt et al., 1996, p. 214)

The findings in this study did not support previous research by others (Porter & Hsu, 2003; Teti & Gelfand, 1991) that had found that adolescent mothers report lower levels of self-efficacy. While it is not clear why, one reason for the discrepancy could be due to adolescent egocentrism. Perhaps the younger mothers felt overly competent in their abilities to take on the parenting role. It could also be that the younger mothers wanted to make sure that they answered in a "socially desirable manner." Social desirability is a limitation with self-reported data (Leedy

& Ormrod, 2001). Wording choice used in the survey could have also been an issue. There may have been different findings if a more neutral title had been used such as what was used for the depression measure, the title that was used was, “*Being a Mom can Effect One’s Feelings*”.

Maternal Depression

Previous studies have found that younger mothers were at higher risk of experiencing depression (Colletta, 1983). Dramatic increases in rates of depression have been found in adolescents between the ages of 13-15 with a leveling off in rates of depression around the age 17 or 18 (Wilcox, Field, & Pyrodromidis, 1998).

This study did not find age to have a significant relationship with maternal depression; instead, income appeared to be the key demographic variable that was strongly (and negatively) correlated to depression. In addition, social support and maternal self-efficacy play an additional role in relating to maternal depression. These findings support the further need to determine whether age typically relates to maternal depression, or is it the demographic variables that come along with becoming a mother of a specific age that lends itself to maternal depression.

Depression may serve as a cognitive filter. Depressed mothers have described their parenting role in a more negative fashion than did non-depressed mothers (Porter & Hsu, 2001). Previous studies have found the presence of positive marital support played a key role in higher levels of reported maternal efficacy and lower levels of maternal depression (Porter & Hsu, 2001). Controlling income and marital status, age group differences (though close) fell short of statistical significance. Adolescent mothers reported the highest levels of depression, just missing the cutoff for indications of depression. Further examination of the data using directional 1-tailed tests may reveal further relationships to be examined.

Depression is correlated negatively with self-efficacy. The higher the mother’s perceived maternal self-efficacy levels were, the lower the level of depression was. Additionally, the presence of depression was found to significantly predict maternal self-efficacy, beyond that of education, income and marital status. With the current group of mothers, it appeared that depression may be mediated by some other factor that additionally serves as a buffer to a mother’s self efficacy.

Infant Temperament

Previous research has shown a strong link between infant temperament and maternal self-efficacy (Porter & Hsu, 2001; Teti & Gelfand, 1991). This is thought to be the result of *the perceived task difficulty* and the *outcome expectancies* as put forth by Bandura's self-efficacy theory (Bandura, 1999; Porter & Hsu, 2001). If a mother feels that she will be ineffective in the task, such as parenting the more challenging infant, she may fail to take initiative in positive parenting behaviors.

This study did not find that maternal self-efficacy is lower in mothers who perceive their infants as being more temperamentally difficult after controlling for demographic variables. There was a significant correlation of infant temperament and self-efficacy, but not when income, education, and marital status were controlled.

Teti & Gelfand's (1991) study indicated infant temperament may mediate some of the negative effects of that occur as a consequence of maternal depression. A depressed mother is capable of developing adequate feelings of efficacy in her maternal role, particularly when she has an infant that is easy in temperament (Teti & Gelfand, 1991). This may also lead to more positive parent-child interactions set a critical foundation for later success.

This study found that low income mothers were significantly more likely to report their infants as being more temperamentally difficult. This is of potential concern as infants in low income households are already considered at-risk for developmental delays thus when they are considered by their mothers to be more challenging indicating a potential poor fit between mother and child, the infant may face lower quality parent-child interactions (Porter & Hsu's, 2001). Consequently, these infants may be at higher developmental risk.

Mothers with lower income, less involvement with social agencies, higher levels of depression and/or lower levels of self-efficacy were found to report their infants as more temperamentally difficult. Additionally, since analyses of variance did not demonstrate significant differences in groups of mothers' ratings of infant temperament, this reiterates that demographic variables (like income) associated with the mother may be more influential on maternal perceptions of infant temperament than maternal age is itself.

Social Support

This study found a positive significant relationship between social support and self-efficacy. The higher the social support levels perceived by the mother, the higher the perceived levels of maternal self-efficacy. When examined separately, social support significantly predicted self-efficacy after controlling for infant temperament and maternal depression (see Table 4.8).

Research in the arena of social support of new mothers (as discussed in Nath, Borkowski, Whitman, and Schellenbach's (1991) extensive review of literature) proposed that subjective measures of social support (such as the PRQ) were more predictive than the objective measure of social support (tally of how many social supports the mother has, or summation of types of social supports). The current study found that the youngest mothers utilized the greater amounts of support from social service agencies. Perhaps this is why there were not significant age differences in regards to maternal self-efficacy. This warrants further exploration in future studies.

Nath, Borkowski, Whitman, and Schellenbach (1991) referred to research that has demonstrated that social support did not always have a positive influence on maternal characteristics. On the contrary, social support may instead have a negative impact on maternal characteristics, depending on how the mother perceives the social support. Interestingly, adolescent mothers reported finding more benefit from social support when it is offered by individuals with similarities to the mother herself (Thoits, 1986).

It is also important to note that adolescent egocentrism in adolescent mothers may sometimes cause young mothers to fail in recognizing their need for additional information and support. This additional information might be about child development, child care, or in the general realm of parenting needs. Consequently, this may limit the types and amounts of social support the adolescent mother accesses (Nath, Borkowski, Whitman & Schellenbach, 1991).

Additionally, offering social support to new mothers, particularly adolescent mothers must be done carefully (Higginson, 1998). It has been noted adolescent mothers report feeling proud of their maternal performance and their youthful characteristics, such as their energy. Many adolescent mothers report that their youthful energy is an advantage when it comes to forming parental behaviors (Higginson, 1998). Taking pride in their maternal role appears to be

extremely important for many young mothers. Equally important is to be socially accepted (Higginson, 1998). This is sometimes done by emphasizing their strengths to others as well as pointing out the negative qualities of other maternal age groups.

As shared to the current author by a fifteen year old mother,

“Mothers who are older don’t have as much energy. I have lots of energy. I can keep up with my son and take good care of him. I feel that I am closer to him than an older mother would be. I am young and I have been there. And when Jesse gets older, I will still be able to relate to him because I will have been through what he’s going through not too long ago.”

Social support needs to be offered to adolescent mothers carefully. Many have great feelings of pride associated with their perceptions of caring for their child without help. Gifts, services or anything else that is perceived as charity to the adolescent mother may be seen as failure by the adolescent mother.

An adolescent mother will often make great attempts to be perceived in a positive light, and work to dissuade the negative associations of adolescent child bearing. In fact, a mother may pride her self in not utilizing welfare, and at the same time not see the irony when she must go to another agency and apply for emergency housing assistance because she is not able to make the rent payment. Maternal perception of the social support, and the manner it is offered appears to be critical.

Heller, Swindle & Dusenburge (1986) further suggested that it is the mother’s interpretation of the support that is important, not the actual support exchanges that occur. This perception is what influences maternal health. For example, when mothers perceived the support as being controlling or demanding of the mother, the support had a negative impact on maternal perceptions (Heller et al, 1986). There appeared to be a direct correlation in research (Barrera, 1986; Thoits, 1986) between satisfaction with social support and levels of depression.

It is important to note that an individual’s personality, life experiences, role demands and coping skills all intertwine to effect emotional and behavioral responses in a mother (Colarossi & Eccles, 2003). Social support providers must understand and build on the developmental principle that an individual’s need for social support will vary due of age-related changes and social roles such as student, mother, daughter or employee (Colarossi & Eccles, 2003).

Life changes will also have a strong impact on determining social support needs. “As life’s circumstances change, both individuals’ social networks and their needs for different types

and amounts of support also change” (Colarossi & Eccles, 2003, p. 20). Yet, patterns of support do have some consistency as past experiences will influence perceptions of present and future experiences.

The current study identified additional considerations of social support, reinforcing the need to further define what professional social support looks like to individuals. In the literature, social support came in a variety of approaches/methods, each having an individualized impact. Some of the approaches included teaching, mentoring or simply through encouraging the new mother. It is critical to learn more about the potential influence on a variety of social support methods on maternal depression and self-efficacy levels.

It is also important to note that it would be important to examine the influence of social support by further examining social support by utilizing a more instrumental measure of social support. The current study measured social support from an emotional support perspective.

Study Limitations

This study is limited in its generalizability. Participants were from predominantly rural areas. A more representative sample could include participants from urban areas. Support structures may differ vastly between rural and urban areas therefore affecting maternal self-efficacy perceptions. Availability, quantity and accessibility of different resources for new mothers may also differ between rural and urban areas.

Another limitation of the study was that the survey was conducted only in English thus eliminating other nationalities and a more diverse perspective. More surveys would have been completed and returned if available in Spanish.

The limited sample size of the current study did not allow further division into additional age groups nor were age groups of equal size. The further exploration of differences in maternal self-efficacy, levels of depression and perceptions of social support and infant temperament need to be explored across even more diverse maternal age categories. This could mean further dividing the youngest group of mothers as well as the oldest group of mothers.

Methodological limitations include the survey technique itself including the limitation of time, literacy, and social desirability that is inherent in self-reported data. Additionally, personal distribution of surveys rather than through agencies would allow the researcher to know exactly how many surveys were given out to mothers and provide some personal contact which may

have enhanced the return rate. Therefore, allowing the determination of a “true” return rate for surveys. Higher effect sizes would also contribute to more generalizable results. Analytical limitations include the use of 2-tailed analyses; additional analyses will be conducted to examine possible differences in results from one-tailed analyses.

Contributions of the Present Study

The current study supported the effectiveness of utilizing a contextual view to effectively examine maternal self-efficacy and its predictors. Belsky’s (1984) model can be applied to explain perceived maternal self-efficacy. However, the current study found that social supports and opportunities (or lack of opportunities) had a stronger influence on maternal self-efficacy.

Several considerations come as a result of the current study. First, there needs to be further examination of individual characteristics that accompany parenthood. These characteristics could potentially influence a mother’s self-efficacy levels. Second, additional attention needs to be paid to a mother’s perceptions of social support. Third, additional research needs to be conducted in regards to the role social service agencies can play in supporting the needs of new mothers of all ages in the transition to parenthood.

It is additionally important to further examine the role infant characteristics play in influencing maternal self-efficacy and depression levels. Though just short of statistical significance, the current study found that younger, depressed mothers rated their child as being more temperamentally difficult. This current study found that depression levels are higher in those mothers with lower annual incomes.

Additionally, though this study did not uncover age differences in maternal self-efficacy levels, it remains important to note that there is great variation in parent and child functioning within the adolescent mother population. Many adolescent mothers successfully navigate the transition to motherhood (Galambos & Leadbeater, 2000). However, it remains unclear why some young mothers successfully transition to motherhood and others fail. Potentially, this may be attributed to social support. Most studies indicate that adolescent mothers who are at risk for failure to negotiate the transition to motherhood positively need to be specifically targeted for additionally social support. This includes mothers with a history of physical, sexual or emotional abuse, or those mothers with limited support from a partner or father of the baby.

Suggestions for Future Research

Perhaps a deeper look into maternal self-efficacy, perceptions of infant temperament, and levels of maternal depression with consideration of additional maternal characteristics would lead to a deeper understanding of the differences new mothers experience during the transition to parenthood. Although this study did not uncover an effect for age, age should continue to be examined in a developmentally appropriate manner. This would help to determine if it is maternal age or other maternal characteristics that truly predicts maternal self-efficacy.

A closer look into the benefit social support provides new mothers of all ages is needed. As previously mentioned, adolescent mothers often reported needing specific support and direction in order to move forward with their life goals. Sixty-two percent of the young mothers in Camerana, Minor, Melmer & Ferrie's (1998) study reported the need for more formal services in order to achieve their aspirations. One such aspiration for younger mothers could be achieving educational goals. Older mothers may have different needs.

Times are changing for new mothers of all ages. More and more new mothers are working mothers. Between 1996 and 2000, more than half (56%) of first-time mothers worked full-time into their ninth month of pregnancy. Between 1996 and 1999, 65% of mothers returned to work within one year (Butler, 2006). 14% of the previously mentioned mothers returned to work within one month instead of the traditionally expected six weeks. The lack of paid parental leave in this country needs to be considered. Further examination of maternal depression levels in mothers who return to work compared to mothers who are able to stay home for four to six months with their infant.

In comparison to younger mothers, adult mothers are more likely to be working, and request assistance in their transition to motherhood within their workplace.

In fact, many mothers returning to work have explicitly expressed the desire for a successful, more career advanced professional woman to serve as a mentor for them (Butler, 2006). This suggests that programs that utilized mentors to support new mothers of all ages are desired by new mothers (Butler, 2006; Lowenthal, 1998). "On a scale of one to ten, 88% of women surveys rated the importance of female role models to their future success as a seven or higher" (Butler, 2006).

It is clear that infants and new mothers are affected by the social networks in which they exist. However, it is unclear which social networks are most influential and successful in supporting new mothers in the transition to parenthood. One part of a new mother's social network is the early care and education settings their infant attends. It is important to gain an understanding of the potential role early childhood professionals may play in the infant and the mother's social network (Yoshikawa, Rosman, & Hsueh, 2001; Zimmerman & Fassler, 2003).

Though parents are seen as the most significant influence on infant behavior, the care giving behaviors of childhood professionals has been found to be significantly correlated with infant behavior (Zimmerman & Fassler, 2003). Practices that best support infants, parents and caregivers need to be studied further to more fully understand how relationships are formed. As a result, researchers and other professionals would gain a deeper understanding of the role early childhood professionals play in supporting infants and women during the transition to parenthood.

Today's early childhood professionals are being asked to develop and utilize more advanced strategies for supporting families, especially during the transition to parenthood. This may be challenging if the professional does not understand varying characteristics associated with a new parent's age or stage of development. Developing a better understanding of the importance of the dynamics involved in parenting would facilitate the development and implementation of more effective strategies to support new parents (Zimmerman & Fassler, 2003).

DeJong (2003) proposed that supporting young parents and their children is best done by:

- Providing consistent caregivers for the children
- Scheduling mothers as active participants in the center
- Finding ways of identifying with the parent
- Addressing individual needs and concerns presented by the mothers
- Respecting confidentiality
- Providing mothers with power and choice in the care their child receives
- Giving the mother opportunities to demonstrate competence
- Offering the mother community resource information

Additional research is needed to examine the unique forms of social assistance required due to maternal characteristics. This would facilitate a more developmental approach in meeting the needs of all new mothers.

Concluding Statement

In conclusion, there are many issues that affect the quality of life of new mothers and their children. It is critical for researchers to utilize a more contextual approach to explore the needs and strengths of new mothers. This study found evidence to suggest that feelings of perceived maternal self efficacy are not dependent upon age of mother at time of first birth. Instead, infant temperament, and social support each influences maternal perceived levels of self-efficacy.

Mothers in the current study who felt socially supported had significantly lower levels of depression. Those mothers with lower levels of depression tended to perceive their infants as being temperamentally easier. As mentioned in previous studies, infants that are perceived as being more temperamentally easy, have higher interactions with their parents (Belsky, 1984; Brooks-Gunn & Chase-Lansdale, 1995; Trad, 1995). All of the previously mentioned factors serve as positive determinants of parental behavior and ultimately more sensitive and responsive parental interactions between the parent and child (Belsky, 1984).

Maternal and infant characteristics synchronously influence perceived maternal self-efficacy. The current study opened the door for a wider view to understanding the complex and dynamic experience of transitioning to motherhood.

References

- American Academy of Pediatrics (2001). *Care of the Adolescent Parents and Their Children*, 107 (2), 429.
- Arnett, J. (1998). Learning to stand alone: The contemporary American transition to adulthood in cultural and historical context. *Human Development*, 41 (5), 295-315.
- Arnett, J. (2000). Emergent adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55 (5), 469-480.
- Arnett, J. (2003). Conceptions of the transition to adulthood among emerging adults in American ethnic groups. *New Directions for Child and Adolescent Development*, 100, 63-75.
- Bandura, A. (1971). *Psychological modeling*. New York. Aldine: Atherton.
- Bandura, A. (1977). Self-efficacy: towards a unifying theory of behavioral change. *Psychological Review*, 4 (2), 191-215.
- Bandura, A. (1998). *Self-efficacy: The Exercise of control*. Freeman; USA
- Bandura, A. (1999). *Self-efficacy in changing societies*. Cambridge: University Press.
- Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology: An International Review*, 51 (2), 269-290.
- Barnett, D. (1997). "Parenting" Teenage Parents: A Clinician's Notes. *Family Relations*, 46, 186-189.
- Barratt, M., Roach, M., Morgan, K., & Colbert, K. (1996). Adjustment to motherhood by single adolescents. *Family Relations*, 45, 209-215.
- Barrera, M. (1986). Distinctions between social support concepts, measures and models. *American Journal of Community Psychology*, 14, 413-445.
- Bates, J., Bennett-Freeland, C., & Lounsbury, M. (1979). *Measurement of infant difficulty*. *Child Development*, 50, 794-803.
- Bates, J. (1998). Information on the infant characteristics questionnaire. Indiana University.
- Bell, R. (1968). A reinterpretation of the direction of effects in studies of socialization. *Psychological Review*, 75 (2), 81-96.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 55, 83-96.

- Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psychoanalysis*, 39, 350-373.
- Brooks-Gunn, J., & Chase-Lansdale, P. (1995). *Adolescent parenthood*. In M. Bornstein (Eds.). *Handbook of Parenting* (pp. 113-149) Mahwah, NJ: Elbaum.
- Burke, L. & Liston, W. (1994). Adolescent mothers' perceptions of social support and the impact of parenting on their lives. *Pediatric Nursing*, 20 (6), 593-599.
- Butler, K. (2006). Today's working women seek mentors, motherhood transition. *Employee-Consumer* (17), 1-2.
- Camarena, P., Minor, K., Melmer, T., & Ferrie, C. (1998). The nature and support of adolescent mothers' life aspirations. *Family Relations*, 47, 129-137.
- Cherniss, C. & Herzog, E. (1996). Impact of home-based family therapy on maternal and child outcomes in disadvantaged adolescent mothers. *Family Relations*, 45, 7.
- Colarossi, L., & Eccles, J. (2003). Differential effects of support providers on adolescents' mental health. *Social Work*, 27, 19-29.
- Coleman, P., & Karraker, K. (2003). Maternal self-efficacy beliefs, competence in parenting, and toddlers' behavior and developmental status. *Infant Mental Health Journal*, 24 (2), 126-148.
- Coley, R., & Chase-Lansdale, L. (1998). Adolescent pregnancy and parenting: Recent evidence and future directions. *American Psychologist*, 53 (2), 152-166.
- Colletta, N. (2001). At risk for depression: A study of young mothers. *The Journal of Genetic Psychology*, 142, 301-310.
- Connelly, C. (1998). Hopefulness, self-esteem, and perceived social support among pregnant and non-pregnant adolescents. *Western Journal of Nursing Research*, 20 (2), 195-210).
- ADHD: A women's issue. American Psychological Association online. Retrieved 2/4/07 from www.apa.org/monitor/feb03/adhd.html.
- Diehl, K. (1997). Adolescent mothers: What produces positive mother-infant interaction, *Journal of Nursing*, 22, 89-97.
- Dillman, D. (1991). The design and administration of mail surveys. *Annual Review of Sociology*, 17, 225-249.
- DeJong, L. (2003). Using Erikson to work more effectively with teenage parents. *Young Children*, 87-95.

- Dobrzykowski, T., & Noerager, P., & Stern (2003). Out of sync: A generation of first-time mothers over 30. *Health Care for Women International*, 24, 242-253.
- Edhborg, E., Seimyr, L., Lundh, W., & Widstrom, A. (2000). Fussy child—difficult parenthood? Comparisons between families with a ‘depressed’ mother and non-depressed mother 2 months postpartum. *Journal of Reproductive & Infant Psychology*, 18 (3), 225-238.
- Elkind, D. (1990). Are today’s adolescents growing up too fast? *Adolescent Medicine*, 1, 71-79.
- Elster, A., McAnarney, E., & Lamb, M. (1983). Parental behavior of adolescent mothers. *Pediatrics*, 71 (4), 494-503.
- Erikson, E. (1963). *Childhood and Society*. Toronto, Canada; W.W. Norton and Company.
- Field, T., Pickens, J., Pyrodromidis, M., Malphurs, J., Fox, N., Bendel, D., Yando, R., Schandberg, S., & Kahn, C. (2000). Targeting adolescent mothers with depressive symptoms for early intervention. *Adolescence*, 35 (38), 381-398.
- Galambos, N., & Leadbeater, B. (2000). Trends in adolescent research in the new millennium. *International Journal of Behavior Development*, 24 (3), 289-294.
- Guttmacher Institute (1997). Risks and Realities of Early Childbearing. www.guttmacher.org/pub/in10.htm. Retrieved on 2/23/04.
- Heller, K., Swindle, R., & Dusenburge, L. (1986). Component social support processes: Comments and integration. *Journal of Consulting and Clinical Psychology*, 54, 466-470.
- Higginson, J. (1998). Competitive parenting: The culture of teen mothers. *Journal of Marriage & Family*, 60, 135-149.
- Hofferth, S., & Reid, L. (2002). Early childbearing and children’s achievement and behavior over time. *Perspectives on Sexual and Reproductive Health*, 34, 41-49.
- Houliort, N., Koestner, R., Joussemet, M., Nantel-Vivier, A. & Leke, N. (2002). The impact of performance-contingent rewards of perceived autonomy and competence. *Motivation and Emotion*, 26 (4), 279-295.
- Hurlbut, N., Culp, A., Jambunathan, S. & Butler, P. (1997). Adolescent mothers’ self-esteem and role identity and their relationship to parenting skills knowledge. *Adolescence*, 32 (127), 639-653.
- Karraker, K., & Evans, S. (1996). Adolescent mothers’ knowledge of child development and expectations for their infants. *Journal of Youth and Adolescence*, 25 (5), 651-666.

- Kids Count (2004). Report of adolescent parenting.
<http://www.aecf.org/kidscount/databook/essay/essay5.htm>. Retrieved on 3/01/2005.
- Lambert, C. (1998). Removing the mystery: Evaluation of a parent manual by adolescent parents. *Adolescence*, 33 (129), 61-72.
- Langer, E., & Park, K. (1990). *Incompetence: A conceptual reconsideration*. In Sternberg, R. & Kolligan, & J. (Eds.), *Competence considered*. 149-166.
- Leedy, P., & Ormrod, J. (2001). *Practical research: Planning and design*. Columbus, Ohio: Prentice Hall.
- Lerner, R., & Busch-Rossnagel, N. (1981). *Individuals as producers of their development: Conceptual and empirical bases*. In Lerner, R. & Busch-Rossnagel, N., *Individuals as producers of their development: A life span*
- Lewis, S., Ross, C., & Mirowsky, J. (1999). Establishing a personal control in the transition to adulthood. *Social Forces*, 77 (4), 1573-1599.
- Logsdon, C., & Birkimer, J., & Ratterman, A., & Cahill, K. (2002).
Journal of Nursing, 15.2 (2), 75-84.
- Lowenthal, B. (1997). Teenage parenting: Challenges, interventions and programs. *Childhood Education*, 74, 29-32.
- Nath, P., & Borowski, J. & Whitman, T., & Schellenbach, C. (1991). Understanding adolescent parenting: The dimensions and functions of social support. *Family Relations* 40, 411-420.
- National Institute of Mental Health. Information of Depression.
<http://www.nimh.nih.gov/publicat/depression.cfm>. Accessed on, September 12, 2004.
- Piaget, J. (1976). *The Grasp of consciousness: Action and concept in the young child*. Cambridge, MA: Harvard University Press.
- Piaget, J. & Inhelder, B. (1958). *The growth of logical thinking from childhood to adolescence* (translated by Parsons, A. & Milgram, S.) New York, NY: Basic Books, Inc.
- Porter, C., & Hsu, H. (2001). First-time mothers' perceptions of self-efficacy during the transition to motherhood: Links to infant temperament. *Journal of Family Psychology*, 17, 54-64.
- Radloff, L. (1977). The CES-D Scale: A self report depression scale for research in the general population. *J. Applied Psychology Measures*, 1(3) 385-401.

- Rains, P., & Davies, L. (1998). Taking responsibility: an insider view of teen motherhood. *Families in Society: The Journal of Contemporary Human Services*, 79 (3), 308-320.
- Raymore, L., & Barber, B. (2001). Leaving home, attending college, partnership and parenthood: The role of life transition events in leisure pattern stability from adolescence to young adulthood. *Journal of Youth and Adolescence*, 30 (2), 197-223.
- Reis, J. (2001). A comparison of young teenage, older teenage and adult mothers on determinants of parenting. *The Journal of Psychology* 132 (2), 141-152.
- Ruchala, P., & James, D. (1997). Social support, knowledge of infant development, and maternal confidence among adolescent and adult mothers. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 26 (6), 685-689.
- Schaffer, C., & Blatt, S. (1990). *Interpersonal relationships and the experience of perceived efficacy*. In Sternberg, J. & Kolligian, J. (1990) *Competence considered*. Yale University: New Haven Connecticut .246-260.
- Shanahan, M. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. *Annual Review of Sociology*, 26, 667-692.
- Shapiro, J., & Mangelsdorf, S. (1994). The determinants of parenting competence in adolescent mothers. *Journal of Youth and Adolescence*, 26 (6), 621-642.
- Smith, J. (1999). Identity development during the transition to motherhood: An interpretative phenomenological analysis. *Journal of Reproductive & Infant Psychology*, 17 (3), 281-299.
- SmithBattle, L. (2000). The vulnerabilities of teenage mothers: Challenging prevailing assumptions. *Advanced Nursing Sciences*, 23, 29-40.
- Spano, S. (2003). Adolescent brain development. *Youth Studies*, 22, 36-39.
- Teti, D., & Gelfand, D. (1991). Behavioral competence among mothers of infants in the first year: The mediational role of maternal self-efficacy. *Child Development*, 62, 918-929.
- Thoits, P. (1986). Social support as coping assistance. *Journal of Consulting and Clinical Psychology*, 416-423.
- Trad, P. (1995). Mental health of adolescent mothers. *Journal of American Academy of Child /Adolescent Psychiatry*, 34 (2) 130-142.

- Weinert, C. (2000) Measuring social support: PRQ2000. In O. Strickland & C. DiIorio (Eds.), *Measurement of nursing outcomes: Vol. 3. Self care and coping* (pp. 161-172). New York: Springer.
- Whitman, T., Borkowski, J., Keogh, D., & Weed, K. (2001). Interwoven lives: Adolescent mothers. *Journal of Developmental & Behavioral Pediatrics, 23*, 57.
- Whiteside-Mansell, L., Pope, S., & Bradley, P. (1996). Patterns of parenting behavior in young mothers. *Family Relations, 45*, 273-281.
- Wilcox, H., Field, T., & Pyrodromidis, M. (1998). Correlations between the BDI and CES-D in a sample of adolescent mothers. *Adolescence, 33* (131) 565-574.
- Wu, Z., & MacNeill, L. (2002). Education, work, and childbearing after 30. *Journal of Comparative Family Studies, 33* (2), 191-213.
- Yoshikawa, H., & Rosman, E., & Hsueh, J. (2001). Variation in teenage mothers' experiences of child care and other components of welfare reform: Selection processes and developmental consequences. *Child Development 72*, 299—319.
- Zimmerman, L., & Fassler, I. (2003). The Dynamics of Emotional Availability in Childcare. *Infants and Young Children 16*, 258-269.

Appendix A- Survey Cover Sheet

Becoming a New Mother: a Survey for First-Time Mothers About Parental Experiences

Congratulations on becoming a new mom! We would like to learn from you what it is like to take care of a new baby. Please take fifteen minutes (while the baby is napping) to fill out this survey and put it into the mail. to completely fill out this survey.

If you have any questions about this study or how it is being done, you may contact (co-investigator) Michelle Eaton, M.S. (208)-882-7396 or Bronwyn Fees (lead investigator at (785) 532-1476). If you have --any questions about your rights or concerns about this study, you may contact Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 103 Fairchild Hall, Kansas State University, Manhattan, KS 66506, or at (785)532-3224.

You may contact Michelle Eaton at meaton@ksu.edu or (208) 882-7396 after November 30^s, 2005 for results. If you agree to participate, return this signed survey in the self-addressed, stamped envelope provided.

Please accept the enclosed bookmark on talking to and reading with your baby as a free gift for your participation.

Terms of Participation:

I understand this project is research, and that my participation is completely voluntary. I also understand that If I decide to participate in this study, (in addition to my parents, if I am under the age of 18) I may withdraw my (their) consent at an time, and stop participating without explanation, penalty, or loss of benefits, or academic standing to which I may be otherwise be entitled.

I verify that my signature (or my parent's signature if I am under the age of 18) below indicated that I (we) have read and understand this consent letter, and willingly agree to participate in this study under the terms described, and that my signature (in addition to my parent's signature if I am under the age of 18) indicates that I have read this survey. Depression is not uncommon among new mothers. I also understand that and understand that investigator is a mandated reporter. If results from mother under the age of 18 indicate depression, concerns will be shared with the school counselor.

_____ Mother's name _____ Mother's age

_____ Mother's signature _____ Date

_____ Signature of parent/ guardian
if mother is under the age of 18 _____ Date

This project will be performed in the manner described in the research proposal, and in accordance with the Federal wide Assurance FWA00000865 approved for Kansas State University available at <http://ohrp.osophs.dhhs.gov/polasur.htm#FWA>, applicable laws, regulations, and guidelines.

Appendix B-Maternal Demographics

Please tell us a little about you!

What County do you live in? Please circle one below.

What is your marital status?

(Please circle one)

- A. Single (living alone)
- B. Single (living with parents or other family members)
- C. Single (living with boy/girl friend)
- D. Married (how many years_____)
- E. Divorced
- F. Widowed
- G. Other (Please elaborate) ____

What grade are you in, or what is the highest grade level or degree you have completed?

(Please circle one)

- A. Grade school
- B. Junior high school
- C. High school
- D. Some college courses
- E. Some technical school
- F. Associate degree
- G. Bachelor's degree
- H. Master's degree or
- I. Specialist
- J. Professional or Doctoral degree
(JD, DDS, Ph. D, ED, MD)

Appendix C-Maternal Demographics Continued

What is your total annual income? (Please circle one)

- A. \$0-\$15,000
- B. \$15,001-\$30,000
- C. \$30,001-\$45,000
- D. \$45,001-\$60,000
- E. \$60,001-\$80,000
- G. \$80,001-\$99,999
- H. over \$100,000

Which ethnicity best describes you? (Please circle one)

- A. *Asian/Pacific Islander*
- B. *Black-Non Hispanic*
- C. *Hispanic*
- D. *Native American/Alaskan*
- E. *White-Non Hispanic*
- F. *Other (please identify)* _____

What is your current employment status?

(Please circle all that apply)

- A. Employed full time
- B. Employed part-time
- C. Full-time student
- D. Part-time student
- E. Full-time in the home
- F. Full-time in the military
- G. Part-time in the military
- H. Other (Please specify)

Appendix D-Time Spent Playing With Infant Questionnaire

Time Spent Playing With Your Baby

How much time each weekday (**Monday to Friday**) do you typically spend **interacting in playful** ways with your infant? This could include reading, singing, rocking, talking to, or playing peek-a-boo with, etc. This would **NOT** include napping, sleeping or watching television with your infant. (**Please circle your choice below**)

0-60 minutes	1-2 hours	3-4 hours
4-5 hours	5-6 hours	7 hours or more

How much time on Sundays do you typically spend interacting in playful ways with your infant? This could include reading, singing, rocking, talking to, or playing peek-a-boo with, etc. This would not include napping, sleeping or watching television with your infant. (Please circle your choice below)

0-60 minutes	1-2 hours	3-4 hours
4-5 hours	5-6 hours	7 hours or more

How much time on Saturdays do you typically spend interacting in playful ways with your infant? This could include reading, singing, rocking, talking to, or playing peek-a-boo with, etc. This would not include napping, sleeping or watching television with your infant. (Please circle your choice below)

0-60 minutes	1-2 hours	3-4 hours
4-5 hours	5-6 hours	7 hours or more



Appendix E-Infant Demographics

Please share a little about your baby.

Is your baby a boy or a girl? (Please circle) Boy Girl

When was your baby born? Month _____ Day _____ Year _____

Did you have one baby or twins or triplets? _____

Which ethnicity best describes your child? (Please circle one)

- A. Asian/Pacific Islander
- B. Black/Non Hispanic
- C. Hispanic
- D. Native American/Alaskan
- E. White-Non Hispanic
- F. Other (please identify) _____

Appendix F-Time Spent Caring for Infant

Time Spent Caring for Your Baby

How much time each weekday (**Monday to Friday**) do you typically spend **providing daily care** for your infant? This could include tasks such as bathing, giving infant massage, dressing or feeding your infant. This would **NOT** include napping, sleeping or watching television with your infant. (**Please circle your choice below**)

0-60 minutes

1-2 hours

3-4 hours

4-5 hours

5-6 hours

7 hours or more

How much time on Sundays do you typically spend providing daily care for your infant? This would include tasks such as bathing, giving infant massage, dressing, or feeding your infant. This would **NOT** include napping, sleeping or watching television with your infant. (Please circle your choice below)

0-60 minutes

1-2 hours

3-4 hours

4-5 hours

5-6 hours

7 hours or more

How much time on Sundays do you typically spend providing daily care for your infant? This would include tasks such as bathing, giving infant massage, dressing, or feeding your infant. This would **NOT** include napping, sleeping or watching television with your infant. (Please circle your choice below)

0-60 minutes

1-2 hours

3-4 hours

4-5 hours

5-6 hours

7 hours or more

Appendix G-Infant Difficultness Scale

(used with permission from Bates)

This section included 23 items from Bate's Infant Temperament Scale. There are several examples to demonstrate the style and content of this scale. However, due to the author's request, the scale used will not be displayed in its completeness in this dissertation.

Examples of questions included on scale:

1. How easy or difficult is it for you to calm or soothe your baby when he/she is upset?

1	2	3	4	5	6	7
very easy			about average			difficult

2. How easy or difficult is it for you to predict when your baby will go to sleep and wake up?

1	2	3	4	5	6	7
very easy			about average			difficult

3. How easy or difficult is it for you to predict when your baby will become hungry?

1	2	3	4	5	6	7
very easy			about average			difficult

4. How easy or difficult is it for you to know what's bothering your baby when he/she cries or fusses?

1	2	3	4	5	6	7
very easy			about average			difficult

5. How easy is it for you to predict when your baby will need a diaper change?

1	2	3	4	5	6	7
very easy			about average			difficult

Additional items included in the study survey from this particular scale includes questions:

6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Appendix H-Depression Scale:

(Used with permission from: Radloff L, The CES-D scale: a self-report depression scale for research in the general population. Applied Psychological Measurement Vol 1, pp 385-401, 1977.)

Being a new mom can sometimes affect the way we feel.

Using the scale below, please circle the number before each statement which best describes how you felt or behaved during the past week.

Please circle the number that best represents your baby.

- 1 = Rarely or none of the time (less than 1 day)
- 2 = Some or a little of the time (1-2 days)
- 3 = Occasionally or a moderate amount of time (3-4 days)
- 4 = Most or all of the time (5-7 days)

	RARE	SOME	OCCA.	MOST
1. I was bothered by things that usually don't bother me.	1	2	3	4
2. I did not feel like eating; my appetite was poor.	1	2	3	4
3. I felt that I could not shake off the blues even with help from family and friends.....	1	2	3	4
4. I felt that I was just as good as other people.	1	2	3	4
5. I had trouble keeping my mind on what I was doing.	1	2	3	4
6. I felt depressed.	1	2	3	4
7. I felt that everything I did was an effort.	1	2	3	4
8. I felt hopeful about the future.	1	2	3	4
9. I thought my life had been a failure.	1	2	3	4
10. I felt fearful.	1	2	3	4
11. My sleep was restless.	1	2	3	4
12. I was happy.	1	2	3	4
13. I talked less than usual.	1	2	3	4
14. I felt lonely.	1	2	3	4
15. People were unfriendly.	1	2	3	4
16. I enjoyed life.	1	2	3	4
17. I had crying spells.	1	2	3	4
18. I felt sad.	1	2	3	4
19. I felt that people dislike me.	1	2	3	4
20. I could not get "going."	1	2	3	4

Appendix I-Infant Demographic Sheet 2 and Previous Experience with Young Children

Does your child attend infant care? (Please circle) Yes No

Please circle all that apply.

Child care center	Please circle either:	8-10 hours/day full day	7 or less hours part time
Family home care	Please circle either:	full day	part time
Relative/Kin care	Please circle either:	full day	part time
Other (please specify _____)		full day	part time

Your Experience with Other Children Before the Birth of Your Baby

How much **experience** did you have with children **before** the birth of your child?
This includes time spent taking care of and interacting with children on a consistent basis, like watching someone else's child. (Please circle one)

None	Less than 5 hours a month
6-10 hours a month	11-15 hours a month
16-20 hours a month	21-25 hours a month
26-30 hours a month	More _____ (please specify)

Sometimes extra social support is given to new parents. We would like to know which means of **support** you have found helpful. Please circle **any** of the following that you received support from in the past **year**:

Food Stamps	Child Care Financial Assistance
Energy Assistance	State financial assistance
First Steps to Parenting Program (Young Children and Families)	Whitman County First Steps Program
Women Infants and Children (WIC)	Regular financial help from family
Church or other counseling	Adolescent Parent Mentoring Program
Other (please identify) _____	Parent Education Classes

Appendix J-Self Efficacy Scale

(Used with permission from Teti & Gelfand)

How do you generally handle everyday situations with your baby? We know that no one is always right or wrong in how she works with her infant. Each mom does better in some situations than in others. Below are some situations that **ALL** mothers experience. How do you usually respond?

<i>Much Worse</i>	<i>Somewhat Worse</i>	<i>As Good</i>	<i>Better than Others</i>
MW	SW	AG	BTO
1. Comparison to other mothers in general, how good are you at soothing your baby when he/she is upset or distressed?			MW SW AG BTO
2. In comparison to other mothers in general, how good are you in understanding what your baby wants or needs?.....			MW SW AG BTO
3. In comparison to other mothers in general, how good are you at getting your baby to show-off for visitors?.....			MW SW AG BTO
4. Compared to other mothers, how good a mother do feel you are?			MW SW AG BTO
5. Compared to other mothers in general, how good are you at knowing what activities your baby enjoys?.....			MW SW AG BTO
6. In comparison to other mothers in general, how good are you at finding things for your baby to do while doing housework?			MW SW AG BTO
7. Compared to other mothers in general, how good are you at feeding, changing, and bathing your baby?.....			MW SW AG BTO
8. Compared to other mothers in general, how good are you at making your baby understands what you want him to do?			MW SW AG BTO
9. Compared to other mothers in general, how good are you at getting and keeping your baby's attention?.....			MW SW AG BTO
10. In comparison to other mothers in general, how good are you at getting your baby to have fun with you?.....			MW SW AG BTO

Appendix K-Social Support Scale

(used with permission from: Weinert, C.)

Support from Others

Strongly Disagree	Disagree	SomeWhat disagree	Somewhat agree	Agree	Strongly Agree
SD	D	SWD	SWA	A	SA
1. There is someone I feel close to who makes me feel secure.	SD	D	SWD	SWA	A SA
2. I belong to a group in which I feel important.	SD	D	SWD	SWA	A SA
3. People let me that I do well at my work. (job, homemaking).....	SD	D	SWD	SWA	A SA
4. I have enough contact with a person that makes me feel special.....	SD	D	SWD	SWA	A SA
5. I spend time with others who have the same interests that I do.....	SD	D	SWD	SWA	A SA
6. Others let me know that they enjoy working with me. (job committees, projects).....	SD	D	SWD	SWA	A SA
7. There are people who are available if I need help for an extended period of time.....	SD	D	SWD	SWA	A SA
8. Among my group of friends we do favors for each other.	SD	D	SWD	SWA	A SA
9. I have the opportunity to encourage others to develop their interest and skills.....	SD	D	SWD	SWA	A SA
10. I have relatives or friends that will help me out even if I can't pay them.....	SD	D	SWD	SWA	A SA
11. When I am upset, there is someone I can be with who lets me be myself.....	SD	D	SWD	SWA	A SA
12. I know that others appreciate me as a person.	SD	D	SWD	SWA	A SA
13. There is someone who loves and cares about me.	SD	D	SWD	SWA	A SA
14. I have people to share social events and fun activities with.	SD	D	SWD	SWA	A SA
15. I have a sense of being needed by another person.	SD	D	SWD	SWA	A SA

When you need help, what or (who) you consider to be your greatest source of personal and/or community social support. (Please use the space below.)

Appendix L-Back Cover of Survey



Please fold along dotted line and place in stamped envelope. Thanks again for your participation! It is much appreciated.



Appendix M-First Cover Letter

Dear New Mother,

Congratulations on your new baby! I would like to invite you to participate in a study about your feelings about being a new mom.

Please share approximately 10 minutes time (you may complete this while your baby is napping) to fill out a survey and put it into the envelope provided and drop into the mail.

This survey will help us to identify some of the strengths and challenges of motherhood at every age. Your feedback is very much appreciated. You are the expert!

We are looking for first-time mothers of infants between the ages of four and twelve months. Mothers may participate as long as they have no other foster or adopted children living in the home.

If you are under the age of 18, you will need a parent's permission to complete the survey. There is a place for their signature on the front cover of the survey.

All participants will receive a gift for participating.

If you have any questions, or you wish to participate, please contact **Michelle Eaton, M.S. email: meaton@ksu.edu**. Your participation in this study will be kept strictly confidential.

Sincerely,

Michelle

Michelle Eaton, Ph D Candidate

meaton@ksu.edu

Appendix N-Office Cover Letter

Dear New Mother,

Congratulations on becoming a new mom! We would like to learn from you what it is like to take care of a baby. Please share approximately 10 minutes time (you may complete this while here at the office) to fill out a survey and put it into the envelope provided and give to the receptionist.

This survey will help us to identify some of the strengths and challenges of motherhood at every age. Your feedback is very much appreciated. You are the expert!

We are looking for first-time mothers of infants between the ages of four and twelve months. Mothers may participate as long as they have no other foster or adopted children living in the home.

If you are under the age of 18, you will need a parent's permission to complete the survey. There is a place for their signature on the front cover of the survey.

All participants will receive a gift for participating.

If you have any questions, or you wish to participate, please contact **Michelle Eaton, M.S.** Your participation in this study will be kept strictly confidential.

Sincerely,
Michelle
Michelle Eaton, Ph D Candidate
meaton@ksu.edu

Appendix O-Professional Cover Letter

Dear Early Care Professional,

I spoke recently with someone at your facility about collaborating with me in my research project about new motherhood. Thank you for agreeing to participate! My survey has officially passed through the Human Assurances review, and is now ready for distribution. I am hoping that all first-time mothers in your program with infants between the ages of 4-12 months will choose to participate.

I have enclosed packets to send home with qualifying mothers. These packets contain everything the mothers need to complete the surveys and send them back. Inside each packet is the survey, a self-addressed and stamped envelope, a community resource sheet, and a free gift (a hand made bookmark). I am enclosing a packet for you to review and keep as a reference. Please contact me with any questions or concerns that you might have.

Thank you again!

Michelle Eaton
meaton@ksu.edu

Appendix P-Permissions: PRQ Social Support

Michelle,

Thank you for your interest in the PRQ. Please visit my web-site www.montana.edu/cweinert for more information on the instrument. You can also download the instrument directly and make as many copies as you wish. We ask that you do not change the wording. Then best to you in your research.

Clarann

----- Original Message -----

From: [Michelle Eaton](#)

To: Sent: Sunday, March 20, 2005 9:39 AM

Subject: RE: PRQ

Hi Dr. Weinert,

I am working on my doctoral dissertation, and I would love to use your PRQ in my study of young mothers and their infants. I would appreciate your consideration.

Sincerely,

Michelle Eaton

Appendix Q-Permissions: Self-Efficacy

Dear Michelle,

Doug Teti and I are pleased when researchers find our maternal self-efficacy measure useful, so you certainly have our permission to use it. I would be very interested in hearing about your findings when they become available. Good luck on your research.

Donna Gland

Michelle Eaton wrote:

- > Hi Dr. Gland,
- > My name is Michelle, and I am a doctoral student in Life Span Human
- > Development. I am conducting my dissertation on self-efficacy in first time mothers and I am looking for a measure for mothers of infants. Would you consider letting me use the measure you developed with Dr. Teti?
- > Thank you for your consideration,
- > Michelle Eaton

Appendix R-Permissions: Infant Difficulty

Sure! Here it is. All that I ask is that you let me know something about what you learn, eventually, if you use it. And that you don't reproduce the entire instrument in your dissertation itself (you're free to use the whole thing for your research). Let me know if you have questions.

Good luck!

Jack

At 09:01 AM 3/20/2005 -0700, you wrote:

>Hello Dr. Bates,

>

>I am working on my Dissertation, and I am interested in using the ICQ in
>my doctoral study of adolescent mothers and their infants. Would you consider
letting me use your ICQ in my study?

>Thank you for your time and consideration,

>sincerely,

>Michelle Eaton

Appendix S-Permissions CES-D

I contacted the Center for Epidemiologic Studies and was told that anyone could use this instrument. I was given verbal permission to use in my dissertation as long as I did not change any wording, and I was sure to cite my source.

Center for Epidemiologic Studies Depression Scale. Developed by NIMH.